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

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Banco de la República
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Bogotá, 30 March 2021.

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

Dear Sirs:

In compliance with Act of Congress 31/1992, Article 5, the Board of Directors of *Banco de la República* hereby submits to the Congress of the Republic of Colombia a detailed report on the measures that *Banco de la República* has taken in the emergency situation generated by Covid-19 and presents the macroeconomic results for 2020 and the outlook for 2021 for its consideration. Furthermore, the breakdown of the Foreign Reserves and their performance, the financial position of the Bank and its forecasts, and the Bank's Cultural management are described.

Sincerely,

L Villar

Leonardo Villar Gómez
Governor

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Introduction

The macroeconomic scenario in Colombia changed substantially between 2020 and 2021. While some of the consequences of the Covid-19 pandemic are behind us, problems and imbalances persist and currently pose difficult challenges for economic policy. The pace of recovery in economic activity has been relevant. After a 7.0% GDP contraction in 2020, the Colombian economy expanded 10.6% in 2021, thus exceeding the technical staff's forecasts and market analysts' expectations, also ranking among the strongest in the region. This rebound in economic activity was fueled by the strengthening of domestic demand, driven by total consumption and, to a lesser extent, by the expansion of gross capital formation. Net exports reduced this momentum due to a faster increase in imports than in exports. As a result of this good performance, the GDP level at the end of 2021 was higher than the pre-pandemic level. This was reflected in the improvement exhibited in the labor market, that has, however, come about at a slower pace than that of productive activity. As of December, about 80% of the jobs lost between February and April 2020 had been recovered.

Available indicators for the beginning of 2022 show that the economy will sustain the momentum it had at the end of last year. The monthly Economic Monitoring Indicator (ISE, by its initials in Spanish) for January showed an annual growth of 7.8%, which is still an outstanding rate although somewhat lower than in December. Likewise, the monthly industry and commerce survey showed that the manufacturing industry presented a 15.1% annual change in January, and the real sales of total retail trade reached an annual growth of 20.9%. The technical staff's forecast is 4.3% for 2022, which could be revised upwards based on the most recent information.

Along with the economic recovery, some imbalances have drawn the attention of the Board of Directors of *Banco de la República* (BDBR). One of them is the increase in the balance of payments current account deficit that went from 3.4% of GDP in 2020 to 5.7% in 2021. This greater imbalance largely originated in the expansion of domestic demand, which was not fully met by local supply. In addition, the higher profits that companies with foreign capital remit abroad enlarged the net factor income deficit. In the absence of corrective measures, the projected current account deficit for 2022 is around 4.9% of GDP. Nevertheless, this forecast is subject to a high degree of uncertainty given the recent war in Ukraine, which has significantly impacted the international prices for commodities including crude oil. Financing this imbalance is likely to be a more difficult process than it has been in recent years given the context of tightening international financial conditions.

The most demanding challenge the BDBR currently faces is controlling inflation, which, after falling to 1.61% in 2020 due to weakening demand, acquired an upward trend as of May 2021 that took it to 5.62% at the close of the year. This trend continued during the first two months of this year and reached 8.01% in February. Unlike past inflationary episodes, which were mostly due to climatic factors, this time the main cause of the increase in inflation has originated abroad, making it especially unpredictable. This pressure from abroad stemmed from the strong rebound in global economic growth, which exceeded the response of many productive sectors affected by the pandemic and overwhelmed the logistical capacities of maritime shipping and storage. This produced a significant increase in international freight rates which, along with other factors, affected global supply chains. As a result, there was a widespread increase in the prices of agricultural and industrial supplies and of commodities that has been more persistent than originally anticipated, and which ended up being passed on to consumer prices. The increase in international prices is currently reflected in a historically high inflation practically around the world, a phenomenon which Colombia has not escaped from. The conflict generated by the Russian invasion of Ukraine has further aggravated the global commodity supply crisis since these two countries play a significant role in it. Therefore, an additional impact on international prices for food and supplies for agricultural production is expected.

As explained in detail in the body of this Report, in the Colombian case, higher international inflation and the resulting increase in production costs have been reflected in a significant increase in food price inflation, for which the twelve-month change exceeded 23% in February. There were also internal factors related to strikes and roadblocks in May and June 2021 that generated shortages of supplies and hampered production processes in some branches of the economy in the medium term. Another factor putting pressure on consumer prices has come from higher inflation in regulated goods and services that resulted from international increases in energy prices. This caused increases in fees for urban transportation, electricity, gas, and fuel for vehicles, to which was added the gradual dismantling of the utility rate relief granted by the government during the most critical period of the pandemic.

This pressure on prices occurred in the context of strengthening of domestic demand, especially since mid-year, as it registered a 13.3% annual expansion in 2021 that more than offset the 7.5% contraction seen in 2020. The rapid growth of domestic consumption that was driven mainly by higher household consumption and closely followed by the growth of public consumption was the main engine of demand recovery. Investment added to the boost in demand by achieving a significant rebound, particularly in housing and machinery and equipment. In the context of the rapid increase in spending, the lag in the response of aggregate supply affected by the aftermath of the pandemic, the strike, and roadblocks in mid-2021 contributed to the emergence of excess demand that put considerable additional pressure on the prices of various components of the family basket and were reflected in the expansion of the foreign debt.

Monetary policy response has been framed within the constitutional mandate to maintain the purchasing power of the Colombian peso, in coordination with the general economic policy. Due to the enormous economic shock of the pandemic in 2020, the BDBR used a variety of instruments at its disposal to stabilize the economy and stimulate its recovery as described at length in the two 2021 *Reports to Congress*. In particular, in September 2020, the policy interest rate was 1.75%, the lowest historical level in both nominal and real terms. This was supplemented by an abundant supply of liquidity to preserve the payment system and encourage credit. In addition, foreign exchange hedging mechanisms and access to liquidity in dollars were adopted to stabilize the foreign exchange market. In the context of a stable financial system and access to credit (despite the uncertainty due to the continuing pandemic), the recovery of economic activity during 2021 is the best proof that this package of measures adopted in a timely manner by the BDBR met its objectives.

The remarkable recovery of the gross domestic product (GDP), which approached its potential level throughout 2021, above-target inflation, and the expansion of the current account deficit to levels that reflected significant excess demand concerning domestic production prompted the Board to start a new phase of the monetary policy stance. In this new scenario, a smaller monetary stimulus than the one granted during the critical period of the pandemic was required, otherwise macroeconomic stability and compliance with the mandates assigned to the Central Bank by the National Constitution would have been jeopardized. Based on this reasoning, the BDBR unanimously decided to initiate a process of monetary policy normalization as of September 2021. One important factor was to moderate inflation expectations since their possible decoupling from the 3.0% target would deepen price and wage indexation at high inflation rates and make it much more costly to regain control of inflation in terms of economic activity.

As part of the normalization process, the policy interest rate went from 1.75% in September last year to 4.0% in January. This increase will induce upward adjustments in the financial system's deposit and lending rates through a transmission process that may take several months. The speed and magnitude of response differs depending on the instruments and types of credit. This implies that the effect of monetary policy on inflation and other macroeconomic variables such as savings and spending does not occur immediately. This explains why, during the monetary policy normalization process, the inflation rate will continue to increase. This was the case during the first two months of the year when it reached 8.01% per annum in February after 5.62% to the end of the previous year.

The February inflation figures showed a characteristic fact of the effect that higher inflation expectations can have on price variation. This is what happened with core inflation, which is defined as that which affects the set of goods and services in the family basket excluding food prices and those for regulated goods and services. This measurement of inflation, which stood at 2.49% (sufficiently below the target) in December, registered a level of 4.11%, which is equivalent to a 162 basis-points (pb) increase over only two months in February. The fact that this happened with an indicator of inflation that does not include food or regulated products, the two items that have pushed inflation upward the most, shows to what extent inflationary pressure is beginning to be transferred to other components of the basket. This occurs through a price indexation process induced by an increase in inflation expectations in a context where past inflation and minimum wage increases were high, as well as by domestic demand, which remains strong as shown by the aforementioned retail sales indicators. The other core inflation indicators also increased during the first two months of the year, such that their average went from 3.45% in December to 5.22% in February.

The BDBR is aware that policy rate increases will not contain inflationary pressure coming from sources abroad. The external price pressure that has been occurring in recent months will only be corrected as supply chains normalize. However, a fundamental step toward achieving the convergence of Colombian inflation with the target is the effort of monetary policy to stop the rise of inflation expectations and the so-called "second round effects" on inflation of all those products with prices that are determined domestically in Colombia and that are indirectly affected by external pressures in the context of strong aggregate demand.

As was mentioned, the complex panorama left by the Covid-19 pandemic is compounded by the conflict between Russia and Ukraine which, apart from being a humanitarian tragedy, generates serious consequences for the world's economy. The uncertainty and volatility of international markets as well as the shock to investor and consumer confidence will delay the global economic recovery. From the Colombian point of view, the pressure that could be exerted on food prices is of particular concern since the country imports a significant amount of grain, the prices of which will be affected by the reduction in supply, which has traditionally been met to a significant extent by the region where the conflict is taking place, and which is used to feed pigs and chickens. Likewise, imported fertilizers, especially urea, from these countries are indispensable materials for agricultural production. As a result, the increase in their prices will become an additional inflationary pressure on the country. Moreover, the blockade on Russia reduces the supply of oil and increases its price, which is already at historically high levels. While this could have a favorable effect on the external balance and the country's national and territorial public finances in the short term, higher energy costs will increase upward pressure on many imported raw materials and on local fuel prices. The latter has a negative impact on the Fuel Price Stabilization Fund (FEPC, in Spanish), as it would force it to increase its shortages in its effort to moderate increases in final consumer fuel prices. However, Colombia could see its external financing needs alleviated to a certain extent, to the degree that investment funds that are forced to stop investing in Russia reallocate their portfolios to other emerging economies including Colombia.

The issues mentioned above will be developed in greater depth in this Report.

International Macroeconomic Environment

According to the World Economic Outlook update presented by the International Monetary Fund (IMF) last January, the world economy reached 5.9% growth in 2021 and thus showed remarkable resilience to the contraction in 2020. Several factors, including the relaxation of travel restrictions, progress in vaccination programs, better adaptation to pandemic conditions, continued fiscal stimulus in several economies, and ample international liquidity have contributed to this result. Both advanced and emerging economies achieved significant recoveries and, in many cases, surpassed their pre-pandemic output levels. Among the former, the strong recovery in the United States (5.6%), the euro zone (5.2%), and the United Kingdom (7.2%) stood out. In emerging economies, the recovery was led by China (8.1%) and India (9.0%). Latin America and the Caribbean achieved a growth of 6.8% in 2021 with the performance of Chile (11.9%) and Colombia (10.6%) standing out. Large economies such as Brazil (5.0%), and especially Mexico (5.0%), in turn, showed a slower rate of recovery.

The recovery of the global economy has been taking place in the context of disruptions in global supply chains, supply shortages, and high costs of freight transportation due to movement restrictions and other health measures to contain the spread of the virus. This added to the increase in demand for shipping services in the middle of the reactivation of world economic activity. All of the above contributed to significant upward pressure on the prices of supplies for food production and on the prices of commodities such as steel, aluminum, copper, and nickel, etc. International crude oil, coal, and natural gas prices also rose. All of the above generated significant inflationary pressure in advanced and emerging economies, and this has acquired a persistent character. The cases of the United States, the United Kingdom, the euro zone, and Canada, whose inflation rates in 2021 were well above 2.0% (the target of their respective central banks), are noteworthy. In the case of the main emerging economies, the highest inflation rates were in Argentina, Turkey, Brazil, and Mexico. Other large countries in the region such as Chile, Peru, and Colombia also registered high inflation that was above their targets.

Given the inflation performance in 2021 and the persistence of inflationary pressure, the central banks of the main developed economies began to normalize their monetary policies by starting to moderate asset purchases to reduce the pace at which they expanded their balance sheets. The Federal Reserve of the United States (Fed) started their policy rate increases in March thus taking the first step sooner than what had been announced in previous months, and they are expected to continue with additional increases through 2022. The Bank of England raised their policy interest rate in December 2021 and in February 2022 and, at the latter meeting, began the process of reducing the balance sheet. The Central Bank of New Zealand, in turn, raised their rate in August, and the Central Bank of Canada raised the rate at their March meeting. For England and Canada, market expectations indicate further increases for the remainder of the year. The European Central Bank (ECB) has kept their policy rate unchanged but accelerated the process of reducing asset purchases.

Concerning emerging economies, Chile increased its interest rate 500 bp, Peru 325 bp, Brazil 875 bp, and Mexico 175 bp between January 2021 and February 2022 despite the lags seen in the pace of economic recovery in those countries. Although the economic conditions in each country are different, most emerging countries are expected to continue to increase their monetary policy interest rates for the remainder of 2022.

In the document mentioned above, the IMF forecasts world economic growth of 4.4% for 2022. This includes an expansion of 3.9% for advanced economies and 4.8% for emerging and developing economies and emphasizes a significant slowdown in China's growth from 8.1% in 2021 to 4.8% in 2022. For Latin America and the Caribbean, the forecast of 2.4% growth for 2022 is considerably lower than the 6.8% registered in 2021. The growth projection of 4.5% for Colombia in 2022 is the most outstanding in the region. This is distantly followed by Argentina (3.0%), Mexico (2.8%), Peru (2.8%), Chile (1.9%), and Brazil (0.3%). These forecasts do not include the possible economic effects of the invasion of Ukraine and the sanctions against Russia since these events are still unfolding.

Economic Activity

The Colombian economy achieved 10.6% growth in 2021. This exceeded the forecasts of the technical staff and the consensus of market analysts and placed Colombia among the most dynamic countries in the region. Several factors such as progress on the National Vaccination Plan, the end of confinements, and the relaxation of travel restrictions contributed to the reactivation. The expansionary monetary policy stance was another key factor in the economic recovery since it favored greater availability of loans at lower interest rates, and this helped to strengthen domestic demand led by household consumption. The positive performance of the global economy and of this country's trading partners as well as the relatively comfortable financial conditions abroad contributed to the conditions conducive to the recovery. However, the difficult state of public order and road blockades affected productive activity in the second quarter of the year. In some sectors, such as the poultry industry, the effects have been persistent due to the damage caused to the processes of chicken reproduction. In spite of these difficulties, the net balance was that of an expanding economy where GDP in 2021 exceeded that of 2019 by 2.8% as if the country had continued to grow at the rates seen before the pandemic.

From the standpoint of supply, the branches of production that contributed the most to growth in 2021 were trade, transportation, and lodging; manufacturing industry; public administration and defense, education, and health; artistic, entertainment, and recreational activities; and professional, scientific, and technical work. In contrast, the agricultural sector, mining, and construction, which are areas that traditionally make an important contribution to growth, continued to lag behind the more dynamic sectors.

From an expenditure perspective, economic activity was driven by strengthening domestic demand. This expanded 13.3%, mainly because of household consumption which increased 14.6% in 2021 compared to the 5.0% drop observed in 2020 by using the excess savings accumulated during the most critical period of the pandemic and in response to the easing of mobility restrictions. Increased workers' remittances and the abundant availability of loans at historically low real interest rates also contributed to this. A high level of public consumption complemented the positive performance of private consumption. Gross capital formation also achieved a significant recovery as it grew 9.9% in 2021. However, it has not reached pre-pandemic levels given the sharp contraction of this spending component in 2020 and the slower growth seen in public and private construction work during the most recent period that has offset the strong growth of investment in machinery and equipment.

Finally, import growth in 2021 far exceeded that of exports (27.5% vs. 14.2%), expanding the country's trade deficit and reflecting a somewhat lower GDP growth than the increase seen in domestic demand.

In January, the technical staff projected economic growth of 4.3% for 2022, which could be revised upward with the most recent information available at the time of this report. Growth in 2022 will, in any case, be lower than it was the previous year as the economy converges to its long-term growth rate. Household consumption is expected to moderate due to the constraint of higher inflation and lower savings during the pandemic period. The growth of public consumption is also expected to moderate in line with the Financial Plan presented by the Government. Gross fixed capital formation, driven by a significant recovery in the construction sector, especially in housing and civil works, will probably be the strongest component of domestic demand. On the foreign front, exports are expected to perform better as they are boosted by favorable terms of trade and the economic recovery of our trading partners. As with other macroeconomic variables, there is a lot of uncertainty due to the possible effects of the conflict in Ukraine.

Employment

Over the course of 2021, the trend in the labor market recovery that began in the second half of 2020 continued although its pace was slower than what had been seen in economic activity, especially in the last few months of the year. The twelve-month average unemployment rate for the national total in 2021 stood at 13.7%, 2.2 percentage points (pp) lower than the 2020 average (15.9%). Likewise, the unemployment rate for the national total went from 13.4% to 11.0% between December 2020 and the same month in 2021 in the original series. Nevertheless, this latter figure remained higher than the corresponding 9.5% unemployment rate seen in December 2019. Thus, in spite of the progress made in the labor market during 2021, it was not possible to return to the unemployment levels that existed before the pandemic. The estimates presented in this Report show that for the national total as of last December had recovered about 80% (4.6 million) of the jobs lost between February and April 2020, but about 1.2 million jobs had yet to be recovered.

In the quarterly moving average ending in December, there was a recovery of non-salaried employment to levels close to those at the beginning of the pandemic for the national total while the recovery of salaried employment was weaker with employment levels that were lower than the ones seen in the pre-pandemic period. In urban areas, formal and informal employment remained relatively stable in the last few months of the year with the exception of December 2021 when informal employment led urban job creation. Figures at the end of the year indicate that there had been a recovery of 83% of the informal employment lost at the beginning of the pandemic in the thirteen cities while in the case of formal employment this recovery reached 70% in these cities.

Another important aspect of the labor market is the behavior of labor participation, which remained stable in 2021 for the national aggregate at a level close to 60%, and in urban areas remained at around 63%. These levels are lower than the pre-pandemic ones (63% and 66% respectively). Labor participation did not increase in reaction to massive job losses among heads of households, a phenomenon known as the additional worker effect. This is explained by the strong impact of the pandemic on the women who were forced to devote more time to household chores and the care of their young children due to the closure of educational institutions.

Finally, according to seasonally adjusted figures, the unemployment rate for the national total stood at 12.5% in the fourth quarter of 2021 although there was a significant difference based on gender. The unemployment rate for women in the national total during this period was 16.4%, and for men it was 9.7%. This represented a gender gap of 6.7 pp. However, the unemployment rate for women has been showing a downward trend while that for men remains relatively stable, and this contributes to a partial reversal of the marked widening of the gender gap seen during the pandemic.

The labor market shock generated by the pandemic meant an increase in urban structural unemployment in 2021 compared to pre-pandemic levels.[1] Considering this as well as the forecast for economic activity and the improvement in labor demand reflected in some job opening indicators, the national unemployment rate is expected to continue declining during 2022 and its average level will likely be somewhat lower than what was registered during the previous year. Similarly, estimates indicate that the urban unemployment rate will decrease compared to what was seen in 2021. This would mean an urban unemployment gap that is expected to be narrower than what was projected in past reports. All this suggests a labor market that will probably be less favorable to job-seekers in 2022 than what was seen at the beginning of the pandemic although its expected recovery could be altered by the increase in the minimum wage, which far exceeded the observed inflation and productivity gains.

Inflation and Monetary Policy

Consumer inflation at the end of 2021 was 5.62%, more than four percentage points higher than in 2020 when it closed at 1.61%. This stood at 6.94% and 8.01% per annum in January and February. Inflation levels of this magnitude have not been seen since 2016 although, unlike on that occasion, the increase in inflation was not due to climatic factors but occurred as another economic consequence of the pandemic. Disruptions in global supply, transportation, and logistics chains led to increases in the prices of raw materials and imported final goods, and these were compounded by the depreciation of the peso against the dollar. At the local level, various supply factors, such as unfavorable agricultural production cycles and the aftermath of the strikes and blockades in the second quarter, affected the prices of various types of food and eating out. The rapid recovery of domestic demand, in turn, led by the increase in domestic consumption and some items of investment (favored by the greater availability of credit at low

1 Structural unemployment corresponds to that unemployment rate consistent with stable inflation, referred to in English as Nairu.

interest rates) reduced the economy's excess productive capacity and generated overall pressure on prices.

The rapid increase in the inflation rate in 2021 began abruptly in May due to the food supply difficulties generated by the blockades of the country's main roads. Thus, annual food price inflation went from 3.98% in April to 9.52% in May which, given its significant share in the consumer basket (15.05%), boosted headline inflation from 1.95% to 3.30% in those two months. The public became aware of the seriousness of this shock when they noticed the shortages of some everyday consumer products at the retail outlets. At the time, this phenomenon was seen as temporary in certain sectors while in some productive activities, such as poultry farming, there were consequences with longer-term impacts. Food price increases continued during the following months, due to both the effects of the strike and the blockades as well as global inflationary pressure that raised the prices of perishable and processed foods. Thus, food price inflation reached 17.23% at the end of 2021, and at the beginning of 2022, it continued to rise until it reached 23.3% annually in February although at that time, the international increases in agricultural prices and agricultural supplies associated with the conflict in Russia and Ukraine had not yet begun to be reflected.

The segment of regulated products was another item that experienced significant price increases with an annual change of 7.1% at the end of the year. This pressure came from the gradual dismantling of the relief that the government granted to some of the public utility fees during the critical period of the pandemic and in the increase in international oil prices and the exchange rate although this has had a moderate effect on fuel prices to the final consumer due to the significant subsidies granted by the fuel price stabilization fund. As with other items in the basket, annual inflation in the regulated group continued to increase at the beginning of the year and reached 8.91% in February.

Other components of the basket apart from food and regulated items also experienced increases in 2021 that were more moderate as shown by the core inflation measure that excludes these items. This went from 1.24% in April to 2.49% at the end of 2021. Nevertheless, this measurement of core inflation continued to rise until it reached 4.11% per annum in February as did the average of core inflation measurements, which, after ending the year at 3.45%, went to 5.22% per annum in February.

In forming inflation expectations, economic agents incorporate actual inflation while looking ahead at the economy and considering the inflation target. Hence the importance of keeping the credibility of the inflation target high. Over the course of 2021, inflation surged to above the 3.0% target and proved to be persistent. As a result, there was an increase in inflation expectations that affected short-term expectations first, and then medium-term expectations as agents perceived the persistent nature of the shocks. The upward revision of inflation expectations was also influenced by the increase in the minimum wage since it created a perception of normality in public opinion in the wake of nominal increases above the inflation target. All of the above increased the risk of a de-anchoring of inflation expectations with respect to the 3.0% target and created the danger of inducing price indexation processes at high inflation rates. In view of this situation, the BDBR unanimously decided to begin normalizing monetary policy in September with a 25 bp increase in the policy interest rate. This process of normalization continued in the October, December, and January sessions of the BDBR and took the policy rate from its initial level of 1.75% in September to 4.0% in January.

Despite these interest rate increases, the monetary policy stance remains expansionary, considering that at the time this *Report* was written, the nominal monetary policy rate (4.0%) was below annual inflation expectations for the end of 2022 and March 2023.[2] This results in a negative real policy rate that is also below the neutral real interest rate which is estimated by the Bank's technical staff at 1.8% (see Box 2). Moreover, due to the lag of the transmission mechanisms, the effects of recent increases in the policy interest rate will take time to manifest themselves. Under these circumstances, it is not surprising that not only headline inflation, strongly affected by foreign shocks, but also core inflation have continued to rise in the first few months of 2022. The increase in core inflation may be reflecting the beginning of indexation processes and automatic price adjustments of some goods and services that by law are tied to the previous year's inflation or to the increase in the minimum wage.

The transmission of external pressure, not only to food and regulated products, but also to core inflation, can be expected to continue during 2022 in an environment in which economic activity is projected to continue growing at a rate similar to that of the long term and excess productive capacity is expected to disappear. This greater transmission of external pressure is compounded by the indexation of several components of the consumer price index at a relatively high rate – particularly in the services basket – as well as the effects of higher labor costs on prices. However, some of this pressure is expected to ease in the second and third quarters as international inflation moderates, and domestic agricultural supply is expected to recover in response to the high prices of many products. Thus, thanks to monetary policy action, headline inflation will probably begin to converge to the target in the second half of the year, a trend that should continue in 2023. When writing this *Report*, the international prices of food, fuel, and many raw materials showed significant additional increases due to the outbreak of the war between Russia and Ukraine (see Box 1). This situation, if prolonged, threatens to raise inflationary pressure in Colombia above what was anticipated.

Balance of Payments

The current account of the balance of payments registered a deficit of USD 17,833 million (m) last year, which was USD 8,626 m higher than in 2020. As a share of GDP, that deficit went from 3.4% in 2020 to 5.7% in 2021. The main cause of the expansion of the current deficit was the greater imbalance in trade in goods. The deficit in the balance of services and higher net outflows from factor income contributed to a lesser extent to the increase in the external imbalance while net income from current transfers partially offset it.

One of the most distinctive features of Colombia's foreign trade in 2021 was the significant rebound in imports of goods, which contrasts with the sharp drop registered in 2020. The increase in the country's purchases from abroad reflects the higher pace of economic activity and is mainly explained by imports of supplies and capital goods for industry, followed by consumer goods. Exports of goods also showed a significant recovery in 2021 driven by the growth of our trading partners. However, the increase in the value of exported goods was less than what was seen for imports, and this resulted in a widening of the trade deficit in goods. Added to this was the higher deficit in the balance of services due, in part, to the higher payments for cargo transportation services caused by the increase in international maritime shipping rates. The negative balance for factor income, in turn, rose as a result of the greater remission of profits of companies

2 According to *Banco de la República's* Monthly Expectations Survey (MES) that was done in March, the weighted average inflation expectation for the end of 2022 is 6.46%, and for March 2023 it is 4.54%.

with foreign direct investment (FDI) in Colombia. Finally, the positive balance of current transfers improved thanks to higher income from workers' remittances, which amounted to 2.7% of annual GDP and represented a significant support for household consumption.

The deficit in the current account for 2021 was financed by net capital inflows that were equivalent to 5.3% of the annual GDP. These inflows were the result of USD 27,238 m in foreign capital inflows that were partly offset by USD 9,539 m in outflows of Colombian capital abroad. Foreign capital inflows came mainly from FDI, foreign portfolio investments, loan disbursements, and other external loans.

For 2021, FDI capital inflows increased 26.1%, thus making this resource the main source of foreign financing as was the case before the pandemic. Slightly more than 40% of FDI received the previous year corresponded to reinvestment of profits, which reflects the economic reactivation. Added to the above was an 11.5% increase in foreign portfolio investments in Colombia due to net income received from the placement of long-term debt securities in international markets and net purchases of fixed-income securities in the local market by non-residents. Other capital inflows in 2021 came from external loans, mostly corresponding to foreign banks´ long-term loans granted to public sector entities. The private sector obtained a smaller amount as short-term indebtedness.

A correction of the foreign deficit is expected for 2022 in line with a moderation in the growth rate of domestic demand and a greater contribution from exports. The Bank's technical staff projects a current account deficit of 4.9% of GDP which is lower than the 5.7% imbalance seen in 2021. The annual reduction in the deficit was due to higher export prices, a rebound in the volume of production of the main commodities such as petroleum, coal, and coffee, and a recovery of demand from trading partners. The country is expected to maintain access to international capital markets and the recovery of FDI will continue in an environment where the risk premia is higher and monetary policy is less expansionary in the United States.

The global economic shock resulting from Russia's invasion of Ukraine will have an impact on the external balance of the Colombian economy although it is difficult to determine a priori in which direction. For one thing, as an exporter of commodities such as crude oil, coal, and nickel, the country will benefit from their high prices which, in the case of crude oil, have exceeded USD 110 per barrel. But as an importer of agricultural supplies and raw materials for industry, the country will have to assume higher costs. Opposing forces could also affect capital flows. On the one hand, Russia's exclusion from the global capital markets due to sanctions could cause capital to flow towards emerging economies, including Colombia. On the other hand, the impact of the conflict on foreign investors' confidence could cause them to seek safe havens in financial assets in the United States or other developed economies and liquidate their investments in emerging economies such as Colombia. The outcome of this situation is still uncertain, which precludes reliable forecasts of its effects on the country's balance of payments for the time being.

Foreign Reserves

At the end of 2021, net foreign reserves totaled USD 58,579 m, which meant a USD 451.6-million decrease compared to their level in 2020. The main factor behind this decrease is the devaluation of other reserve currencies against the U.S. dollar, which appreciated due to the recovery of the U.S. economy and the expectations of a more contractionary monetary policy in that country with higher interest rates in the near future. Furthermore, these expectations of higher policy interest rates caused medium and long-term rates to increase in global financial markets and generated devaluations in the market prices of previously issued bonds that are part of the foreign reserves.

The current level of foreign reserves is satisfactory when evaluated from different metrics. The IMF has proposed a methodology (ARA)[3] that considers a volume of reserves that is sufficient to cover the main balance of payments risks at an appropriate level by looking at macroeconomic variables during periods when there is pressure on the exchange market. An economy is believed to be maintaining proper levels of reserves if the ratio of the actual reserves to that appropriate level is between 1.0 and 1.5. With figures as of December 2021, this ratio stood at 1.44. Other indicators used for assessing the foreign reserves could give warning signals regarding the external vulnerability of economies. 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 suggest that the amount of reserves as of December 2021 was at suitable levels.

The return on reserves depends primarily on the interest received on the bonds and other securities in which they are invested, and on the appreciation resulting from the change in the prices of such bonds due to interest rate movements. This second factor occurs because there is an inverse relationship between bond prices and interest rates, i.e., bond prices rise as interest rates fall, and vice versa.

After exceptionally high levels of return on reserves during 2019 and 2020 as a result of the sharp reduction in international interest rates that raised the value of the bonds in which they were invested, there was a considerable reduction in their subsequent return as interest rates hit a low, thus preventing further appreciation and offering a very low return on reserve investments. The increase that began to be seen in medium and long-term rates as a result of expectations of increases in policy interest rates in the main advanced countries caused bond prices to devalue in 2021 and partially reversed the appreciation seen in the two preceding years. Thus, the return on reserves in 2021 was -0.19%, due to near zero levels of short-term interest rates prevailing in foreign financial markets and to the fact that there were devaluations in investments due to the increase in these rates during the last part of the year as a result of the emergence of inflationary pressures.

In 2022, the return on foreign reserves is expected to remain at low levels. With interest rates in the markets in which the reserves are invested remaining at historically low levels, the interest received will be limited and devaluations in the investments may be seen again as a result of rate increases in the short or medium term due to the concern of the monetary authorities about the growing trend of global inflation.

As a supplement to foreign reserves, *Banco de la República* maintains access to other instruments that serve to strengthen the country's international liquidity. These instruments refer in particular to having access to the flexible credit line (FCL) with the IMF and the Federal Reserve's repo facility (FIMA). In addition, in order to overcome the obstacles arising from the Covid-19 crisis and strengthen the international liquidity of the 190 member countries, the IMF made an extraordinary general allocation of Special Drawing Rights (SDR)

3 This acronym corresponds to *assessing reserve adequacy.*

in August 2021 for an amount equivalent to USD 650 b (SDR 456 b), of which, in proportion to its quotas in the Fund, Colombia received SDR 1,960 m, an amount equivalent to USD 2,790 m. *Banco de la República* sold these resources to the national government in the same month of August and, in exchange for them, the Bank received previously issued TES debt securities that the National Treasury had previously repurchased on the market. This operation did not constitute government financing by the Bank, nor did it increase public debt, but it did contribute to improving the public debt profile and reconfiguring the breakdown of the Bank's assets towards higher-yielding investments.

***Banco de la República* profits**

Banco de la República's profit in 2021 amounted to COP 632 b, thus posting a positive result despite the negative return on foreign reserves. This came to more than the loss of COP 22 b forecast for 2021 that had been indicated in the July 2021 Report to Congress. This result was obtained from COP 2,391 b in revenue and COP 1,759 b in outlays. Compared to what was seen in 2020, revenue declined COP 7,472 b (-75.8%) and expenditures decreased COP 651 tm (-26.1%).

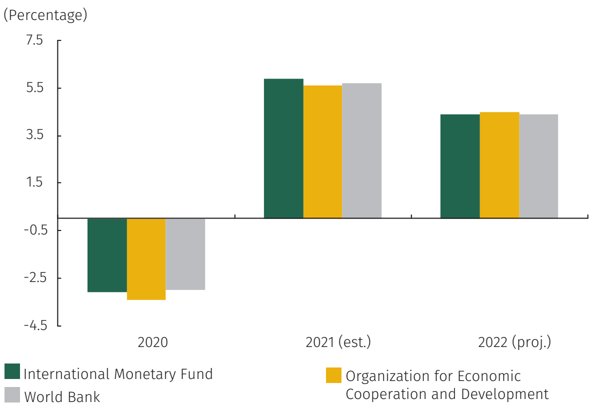
The drop in revenues was mainly due to the negative performance of the foreign reserves. The main income categories that showed positive results corresponded to the yield on TES held by the Bank, the face value of the coins issued, income from exchange differences and income from expansion repo transactions. Expenditures are mostly explained by the remuneration of national government deposits and corporate expenses.

A profit of COP 1,262 b is anticipated for 2022 which is greater than it was in 2021. Based on the Bank's budget, this result would be obtained from COP 3,815 b in revenue and COP 2,553 b in expenditures as explained in chapter 5 of this *Report*.

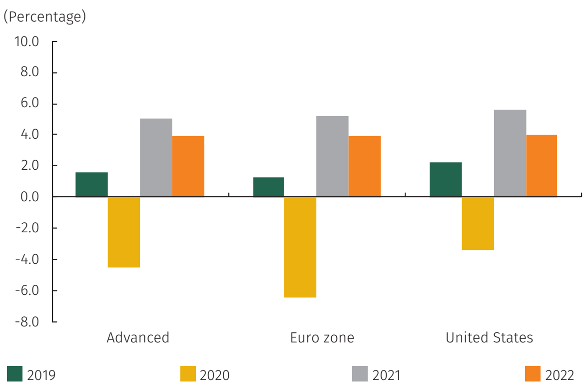
02/ Macroeconomic Environment and *Banco de la República*'s Stocks

Graph 2.1
Economic Growth

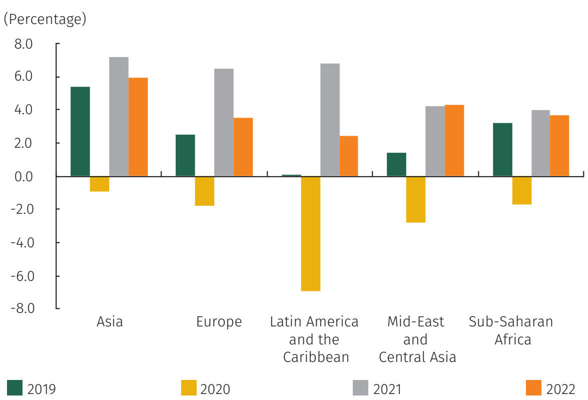
A. The World Total
(annual change)



B. Advanced economies[a/]
(annual change)



C. Emerging economies[a/]
(annual change)



est.: estimated
proj: projected.
a/ Corresponds to the forecasts made by the IMF in their January 2022 report.
Sources: International Monetary Fund, World Bank, and OECD.

2.1 Change in and Outlook for the International Macroeconomic Environment

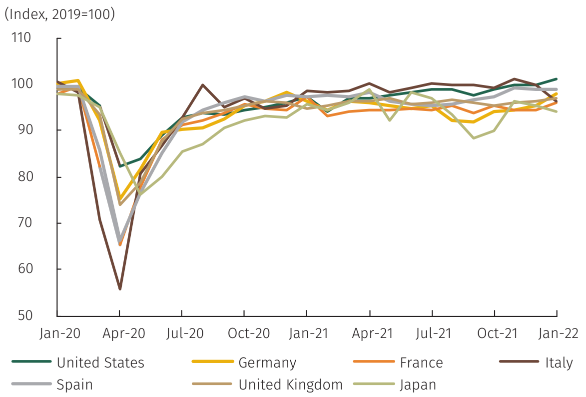
The global economy continued to recover in an environment of supply chain disruptions, supply constraints, high commodity prices, and inflation that has reached levels exceeding the targets of various countries. Most emerging economies as well as some developed countries have begun to raise their monetary policy rate. This has negatively impacted the government bond markets and weakened currencies in emerging countries. Uncertainty about the foreign context is high in 2022 due to the risks associated with the progress of the pandemic, the effects of Russia's invasion of Ukraine, and the persistence of global supply shocks.

The global economy recovered significantly in 2021 in the midst of highly uneven economic growth rates across countries. According to the International Monetary Fund (IMF), the world economy contracted 3.1% in 2020 and grew 5.9% in 2021 (Graph 2.1).[4] According to the Organization for Economic Co-operation and Development (OECD), global output in the last quarter of 2021 was above pre-pandemic levels. According to the World Bank, this growth was driven by private consumption and, to a lesser extent, by investment. The relaxation of lockdowns, progress in Covid-19 vaccination programs, improved adaptation to pandemic conditions, continued fiscal stimulus in several economies, and ample international liquidity contributed to the recovery of the global economy. However, the rate of expansion was limited by the emergence of new Covid-19 variants that restricted movement of people, albeit to a lesser extent than seen in 2020. In addition, problems in global supply chains, restrictions on the supply of goods and materials, and high international shipping costs generated inflationary pressure and affected production (Graph 2.2, panel A). Various international organizations

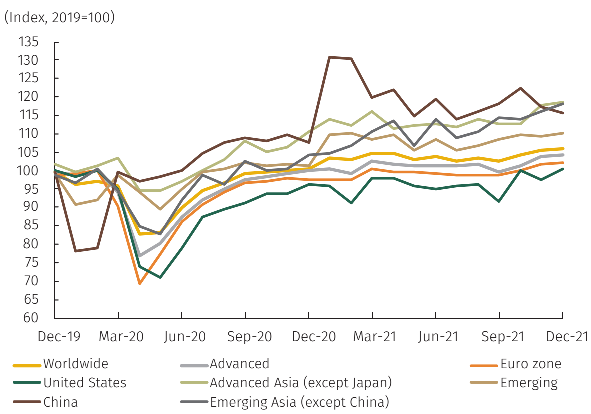
4 According to the IMF, the advanced economies registered a -4.5% annual change in real gross domestic product (GDP) in 2020 and 5.0% in 2021, an upturn led by the United States (5.6%). In 2022, the real GDP for this group is likely to expand 3.9%. Emerging and developing economies registered variations of -2.0% in 2020 and 6.5% in 2021 with China showing the highest growth (8.1%). In 2022, these countries grew 4.8%. Latin America and the Caribbean, in particular, presented a contraction of 6.9% in 2020 and a rebound of 6.8% in 2021. The IMF projects a slowdown in real growth of 2.4% for 2022. Among the region's main economies, the recovery of Chile (11.9%) and Colombia (10.6%) stood out in 2021. Large economies such as Brazil (5.0%) and especially Mexico (5.0%), in turn, showed a slower rate of recovery. Last of all, in its January 2022 Monetary Policy Report, the technical staff estimated a variation of -6.7% in 2020, 6.9% in 2021, and 3.3% in 2022 in the average real GDP (weighted by non-traditional trade) of our trading partners.

Graph 2.2
Industrial Production and International Merchandise Trade

A. Industrial production of some main economies

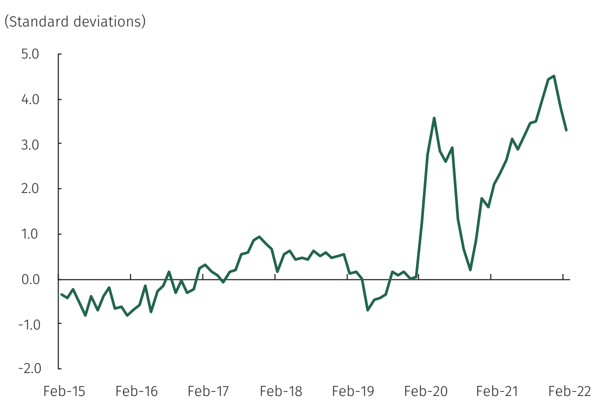


B. Real exports



Sources: CPB Netherlands Bureau for Economic Policy Analysis, Federal Reserve Bank of St. Louis, statistical offices and Ministry of Economy of Japan; calculations by *Banco de la República*.

Graph 2.3
Index of Pressure on Global Supply Chains
(standard deviations with respect to the mean)



Note: To construct them, the authors used indicators of international transportation costs (Baltic Dry index, Harpex index, etc.) and some of the components of the survey of business conditions (PMI) for the euro zone, China, Japan, South Korea, Taiwan, the United Kingdom and the United States.
Source: Gianluca Benigno, Julian di Giovanni, Jan J. J. Groen, and Adam I. Noble, "A New Barometer of Global Supply Chain Pressures" Federal Reserve Bank of New York Liberty Street Economics.

are projecting global economic growth of close to 4.4% for 2022, which reflects a slowdown compared to 2021. Base effects, possible resurgence of the virus, a less expansionary monetary policy, the reduction of fiscal stimulus, the persistence of some supply constraints, and inflationary pressure are likely to contribute to the slowdown in growth. The United States and China are among the economies that will probably slow down significantly in 2022. The outlook for the world economy is highly uncertain due to the changes in the pandemic and the persistence of its effects on economic activity. Added to this is uncertainty about the duration of global supply shocks, a possibly faster withdrawal of monetary stimulus in advanced countries, and the effects of Russia's invasion of Ukraine.

The recovery in global economic activity has been accompanied by disruptions in global supply chains, supply constraints, and high freight shipping costs. World exports of goods rebounded in 2021 from the deterioration in 2020 and were above pre-pandemic levels (Graph 2.2, panel B). This was accompanied by logistical problems, container shortages, and increased costs of shipping goods by sea. Indeed, the *world container index*[5] rose nearly 500% between December 2019 and December 2021. The effects of the pandemic and the respective restrictions and sanitary measures to contain the virus contributed to this and were reflected in bottlenecks and delays at ports. The use of freight transportation services, in turn, was boosted by the recovery of the economies. Price increases, supply constraints and disruptions in production were also noted in other markets including the manufacturing sector. As mentioned in the July 2021 *Report to Congress*, the shortage of semiconductors (*microchips*), which are used in multiple products such as computers, appliances, and automobiles, is underscored. By February 2022, although the global index of supply chain pressure[6] showed some improvement compared to the end of 2021, it remained above what was seen in 2019 (Graph 2.3). This indicates the persistence of these global supply shocks.

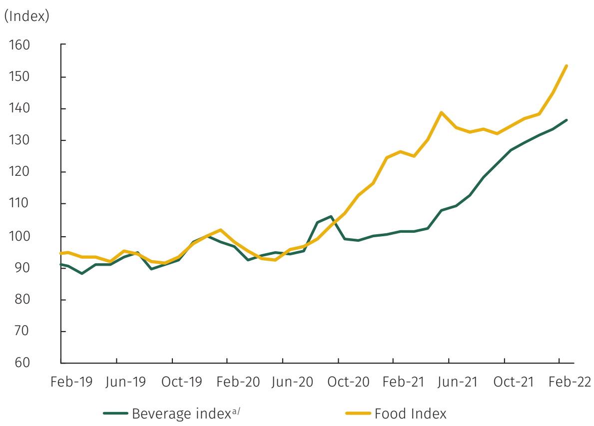
International prices of agricultural products have increased significantly. The World Bank's average food price index rose 30.8% per annum in 2021 (Graph 2.4, panel A) with vegetable oil, soybeans and grain contributing the most to this change. The price index for beverages (coffee, cocoa, and tea), in turn, rose 16.3% per year with a notable increase in coffee (34.2%). Logistical disruptions, severe

5 Volume-weighted average price to transport a forty-foot container on routes including Shanghai-Rotterdam, Shanghai-Genoa, Shanghai-Los Angeles, Shanghai-New York, Los Angeles-Rotterdam, New York-Rotterdam.

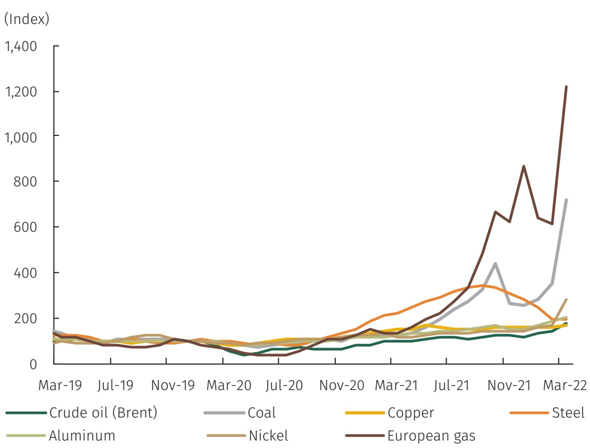
6 This indicator includes international transportation cost indices (*baltic dry index, harpex index*, etc.) and some of the components of the business conditions survey (PMI) for the euro zone, China, Japan, South Korea, Taiwan, the United Kingdom, and the United States.

Graph 2.4
International Prices for Food and other Commodities
(December 2019 = 100)

A. Price index of agricultural goods



B. Prices of some commodities[b/]



a/ Includes coffee, cocoa, and tea.
b/ The March 2022 data is the average through March 14.
Sources: World Bank, Bloomberg, and Datastream.

weather events, labor shortages, and higher supply costs contributed to the higher prices of agricultural products. In addition, there was a strong demand for food in 2021 with imports from China and the annual growth in biofuel production standing out. The World Bank's food price indices were still rising as of February 2022 compared to the end of the previous year. In addition, Russia's invasion of Ukraine has put upward pressure on the international prices of some of these agricultural goods since the end of February since these countries are major exporters of foodstuffs such as wheat and corn as well as fertilizer (Box 1).

The prices of mining and energy products have increased significantly. The international prices of Brent crude oil increased 63.7%, coal 137.1%, and natural gas in Europe 397.1% in 2021 (Graph 2.4, panel B).[7] This occurred in the midst of recovering demand, supply constraints, an energy crisis in Europe, and energy supply problems in part of Asia. In the case of petroleum, supply was limited by the production cuts implemented by the Organization of the Petroleum Exporting Countries and its allies (OPEC+) and the lags in the recovery of investment and extraction in countries such as the United States, which did not reach pre-pandemic levels. As for crude oil demand, a rebound was seen during 2021 due to the recovery of economic activity and increased freedom to travel for the population. In short, this was reflected in a reduction in commercial crude oil inventories which, at the end of last year, were lower than the average seen between 2015 and 2019 for OECD countries. Up to 14 March, the international price of Brent crude oil averaged USD 94.4 per barrel (bl) in the context of Russia's invasion of Ukraine and the fact that Russia is a major world producer of crude oil and natural gas (Box 1). In its March report this year, the U.S. Energy Information Administration (EIA) projected an average price of USD 105 bl for Brent crude oil for 2022. This was a sharp upward revision compared to the forecasts in the January (USD 75 bl) and February (USD 83 bl) reports.

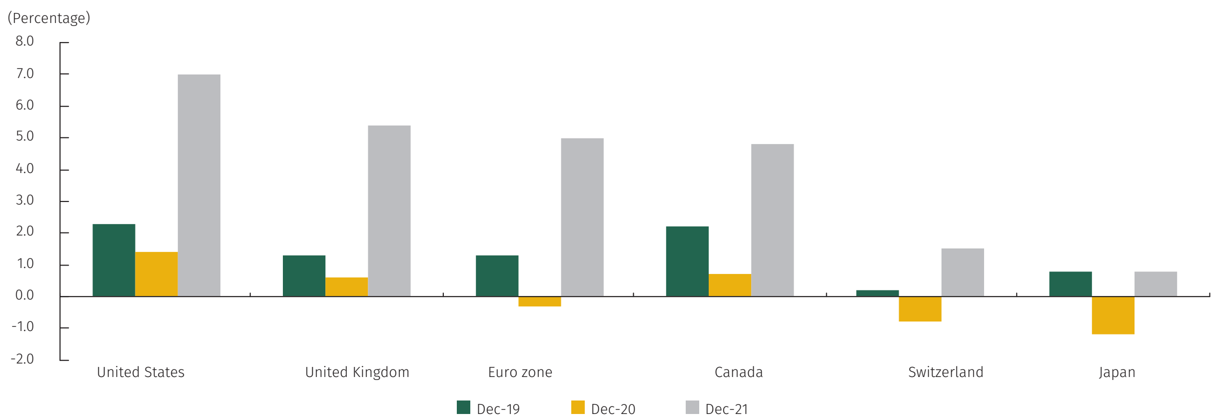
There was a surprise increase in inflation in several economies in 2021, and the projections suggest that this increase could be more persistent than initially expected. After the low inflation in 2020, in particular, several advanced economies showed consumer price increases in 2021 that were well above 2%, a figure that corresponds to the inflation target in several of them. The cases of the United States (7.0%), the United Kingdom (5.4%), the euro area (5.0%), and Canada (4.8%) are the most notable (Graph 2.5, panel A). For the main emerging countries, in turn, the highest inflation rates were in Argentina (50.7%), Turkey (36.1%), Brazil (10.1%), and Mexico (7.4%). Other large economies in the region with inflation that was above their

7 Increases in the international prices of steel (172.2%), aluminum (45.2%), copper (50.7%), and nickel (33.1%) as well as other raw materials also stood out in 2021.

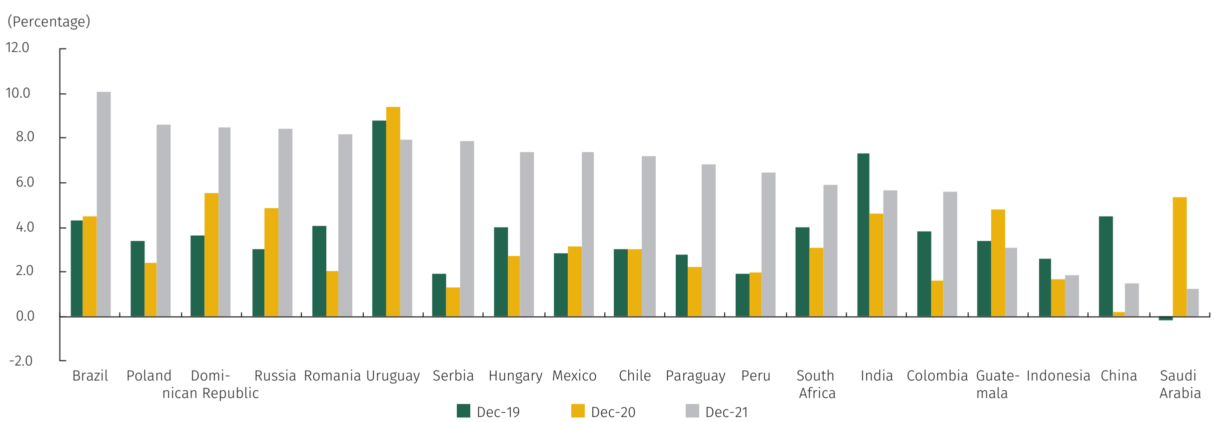
target were Chile (7.2%), Peru (6.4%), and Colombia (5.6%) (Graph 2.5, panel B). Headline inflation in 2021 for the OECD countries as a whole, in turn, was 6.6%, food inflation was 6.8%, and core inflation was 4.8% (excluding food and energy-fuels). The increase in housing prices in some of these countries is also noteworthy.[8] In contrast, in the case of China (1.5%) and other Asian countries,[9] inflation decreased in 2021 compared to what was registered in 2019. In general, the forecasts of international organizations suggest that inflationary pressure will remain high in the short term[10] and will moderate as global supply problems are resolved, the process of normalizing monetary policy continues, demand for goods moderates, and increases in fuel and food prices are curtailed. Thus, annual inflation will probably decrease compared to what was registered in 2021, but it is likely to remain above the targets set in both advanced and emerging economies including those in Latin America. Russia's recent invasion of Ukraine and its impact on food, crude oil, and other raw material prices will probably put additional pressure on global inflation (Box 1).

Graph 2.5
Total Consumer Inflation

A. Some Advanced Economies



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



Source: Bloomberg.

8 The OECD nominal house price index surged throughout 2021 and registered an annual change of 14% for the third quarter compared to 4.4% in the fourth quarter of 2019.

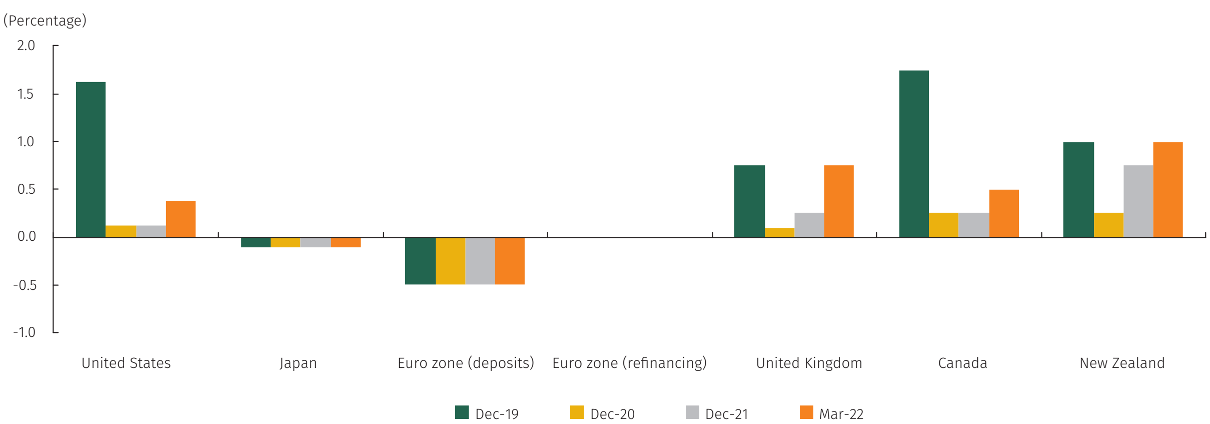
9 Includes Japan, Indonesia, and Vietnam.

10 Indeed, annual inflation in the United States was 7.5% in January 2002 and 5.1% in the euro zone. During that month, annual inflation remained high and above target levels in several Latin American countries.

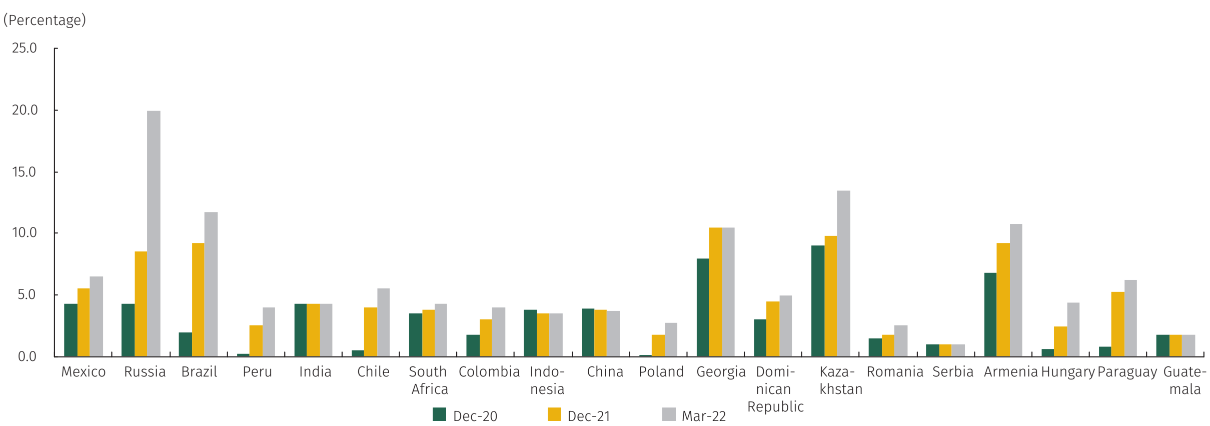
The central banks of the main advanced economies maintained an expansionary monetary policy in 2021 although some began to normalize their monetary policy, a process that continued in 2022. The monetary policy rate in the United States remained unchanged at its technical minimum (between 0% and 0.25%) in 2021 and until February 2022 (Graph 2.6, panel A). As anticipated by analysts and the futures markets, this interest rate was raised in March 2022[11] and several increases are projected over the course of the year in an environment of inflationary pressure and employment gains. Moreover, at their November and December 2021 meetings, the Federal Reserve (Fed) reduced the expansion rate of its balance sheet, and as of March 2022, no new net asset purchases will be made. Total assets on this institution's balance sheet by the end of 2021 were close to 37% of GDP compared to 19% in the fourth quarter of 2019. Regarding the process of reducing these assets, Federal Open Market Committee members have mentioned that this could take place as early as the May meeting, and that it would likely be done at a faster pace than what was seen between 2017 and 2019. The European Central Bank (ECB), in turn, kept its policy rate unchanged in 2021 and the first quarter of 2022 (Graph 2.6, panel A). At its March meeting, the Bank affirmed what it had announced in previous

Graph 2.6
Monetary Policy Interest Rates in Some Economies

A. Some Advanced Economies



B. Some Emerging Economies and in the Region



Source: Bloomberg.

11 At the close of this Report, it was announced that the US Federal Reserve made a first 25 bp increase in its monetary policy rate at its meeting on 16 March 2022.

sessions regarding the slower pace of asset purchases under the Pandemic Emergency Purchase Program (PEPP), which would end in March of this year, and accelerated the process of reducing purchases under the Asset Purchase Program (APP). For the same period, the Central Bank of Japan kept its policy rate unchanged (Graph 2.6, panel A) while the Bank of New Zealand raised it as of August (from 0.25% to 1%), and the Central Bank of Canada raised it at its March 2022 meeting (from 0.25% to 0.5%) while keeping its balance sheet unchanged. The Bank of England raised its policy rate in December 2021 (from 0.1% to 0.25%), added two more 25 bp increases in February and March 2022 that put it at 0.75%, and also began the process of reducing its balance sheet. The median of the analyst survey done by the European Central Bank (ECB) in February envisages a first increase in its benchmark monetary policy rate by the end of 2022. For the United Kingdom and Canada, market expectations point to further increases during 2022.

Most of the emerging economies began the process of normalizing their monetary policy in 2021. That year, the majority of the main emerging economies raised their monetary policy interest rates (Graph 2.6, panel B). This occurred against a backdrop of rebounding economic activity, global factors that pushed prices up, and inflation that was above the target. Even some countries such as Mexico that have been lagging behind in their recovery of economic growth have increased their benchmark interest rates. Among the main economies in the region, the policy interest rate went from 0.5% to 5.5% in Chile, from 0.25% to 4.0% in Peru, from 2.0% to 11.75% in Brazil, and 4.0% to 6.5% in Mexico in 2021 and through March 2022.[12] For emerging countries outside Latin America, the most notable increases were in Russia where they went from 4.25% to 20% due to inflationary pressure and the devaluation of its currency in the midst of the recent invasion of Ukraine. Policy rate increases are expected to continue for the remainder of 2022 for the majority of these emerging countries. In contrast, the People' s Bank of China has taken further monetary stimulus measures[13] in recent months in the context of an economic slowdown and below the inflation target.

Most of the international financial markets (except the stock market) deteriorated during 2021 mainly as a result of rising global inflationary pressures, expectations of a more rapid withdrawal of monetary stimulus by the Fed and other central banks compared to what was expected at the end of 2020, and the emergence of new strains of Covid-19. This change in monetary policy expectations generated high volatility in the U.S. debt market.[14] In this context, international risk perception indicators, such as the VIX[15] and the VSTOXX indexes,[16] showed high volatility while the average *credit default swap* (CDS) of the countries in the region (Brazil, Mexico, Chile, and Peru) rose 29 bp compared to the end of 2020 in line with the 36 bp increase seen in other emerging countries.[17] In Colombia, the five-year CDS rose 116 bp during

12 The first increase in Chile was made on 13 July 2021, in Peru on 11 August, in Brazil on 16 March, and in Mexico on 23 June.

13 They reduced their one-year prime lending rate by 5 bp in November (from 3.85% to 3.8%) and their required reserves rate by 50 bp in December (from 12% to 11.5%).

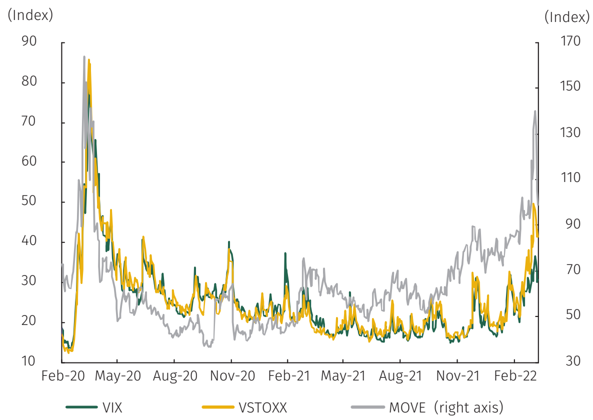
14 This increase in volatility was reflected in the MOVE index, an indicator that measures the expected implied volatility in three-month Treasury options.

15 The VIX index is the expected implied volatility of 30-day options on the S&P 500 stock index.

16 The VSTOXX index is the expected implied volatility of 30-day options on the EuroStoxx 50 stock index.

17 According to Markit's CDX EM index, which is made up of eighteen sovereign issuers in Latin America, EMEA, and Asia.

Graph 2.7
Indicators of Risk Perception in International Financial Markets



Source: Data License.

2021 as a result of several sources of local uncertainty (see section 3.1 of this *Report*). In addition, the perception of international risk was explained by 1) the increased fears and subsequent materialization of the Evergrande's and other Chinese real estate companies' default on their debt interest payments; 2) geopolitical tensions between several Western countries and China, and 3) the discussions in the US Congress on raising the debt ceiling and the rejection by Congress of the USD 2 trillion fiscal stimulus package proposed by President Biden's administration (Graph 2.7).

So far in 2022, financial markets are still affected by pressures on the inflationary front and the uncertainty related to geopolitical tensions. Higher inflationary pressures continue to have an impact on expectations of a less expansionary global monetary policy. Furthermore, geopolitical tensions between several Western countries and Russia have contributed to an increased perception of international risk while rising prices of commodities have reinforced expectations of higher inflation. In this context, the CDS of a sample of emerging countries has increased by an average of 160 bp as of 11 March compared to the end of 2021. In the case of Colombia, the five-year CDS have risen 9 bp which is slightly below the 15 bp increase seen in the region's average CDS.

During 2021, rates on sovereign bonds showed increases on a global level. The U.S. Treasury yield curve shifted 60 bp upward on average while the short-term bonds of the countries in the region rose by an average of 409 bp and the long end by 263 bp. The deterioration in the performance of these securities was explained by the inflationary pressure seen around the world, and, associated with this, by the expectations of a less expansionary global monetary policy path. This pressure was explained by higher prices of commodities, disruptions in global supply chains, and a stronger economic recovery than expected at the beginning of the year.

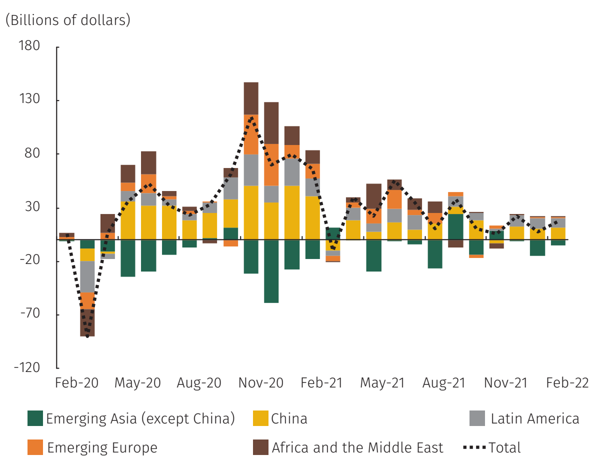
In 2021, the central banks of some developed economies continued to be the buyers of government bonds. From the beginning of the pandemic, governments in developed and emerging economies responded to the crisis with a large fiscal stimulus that they financed by issuing debt securities. In the case of the former, this debt was acquired, in part, by their central banks in the secondary market. As these central banks began to reduce the balance sheet[18] they had accumulated during the pandemic in 2022, it was likely that interest rates on these securities would rise sharply. In addition, the fiscal situation continues to put upward pressure on interest rates.

18 Through the sale of financial assets.

The trend of rising interest rates on government debt securities observed during 2021 continued during the first weeks of 2022. The developing military conflict between Russia and Ukraine has temporarily moderated this trend in U.S. and other developed countries' government bonds since mid-February as demand for safe-haven assets increased and investors expected a slower normalization of monetary policy. However, interest rates on public debt securities have resumed their upward trend since the second week of March.

Portfolio capital flows to emerging economies during 2021 were slightly lower than those seen in 2020. According to preliminary figures published by the Institute of International Finance (IIF), there were USD 378 billion (b) in portfolio inflows to emerging markets in 2021 of which 49% were concentrated in China. Overall, they were slightly lower than the 2020 inflows (USD 383 b). Foreign investment in these countries was mainly in the bond market (88% of the total) and, of the total actual flows, Latin America had net inflows of USD 110 b, the second largest that resulted from USD 83 b and USD 27 b in inflows to the fixed-income and equity markets respectively. Inflows of USD 25.7 b to emerging economies were seen in January and February 2022 against a backdrop of increased uncertainty as geopolitical frictions have escalated (Graph 2.8).

Graph 2.8
Portfolio Flows to Emerging Economies from Non-residents



Source: Institute of International Finance (IIF).

The US dollar strengthened against most of the currencies of developed and emerging countries in 2021. This reinforcement was associated with the rapid recovery of the U.S. economy relative to its developed peers as well as expectations of a steeper-than-expected rate hike in early 2021. In this context, despite the increase in the prices of most commodities, such as oil and copper, most of the currencies of emerging countries[19] and the region, including the Colombian peso, depreciated under the influence of idiosyncratic factors, including political, fiscal and health uncertainty (associated with the slower pace of vaccination at the beginning of 2021). So far in 2022, the dollar has continued to strengthen, mainly as a result of geopolitical tensions.

19 As of 11 March 2022, the currencies of emerging countries depreciated 12.2% with respect to the end of 2020 according to the JP Morgan Emerging Market Currency Index (EMCI). This index reflects the performance of some emerging market currencies against the dollar: Mexican peso (depreciated 5.0%), Chilean peso (13.0%), Chinese yuan (2.9%), Indian rupee (4.8%), Singapore dollar (3.1%), Turkish lira (98.5%), Russian ruble (59.5%), Hungarian forint (18.0%) and South African rand (2.4%) while the Brazilian real appreciated 2.4%.

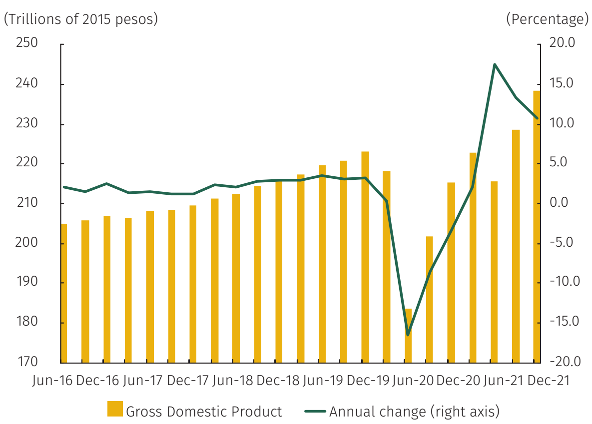
2.2 Change in and Outlook for the Economy and Labor Market in Colombia

The Colombian economy recovered significantly during 2021 and reached pre-pandemic output levels by the end of the year. The end of the lockdown and social distancing measures led to a full reopening of the economy, and this, together with loose external financial conditions, improved terms of trade, a significant boost in public spending, and an expansionary monetary policy made it possible to boost domestic demand. The recovery was led by private consumption that had been held back by the pandemic. Investment grew, in turn, but without exceeding the levels registered at the end of 2019. The trade balance deficit increased due to the larger imports as compared to exports. With all this, the economy's excess capacity was significantly reduced. Employment, in turn, showed a slower recovery with levels still 20% below those seen before the pandemic at the end of the year. Consumption growth is expected to moderate by 2022 and the recovery of investment is expected to stabilize while it gradually converges to a growth rate close to the economy's long-term growth rate.

2.2.1 Economic Activity

The Colombian economy grew more than expected at the beginning of the year in 2021 and recovered pre-pandemic levels of activity (Graph 2.9). The economy expanded 10.6% in 2021 after having contracted 7.0% in 2020. This result exceeded the technical team's expectation[20] and that of the consensus of market analysts[21] with the 2021 GDP level standing at 2.8% above that of 2019. The expansionary monetary policy, the progress in the National Vaccination Plan, the decrease in contagions and the full reopening of productive and commercial activities were decisive factors for the continuation of the economic recovery in 2021 and for it to gain momentum towards the second half of the year. This occurred at the same time as the world economy, particularly the economies of many of the country's trading partners, began to grow significantly, thus facilitating the expansion of exports, especially non-traditional. All this was in a context of relatively loose foreign financial conditions. Thus, output recovered at the beginning of the year, but temporarily contracted in the second quarter[22] due to road blockades in April and May in the midst of the third peak of the pandemic. The blockades affected large areas of the country, mainly the southwest, and various

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



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

20 In the January, April, July, and October 2021 Monetary Policy Reports, the technical staff estimated a full-year GDP growth of 4.6%, 6.0%, 7.5%, and 9.8% respectively.

21 https://www.banrep.gov.co/es/estadisticas/encuesta-mensual-expectativas-analistas-economicos

22 Between the first and second quarters of 2021, GDP contracted 3.2%.

sectors such as manufacturing, land transportation, and agriculture, with repercussions that still persist. Based on the main branches of productive activity, growth in the following sectors in 2021 should be emphasized: arts, entertainment, and recreation; commerce, repair, transportation, and lodging; manufacturing industry; and information and communications (Table 2.1).

The economic recovery in 2021 was driven by domestic demand, mainly due to the significant performance of private consumption. Absorption, or total domestic spending, grew by 13.3% compared to 2020 and was more robust in the second half of the year (Table 2.2). This made it possible for its value in 2021 to be 4.9% higher than in 2019. For the fourth quarter of 2021, absorption recorded an all-time high and was 8.5% higher than at the same quarter of 2019. Based on components, the largest contribution to the expansion of domestic demand came from private consumption which grew 14.6% in 2021. Private consumption levels started to exceed those seen before the pandemic as of the second quarter of the year. Within this aggregate, the main contribution to growth came from the use of services although the consumption of goods also showed a very favorable performance. Thus, all segments of private consumption were above their pre-pandemic levels in 2021. The strong recovery of household consumption was made possible by the complete relaxation of restrictions in almost all sectors, the spending of savings accumulated in 2020 during the most critical period of the pandemic, the increase in employment levels, the greater inflow of remittances, the increase in coffee prices (favoring

Table 2.1
Real Annual GDP Growth by Branch of Economic Activity
(seasonally adjusted and corrected by calendar effects, base year: 2015)

	2020	2021				2021
	Full year	Q1	Q2	Q3	Q4	Full year
Agri-business, Forestry, Hunting, and Fishing	2.0	3.2	3.3	1.7	1.3	2.4
Mining and Quarrying	-15.6	-14.9	7.6	4.4	8.4	0.4
Manufacturing Industry	-9.8	9.1	29.2	18.7	11.8	16.4
Electricity, Gas, and Water	-2.6	-0.4	9.1	7.1	5.3	5.1
Construction	-26.8	-4.8	24.4	2.6	5.9	5.7
Buildings	-25.9	0.2	24.3	10.5	13.7	11.6
Public works	-31.0	-12.7	24.3	-13.2	-7.5	-4.6
Specialized Construction Work	-23.1	-4.1	24.2	3.8	7.0	6.6
Commerce, Repairs, Transportation, & Accommodations	-13.7	-1.8	40.1	34.6	20.8	21.2
Information and Communications	-2.6	2.4	10.3	12.8	19.8	11.2
Financial and Insurance Business	2.3	4.8	3.5	1.9	3.5	3.4
Real estate	1.5	2.5	2.8	2.4	2.6	2.6
Professional, Scientific, and Technical Work	-5.5	2.0	15.0	12.7	9.8	9.7
Public Administration and Defense, Education, Health	0.1	4.0	9.4	8.1	6.3	6.9
Artistic, Entertainment, and Recreational Activities	-11.4	9.4	73.3	31.9	31.0	33.0
Subtotal value added	-7.1	1.9	17.0	13.0	10.4	10.3
Taxes minus subsidies	-6.3	1.3	23.9	17.0	13.9	13.5
GDP	-7.0	2.1	17.5	13.3	10.7	10.6

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

Table 2.2
Real Annual GDP Growth by Type of Expenditure
(seasonally adjusted and corrected by calendar effects, base year: 2015)

	2020	2021				2021
	Full year	Q1	Q2	Q3	Q4	Full year
Final spending on consumption	-4.2	2.9	22.9	19.0	13.2	14.1
Final spending on household consumption	-5.0	2.1	25.1	20.1	13.4	14.6
Non-durable Goods	5.6	1.8	5.6	7.3	3.3	4.5
Semi-durable Goods	-17.7	14.8	103.8	48.5	26.8	40.7
Durable Goods	-7.5	12.8	50.2	21.9	12.5	22.0
Services	-7.9	0.1	28.5	23.4	18.0	16.7
Final spending on general government consumption	-0.6	6.3	14.2	15.1	12.7	12.1
Gross Capital Formation	-20.5	0.9	30.0	6.9	7.0	9.9
Gross Fixed Capital Formation	-23.3	-1.3	36.3	10.3	8.1	11.2
Housing	-30.3	13.9	36.7	18.5	25.1	22.6
Other buildings and structures	-30.9	-16.1	22.6	-6.1	-2.4	-3.0
Machinery and Equipment	-13.4	8.2	51.8	18.5	7.3	19.0
Cultivated biological resources	-1.8	10.9	6.4	1.6	1.6	5.1
Intellectual property products	-10.8	0.6	12.8	14.8	13.7	10.2
Domestic demand	-7.5	2.0	23.9	17.4	12.3	13.3
Exports	-22.7	-8.6	16.1	24.3	31.2	14.2
Imports	-20.5	0.2	47.1	39.5	31.4	27.5
GDP	-7.0	2.1	17.5	13.3	10.7	10.6

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

the coffee growers' income), and the government's monetary transfers that helped to sustain the consumption of the most vulnerable households along with other factors. All the above occurred together with a significant growth in loans to households at historically low real interest rates as explained in detail in chapter 3 of this *Report*.

Public consumption also contributed significantly to growth. According to the most recent figures from DANE, this component grew at a rate of 12.1% in 2021 which is the highest rate since 1997. Government consumption was stronger starting in the second quarter when annualized quarterly growth exceeded 30%. The expansion of this aggregate was possible, in part, due to higher intermediate consumption (fees, general expenses, and materials and supplies) that resulted from the return to on-site work at many public facilities, the Covid-19 vaccination process, and the increase in civil servants' salaries (2.6% in nominal terms), whose retroactive payment was made effective in the third and fourth quarters.

Investment also registered a significant recovery but without reaching pre-pandemic levels and with mixed results in its components. Gross fixed capital formation, which grew 11.2% in 2021, was the demand segment with the largest lag compared to its 2019 value. This incipient recovery in investment together with a lagging labor market and its higher levels of informality could affect the economy's potential growth. Within investment, performance was uneven. While there was a very significant upswing in spending on machinery and equipment that reached a level that was 3.1% higher than that registered prior to the pandemic, mainly due to purchases of capital goods for industry, investment in construction showed few signs of recovery, and remained significantly below the 2019 level. Regarding housing construction, weakness persisted in the non low-income housing segment while there was a very weak performance in the subcomponent of other buildings and structures and public works, including those of local governments. It is expected that this will begin to be overcome in 2022.

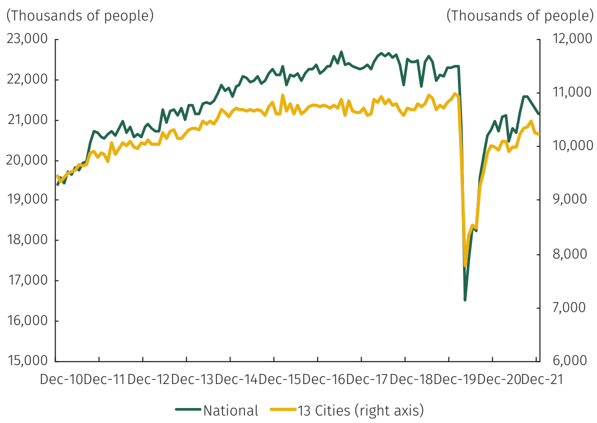
The trade balance contributed negatively to growth due to a significant increase in imports that greatly exceeded the growth of exports. These showed a very slow recovery trend that only quickened at the end of the year. Imports expanded 27.5% in 2021 while exports registered a growth close to half that value (14.2%). In the case of imports, the main contribution to their remarkable performance came from purchases of raw materials. However, they also benefited from imports of Covid-19 vaccines. Exports were boosted by external sales of non-traditional goods and the partial recovery of those of services although the latter are still below their 2019 value. Export growth was limited by sales of mining products which only showed signs of recovery towards the end of the year. With all the above, the external deficit in constant pesos reached a historic level in 2021 that was much higher than the one registered before the pandemic shock.

Economic activity is expected to moderate its growth rate in 2022 and begin to converge to a rate that is more compatible with the long-term rate. Both private and public consumption performance is expected to moderate this year. Although private consumption will probably continue to benefit from the effects of the progress made in the vaccination program, relatively favorable consumer confidence, and the continued reduction in the unemployment rate during 2022, factors such as the high comparison base in 2021, higher inflation, lower levels of savings and the lower contribution of the non-value added tax (VAT) days should lead to a moderation in the growth of this category. Likewise, in accordance with the Government's Financial Plan, growth in public consumption is expected to moderate. Gross fixed capital formation could be the most robust component of domestic demand in 2022 since a significant recovery in the construction sector is expected. This is supported by a growth trend in housing construction given the expected developments in the government's subsidy programs for low-income housing (LIH) and the high sales volumes registered in 2021. In addition, a recovery in the public works sector is expected during the year as a result of significant progress in both national government and the local and regional administration projects that are already financed and the implementation of which was delayed over the previous two years. In the case of investment in machinery and equipment, the high levels reached in 2021 are expected to be sustained due, in part, to higher investment in the mining and energy sector. On the foreign front, in turn, although international financial conditions are expected to be less relaxed, the terms of trade will continue to improve, and this could help to boost mining exports. In addition, the economic recovery of our trading partners should consolidate, thus stimulating the rest of our exports. That being the case, total exports are expected to be the strongest component of GDP for 2022 followed by investment. With all the above, the technical staff estimates an annual GDP growth rate of around 4.3% for 2022 with a higher annual rate in the first half of the year given the lower statistical comparison base. However, given the risks associated with greater persistence of international cost shocks, financial conditions abroad that may be less accommodative than expected, future evolution of the pandemic, etc., the uncertainty of this forecast is unusually high.

2.2.2. Labor Market[23]

The labor market registered a slow recovery during 2021, with some setbacks in employment in the last months of the year. This employment trend continues to be lower than that observed in economic activity. According to the seasonally adjusted monthly figures[24] from DANE's General Integrated Household Survey, the number of people employed in December 2021 grew 0.9% (187,000 jobs) for the national total compared to the same month in 2020 (Graph 2.10). This slow recovery in employment is explained, in part, by a stagnant first half of the year caused by the waves of Covid-19 contagion, which led to the implementation of mobility restrictions in several cities, to which public disturbances and road blockades were added. Although national employment again showed signs of recovery in the second half of the year with a growth of 2.3% (481,000 jobs) in December compared to June, this was at a slower pace than had been observed in 2020. Compared to a year ago, the lower dynamism was also seen in a moderate expansion of urban employment: 226,000 jobs (2.3%), as well as a decline in employment in rural areas and intermediate cities during the last months of the year. The heterogeneity of employment recovery is also seen by sector, where activities such as transportation and communications are already registering numbers of employed similar to those seen in the pre-pandemic period, while sectors such as manufacturing and recreation remain at lower levels. Based on the national total, there are still 1.2 million jobs that need to be recovered out of the 5.8 million lost at the beginning of the pandemic.

Graph 2.10
Employed Population by Geographic Domain
(seasonally adjusted monthly)



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

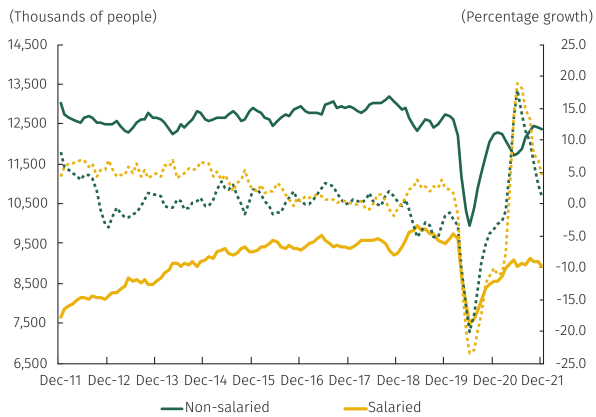
National non-salaried employment and informal employment in the cities have been the most dynamic segments in recent months while salaried and formal employment have remained relatively stable. The second half of 2021 saw a recovery in non-salaried employment for the national total. In fact, with figures in the moving quarter as of December, the number of employed in this segment was at levels close to those seen at the beginning of the pandemic. The recovery of its salaried counterpart has been more sluggish with stable but lower employment levels than those seen in the pre-pandemic period (Graph 2.11, panel A). In urban areas, the trend in formal and informal employment was relatively stable

23 The analyses presented in this section are based on the series of population and labor market indicators corresponding to the 2005 GEIH Framework. This uses the expansion factors calibrated with the population projections and back projections of the 2005 National Population and Housing Census.

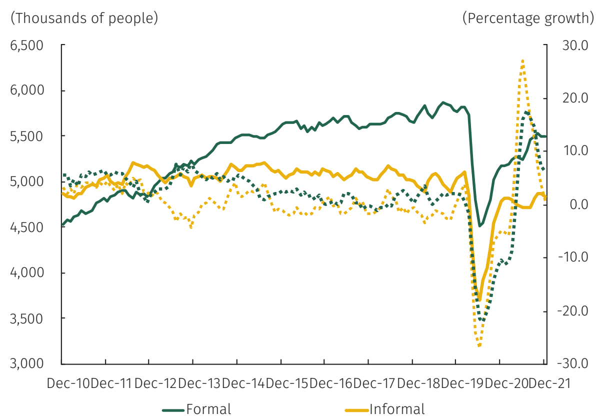
24 The labor market figures are showing a seasonal adjustment, i.e., their numbers are systematically higher or lower depending on the month of the year. This phenomenon has to be identified through statistical techniques in order to compare different months of the same year. That is why the information given in this section corresponds to the series that does not have such calendar effects, which is called the seasonally adjusted series.

Graph 2.11
Jobs by Type of Employment
(seasonally adjusted quarterly moving average)

A. Salaried and Non-salaried: National Total[a/]



B. Formal and Informal: Thirteen Cities and Metropolitan Areas[a/]



Note: The National Bureau of Statistics (DANE) officially considers the workers who work in establishments, businesses, or companies that employ up to five people in all their agencies and branches, including the employer and/or partner to be informal and excludes from this self-employed professionals and government workers and employees.
a/ The dotted lines on the right axis correspond to annual growth.
Source: DANE (GEIH), calculations by *Banco de la República*.

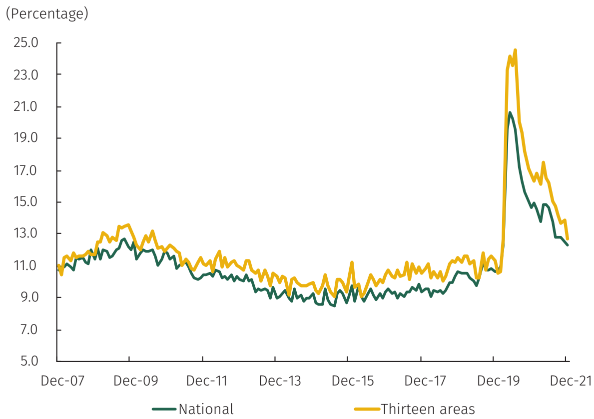
during the last months of the year (Graph 2.11, panel B). However, as of December 2021, the segment that most boosted the creation of urban employment was informal employment with a recovery of 83% of the employment lost at the beginning of the pandemic while in the case of formal employment the recovery is 70%. In contrast, some alternative measurements of formal employment, based on social security contributions and constructed from the administrative records PILA pension system, suggest a stronger trend in formal employment with a number of dependent pension contributors that continues to increase and has already recovered its pre-pandemic level.

The national unemployment rate remained relatively stable in the second half of 2021, whereas the urban unemployment rate continued on a moderate downward trend. After the significant contraction of the labor supply at the beginning of the pandemic and its subsequent recovery along with the gradual reopening of the different economic sectors, figures as of December indicate that labor participation declined -1.9 percentage points (pp) in the national aggregate and -2.3 pp in urban areas compared to the levels seen a year ago. This lower participation is still being seen mainly among women and younger people, the groups most affected during the pandemic. This fact, together with the weaker job creation, led to the seasonally adjusted national unemployment rate (UR) remaining relatively stable in recent months and to stand at 12.3% as of December (-2.4 pp compared to June) (Graph 2.12, panel A). In contrast, urban UR decreased 3.5 pp compared to June and stood at 12.7%. With all this, national and urban UR averaged 13.7% and 15.3% respectively in 2021. Although these levels imply a correction compared to those seen in 2020 (15.9% and 18.2% respectively), continue to be higher than those registered before the pandemic (Graph 2.12, panel B).

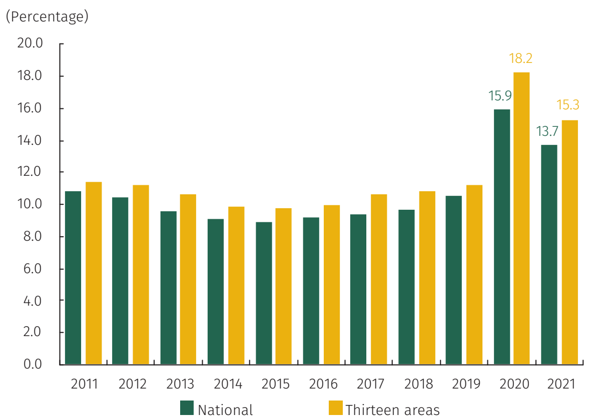
The labor market remained loose throughout 2021 albeit with less disinflationary pressure than what was registered at the onset of the pandemic. It is estimated that the national UR will continue to decline gradually and that its average in 2022 will be close to that of 2019. Despite the drop in the UR, the labor market remained relatively loose throughout 2021 although with less disinflationary pressure than what was seen at the onset of the pandemic. This slackness is also seen in the information on real labor income from GEIH that still shows a deterioration in the income for the non-salaried segment while those with wage-paying employment remain relatively stable. Considering the forecasts for economic activity presented in the January 2022 Monetary Policy Report and the improvement in the demand for labor reflected in some indicators of job openings, such as classified ads and job offers in the Public Employment Service (PES), it is likely that this will translate into higher job hiring during 2022. Thus, the technical staff estimates that the national UR will continue to decline gradually during 2022 and that, its

Graph 2.12
Unemployment Rate by Location
(seasonally adjusted)

A. Monthly series



B. Annual Average



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

average level will be somewhat below what was registered during 2021. These estimates would suggest an increasingly tighter labor market.

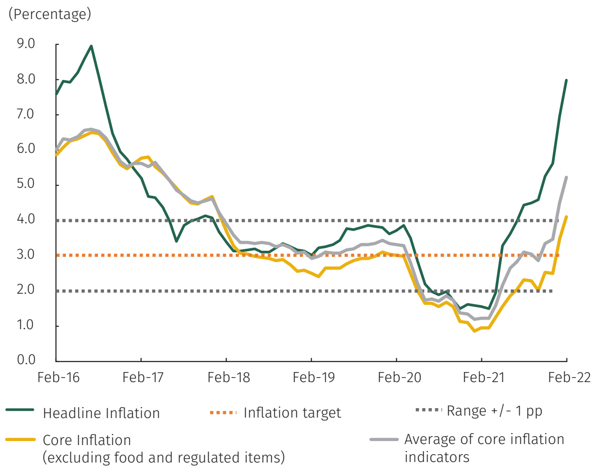
Recent labor market performance could affect long-term output growth. The Covid-19 pandemic led to a historic deterioration in the Colombian labor market that still registers employment levels that are below pre-pandemic levels. The heterogeneous recovery of employment by sector and population group has accentuated gender gaps, youth unemployment, and employment in segments with less stable labor income (increased informality). Some of these factors suggest that structural urban unemployment[25] may turn out to be higher than estimated before the pandemic. This together with the low levels of investment that have been registered in recent years are factors that affect the long-term growth of the economy. Furthermore, by directly compromise household income levels, the above has consequences for the living conditions of the population and the country's poverty levels. In this respect, the recommendations made by the Employment Mission highlight the need to promote and implement integrated structural policies that respond and provide solutions to two complementary objectives: the generation of more stable, productive, and better paid jobs, together with the expansion and strengthening of social protection and social security for workers.

2.3 Change in and Outlook for Inflation

Upward pressure on prices in the global context, the greater recovery of aggregate demand relative to aggregate supply, a greater transmission of exchange rate pressures, and the effect of a low base of comparison for some goods and services have been reflected in an increase in inflation above the target. This increase has been accompanied by a rise in inflation expectations. Although inflation is expected to decline in 2022 from the level seen at the end of 2021, it will probably remain above 3.0% since it will continue to be subject to various types of upward pressures including an indexation to higher observed inflation.

25 Corresponds to the unemployment rate consistent with stable inflation (Nairu).

Graph 2.13
Consumer Price Index (CPI)
(annual change)



Sources: DANE and *Banco de la República*.

As was the case in most of the world's economies, inflation in Colombia showed a significant increase in 2021 that was related to the global imbalances between supply and demand generated by the pandemic shock. Annual consumer inflation stood at 5.6% at the end of the year, a figure that was much higher than the one registered a year earlier (1.6%) (Graph 2.13), and also than the various forecasts made by market analysts and *Banco de la República's* technical staff throughout the year. The increases in international prices and costs brought about by the end of the most critical phase of the pandemic in much of the world began to be transmitted to consumer inflation in Colombia as of the second quarter of last year. This was the main bullish factor throughout this period. This pressure affected mainly food prices, the basket that accounted for the bulk of the increases. However, the increase in annual inflation in 2021 was also influenced by the elimination of the downward effects associated with the various price relief measures adopted in 2020 as well as the repercussions of the road blockades in May and, towards the end of the year, the pressure caused by the depreciation of the Colombian peso. In addition, the strong recovery in demand, especially in the second half of the year, led to a significant reduction in excess productive capacity and may have helped to activate the transmission of the various external shocks and supply restrictions. It should be noted that the multiplicity of shocks and government decisions that have influenced the prices of these baskets since the beginning of the pandemic make it more difficult than in the past to identify and assess the relative importance of the causes that determine the changes in inflation.

Food prices were subject to strong upward pressure due to various supply shocks resulting from high international prices, global logistics and shipping problems, the effects of road blockades in Colombia, and factors related to the domestic agricultural cycle. The annual change in food prices rose sharply during 2021, starting particularly in the second quarter when they went from 3.9% in March to 8.5% in June. Thereafter, they remained on an upward trend, standing at 12.4% in September and closing December 2021 at 17.2% (Table 2.3). These price trends were seen in both the processed and perishable segments. For the former, their prices registered an annual adjustment of 15.3% at the end of 2021, mainly due to external pressure and, to a lesser extent, to local factors. Foreign pressure includes the rise in international prices of agricultural raw materials and supplies for the agricultural sector, logistical and transportation problems, difficulties in obtaining labor as well as some of the adverse weather conditions and the reactivation of external demand. The increase in prices of perishable foods, which ended 2021 with an annual adjustment of 24.4%, is mostly explained by local factors. These include road blockades during April and May. This was compounded in recent quarters by an unfavorable

Table 2.3
Consumer Price and Core Inflation Indicators
(as of February 2022)

Description	New CPI weights	Dec-20	Sept-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22
Total	100	1.61	4.51	4.58	5.26	5.62	6.94	8.01
Excluding food	84.95	1.03	3.03	2.86	3.37	3.44	4.47	5.10
Goods	18.78	0.63	2.97	2.63	3.79	3.31	5.29	5.98
Services	48.85	1.29	2.01	1.79	2.07	2.18	2.78	3.39
Rentals	25.16	1.33	1.76	2.10	2.10	2.02	2.09	2.27
Food-away-from-home	8.79	3.84	7.74	7.99	8.71	9.30	11.27	12.95
Remaining[a/]	14.91	-0.26	-1.03	-2.50	-2.04	-1.91	-1.29	-0.64
Regulated items	17.32	0.73	5.94	6.14	6.56	7.10	8.31	8.91
Utilities	6.69	3.22	9.02	9.52	10.33	9.47	10.83	12.26
Fuel	2.91	-12.22	8.06	8.80	9.39	11.32	11.38	9.82
Transportation	5.53	4.31	2.89	2.60	2.66	2.76	4.84	5.61
Education	2.38	1.05	2.16	2.13	2.13	5.85	5.85	6.06
Remaining[b/]	0.13	5.23	2.61	2.61	2.61	2.61	5.68	5.30
Food	15.05	4.80	12.40	13.76	15.34	17.23	19.94	23.30
Perishables	3.15	2.49	14.82	17.19	20.17	24.42	30.48	38.58
Processed food	11.90	5.43	11.74	12.83	14.04	15.32	17.04	19.06
Core Inflation Indicators								
Excluding food		1.03	3.03	2.86	3.37	3.44	4.47	5.10
Core 15 (p08)		1.88	3.79	3.69	4.17	4.42	5.55	6.45
Inflation excluding food and regulated items		1.11	2.28	2.02	2.54	2.49	3.47	4.11
Average core inflation indicators		1.34	3.03	2.86	3.36	3.45	4.50	5.22

a/ Remaining services: washing and ironing clothing; services related to joint share in ownership; housecleaning services; health; other transportation (maintenance and repairs, school, air, intermunicipal, and international transportation); information and communications; recreation and culture; housing, bars, and discotheques; education (higher education, certificates, and non-formal educational courses); other miscellaneous services (personal care, insurance, childcare).
b/ Other regulated: EPS co-payments; certificates, administrative documents, and fee payments.
Source: DANE, calculations by *Banco de la República* (BR) with provisional classifications.

production cycle for some perishable products such as fruit, yucca, plantain and, more recently, potatoes.

The annual variation of the regulated basket also had significant increases due to multiple causes. Among the most significant of these were the increase in international crude oil prices and the reversal of relief in public utility fees. Throughout 2021, the annual change in the CPI for regulated products registered increases. The most significant of these occurred during the first half of the year and went from 0.7% in December 2020 to 5.9% in June 2021. The annual change increased in the second half of the year, albeit at a slower pace, to close December at 7.1% (Table 2.3). This upward momentum was led by the fuel segment, which saw its annual change go from -12.2% in December 2020 to 11.3% in December 2021 due to the rebound in international oil prices, the depreciation of the exchange rate, and a very low statistical comparison base. However, the transmission of higher crude oil prices to domestic fuel prices has been incomplete and has resulted in a high subsidy from the Fuel Price Stabilization Fund (FEPC in Spanish). In addition to pushing up domestic fuel prices, the rise in international crude oil prices increased thermal power generation costs. In addition, the depreciation of the peso against the dollar increased the production and generation costs of both fuel (gas and gasoline) and all utilities during 2021. With respect to regulated education (primary and secondary), its annual change rebounded significantly in December because of a low comparison base with respect to December 2020.[26] Finally, the other divisions of the regulated component of the CPI (transportation and other) ended the year with annual changes below the inflation target.

Core inflation, as measured by the CPI excluding food and regulated products, did not exceed the target in 2021, but increased throughout the year (Graph 2.13). The indicator reached 2.5% at the end of 2021 (compared to 1.1% at the end of 2020) with increases concentrated mainly between the second and third quarters and with more pronounced adjustments in the goods sub-basket than in the services sub-basket. The other two core inflation indicators monitored by the bank (the non-food CPI and the core 15) reported more pronounced increases throughout the year that took them to values above 3.0% in the fourth quarter. As a result, the average of the three indicators stood at 3.4% in December 2021 while it had been 1.3% a year earlier. External pressure and the accumulated depreciation of the exchange rate had a moderate impact on core inflation, which, however, rose over the course of the year as demand gained momentum. However, the various price and indirect tax reliefs, which affected consumer prices during 2020 and 2021 also added volatility to core inflation and ended up having a significant impact on its trend. Thus, the annual change in the CPI excluding food and regulated products rose significantly between the second and third quarters due to the disappearance of the downward shocks resulting from the temporary reductions in indirect taxes and prices applied in the same period of 2020. Also, towards the end of the year, the VAT-free days, which did not fully coincide with those held in 2020, had a downward effect on core inflation which, in principle, is transitory and should have reversed at the beginning of 2022. All this occurred in an environment of excess productive capacity that was being reduced faster than expected as economic activity became more dynamic.

In both the basket of goods and services (excluding food and regulated services), the rise in the annual change in their prices is largely the result of the disappearance of the downward shocks associated with the tax and price relief granted in 2020 in the context of the pandemic. The annual change in the CPI for goods stood at 3.3% at the end of the year (compared to 0.6% in December 2020) and for services at 2.2% (compared to 1.3% at the end of last year) (Table 2.3). Note that price relief, which consisted of the temporary elimination of indirect taxes for some goods and services starting in the second quarter of 2020, generated a downward shock in the price level that affected the annual change in both baskets for twelve months. The downward effects of this shock on the annual change began to be diluted in the second and third quarters of 2021 and produced a significant and expected increase in the indicator associated with the effect of a low statistical base during the previous year. Added to this were the price increases associated with the postponed adjustments in some items, mainly in services, which sought to recover the rebates granted in 2020 in a context of demand reactivation. However, measures such as the declaration of free public higher education and the three VAT-free days together with greater competition in the telecommunications sector generated downward pressure on the annual change of both baskets in

26 During that month, as a result of a delay in the enrollment cycle as well as delays in the information provided by educational institutions, DANE reported a significant drop in the prices of basic education.

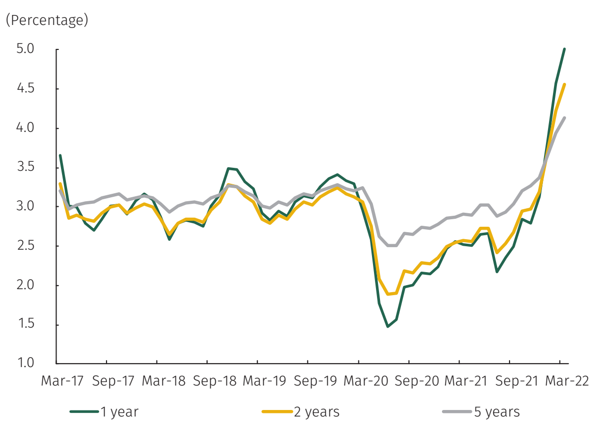
the last months of 2021. These are, in principle, transitory and will tend to reverse in 2022. Along with these shocks, external pressure and the depreciation of the exchange rate had an increasing impact on the prices of goods and services throughout the year. In particular, there was a high annual change in food-away-from-home (restaurant purchases) at the end of 2021 (9.3% compared to 3.8% at the end of 2020). This was due to the rise in food prices, a demand that recovered notably in the last part of the year, and a supply that has not reached pre-pandemic levels.

Graph 2.14
Inflation Expectations

A. Banks' and Stockbrokers' Forecasts of Headline Inflation

Note: This corresponds to the median of the responses to the Survey of Economic Analysts' Expectations (EME in Spanish) done by *Banco de la República*.
Source: *Banco de la República* (Monthly *survey of analysts*)

B. Estimated Inflation Expectations based on Public Debt Securities (BEI)



Note: 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.
Source: Calculations done by *Banco de la República*, based on information as of 24 March 2022.

Inflation is expected to decline in 2022, but to remain above target since consumer prices will continue to be subject to upward pressure among which higher indexation will be the most notable. In the first months of the year, annual inflation continued to rise and reached 8.0% in February. The main pressure is still concentrated on food prices which have continued to be affected by external pressures and a reduced domestic supply. However, as expected, the rest of the baskets also reported significant and rising increases compared to what was seen at the end of 2021. Thus, core inflation measured by the CPI excluding food and regulated products stood at 4.1% this month, and the average of the three indicators monitored by the Bank was 5.2%. In an environment in which economic activity is projected to remain robust and excess productive capacity is expected to disappear, the transmission of external pressure can be expected to continue, not only to food and regulated products, but also to core inflation where such transmission was moderate in 2021. However, some of this pressure is expected to ease in the second and third quarters as international inflation moderates, and domestic agricultural supply is expected to recover in response to the high prices of many products. Another source of pressure on inflation is the relatively high rate of indexation of a segment of items, particularly in the basket of services, as well as the effects of higher labor costs on prices given the recent increase in the legal minimum wage. Added to this is the concern that the recent increase in the minimum wage will be used as a benchmark for setting prices for a broader group of goods and services. However, given the expected moderation of pressure from abroad, the projected recovery of local agricultural supply, and monetary policy action, headline inflation is likely to begin to converge with the target in the second half of the year, a trend that should continue through 2023. At the time this report was written, the international prices of food, fuel, and many raw materials showed significant additional increases due to the outbreak of the war between Russia and Ukraine (Box 1). This situation, if prolonged, threatens to increase inflationary pressure in Colombia.

Along with the increase in inflation, there has been an upswing in expectations that are above the target for the next two years. Economic analysts' expectations, obtained from the Bank's monthly survey carried out between March 7 and 11 (Graph 2.14) suggest 6.4% headline inflation by the end of 2022 (3.3% in the July 2021 survey) and 5.3% for non-food inflation (3.1% in the July 2021 survey). According to the survey results, these measurements will probably be reduced to 3.8% and 3.5% respectively by the end of 2023. The estimated expectations based on the comparison of yields of fixed-rate and variable-rate public debt securities (break even inflation, BEI), in turn, adjusted for inflationary and liquidity risk premiums also rose as of March and stood at 4.57%, 4.40%, and 4.14% respectively for two, three and five-year maturities.[27]

The outlook for 2022 is subject to high uncertainty given the risks still posed by the unfolding pandemic, the bottlenecks the global economy faces, and methodological difficulties in estimating core inflation trends. Global supply imbalances and logistical problems are expected to be overcome gradually in 2022 thus making it possible for international prices and costs to recede. However, it is possible that these problems may persist for a longer period (or even become more pronounced). Furthermore, although there has been significant progress in controlling the pandemic, resurgences that generate new imbalances in domestic supply cannot be ruled out. Given the outlook for lower global liquidity and the uncertainty associated with the Colombian political cycle, there are also risks to the exchange rate and its effects on inflation in Colombia, particularly if demand grows as expected. Finally, consumer prices in Colombia will probably still be affected by various transitory shocks that make it difficult to read inflation trends.

2.4 Monetary Policy Decisions

The BDBR began a process of normalizing monetary policy as of September 2021, a process that has taken the monetary policy rate from 1.75% to 4.0% in January 2022.

***Banco de la República* has a constitutional mandate to "ensure that the purchasing power of the peso is maintained in coordination with general economic policy."[28]** In order to comply with the above, the BDBR implemented an inflation targeting plan with a floating exchange rate system in which monetary policy moves are intended to keep inflation at the 3.0% target and to reach the highest sustainable level of output and employment. In this plan, the monetary policy decisions are made based on an analysis of the current situation and the economic outlook and an assessment of the inflation forecast concerning the targets. For example, if this analysis indicates that inflation may persistently deviate from 3.0% due to excess or shortfalls in spending or in the economy´s productive capacity, the monetary policy rate (MPR) is modified to bring inflation back toward 3%. 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 that they could generate undesirable price indexation processes, the MPR is modified to anchor expectations and help inflation return to the target. This inflation targeting plan is compatible with achieving sustainable levels of output and employment.

27 Based on information as of 24 March.

28 Constitution of Colombia of 1991, Article 373, and Decision C-481/99 of the Constitutional Court.

In the first three quarters of 2021, the policy rate remained at historically low levels (1.75%). Economic activity at the beginning of 2021 maintained the recovery trend that began in the second half of 2020, and inflation was below 2.0%, with expectations anchored in the target. The above occurred in an environment of high uncertainty caused by the appearance of new outbreaks of Covid-19. In the second quarter, the strikes and roadblocks caused a drop in output and an increase in the prices of perishable foodstuffs due to the supply difficulties. The prices of the basket of regulated products rose because of the partial withdrawal of the relief on utility fees and the increase in the price of fuel. External factors such as the increase in international commodity and raw material prices, together with higher logistics and shipping costs added to the upward pressure on inflation. As a result, annual inflation surged and has been above the target since May in a context of large excess production capacity, a slow recovery of employment, and medium-term inflation expectations that are on an upward trend, but at levels close to the target. In view of these macroeconomic conditions, the BDBR decided to keep the policy interest rate at 1.75% at its meetings in January, March, April, June, and July, a rate it applied until the end of September.

The BDBR began a process of normalizing monetary policy towards a less expansionary stance at the end of September 2021. During the third quarter of 2021, economic activity indicators resumed their growth trend and although excess production capacity remained ample, there were signs they were on a faster-than-estimated decline. This was due to the positive performance of domestic demand, mainly private consumption. At the same time, the labor market continued to recover albeit more slowly than output. External factors continued to exert upward pressure on prices and contributed to pushing inflation upward and away from the target. Inflation expectations also rose, and the risk that inflation could persistently be above 3.0% increased. Given the macroeconomic environment, the BDBR decided unanimously to start normalizing the monetary policy and chose the increases they made in September (25 bp) and October (50 bp) by majority vote. Subsequently, the new economic activity and inflation indicators for the fourth quarter stayed on a surprising upward trend. The strong growth in domestic demand continued to be led by the performance of private consumption, while the estimates seemed to suggest that the excess productive capacity would probably continue to close faster than expected. Inflation, affected mainly by external cost shocks that became stronger and more persistent than anticipated, continued to surge while inflation expectations were above target. All of the above along with the increase in the minimum wage increased the risk of de-anchoring inflation expectations. This could generate a massive indexation process that might push inflation even further away from the target. Given this macroeconomic context, the BDBR decided to raise the policy interest rate 50 bp in December 2021 and then ramped up the pace of increases to 100 bps in January 2022. Despite these adjustments that have placed the benchmark interest rate at 4.0%, the monetary policy is maintaining a stimulus stance towards the economy while keeping in mind the fact that, in real terms, the benchmark rate remains negative and below the neutral interest rate (Box 2).

The provision of liquidity by Banco *de la República* continued to contribute to better financing conditions for the Central National Government (CNG) during 2021. When daily liquidity auctions, offered at a cost equal to the benchmark interest rate, are held, the differences between the supply and demand of the monetary base are taken into account to ensure that no pressure on the money market is generated. Liquidity in the market can also be raised more permanently. For example, this can be done through TES purchases, dollar purchases, or the transfer of profits from Banco *de la República* to the GNC, etc.[29] The supply of liquidity between the end of 2020 and 2021 was reflected in a COP 12.7 t (an annual average of 14.2%) growth in the monetary base. Its main source of expansion was related to the CNG transactions such as net purchases of TES (COP 5.7 b), delivery of profits in pesos to the CNG (3.1 b),[30] and lower CNG deposits in *Banco de la República* (COP 3.5 b), and the interest on its balance (COP 0.5 b).[31]

29 Sales of TES or dollars generate liquidity withdrawals from the market.

30 In 2021, COP 6.629 b in profits were distributed to the Government against 2020 profits. Of this, COP 3.506 b was made in TES in response to the request made by the Ministry of Finance and Public Credit.

31 Another important expansion factor was the increase in TES-backed expansion repos (COP 4.1 b). Among the contraction factors, the maturities of private debt securities and coupons (COP 4.0 b), the payment of TES coupons (COP 1.0 b), and the change in the balance of contraction repos (COP 1.0 b) stand out.

03/ Change in and Outlook for the Financial and Loan Markets

3.1 Local Financial Markets

The rise in the perception of local risk contributed to Colombian public debt interest rates increasing more than the international interest rates of comparable assets in 2021 and so far in 2022. The Colombian stock market also deteriorated in 2021 but has recovered so far in 2022 aided by the public takeover bids of some companies together with higher oil prices.

3.1.1 Public and private debt and stock markets

During 2021 and the first few months of 2022, there was a greater perception of local risk. In addition to the factors that had an impact on the risk premia measures in emerging markets, the higher perception of risk in Colombia was mainly associated with: 1) the expansion of the current account deficit beyond that of most emerging economies; 2) the uncertainty generated by the proximity of the legislative and presidential elections to be held during the first half of 2022; 3) the increase in inflation and its expectations at all maturities, and its implications for the course of monetary policy; and 4) the fiscal pressure generated by a significant increase in public debt to meet the increased spending associated with the pandemic and by the uncertainty about the fiscal adjustment given the withdrawal of the *Solidaridad Sostenible* bill (Sustainable Solidarity Bill) in a context of protests that influenced the decisions made by S&P Global and Fitch Ratings to remove the country's investment grade rating.[32] Thus, the increase in the five-year CDS for Colombia was more pronounced than for several of its Latin American peers (Graph 3.1).

Graph 3.1
Risk Premia (5-year CDS) for some Economies in the Region

Source: Data License.

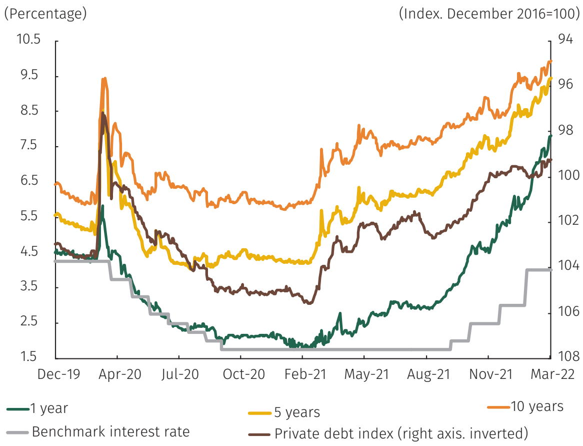
The rise in the perception of country risk, other domestic factors, and global inflationary pressure explain, to a greater extent, the increase in interest rates on public and private debt securities in Colombia. As was seen in other countries throughout the region and following the increase in interest rates on public debt in the United States, the interest rates on public and private debt securities in Colombia rose over the course of 2021. In particular, the

Graph 3.2
Interest Rates in Some Economies in the Region

Sources: Bloomberg, SEN and MasterTrader, calculations by *Banco de la República*.

32 On 19 May 2021, S&P Global downgraded the country's local currency rating by one notch to BBB- (investment grade) and in foreign currency to BB+ (speculative grade). Fitch Ratings downgraded the country's local and foreign currency rating by one notch to BB+ on 01 July 2022. Following the withdrawal of the first tax reform proposal (*Ley de Solidaridad Soostenible*) and the loss of the investment grade, the government approved a new tax reform (*Ley de Inversión Social*) in September. This has a lower collection capacity compared to the reform initially proposed by the government.

Graph 3.3
Zero-Coupon TES Yield in Pesos by Term, Private Debt Index, and Monetary Policy Rate



Sources: SEN and Master Trader, calculations by *Banco de la República*.

short-term public bond yields rose 350 bp while the long-term yields increased 270 bp (Graph 3.2). The rates also rose due to the local uncertainty as well as the expectations and later materialization of a less expansionary monetary policy path by *Banco de la República* (Graph 3.3). The rates for Colombian sovereign bonds have continued to rise so far in 2022 in line with the performance of debt securities around the world, the greater perception of international risk as a result of the geopolitical environment, and the political uncertainty because of the proximity of the Colombian elections that will be held during the first half of 2022.

Foreign investors made significant purchases of public debt securities during 2021 which were mainly concentrated in the second quarter. The scenario of high interest rates on local sovereign bonds (TES) motivated foreign investors to demand a net COP 7,807 b[33] and COP 3.612 b[34] of peso- and UVR-denominated TES respectively throughout the year. Total TES purchases by these investors were lower than the ones made in 2020.[35] Nonetheless, their share of the TES market remained relatively stable.[36] Foreign investors have made purchases of COP 1,274 b[37] of peso-denominated TES and net sales of COP 3,412 b[38] of UVR-denominated TES so far in 2022 (based on information as of 11 March).

As for the stock market, the MSCI Colcap index fell 1.9% in 2021 in contrast to the average increase registered in the region (3.4%[39]). This index has increased 9.7% in 2022. The trend of the index was influenced by the aforementioned local factors as well as by the negative performance of stocks belonging to the utilities and materials sector, and the continuous outflows by foreign investors who sold a net COP 2.5 t. However, the MSCI Colcap index has appreciated 9.7% so far in 2022 (with information as of 11 March) under

33 Foreign investors made net purchases of COP 8.556 b on the spot market during 2021. With respect to the futures market, its position, through *non-delivery forwards* (NDF) contracts for peso-denominated TES, decreased COP 749 tm.

34 Foreign investors made net purchases of COP 2.814 b on the spot market during 2021. As for the futures market, its position, through NDF contracts of UVR-denominated TES rose COP 798 tm.

35 Foreign investors demanded a net COP 13.573 b and COP 2.027 b of peso-denominated and UVR-denominated TES respectively in 2020.

36 Foreign investors accounted for a 25.1% share of total public debt in local currency at the end of 2020. The share decreased 0.3 pp and went to 24.8% in 2021.

37 The purchases of TES in pesos on the spot market by foreign investors amounted to COP 1.898 b over the course of 2022. As for the futures market, their buying position has decreased COP 624 b.

38 The sales of TES denominated in UVR on the spot market by foreign investors amounted to COP 337 tm over the course of 2022. As for the futures market, their buying position has decreased COP 3.075 b.

39 It is calculated as the average value of the following indexes: Ibovespa (Brazil), S&P/BMV IPC (Mexico), S&P/CLX IPSA (Chile) and the S&P/BVL (Peru).

the influence of public takeover bids for some companies[40] and higher crude oil prices.

The performance of the local financial markets in 2022 will depend on the international environment; the recovery of economic activity and employment; the fiscal, monetary, and external adjustment path; and the uncertainty associated with the electoral process. Recently, the local financial markets reacted positively after the more optimistic fiscal outlook published by the government in the Financial Plan for 2022. This shows that the rapid economic recovery has resulted in higher tax revenue and more favorable forecasts of financing needs as well as of the paths of public debt and fiscal deficit as a share of GDP. Going forward, in addition to the international environment, the performance of the local financial markets will continue to be influenced by the outlook for economic recovery and the uncertainty associated with the elections. These, in turn, will have an impact on the country's fiscal, monetary, and external adjustment trajectories.

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

The exposure of non-banking financial institutions (NBFIs) and credit establishments (CEs) to changes in prices and conditions in the TES markets becomes relevant in view of the increase in interest rates in the global financial markets and their effects on the demand for these securities. The financial system's exposure to fixed and variable income markets measured as an investment in securities exposed to market risk is mainly concentrated in TES (61.3% as of December 2021). When the analysis was done, both the CEs and NBFIs registered growth in public debt securities and stocks while the private debt securities showed contractions in the case of NBFIs and growth for the CEs (Table 3.1). The managed position of the NBFIs, in turn, showed declines in all asset groups exposed to market risk except for shares managed by stock brokerage firms (SBF). In an environment of a lower appetite for risk that could arise due to the increase in medium and long-term interest rates in global financial markets, the exposure of financial entities to sudden changes in prices and conditions in the financial markets, especially the market of local government bonds, becomes more relevant.

The performance of local financial markets is reflected in the trends of the NBFIs' portfolio given the importance of investments in their business model and the size of their exposure to market risk. The value of NBFI assets declined during 2021, mainly in the portfolio of assets under management. This performance was mainly due to the 0.1% contraction in real terms that the third-party portfolio of the trust companies (TC), which represents almost two thirds of the assets managed by the NBFIs, underwent. Third-party funds held by TCs also contracted 29.5% in real terms although their weight in the portfolio is small. Third-party portfolios managed by pension fund managers (PFM) showed positive but lower growth than had been seen six months ago. Likewise, the NBFIs' proprietary assets showed slowdowns in the last six months, which were explained particularly by the lower growth of insurance company assets, representing 86.0% of the portfolio. TC and SBF showed real contractions of 0.7% and 5.8% respectively (Graph 3.4).

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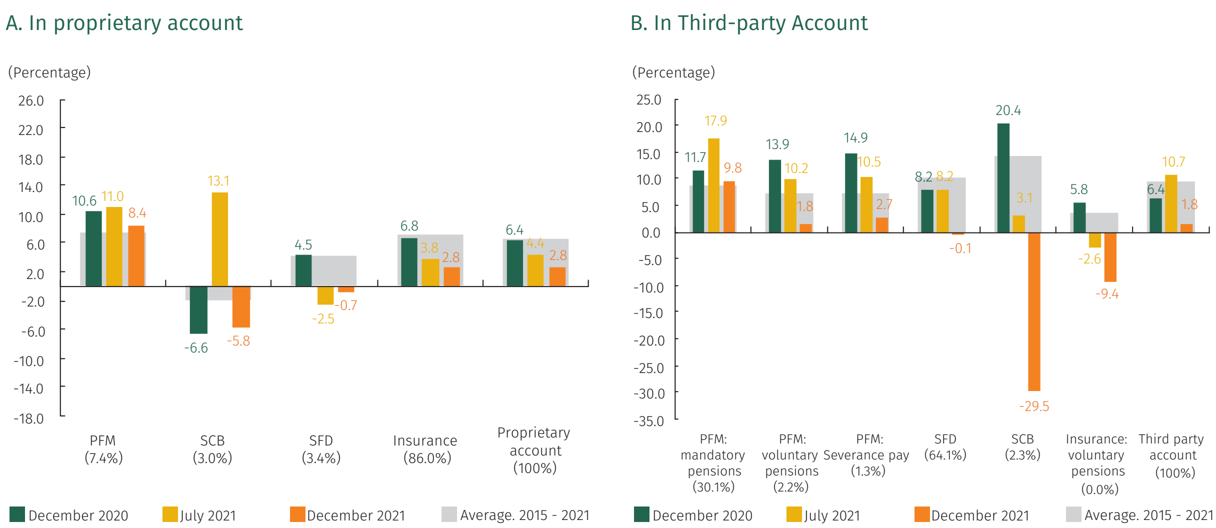
40 Two public takeover bids have been made and a third has been announced for the shares of Nutresa and Grupo Sura, which belong to the ten stocks with the highest weighting in the MSCI Colcap index. Nutresa's stock has increased 54.4% while Grupo Sura's stock rose 6.5%.

Table 3.1
Investment Balances Exposed to Market Risk of Financial Institutions (December 2021)

Type of Entity	TES a/	Private Debt	Stocks	Total	TES	Private Debt	Stocks	Total
	(balance in COP (trillions)				(percentage change in the last six months)			
Credit Establishments	55.4	5.3	16.2	76.8	4.7	12.2	8.0	5.9
Commercial banks	49.4	4.8	0.0	54.2	1.6	11.6	0.0	2.4
Investment banks	5.1	0.3	16.2	21.6	47.6	25.2	8.0	15.5
Commercial finance companies	0.9	0.1	0.0	1.1	13.6	5.8	-2.8	12.2
Financial cooperatives	0.0	0.1	0.0	0.1	0.0	15.0	0.0	15.0
Non-banking Financial Institutions (NBFI)	12.7	10.3	6.6	29.5	4.8	-6.2	1.2	-0.1
Pension Funds: proprietary position	0.3	0.9	0.2	1.4	13.5	5.7	21.6	8.9
Stock Brokerage Firms: proprietary position	1.1	0.2	0.2	1.4	-31.6	-34.6	13.3	-28.7
Trust Fund Companies: proprietary position	0.3	0.3	1.1	1.7	5.2	-15.5	8.2	2.8
Insurance and Capitalization Companies	11.0	8.9	5.2	25.0	10.4	-6.2	-1.0	1.6
System in Proprietary Position	68.0	15.5	22.8	106.3	4.7	-0.7	5.9	4.2
Managed position								
Stock-brokerage firms: third party position	1.9	9.7	9.0	20.6	-1.2	-9.5	6.5	-2.3
Trust Fund Companies: third party position b/	109.8	34.3	13.9	158.1	-6.6	-9.4	-9.7	-7.5
System	179.8	59.5	45.7	285.0	-2.5	-7.3	0.7	-3.1

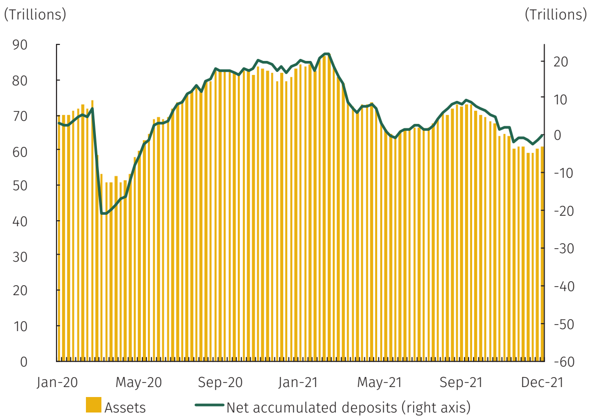
a/ The value of the proprietary position is obtained from "Investment Portfolio" on format 351. The value of the managed position is obtained from CSD".
b/ Pension liabilities managed by trust companies are excluded.
Sources: Central Securities Depository (DCV in Spanish) and Office of the Financial Superintendent, calculations by *Banco de la República*.

Graph 3.4
Assets of Non-banking Financial Institutions
(real annual change)a/



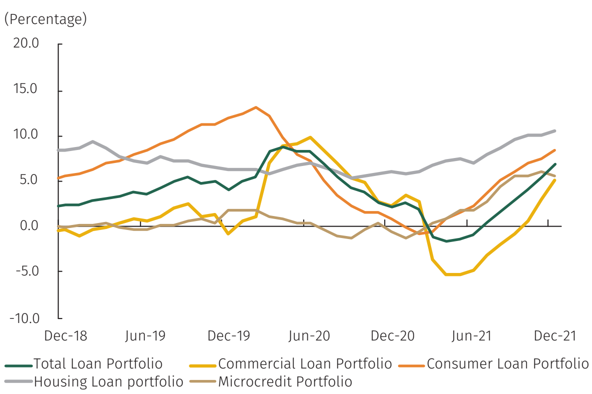
Note: The percentages correspond to the proportion of assets managed by NBFIs.
a/ The CPI excluding food is used as a deflator.
Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

Graph 3.5
FIC - Net Assets and Deposits



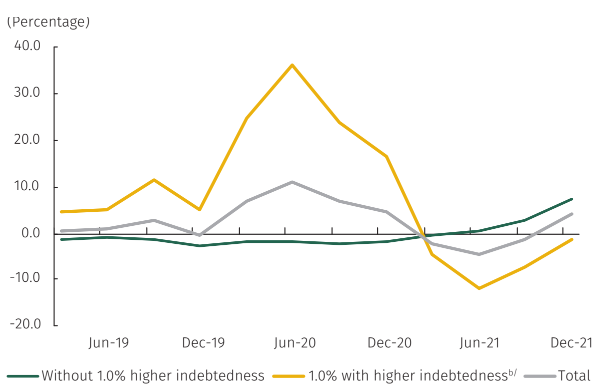
Source: Office of the Financial Superintendent of Colombia (SFC); calculations by *Banco de la República*.

Graph 3.6
Annual Real Growth of the Gross Loan Portfolio by Type[a/]



a/ The CPI excluding food is used as a deflator.
Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

Graph 3.7
Annual Real Growth of the Gross Commercial Loan Portfolio by Type [a/]



Note: This graph is presented on a quarterly basis because its source is Form 341 of the Office of the Financial Superintendent of Colombia, which is also reported on a quarterly basis.
a/ The CPI excluding food is used as a deflator.
b/ Companies that most increased their indebtedness with credit establishments between December 2019 and June 2020.
Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

The value of the assets of open-ended collective investment funds decreased gradually over the course of the year, mainly due to withdrawals by investors and, to a lesser extent, devaluation. Between January 2021 (at which time the funds had already recovered and showed higher capitalizations than before the pandemic) and December of the same year, the portfolio declined 26.7%. This represented a drop of COP 22.3 t and reached levels not seen since May 2020. Despite the above, the most recent data show that managed resources have stabilized and thus the most recent drop, which was registered in the last quarter of 2021, has been halted (Graph 3.5).

3.2 Credit Institutions' Financial Intermediation

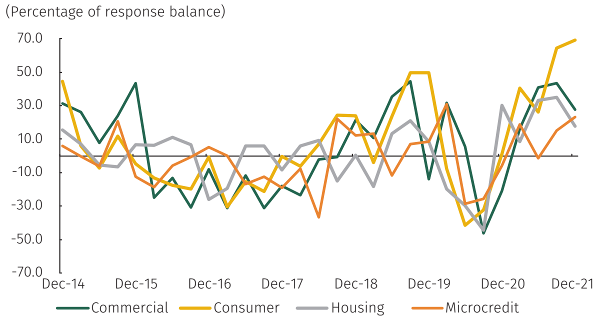
Credit continues to surge, mainly for households, and this trend is expected to continue in the short term. This is in a context of the transmission of the increase in the policy rate to credit and deposit rates. The recovery of the dynamism of loan portfolio is taking place in an environment of high indebtedness although with credit risk indicators that have decreased. In terms of profitability, CEs have reached levels close to those seen prior to the pandemic. The liquidity and capital adequacy risk indicators remain at high levels with respect to their regulatory limits.

Credit has been accelerating synchronously in all its forms since April 2021 and continues to support the recovery of the economy. Credit has been on the upswing since April 2021 and reached a COP 563.6 trillion (t) balance and a real annual growth rate of 6.9% in December 2021. The recovery in the expansion rate of the total portfolio was due to upswings in all types of loans, especially commercial and consumer loans which together account for 82.5% of the total loan portfolio (Graph 3.6).

In the case of the commercial loans (an essential determinant of total credit performance given its size), the recent trends have been influenced by a small number of companies that took on significant debt between December 2019 and June 2020 as a precautionary measure in view of the potential impact of the pandemic shock on their liquidity. As can be seen in Graph 3.7, when 1.0% of the companies that increased their credit balance the most between those dates (top 1) are excluded, it is clear that the commercial loan portfolio has been surging since the first quarter of 2021. In contrast, the top 1 has shown declines recently in its loans because of the strong build-up in 2020 and only ramped up during the third quarter of 2021. This may have prevented a higher growth of the aggregate commercial portfolio.

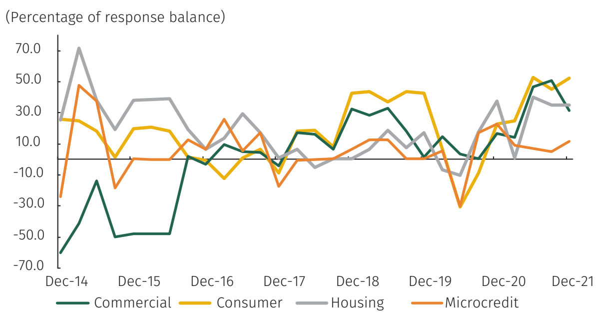
The most recent information probably indicates that the growth of credit might continue in the short term for both supply and demand for all of the portfolios. The results of *Banco de la República*'s *Report on the Credit Situation* as

Graph 3.8
Credit Establishments' Perception of the Demand for Loans



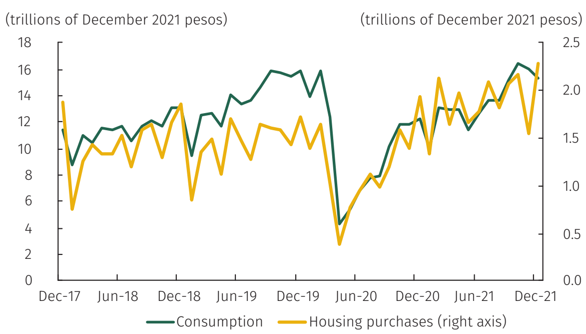
Note: The credit establishments were asked how the demand for new loans has changed during the last three months (it was: (1 = lower; 2 = slightly lower; 3 = the same; 4 = slightly higher; and 5 = higher). The balance is the difference between the percentage of those surveyed who answered with 4 and 5 and the percentage of those who answered 1 and 2. A positive result in the balance is interpreted as a general perception of an increase in demand. To calculate the joint indicator of demand for new loans, the balance of responses from each group of financial intermediaries (banks, CFCs, and cooperatives) was weighted for each quarter based on their share of the total balance of loans granted including financial leasing.
Source: *Survey of the loan situation in Colombia, Banco de la República.*

Graph 3.9
Change in Supply of New Loans by Type
(percentage of response balance)



Note: The credit establishments were asked how the supply of new loans has changed during the last three months (has it been: (1 = lower; 2 = slightly lower; 3 = the same; 4 = slightly higher; 5 = high; NA - Not applicable). The percentage of the balance of responses is calculated as the difference between the percentage of those surveyed who answered with 4 and 5 and the percentage of those who answered 1 and 2. A positive result in the balance is interpreted as a general perception of an increase the supply and vice versa. To calculate the joint indicator of supply of new loans, the balance of responses from each group of financial intermediaries (banks, CFCs, and cooperatives) was weighted for each quarter based on their share of the total balance of loans granted including financial leasing.
Source: *Survey of the loan situation in Colombia, Banco de la República.*

Graph 3.10
Monthly Disbursements Granted to the Household Sector



Note: The CPI excluding food is used as a deflator.
Source: Office of the Financial Superintendent of Colombia (form 088), calculations by *Banco de la República.*

of December 2021 show that the perception of demand for credit indicator for all credit types is in positive territory (Graph 3.8).[41] The trend of the indicator of change in the CE supply during the fourth quarter of 2021, in turn, show increases for all portfolio groups (Graph 3.9).[42,43] With regard to the requirements for new loans over the next three months, the report indicates that respondents expect to maintain or reduce them for all the categories, with the exception of microcredit, for which there were mixed answers.

The loan portfolio recovery has occurred in an environment of historically high levels of indebtedness, especially for households. The growth of the loan portfolio granted to households (consumer and housing loans) has been reflected in historically high levels of disbursements which, at the end of 2021 had reached higher levels than those registered prior to the pandemic (Graph 3.10). The indicators of debt and financial burden,[44] in turn, registered historical highs for this sector during 2021. This implies a greater risk in the event of a negative shock to their income (Graph 3.11).

Credit risk indicators showed declines over the course of 2021 for all loan categories and reached levels of overdue payments that were lower than those seen prior to the onset of the pandemic. Mainly as a result of the economic

41 Credit establishments were asked how the demand for new loans has changed during the last three months (it is: (1 = lower; 2 = slightly lower; 3 = the same; 4 = slightly higher; and 5 = higher). The balance is the difference between the percentage of those surveyed who answered with 4 and 5 and the percentage of those who answered 1 and 2. A positive result in the balance is interpreted as a general perception of an increase in demand. To calculate the joint indicator of demand for new loans, the balance of responses from each group of financial intermediaries (banks, CFCs, and cooperatives) was weighted for each quarter based on their share of the total balance of loans granted including financial leasing.

42 Credit establishments were asked how the supply of new loans has changed during the last three months (it has been: (1 = lower; 2 = slightly lower; 3 = the same; 4 = slightly higher; 5 = high; NA - Not applicable). The percentage of the balance of responses is calculated as the difference between the percentage of those surveyed who answered with 4 and 5 and the percentage of those who answered 1 and 2. A positive result in the balance is interpreted as a general perception of an increase the supply and vice versa. To calculate the joint indicator of supply of new loans, the balance of responses from each group of financial intermediaries (banks, CFCs, and cooperatives) was weighted for each quarter based on their share of the total balance of loans granted including financial leasing.

43 In contrast, with the improvement in the CEs' perception of supply, about 32.1% of the businessmen that participated in *Banco de la República's Quarterly Survey of Economic Expectations* expect credit availability to be lower than at present over the next six months. This is higher than the 18.5% that expect it to rise.

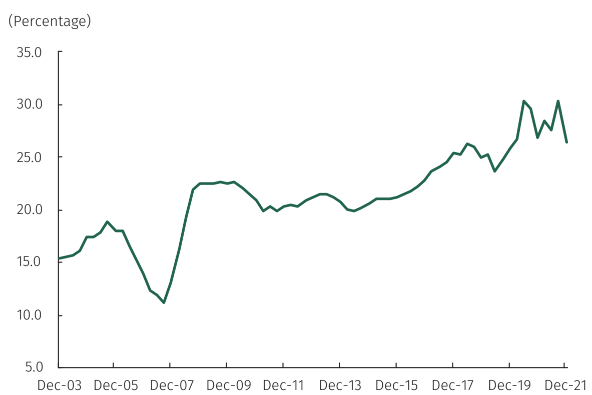
44 This indicator is calculated as the ratio between the amount that CEs expect to receive in consumer and housing loan installment payments (principal and interest) and households' disposable income. The numerator is adjusted for 1-month credit card use while the missing data in the denominator are projected in line with the GDP growth rate given the lag in income information available from DANE's national accounts.

recovery, the traditional credit risk indicators (QRI[45] and NPL[46]) have shown an improvement after peaking in late 2020 and early 2021. The improvement in these indicators continued throughout the second half of the year, even after the FSC's Debtor Assistance Plan (PAD in Spanish) ended in August 2021.[47] Despite all of the above, the QRI, which is associated with the ECs' perception of risk, remains at levels higher than those seen before the pandemic, especially for the household portfolio (Graph 3.12).

Graph 3.11
Household Sector Debt Indicators

A. Debt-to-Income Indicator

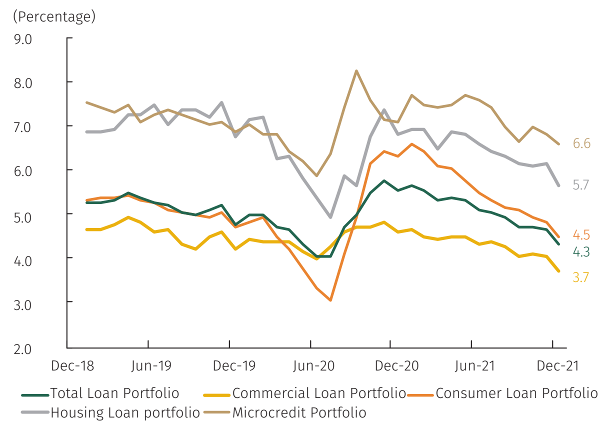
B. Financial Burden Indicator[a/]



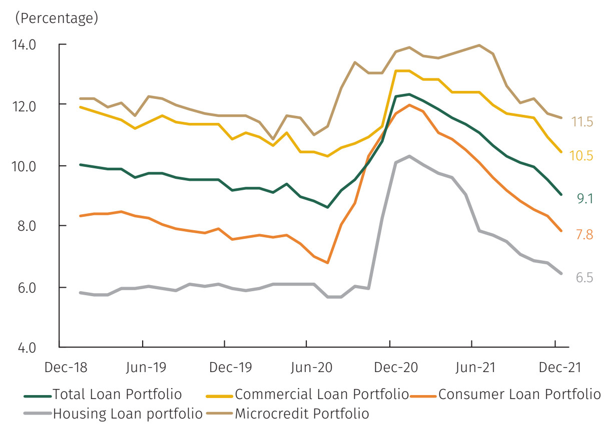
Note: The data for the financial burden indicator have been presented since 2003 due to availability of information.
a/ This indicator is calculated as the ratio between the amount CEs expect to receive in consumer and housing loan installment payments (principal and interest) and households' disposable income. The numerator is adjusted for one month's credit card usage.
Sources: Office of the Financial Superintendent of Colombia and DANE, calculations by *Banco* de la *República*.

Graph 3.12
Portfolio Quality Indicators

A. Non-Performing Loans (NPL)



B. Quality Risk Indicator (QRI)



Note: The NPL is defined as the ratio between the balance of the non-performing loan portfolio (loans with a more than 30-day default) and the balance of the gross loan portfolio. The QRI is defined as the ratio between the risky loan portfolio balance (loans rated B, C, D, and E) and the gross loan portfolio balance.
Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

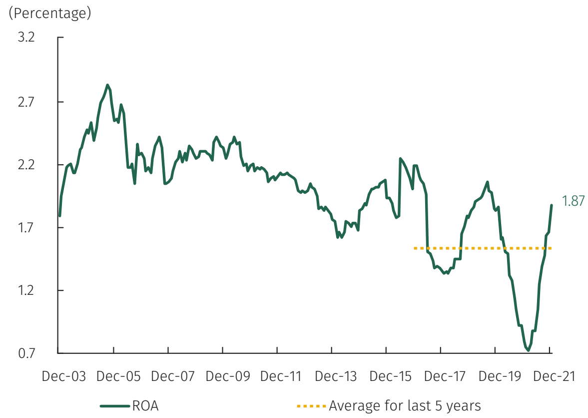
45 Ratio of portfolio rated other than "A" to total portfolio.

46 Ratio of portfolio with 30 or more days past due to total portfolio.

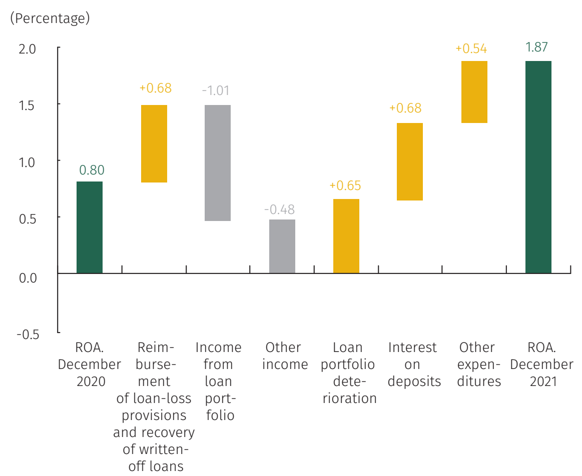
47 PAD, created by means of the Financial Superintendency of Colombia's (SFC) External Circular 022/2020 and renewed by External Circulars 039/2020 and 012/2021, functioned as a mechanism for credit risk management by supporting the design of structural solutions for debtors through redefining the terms of their loans and thus recognizing differences in the degree to which their income or payment capacity was affected as a result of the Covid-19 negative shock.

Graph 3.13
Profitability of Credit Establishments' Assets

A. ROA

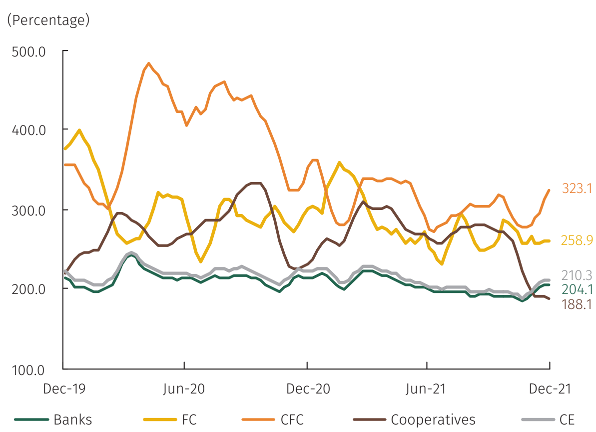


B. Breakdown of ROA



Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

Graph 3.14
CE 30-day LRI



Note: Data are presented as four-week moving averages.
Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

Over the course of 2021, the aggregate profitability of the CEs recovered and reached levels close to those seen prior to the pandemic. Starting in February 2021, the CEs' return on assets (ROA) reversed the downward trend it had been on since September 2019 and, at the end of 2021, registered levels close to those seen in March 2020 (Graph 3.13, panel A). The increase in profitability mainly resulted from a reversal of portfolio loan loss provisions and a reduction in interest paid on deposits and liabilities (Graph 3.13, panel B).

The thirty-day liquidity risk indicator (LRI) of CEs remained stable during 2021. The performance of the aggregate indicator is mainly determined by that of the banks. However, for other types of CEs, to the extent that requirements have increased at a faster rate than liquid assets, there has been a decrease in liquidity. Despite the above, the indicators for all types of entities are at high levels with respect to the regulatory minimum (Graph 3.14).

Over the course of 2021, the CEs have preserved their capital adequacy levels, and they are well above the regulatory minimums. With respect to the soundness of the institutions' equity, the aggregate levels of total capital adequacy and basic capital adequacy are well above their regulatory minimums and have remained relatively stable since February 2021 (Graph 3.15, panel A). The consolidated total and core capital adequacy ratios, show a similar performance to the individual ones (15.8% and 12.2% respectively as of December 2021; Graph 3.15, panel B) although at lower levels.

The overnight IBR (Benchmark Banking Indicator) and interbank rates increased in line with the monetary policy rate. For maturities that are longer than overnight, the IBR and CD rates began to rise as of March in an environment of rising inflation expectations and an expected normalization of monetary policy. The overnight IBR rate and the overnight interbank rate are indicators of the cost of funding financial institutions at that maturity. These rates have remained close to the monetary policy interest rate in 2021 and so far in 2022[48] thus contributing to the proper functioning of this part of monetary policy transmission (Graph 3.16). For the one-, three-, and six-month maturities, IBR rates began to rise in March in an environment of higher inflation expectations and a monetary policy that is expected to be less expansionary. After registering historical lows,[49] in turn, CDs funding rates began a slight upward trend (especially in maturities longer than six

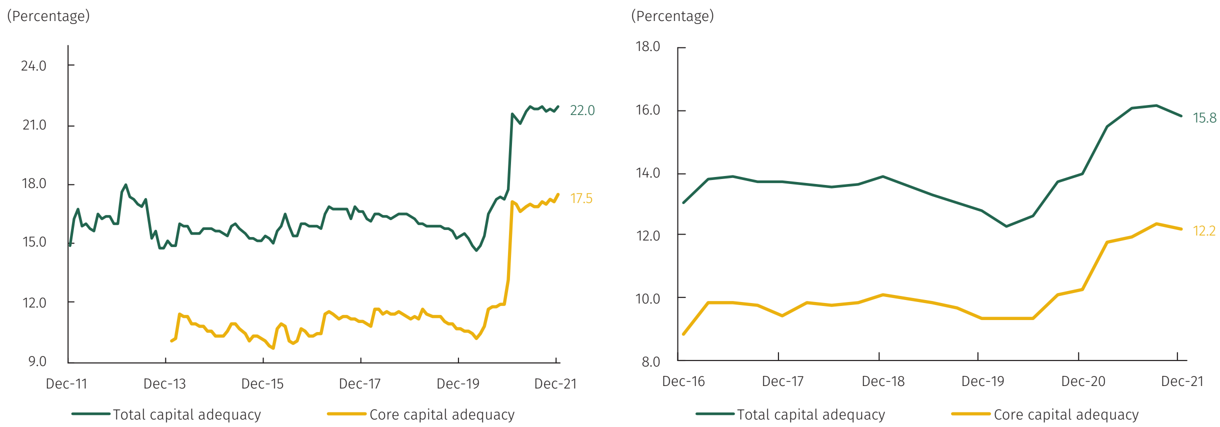
48 Between 01 January 2021 and 28 February 2022, deviations from the IBR with regard to the monetary policy interest rate were between -10 bp and 5 bp, and for the overnight interbank rate, they were between -10 bp and 16 bp.

49 When the levels seen in March 2020 are compared, the aggregate CD rate declined 263 bp (the DTF dropped 274 bp) and reached its lowest level in March 2021. This implied a more than proportional transmission of the reduction in the monetary policy interest rate to the rates for different CD maturities.

Graph 3.15
Total and Core Capital Adequacy Indicators

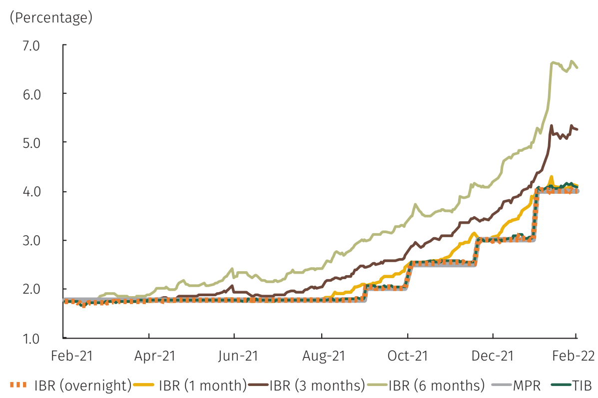
A. Individual capital adequacy

B. Consolidated capital adequacy



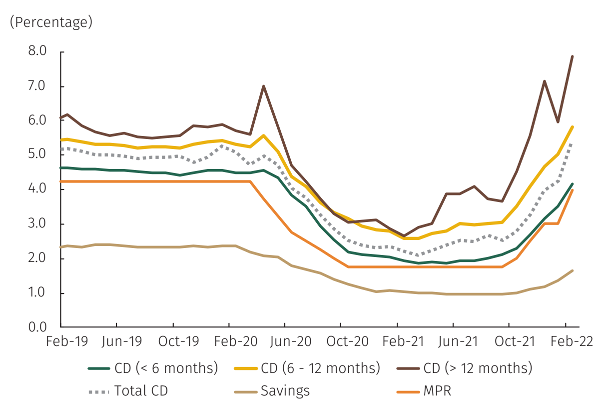
Source: Office of the Financial Superintendent of Colombia; calculations by *Banco de la República*.

Graph 3.16
Monetary Policy Rate (MPR), Overnight Benchmark Banking Indicator (IBR), and Interbank Rate (TIB)
(IBR at one, three, and six months)



Source: *Banco de la República* and Office of the Financial Superintendent of Colombia.

Graph 3.17
Lending Rate



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

months) as of the second quarter of 2021 in anticipation of the increase in the monetary policy interest rate[50] (Graph 3.16 and 3.17). This trend was accentuated in the latter part of the year, following the start of increases in the monetary policy rate. With these, the increases in the CD rates up to February 2022 have been more than proportional to those registered for the monetary policy interest rate.[51] With respect to savings deposits, their interest rate began to rise only after the increase in monetary policy rate.[52]

The changes in the monetary policy interest rate continued to be transmitted to lending rates in 2021[53]. The 250 bp reduction in the monetary policy interest rate made during 2020 was transmitted to lending rates. Thus, since March

50 CEs generally anticipate the changes in the monetary policy interest rate –see the document "Evaluación de la transmisión de la tasa de interés de referencia a las tasas de interés del sistema financiero considerando las expectativas de los agentes" (Evaluation of the transmission of the benchmark interest rate to the interest rates of the financial system considering agents' expectations), Borradores de Economia, No. 988, March 2017.

51 Between September 2021 and February 2022, the aggregate CD rate rose 286 bp (the DTF rose 226 bp) and the rates for all the maturities have risen, especially for those over six months. The rise in this group is more than proportional to the increase in the monetary policy interest rate (225 bp as of February 2022).

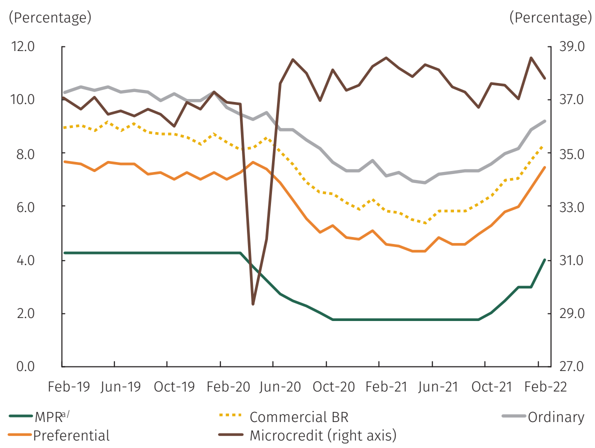
52 Compared to September 2021, the aggregate savings rate rose 68 bp as of February 2022. There were increases in the rates for the accounts of corporations and official entities. However, the rates for the accounts of individuals declined slightly during this period.

53 See Box 1: The Transmission of the Changes in the Monetary Policy Interest Rate (MPR) to the Interest Rates of the Credit Establishments (CE) in the April 2021 *Monetary Policy Report*.

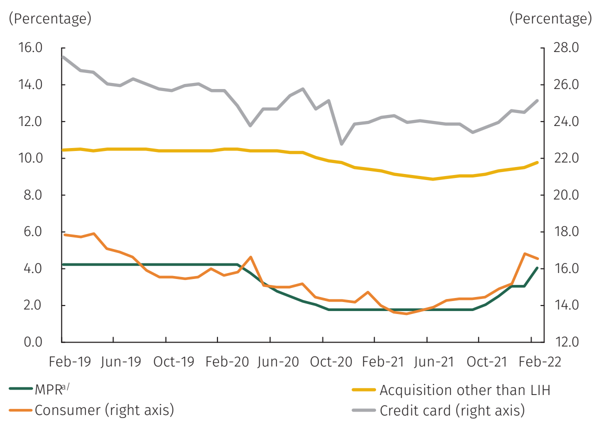
2020 and with respect to the minimums reached in 2021,[54] this occurred more than proportionally in the commercial categories (ordinary -255 bp; preferential -293 bp), to a lesser extent in consumer (-228 bp) and credit card rates (-122 bp), and home purchase (LIH -121 bp; non-LIH -156 bp). No transmission to microcredit rates was seen, but that rate remained at levels higher than those prior to the pandemic during the entire year. These rates have shown an upward trend since mid-2021 in an environment in which there are expectations of an increase in the policy interest rate (Graph 3.18). The increase in the commercial, consumer and mortgage rates as of February 2022 and compared to September 2021 has been sustained, and in some cases, more than proportional to the increase in the monetary policy rate (this may be a reflection of the expectation of an increase in the latter).[55] Despite these increases, rates remain low in real terms and have reached historic lows in

Graph 3.18
Nominal Lending Rates

A. Loans to Businesses



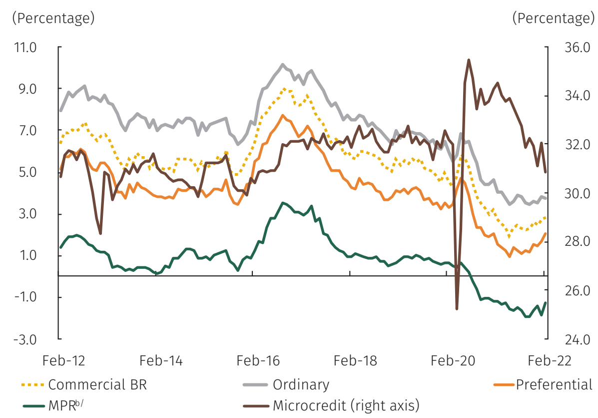
B. Loans to households



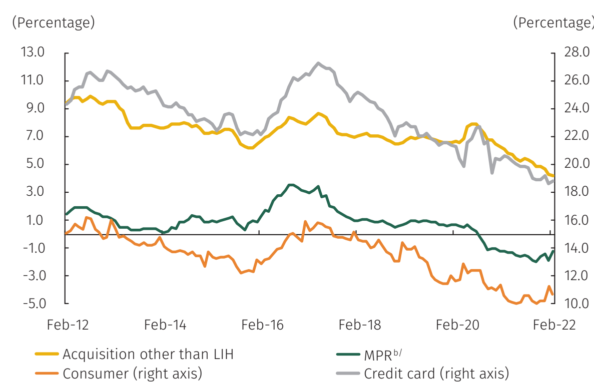
a/ The policy rate is the one set by the BDBR at the monthly meeting; the remaining rates correspond to the average for the month (weighted by amount).
Source: Office of the Financial Superintendent of Colombia (form 088), calculations by *Banco de la República*.

Graph 3.19
Real Lending Rates *ex-ante*[a/]

A. Loans to Businesses



B. Loans to households

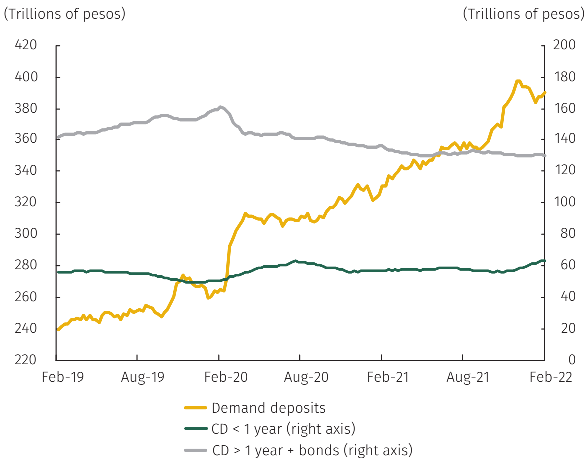


a/ The average of several measures of inflation expectations are used as a deflator (for 1 year from now obtained from the monthly survey of financial analysts, for 1 year from now obtained from the quarterly survey on economic expectations, the BEI for 2 and 3 years from now, and the *forward BEI* for 2 and 3 years from now.
b/ The policy rate is the one set by the BDBR at the monthly meeting; the remaining rates correspond to the average for the month (weighted by amount).
Source: Office of the Financial Superintendent of Colombia (form 088), calculations by *Banco de la República*.

54 For the majority of the credit categories, minimum rates were seen in the second quarter of 2021 while for the credit card rates, the minimum was in September and for consumer loans covered by automatic payroll deductions, it was in October.

55 For ordinary commercial loans the increase was 187 bp, 250 bp for preferential commercial loans, 122 bp for consumer loans covered by automatic payroll deductions, 225 bp for consumer loans other than those covered by payroll deductions, 150 bp for credit cards (individuals), 68 bp to purchase non-LIH housing, and 62 bp for LIH.

Graph 3.20
Balance of Deposits held by the Public by Maturity



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

some categories (consumption, preferential, and ordinary commercial) (Graph 3.19).

The preference for demand deposits continued despite the fact that the interest rate on savings deposits remained low. The rate of decline for time deposits slowed, especially in the second half of the year. As was mentioned in previous reports, in March and April 2020, the balances in savings deposits and in checking accounts increased significantly within a few weeks as a result of the high uncertainty and greater risk aversion caused by the Covid-19 pandemic (Graph 3.20). After a period of relative stability in the balance of demand deposits in the second half of 2020, they resumed an upward trend from high levels during 2021. Thus, this type of liability showed growth rates that were higher than those in 2019 for most of the year despite their low remuneration. The balance of time deposits (CDs and bonds) has continued to fall since the second half of the year, especially those with longer maturities in spite of the increases in their interest rates. The flow of new CD deposits has risen considerably during the first few weeks of 2022 and stands at levels that are higher than those before the pandemic. With this, the balance of CDs with a maturity of less than one year has shown some increase.

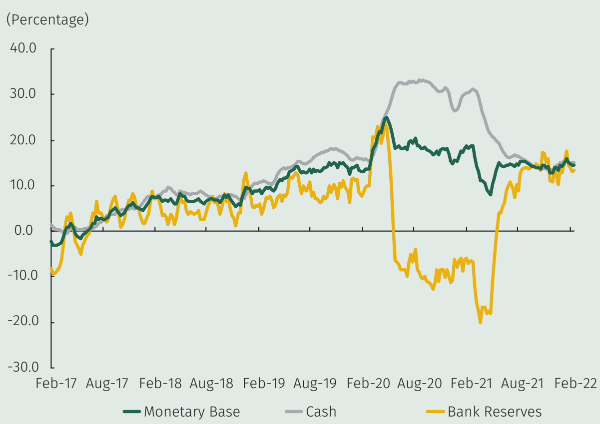
Shaded section 1:
Monetary Base and M3

The monetary aggregates showed a slower pace of expansion in 2021 than in the previous year after the onset of the pandemic. However, there is still a greater preference for liquid assets such as cash and demand deposits (e.g., savings deposits or checking accounts), than for time deposits (such as CDs).

In the case of the monetary base (cash plus bank reserves), the annual average growth was 14.2% (*vs.* 18% in 2020). On the demand side, cash continued to increase at relatively high rates in comparison to its historical average[1] even in the second half of the year when the change in the level registered in the first half of 2020[2] no longer had an effect on the annual variation. Annual growth was, on average, 19.7% (vs. 27% in 2020), and at the end of the year, it was 14.6% (Graph S1.1).

The bank reserves also increased during the year, as a result of the sustained increase in demand deposits, for which the reserve requirement is higher.[3] The average annual growth of the reserve was 3.1% (vs. 0.5% in 2020) and had negative values until mid-May (due to the effect of the reduction in the reserve requirement in May 2020) and similar to those of cash thereafter.[4] In terms of levels, the balance of the monetary base rose COP 12,709 b between the end of 2020 and the end of 2021 as a result of a COP 14,143 b increase in cash held by the public and a COP 1,434 b reduction in bank reserves (Graph S1.2).

Graph S1.1
Monetary Base, Cash, and Bank Reserves
(annual percentage change, 4-week moving average)



Source: *Banco de la República*.

Regarding supply, Banco *de la República* undertook the pertinent operations to ensure that the differences between the supply and demand of the monetary base did not generate pressure on the money market and thus be able to provide an appropriate supply of primary liquidity. During the year, the main source of expansion of the monetary base was related to central government operations. Thus, the lower balance of government deposits at the Bank compared to what had been registered at the end of 2020 (COP 3,518 b), the remuneration on said deposits (COP 472 b), and the transfer of 2020 profits (of which COP 3,122 b was done in pesos as a credit to the account[5]) generated a COP 7,112 b expansion of the monetary base.

The second source of monetary base expansion was the Bank's net purchases of TES in the market for COP 5,079 b. These were part of the actions taken to regulate the liquidity of the economy and compensate for strong changes in government deposits at the Bank. Thus, between March and April 2021, the Bank sold COP 5,921 b on the market to partially offset the increase in the monetary base supply generated by the maturing of TES in March (close to COP 10,800 b). In contrast, the Bank purchased COP 11,000 b in TES on the market between September and December to provide permanent liquidity due to the significant increase in the government's balance at the Bank which was mainly due to the sale of foreign currency.

Third, among the sources of monetary base expansion is the higher net balance of COP 4,939 b in transitory

1 Using the total CPI as a deflator, the real average annual growth of cash during the year was 15.7% (22.1% in the first half and 9.7% in the second) compared to an average of 7.3% since 1983.

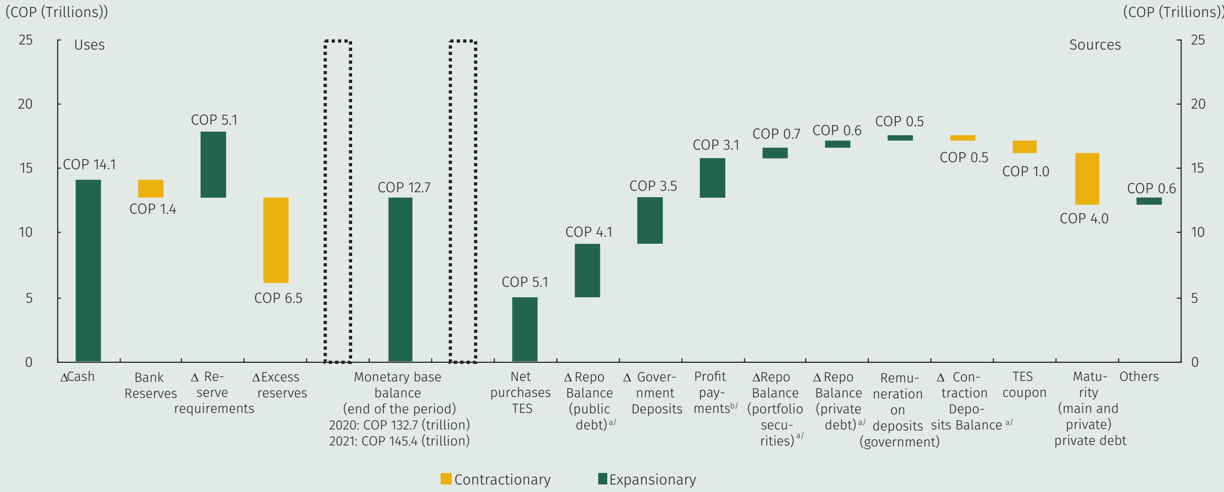
2 In 2020, there was a significant increase in the level of cash between March and June.

3 The coefficient of the reserve requirements for demand deposits is 8%, the one for deposits with a maturity of less than eighteen months is 3.5%, and for those with a longer maturity it is 0%.

4 The decline in the reserve requirement coefficients established by the BDBR on April 14, 2020 applied as of the two-week availability period beginning 13 May 2020. See https://www.banrep.gov.co/es/banco-republica-inyecta-liquidez-permanente-economia-mediante-reduccion-del-encaje-y-refuerza-su

5 COP 6,629 b in profits were distributed to the government in 2021 against 2020 profits. Of this, COP 3,506 b was paid in TES in response to the request made by the Ministry of Finance and Public Credit.

Graph S1.2
Annual Change in the Monetary Base by Use and by Source 2021



a/ Includes accrued interest.
b/ COP 6.629 b in profits were distributed to the government against 2020 profits. Of this, COP 3.122 b were paid into the government's account at the Bank and the remainder with TES.
Source: *Banco de la República*.

liquidity operations (Repo operations had a COP 5,423 b higher balance than at the end of 2020 and, it was partially offset by a higher balance of COP 484b in contraction deposits).[6] Note that the Bank maintained liquidity transactions throughout the year under the same conditions that had been in place since 2020, when eligible securities, counterparties, and maturities were broadened.

On the other hand, the main contractionary factor was the maturity (principal and coupons) of securities in the Bank's portfolio. Of these, COP 3,989 b correspond to private debt securities (CDs and bonds issued by credit establishments) that the Bank acquired in March and April 2020, and COP 1,002 b are public debt securities. Last of all, other transactions that affect the Bank's P&L and balance sheet had a net expansionary effect of COP 554 b.

The Bank also carried out two operations during the year with the national government that had no effect on the monetary base: 1) the transfer of a portion of the 2020 earnings in TES[7] and 2) the sale of dollars equivalent to the allocation of SDR by the IMF to Colombia on 23 August. They were paid for with TES.[8]

The M3 broad money aggregate,[9] in turn, registered an average annual change of 8.8% in 2021 compared to the 13.4% registered in 2020[10] (Graph S1.3, panel A). As for deposits, the public continued to show a greater preference for demand deposits. Thus, demand deposits, such as checking and savings accounts showed high annual growth rates throughout the year, above those seen prior to the pandemic. In contrast, for term deposits the balance continued to decline (Graph S1.3, panel B).

So far in 2022 (up to February) the monetary aggregates have registered annual changes somewhat higher than those in the last quarter of 2021. The reduction in the balance of the monetary base, which typically occurs at the beginning of the year due to the public's lower demand for cash, resulted from a

6 Includes accrued interest on both Repo operations and contraction deposits.

7 See Note 5.

8 The national government bought USD 2,787.7 m (the amount equivalent to the IMF's general SDR allocation for Colombia on 23 August using the 30 August SDR/USD exchange rate) from *Banco de la República* on 30 August 2021. In payment for the dollars, the national government transferred TES public debt securities to the Bank (see https://www.banrep.gov.co/es/asignacion-deg-colombia-parte-del-fmi-y-venta-reservas-internacionales-gobierno-nacional).

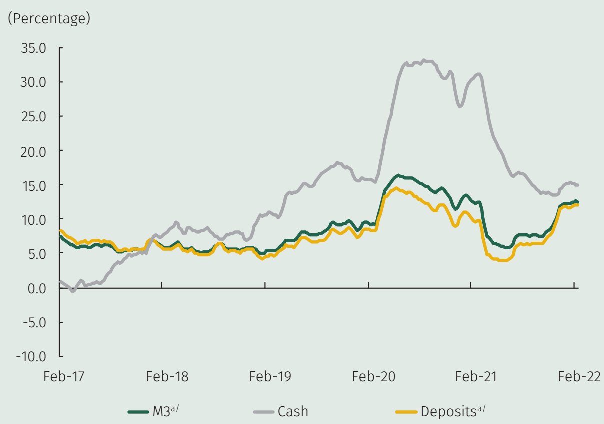
9 M3 includes cash and deposits held by the public (CDs and bonds issued by credit establishments that are part of *Banco de la República's* portfolio are excluded).

10 In the case of deposits held by the public, these rose 7.1% in 2021 (11.5% in 2020).

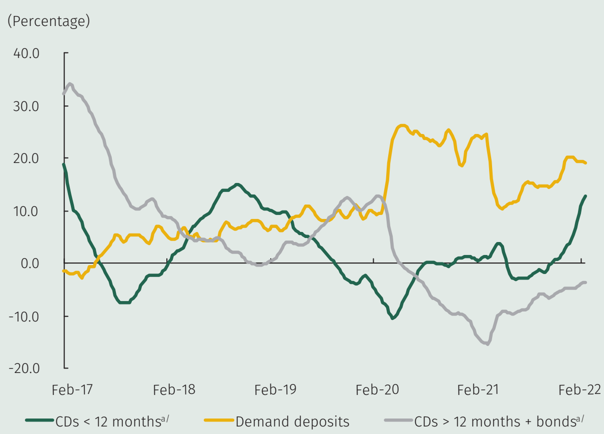
higher balance of government deposits at the Bank from the standpoint of the sources (partially offset by greater transitory liquidity operations). At the margin, there has been some change in the makeup of M3 in recent weeks in favor of time deposits, and within them, those with a maturity of less than one year.

Graph S1.3
M3 and Deposits Held by the Public (annual percentage change, 4-week moving average)

A. M3 and its components



B. Deposits held by the public by maturity



a/ Excludes CDs and bonds held by *Banco de la República*.
Source: Office of the Financial Superintendent of Colombia (form 281), calculations by *Banco de la República*.

04/ Foreign Balance, Foreign Exchange Market, and Foreign Reserves

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

The current deficit went from the 3.4% of GDP seen in 2020 to 5.7% of GDP in 2021 in line with the country's economic recovery. The greatest imbalance in the trade in goods and services and, to a lesser degree, the increase in the profits of companies with foreign capital were the main factors behind the expansion of the external deficit, partially offset by the increase in net income from current transfers. The current account deficit was mainly financed by a recovery of funds from foreign direct investment (FDI) and high levels of capital resources allocated to the public sector. A correction of the external deficit is expected for 2022 in line with a moderation in domestic demand and a greater contribution from exports in an environment of less accommodating foreign financial conditions.

The current account deficit in dollars and as a share of GDP increased in 2021 compared to the previous year in line with the strength of domestic demand. The strong recovery of local economic activity in 2021 that was mainly driven by the strong performance of private consumption, investment in machinery and equipment, and a countercyclical fiscal policy resulted in a growth in domestic demand (13.3%) that was higher than the expansion of output (10.6%), and this meant an increase in the foreign imbalance. This occurred against a backdrop of economic recovery of our trading partners and higher export prices. As a result of all this, the current account registered a deficit of USD 17,833 m, which corresponded to 5.7% of GDP and represented a USD 8,626 m increase compared to the external imbalance in 2020 (Table 4.1).

The increase in the current account deficit is explained particularly by the greater trade imbalance in goods and services. The result of the current account reflects an increase of USD 5,114 m in the trade deficit of goods compared to a year ago generated by a higher growth in the value of imports (USD 15,540 m) compared to the value of exports (USD 10.426 m). On the one hand, the increase in both household spending and gross fixed capital formation with annual changes of 14.6% and 11.2% respectively was reflected in an overall increase in purchases of goods from abroad: supplies and capital goods for industry (USD 9,002 m, 40.7%); consumer goods (USD 2,216 m, 22.1%), and fuel and lubricants (USD 1,470 m, 74.6%). On the other, the higher prices for crude oil as well as the depreciation of the peso, the recovery of our main trading partners, and the effect of this on the growth of non-traditional exports explains the increase in exports of goods although at a slower pace than imports. The increase in exports was mainly due to higher sales of petroleum and its derivatives (USD 4,755 m), and to a lesser extent, higher sales of industrial products (USD 2,783 m), coal (USD 1,486 m), and coffee (USD 645 m).[56] In the case of the trade balance in services (USD -6,517 m) (Table 4.1), the rising flow of travelers abroad along with the higher freight payments contributed to the increase foreign debt. This was partly offset by the recovery of foreign tourists arriving in the country and income from other business services.

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56 The higher exported value of crude oil, coal, and coffee was due to the increase in their export prices (62.7%, 59.8%, and 27.3% respectively) and was partly offset by the decrease in their quantities shipped (14.5%, 16.2%, and 1.2% respectively)

Table 4.1
Colombia's Balance of Payments

Current Account (millions of dollars)	2020 (p)	2021 (p)	Change (dollars)
Current Account (A + B + C)	-9,207	-17,833	-8,626
Percentage of GDP	-3.4%	-5.7%	
A. Goods and Services	-13,156	-20,501	-7,345
1. Goods	-8,870	-13,984	-5,114
Exports FOB	32,309	42,735	10,426
Imports FOB	41,179	56,719	15,540
2. Services	-4,286	-6,517	-2,231
Exports	5,837	7,641	1,803
Imports	10,124	14,158	4,034
B. Factor Income	-4,839	-8,054	-3,215
Income	4,405	5,852	1,447
Outlays	9,243	13,906	4,663
C. Current Transfers	8,788	10,722	1,935
Income	9,654	11,878	2,224
Outlays	866	1,156	290
Financial Account Annual flows (millions of dollars)	**2020 (p)**	**2021 (p)**	**Change (dollars)**
Financial account with change in foreign reserves (A + B + C + D)	-8,191	-16,679	-8,488
Percentage of GDP	-3,0%	-5,3%	
A. Direct Investment (ii - i)	-5,803	-6,041	-238
i. Foreign in Colombia (FDI)	7,459	9,402	
Percentage of GDP (FDI)	2.8%	3.0%	
ii. Colombian abroad	1,656	3,362	
B. Portfolio Investment (1+2)	-1,792	-4,405	-2,613
1. Public Sector (ii - i)	-10,551	-8,875	
i. Foreign Portfolio Investment (a + b)	9,274	8,958	
a. International markets (bonds)	6,182	5,825	
b. Local Market (TES)	3,092	3,133	
ii. Portfolio Investment Abroad	-1,278	83	
2. Private Sector (ii - i)	8,759	4,470	
i. Foreign Portfolio Investment (a + b)	-1,735	-574	
a. International markets (bonds)	-1,281	616	
b. Local markets	-454	-1,189	
ii. Portfolio Investment Abroad	7,025	3,896	
C. Other Capital Flows public sector + private sector	-4,925	-6,887	-1,962
D. Reserve Assets	4,328	654	-3,675
Errors and Omissions (E and O)	1,016	1,154	138
Memo items			
Financial account excluding change in foreign reserves	-12,519	-17,333	-4,813
Change in Foreign Reserves	4,328	654	

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

The higher current account deficit is also explained, although to a lesser extent, by the increase in net factor income outflows (USD 3,215 m) (Table 4.1). This result was particularly associated with the higher profits of companies with FDI (USD 4,359 m). The recovery of global and domestic economic activity contributed to a higher level of sales both domestic and foreign which was reflected in the better performance of these companies. The larger FDI profits were widespread across economic sectors. Among these, the increase seen for companies that work in oil drilling (USD 1,951 m), mining and quarrying (USD 1,628 m), financial establishments and business services (USD 799 m), and transportation and communications (USD 278 m) were notable.

The pressure on the current account deficit was partially offset by an increase in net current transfer revenue (Table 4.1). This increase (USD 1,935 m) is explained by higher workers' remittances received from abroad (USD 1,688 m; 24.4% annually). The main increase in remittances was from the United States (24% annually), in an environment of reduced unemployment among the Hispanic population in that country, a nominal increase in wages, and the still-current government subsidies and unemployment compensation. Likewise, lower unemployment in Latin America and Spain contributed to the increase in remittances from these economies, which rose 19% and 29% respectively versus 2020.

The country retained access to foreign capital markets during 2021 and registered a recovery of FDI as a source of financing for the current deficit. The financial account registered USD 16,679 m in net capital inflows (5.3% of GDP), which are higher than those seen a year ago (USD 8,191 m, 3.0% of GDP) (Table 4.1). Among these the funds received through FDI (USD 9,402 m), income from foreign portfolio investment (USD 8,384 m), and the net disbursements from foreign loans and other capital flows (USD 6,887 m) stand out. These results indicate that FDI once again became a relevant source of financing for the foreign deficit in 2021 as it stood at USD 9,402 m (3.0% of GDP), which is USD 1,944 m higher than what was received the previous year. This FDI trend was seen in most of the economic activities, especially in the financial and business services, mining and energy, manufacturing, and transportation and communications sectors. Foreign portfolio investment, in turn, was the result of net income received from the placement of long-term debt securities in international markets (USD 6,440 m) and net purchases of fixed-income securities in the local market by non-residents (USD (USD 3,133 m). In foreign loans and other capital flows, which were USD 1,962 m higher than a year earlier, the net disbursements received by both the public sector (USD 5,339 m) and the private sector (USD 859 m) are noteworthy. This was partly offset by net sales of variable income instruments by non-residents (USD 1,189 m). It is worth noting that, when the net capital flows associated with the public sector are added,[57] their level remained high (USD 16,630 m) although it was USD 859 m lower than what was registered in 2020.

A correction of the external deficit is expected for 2022 in line with a moderation in the growth rate of domestic demand and a greater contribution from exports in an environment of increases in the cost of foreign financing. The technical staff is forecasting a current account deficit of 4.9% of GDP, which would imply a correction with respect to the 5.7% imbalance in 2021.[58] The annual reduction in the deficit is probably due to the increase in export prices, the

57 Does not include *Banco de la República*'s liabilities associated with the allocation of SDRs by the IMF.

58 These forecasts correspond to those of the January 2022 Monetary Policy Report.

rebound in the volumes of the main commodities produced such as oil, coal, and coffee, and the expected recovery in demand from the country's trading partners. Furthermore, net income from tourism services and transfers will probably increase during the year. The latter is because workers' remittances, in particular, will probably remain high and due to the payments received for insurance indemnities.[59] Although the current account deficit is expected to be lower in 2022, it will probably remain relatively high because the country's economic recovery is expected to continue. This, together with the high freight costs and global prices of imported goods projected for the first part of the year, will probably continue to explain the nominal increase in imports of goods and services. However, their growth rates are expected to moderate in 2022 given that domestic demand is projected to grow at a slower pace and financial conditions are likely to be less favorable. In addition, the profits of companies with foreign capital are expected to continue their recovery due to the local economic rebound and higher crude oil prices. Moreover, interest on foreign debt is expected to increase during the year due to higher contracted balances and the expected increase in foreign interest rates. These projections do not include the recent impact of the conflict between Russia and Ukraine on international crude oil and other commodity prices (Box 1). Note that the forecast for the current account deficit is highly uncertain and that the risks to this forecast are mainly associated with changes in the outlook for local and external economic growth, world prices of products and supplies, the normalization of monetary policy in the United States, and the development of global geopolitical tensions, etc.

The correction of the external imbalance forecast by the technical staff for 2022 will probably occur in a year in which a reduction of the general government's fiscal deficit is expected. As described in the financial plan, the general government deficit will probably decline compared to 2021, a decrease that could be completely explained by the lower deficit of the central national government (CNG). Indeed, a CNG deficit of 6.2% of GDP, which is lower than the 7.1% of GDP in 2021, is projected. This fiscal adjustment is mainly explained by the reduction in operating expenses implemented during 2021 (close to 2.0% of GDP through FOME), and most of these are not likely to be available for 2022. In addition, the nation's current revenues will probably continue to contribute to the fiscal closure, favored by the higher taxable base in 2021 and by the recovery of the economy, which will continue in 2022. These two factors will probably translate into lower (or higher) public savings, which could more than offset the expected increases in investment associated with fourth- and fifth-generation infrastructure projects. Likewise, the lower fiscal deficit is likely to be accompanied by lower financing needs in both the domestic and foreign markets and, therefore, with a lower debt placement than what was foreseen in the Medium-Term Fiscal Framework of 2021. The CNG's gross and net debt (62.8% and 60.6% of GDP respectively) for 2022 could sustain the downward trend seen in 2021 although they are likely to remain at levels much higher than those registered in 2019 (50.3% and 48.4% respectively).

The technical staff's projections anticipate that the country will maintain access to international capital markets in 2022 and that FDI will continue to recover albeit in an environment of higher risk premia and a less expansionary monetary policy in the United States. Capital inflows to the country are likely to respond to the prospects of increased economic activity as well as a better outlook for the fossil fuel sectors, given expectations of high international prices and an upturn in local production during the year.

59 In January 2022, the Spanish insurance company Mapfre disbursed USD 633 million to Empresas Públicas de Medellín for the payment of the insurance policy for the Hidroituango project.

Furthermore, significant capital inflows from the acquisition of part of the capital stock of Nutresa and Grupo Sura will probably be accumulated. FDI is likely to continue to converge to its pre-pandemic levels in 2022, in line with the expected rebound of investment in domestic production, and to steadily increase its importance in foreign financing. The public sector, in turn, will probably keep relying heavily on various sources of foreign capital thus reflecting financing needs that are likely to remain high in 2022. Nevertheless, capital inflows to the public sector will probably moderate relative to 2021 in line with expectations of a smaller fiscal deficit.[60] It should be noted that the cost of financing has increased and that foreign financing assumptions are framed in a highly uncertain global environment. The above is mainly due to a liquidity and interest-rate adjustment in the advanced economies that could occur faster than expected or a greater global aversion to risk.

4.2 Foreign Exchange Market

To reach the target of maintaining a low and stable inflation rate and achieving the maximum sustainable level of output and employment, *Banco de la República* follows an inflation targeting scheme[61] with a floating exchange rate system.[62] The exchange rate flexibility is considered a fundamental element for achieving these goals due to the fact that: 1) it is a variable of adjustment to external shocks that allows, for example, exports to adjust to imports as evidenced in 2021, when the depreciation of the exchange rate boosted non-traditional exports and improved the country's trade position and economic activity; 2) it allows the interest rate to be used independently as an instrument to bring inflation and output to the values desired for them, 3) the volatility inherent to a floating system stimulates the development of the hedging market, which is important to maintain financial stability.

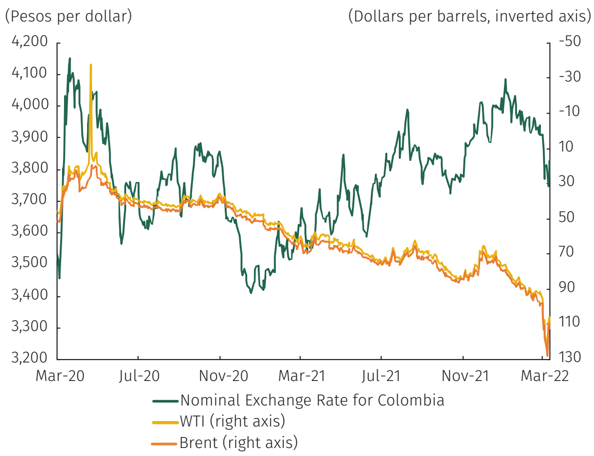
The Colombian peso has depreciated during 2021 and so far in 2022 in line with the strengthening of the US dollar in the global context, the foreign trade imbalance, and the influence of some idiosyncratic factors. The largest depreciation of the Colombian peso against the dollar was seen during the first half of 2021. Initially this was due to a less favorable international environment for risky assets, and then influenced by local factors such as the widening of the current account deficit, fiscal pressure generated by a significant increase in public debt to meet the higher spending associated with the pandemic, and uncertainty about fiscal adjustment due to the withdrawal of the Sustainable Solidarity bill in a context of social protests (see the sub-sections 2.1 and 3.1 in this Report). The currency continued to depreciate throughout the rest of the year affected, in addition to the aforementioned factors, by the change in the position of foreigners, who demanded dollars during the second half of 2021. Nevertheless, dollar sales by the General Office of Public Credit and the National Treasury (DGCPTN) contributed to contain upward pressures on the currency exchange rate in 2021. So far in 2022, the currency has partially corrected the depreciation seen during the previous year supported by the

60 Note that this performance is also influenced by the pre-financing of the CNG needs in 2022 which was carried out in 2021.

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

62 In which no specific value of the exchange rate is fixed.

Graph 4.1
Colombia's Nominal Exchange Rate and Crude Oil Prices



Source: Data License (data as of March 11, 2022).

increase in oil prices to their highest levels since 2008[63] and by the expectations of foreign currency inflows due to tax payments from large taxpayers as well as the *Grupo Sura* and *Nutresa* takeover bids (Chart 4.1).

4.3 Foreign Reserves

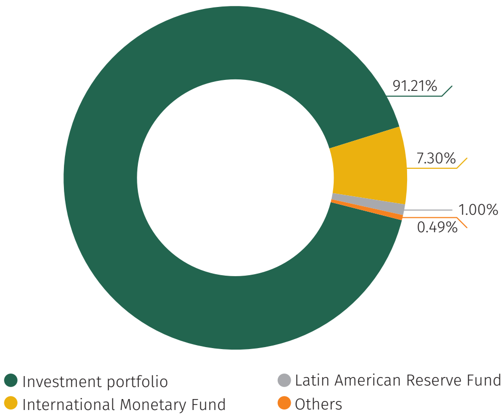
Banco de la República manages the foreign reserves subject to the criteria of safety, liquidity, and return and within a strict framework of risk management in which the measures taken to manage market, credit, and liquidity risk are emphasized. The breakdown of the investment portfolio, which is the main component of the foreign reserves, shows the high credit rating and liquidity of the foreign reserve's investments. Net foreign reserves amounted to USD 58,579.2 million as of 31 December 2021. Various international indicators used to assess the foreign reserves show that they are at appropriate levels for the country.

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 be done under the criteria of security, liquidity, and return. The security 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*[64] determines strict limits to the exposure of the reserves to each of the different risks. 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.

63 The price of Brent crude rose 118% and WTI crude rose 126% as of 11 March 2022 compared to the close of 2020. The correlation between the Colombian peso and the Brent crude price was 0.59 in the first quarter of 2021; 0.30 in the second quarter; -0.36 in the third; -0.74 in the fourth; and from January to 11 March 2022, -0.90.

64 The Foreign Reserves Committee is composed of the Minister of Finance or his delegate, the full-time members of the Board of Directors, and the Governor.

Graph 4.2
Breakdown of the Foreign Reserves
(information as of 31 December 2021)



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

Net foreign reserves[65] **totaled USD 58,579.2 million as of 31 December 2021, which indicates a decrease of USD 451.6 m during 2021. The main factor behind this decline is the devaluation of other reserve currencies against the U.S. dollar.** The US dollar appreciated against other reserve currencies in 2021 due to the recovery of the US economy and increased expectations of a more contractionary monetary policy with higher interest rates in the near future.

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 (90.74% and 0.47% respectively of the reserves). The breakdown of the foreign reserves as of 31 December 2021 is presented in Graph 4.2.

4.3.1 Reserve Indicators

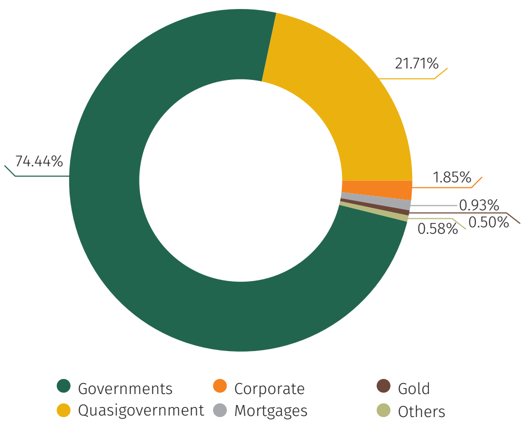
Foreign reserves cover the country's external liquidity needs. In order to maintain a suitable level of liquidity abroad, Banco de la República strives to ensure that foreign reserves cover the economy's external payments (balance of payments current account deficit and repayments of foreign debt) over a twelve-month horizon. Furthermore, the sum of the foreign reserves and the IMF's flexible credit line is intended to cover the above-mentioned foreign payments plus capital outflows of residents and non-residents that could occur in the event of strong exchange rate pressure. This is an indicative criterion that serves to guide foreign reserves policy over time.

Supplementary indicators to evaluate foreign reserves showed appropriate levels for the country. The ARA methodology is a widely used international indicator.[66] This metric is proposed by the IMF to measure the appropriate level of foreign reserves and provides that reserves must cover the main balance of payments risks during periods of pressure on the foreign exchange market. According to the IMF estimates, a risk that needs to be covered is associated with a loss of access to foreign financing and is captured by short-term debt. Another has to do with a loss of confidence in the local currency and is measured by a monetary aggregate. The third is associated with a reversal of the capital flows that finance the deficit in the current account and is quantified on the basis of the portfolio liabilities of the international investment position. Last of all, the volume of exports is incorporated to capture a

65 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 obligations to non-resident agents in foreign currency. The gross foreign reserves came to USD 58,587.8 million and the short-term foreign liabilities totaled USD 8,6 m.

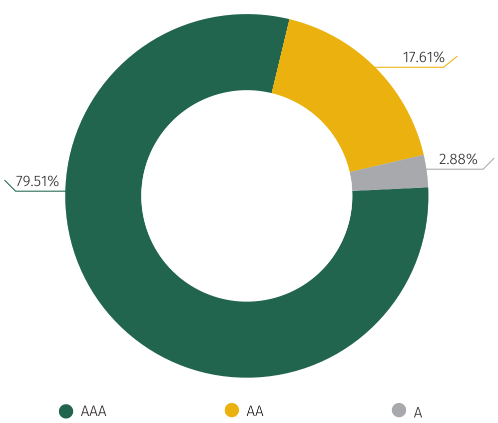
66 This acronym corresponds to *assessing reserve adequacy.*

Graph 4.3
Breakdown of the Investment Portfolio by Sector
(information as of 31 December 2021)



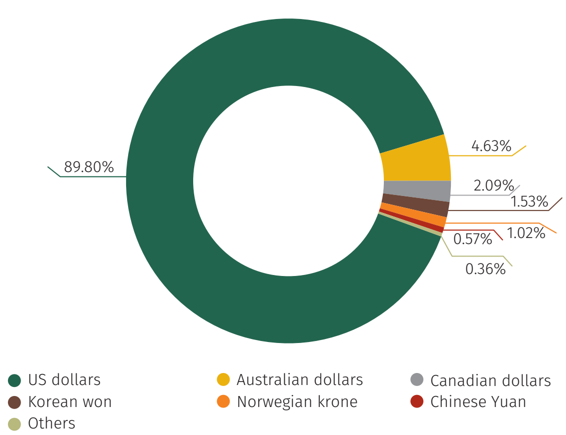
Source: *Banco de la República.*

Graph 4.4
Distribution of Investments by Credit Rating
(information as of 31 December 2021)



Source: *Banco de la República.*

Graph 4.5
Foreign Exchange Breakdown of the Investment Portfolio
(information as of 31 December 2021)



Source: *Banco de la República.*

possible collapse of demand from abroad[67]. 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 as December 2021, the ratio of IMF reserves to the appropriate level stood at 1.44.[68] Other indicators used for assessing the foreign reserves could give warning signals regarding the external 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 suggest that the level of reserves was at sound levels as of December 2021.[69]

4.3.2 Breakdown of the Investment Portfolio[70]

As of December 2021, the investment portfolio was mainly invested in securities issued by governments and government-related entities. The breakdown of the investment portfolio as of December 2021 can be seen in Graph 4.3, when about 96.15% was invested in securities issued by these entities.

The breakdown of the portfolio by rating shows the high credit quality of the investments. Graph 4.4 shows that 79.51% of the portfolio is invested in instruments rated AAA and 17.61% 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 that belong to countries with elevated credit ratings. The United States dollar is the currency with the highest share. Graph 4.5 shows the foreign exchange breakdown of the investment portfolio as of 31 December 2021. 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. Investment in the following currencies is 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 the Korean won.

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

68 The calculation was done with the IMF's ARA methodology and figures from *Banco de la República*.

69 See the shaded section "Proper Level of Foreign Reserves," p. 70.

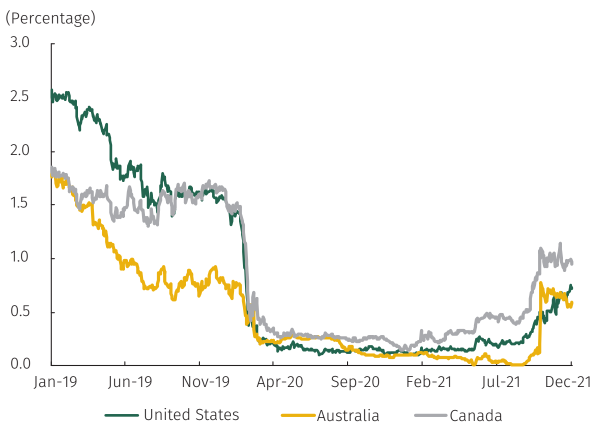
70 The graphs of the breakdown of the portfolio by currency and credit rating were calculated based on the amount in the investment portfolio excluding the gold.

4.3.3 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, while the appreciation factor corresponds to the change in the prices of the securities due to movements in interest rates. This second factor occurs because there is an inverse relationship between bond prices and interest rates, i.e., as interest rates increase, the price of bonds declines, and vice versa.

After exceptionally high levels of reserve profitability during 2019 and 2020, the reserves showed a return of -0.19% as of December 31 which was in line with the expectation of a significant reduction in profitability for 2021.[71] **This was due to the low accrual of investments as a result of the low level of short-term interest rates prevailing in foreign financial markets and the devaluations of these investments due to the rise in interest rates during the latter part of the year.** The measures taken by the US authorities during 2019 and 2020 in reaction to the economic effects of the pandemic led to a sharper fall in short-term interest rates in that country and in other markets relevant to the portfolio. This rapid decrease in interest rates favored the profitability of foreign reserves during this period but resulted in lower interest received on investments during 2021. In addition, the interest rates in the main markets where the reserves are invested increased, especially during the last part of the year, thus causing devaluations in investments. The increase in rates resulted from the expectations that central banks would raise their benchmark rates in view of a rapid global economic recovery and concerns about an upward trend in inflation data towards levels above the defined targets in several countries.

Graph 4.6
Short-Term Government Bond Rates (2 years)



Source: Bloomberg.

In 2022, the return on foreign reserves is expected to remain at low levels. With interest rates in the markets where the reserves are invested still at historically low levels, the interest received will be limited (interest factor), and devaluations in the investments may be seen due to increases in rates in the short or medium term (appreciation factor). The sudden drop of interest rates for portfolio assets and corresponding increase in their prices led to a profit in 2019 and 2020 that had been expected to be achieved over a longer period of time under stable conditions. Thus, despite the fact that rates rose towards the end of 2021, the level is still historically low and the interest on portfolio assets will remain lower than in previous years thus affecting the yield on reserves. Furthermore, the possibility of devaluations resulting from

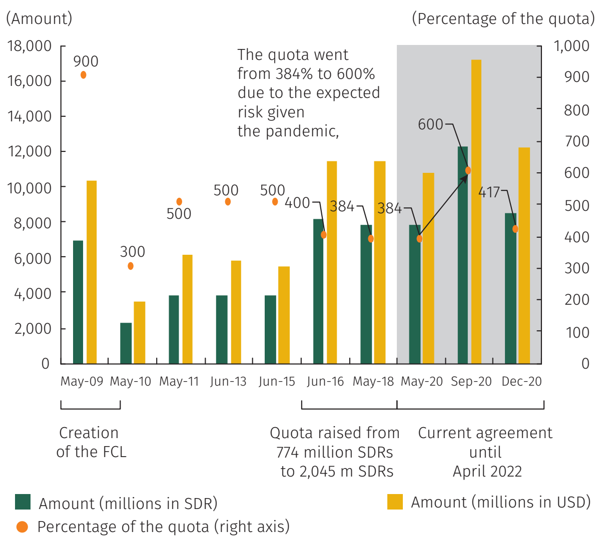
71 This return rate is obtained by dividing the profitability by the average value of the net reserves on 31 December 2020 and on 31 December 2021. Since 2015, the impact of the exchange rate effect on the profitability of the reserves has been excluded.

higher interest rate increases seems greater this time than in previous periods when the rising trend of global inflation and the possible response of the monetary authorities is considered. As can be seen in Graph 4.6, the interest rates in the markets that are relevant to the reserve investment were at near-zero levels during a large part of 2020 and 2021. However, interest rate increases were evident by the end of 2021 as a result of the adjustments in the monetary policy of the countries in question.

4.3.4 Measures to Reinforce International Liquidity

As a supplement to the foreign reserves, *Banco de la República* maintains access to other instruments that serve to strengthen the country's international liquidity. Particularly, these instruments are, on the one hand, access to the Flexible Credit Line (FCL) with the IMF and, on the other, the repo facility with the Federal Reserve (FIMA). Moreover, **since the main goal is to overcome the obstacles arising from the COVID-19 crisis and to strengthen the international liquidity of the 190 member countries,** the IMF made an extraordinary general allocation of special drawing rights in August 2021 for an amount equivalent to USD 650 billion (SDR 456 billion).

Graph 4.7
Colombia's Access to the FCL



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

Colombia has access to the IMF's FCL, which constitutes a source of foreign liquidity that supplements foreign reserves. The FCL is an instrument designed to cover extreme external risks of countries that have a sound economic policy framework and good macroeconomic conditions. Since May 2009, when Colombia was first granted access to the FCL after the major Global Financial Crisis, the country has benefited from successive agreements under the instrument (Graph 4.7). Access to the FCL has been maintained thanks to the country's sound macroeconomic policy framework that has allowed it to meet the required qualification criteria.[72] This includes an inflation targeting system, a flexible exchange rate, public finances based on a sound institutional arrangement, and suitable financial regulation and supervision. Access to the FCL has increased international confidence in the country's economy as it has shown the markets the presence of sound macroeconomic policy management. Four countries currently have access to the FCL: Mexico, Colombia, Peru, and Chile.

The total access of the FCL is 417% of Colombia's quota in the IMF and is equivalent to approximately USD 12 billion.

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

This is maintained with precautionary purposes. The Colombian authorities requested a new two-year arrangement at the beginning of 2020, and this was approved in May of that year at the same level of access as the quota (384%). This was equivalent to USD 10.8 billion (SDR 7.86 billion). Due to the spread of Covid-19 and turbulence in the financial and crude oil markets and given that the impact caused by the pandemic was stronger than expected, the Colombian authorities requested an increase in the amount of access to the FCL in 2020. At the time, the economy was facing pressure associated with a sharp drop in crude oil prices and export revenue, weak aggregate demand, declining tax collections, and increased spending needs to support the health system, and vulnerable households. The IMF approved increasing Colombia's access to FCL from 384% to 600% of the quota (from an amount equivalent to USD 10.8 billion to USD 17.2 billion in September 2020, thus reinforcing the country's international liquidity position and providing higher levels of coverage against external risks. With their request to increase the level of access, the authorities also announced their intention to disburse a portion of the FCL for budget support. The government made a partial disbursement of an amount equivalent to 183% of the quota (USD 5.4 billion, e.g., SDR 3.75 billion) in December 2020 as had been announced in September. These resources helped to mitigate the risk of pressures on the balance of payments in response to the government's growing needs arising from the state of emergency and the sharp fall in crude oil prices and income from exports.

The approval of the FCL new two-year agreement will take place in April of this year through the Fund's Board of Directors, where the country's qualification criteria for the instrument will be reviewed. Two years after the latest FCL agreement, the outlook for the global economy is, indeed, better but it is coupled with a high level of uncertainty. For example, the economic recovery is taking place against a complex backdrop of rising global inflation, normalizing monetary policy in advanced economies, fiscal pressure, and geopolitical tensions. Although Colombia has recovered and the effects of the pandemic have been decreasing progressively, the level of external risks remains high, which makes it convenient to complement the liquidity buffers provided by the foreign reserves.

Given the temporary nature of the instrument, a gradual phasing out process is expected to continue. The Colombian authorities, represented to the IMF by Banco *de la República* and the Ministry of Finance and Public Credit, recognize the temporary nature of the instrument and maintain their commitment to continue reducing their level of access progressively subject to the evolution of external risks. Therefore, the amount requested at the next agreement is likely to be lower than the current level.[73] The Colombian authorities believe that maintaining access to this instrument is important, mainly as a signal of the presence of sound economic policies.

***Banco de la República* also has access to the Federal Reserve's repo facility (FIMA) This facility is an instrument that enables access to immediate liquidity if required under extreme circumstances.** In these transactions, FIMA account holders (central banks and other international monetary authorities with accounts at the Federal Reserve Bank of New York) exchange their U.S. Treasury bonds held in custody at the Federal Reserve for U.S. dollars with the commitment to repurchase the securities the next day and pay the interest. The primary benefit that access to the FIMA repo facility has for *Banco de*

73 Before the pandemic, Colombia had begun a process of gradually reducing the level of access to the FCL. In fact, the IMF has designed instruments to facilitate the exit of countries from the FCL, such as the short-term liquidity line (SLL).

la República is to have liquidity in US dollars without having to sell off the assets of the foreign reserve portfolios permanently. This access mitigates the liquidity and market risk. *Banco de la República* is likely to make use of this repo facility only in the extreme event that, in the need of selling dollars on the spot market, the market for making transactions with Treasury bonds turns out to be very illiquid.

Lastly, the IMF made an extraordinary general allocation of SDR[74] in August 2021 for an amount equivalent to USD 650 billion (SDR 456 billion)[75] in order to overcome the obstacles arising from the COVID-19 crisis and reinforce the international liquidity of the 190 member countries. With this exceptional measure, the IMF sought to build confidence and enhance the resilience and stability of the global economy which was hard hit by the effects of the Covid-19 pandemic. Given the extraordinary circumstances, the IMF left it to the discretion of the member countries to decide on the use of the allocation in accordance with each country's legal framework.

Colombia received SDR 1.96 billion, an amount equivalent to USD 2.79 billion, from the IMF's general SDR allocation. The SDRs created through this operation were credited to IMF member countries in proportion to their quotas in the Fund. Based on the country's constitutional and legal framework, the allocation of SDR was received by Banco *de la República* as part of the foreign reserves they manage.

Prior to the allocation of SDRs, Colombia had an adequate level of international liquidity cushions represented by 1) a level of foreign reserves equivalent to USD 58.9 billion and 2) IMF FCL access equivalent to approximately USD 12.2 billion. Under these circumstances, and in line with the objective of the IMF's SDR allocation, the Board of Directors of the Central Bank and the Ministry of Finance and Public Credit considered it advisable to reinforce the national government's liquidity during a period in which the country was still facing major challenges due to the pandemic and its consequences.

***Banco de la República* sold foreign reserves to the national government for an amount in dollars equivalent to the SDR allocation (USD 2.79 billion) and received Class B TES from the portfolio administered by the DGCPTN at market prices as payment.** The government obtained immediate liquidity in dollars through this operation and improved the profile of its domestic debt, since part of the securities delivered to the Bank came from internal swaps that had been carried out previously by the national government in which securities maturing in 2022 were exchanged for longer term securities. The transaction was intended to facilitate the government›s access to liquid resources to strengthen its liquidity at a time when the country faced significant challenges as a result of the pandemic and its effects.

The transaction was carried out entirely at market prices and did not constitute a financing operation for the government, as the securities

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74 The SDR is an international reserve asset created by the IMF and expresses a potential claim and unit of account in the IMF. The potential claim to SDRs arises from the members' commitment to maintain and accept them as well as to honor the obligations arising from transactions in this system. The member countries may, under certain circumstances, exchange SDRs for freely usable currencies to meet balance-of-payments financing needs or to replenish the foreign reserves portfolio. The currencies that SDRs can be exchanged for are the ones that make up the SDR basket: the US dollar, euro, yen, pound sterling, and, since 2016, the Chinese renminbi.

75 In an allocation of SDR, the countries receive an asset that increases their foreign reserves, and a long-term liability with the same value is generated in return. Member countries pay (receive) interests when the cumulative SDR holdings are less (greater) than the SDR allocations.

received by the Bank came from internal government swaps. These securities are liquid, actively traded on the secondary market, and mandatorily priced by market makers. These characteristics allow the Bank to easily use them in its monetary operations. It is important to highlight that the transaction had no effect on the public deficit or its financing and, therefore, did not generate an increase in public debt. Through this transaction, the Bank's TES portfolio increased,[76] the monetary base remained unchanged, and the foreign reserves remained at pre-transaction levels since the initial increase in the foreign reserves due to the SDR allocation was offset by a proportional reduction from the sale of reserves to the government**.**

76 The exchange of dollars for Treasury bonds meant an increase in the expected yields on the Bank's assets.

Shaded section 2: **Appropriate Level of Foreign Reserve**

1. What are the foreign reserves in Colombia?

Foreign reserves are the foreign assets controlled by *Banco de la República*. For an external asset to be considered a reserve, it must meet the following conditions: first, it must be under the direct and effective control of the central bank and, second, it must be immediately available for use. Colombia's foreign reserves are made up of 1) the investment portfolio which represents the majority of the reserves and is made up of international market financial instruments and gold; 2) contributions to supranational entities such as the International Monetary Fund (IMF) and the Latin American Reserve Fund (FLAR), and 3) and international agreements, such as the one signed with the Latin American Integration Association (Aladi). The investment portfolio is available for immediate use. Contributions to the IMF and FLAR allow Colombia to maintain access to their emergency credit lines, and international agreements serve to facilitate trade among member countries.

2. Objectives

The main purpose of the foreign reserves is to protect the country from external shocks that may come from the current account or the capital account. Current account shocks can be generated by a drastic reduction in exports or an increase in imports that tightens the external liquidity situation. Shocks from the capital account are produced by difficulties in getting access to foreign financing such as reduced access to international credit, or higher capital outflows from both foreigner and resident investors.

In accordance with this, *Banco de la República* as the manager of the foreign reserves holds these resources in amounts it considers sufficient for the following purposes:

Access to the international capital market: A sufficient amount of foreign reserves facilitates government and private sector access to international capital markets. The level of the foreign reserves is a determining factor in the perception of the national borrowers' ability to repay a loan. The credit rating agencies and foreign lenders believe that a suitable level of reserves allows the residents to meet their obligations such as, for example, paying for imports and servicing the foreign debt in foreign currency at a time when the country faces difficulty in accessing foreign financing.

Exchange rate intervention: Although the floating exchange rate system functions as a first line of defense against external shocks, under special circumstances, intervention in the foreign exchange market is one of the instruments available to the Bank to accomplish the basic objective of maintaining a low and stable inflation rate in coordination with the general economic policy. For example, when the rapid depreciation of the peso threatens the achievement of the inflation target, the Bank can mitigate exchange-rate pressure by selling foreign currency in the market thereby avoiding to overload the adjustment exclusively on the interest rate. The Bank may also intervene in the foreign exchange market to control atypical or abrupt movements in the exchange rate that are highly volatile and significantly widen the spread between the buying and selling price of the currency. This could influence the performance of other financial assets connected to the foreign exchange market and jeopardize the objective of the proper functioning of internal and external payments.

3. Importance of maintaining an appropriate level of reserves

Several emerging countries with sound macroeconomic conditions faced capital outflows during the 1990s as a result of the contagion effect caused by the crises in Mexico (1994), Southeast Asia (1997) and Russia (1998). This fact revealed that countries with prudent fiscal and monetary policies can also face a contagion situation, but this also reinforced the need to hold proper levels of foreign reserves, even more so when empirical evidence showed that those countries that did maintain appropriate levels of reserves were less vulnerable to this phenomenon. As a result of such events, rating agencies began to give greater importance to the levels of the foreign reserves and the foreign exchange policy when defining the ratings of emerging countries.

The global financial crisis of 2008-2009, the decline in prices for raw materials in 2014 and 2015, and the slowdown in global economic activity because of the Covid-19 pandemic have all demonstrated the importance of having an appropriate level of foreign reserves. In this context, it has once again been demonstrated that countries with appropriate levels of reserves have been able to deal more suitably with the vulnerabilities to which they have been exposed as a result of the global distortions associated with capital flight, rising uncertainty, the decline in exports, systemic risk, and other crisis situations.

Due to this, Banco *de la República* seeks to preserve an appropriate level of assets denominated in foreign currencies that are available to efficiently meet the abovementioned goals. The amount to be purchased in foreign currency is determined in such a way that the level of *Banco de la República*'s foreign liquidity will cover the foreign deficit, external debt payments, and other potential capital movements.

4. How do central banks determine what their appropriate levels of reserves should be?

Central banks use different indicators to measure the appropriate level of foreign reserves. According to a World Bank survey (2019), 87% of upper middle-income countries (the group to which Colombia belongs) use the reserves-to-imports metric, and about half use the ratios to short-term debt, monetary aggregate, and assessing reserves adequacy (ARA)[1] (Graph S2.1). Note that the survey did not require a definitive answer.

On the other hand, the BIS survey (2019), applied to emerging economies whose central banks are members, reports that the most monitored metrics of foreign reserves are the ratios of reserves to ARA, to imports, and to short-term debt (Graph S2.2) with the first one being the most relevant. In conclusion, there does not appear to be a standard practice among central banks for determining appropriate reserve levels.

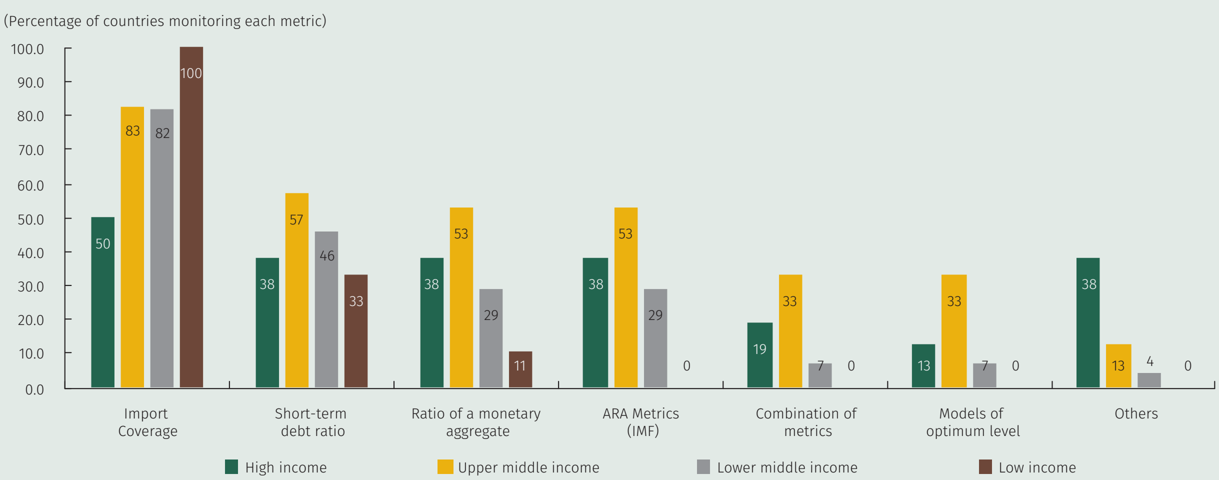
In addition, the indicator of reserves to current account plus debt repayments in one year, known as the extended Guidotti and Greenspan indicator,[2] which is not referenced in the World Bank and BIS surveys, is frequently used to measure the appropriate level of foreign reserves. For example, the Institute of International Finance includes this indicator of reserves in its ranking of country vulnerability. The entity establishes that a country is very vulnerable when the indicator is below 0.5, vulnerable when it is between 0.5 and 1, less vulnerable between 1 and 2, and the least vulnerable above 2. Based on data through December 2021, the indicator for Colombia was 1.15.

A comparison of the coverage of foreign reserves based on these traditional indicators with data as of December 2020 for a sample of emerging economies that follow an inflation targeting strategy and,

1 The definition of ARA is in section 4.3.1.

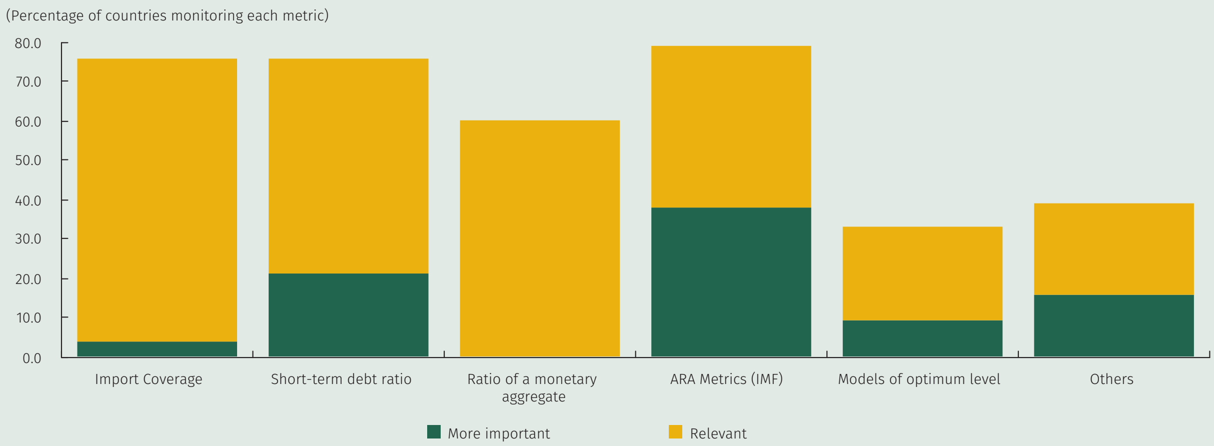
2 The reserves to twelve-month external debt payments indicator is known as the Guidotti-Greenspan indicator.

Graph S2.1
Indicators of Reserves level adequacy by Country Based on Income Level



Source: World Bank 2019 Inaugural RAMP Survey on the Reserve Management Practices of Central Banks.

Graph S2.2
Percentage of Central Banks Monitoring Each Metric



Source: The Size of Foreign Exchange Reserves, BIS Papers no. 104, 2019.

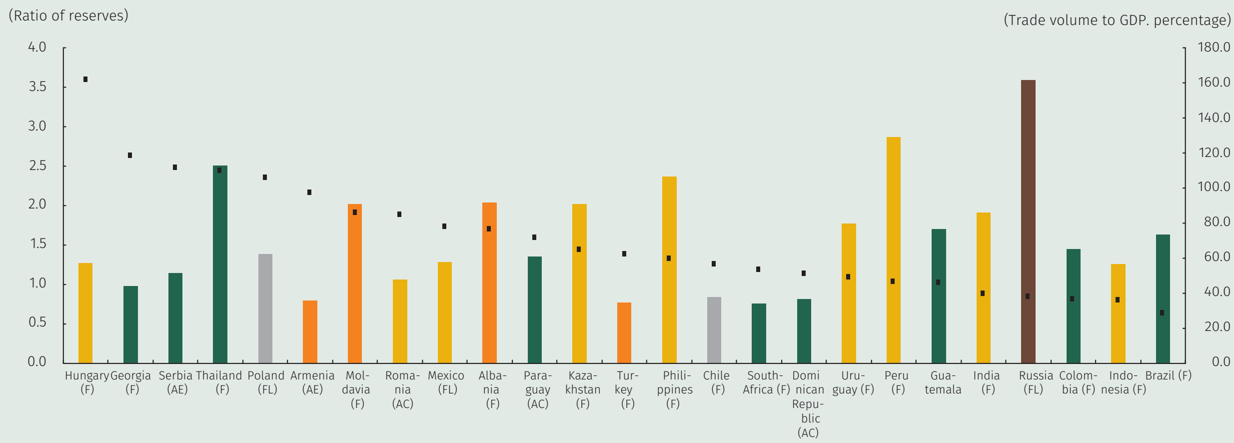
therefore, have flexible exchange rate regimes,[3] shows that the levels of the indicators for Colombia are similar to those of countries with a similar degree of openness (Graph S2.3). Nevertheless, no relationship is found between the degree of openness and reserve coverage indicators. Also, there is no relationship between these and the country ratings, nor with the exchange rate system.

Naturally, a more refined and informative comparison of the coverage offered by foreign reserves requires us to control not only for the monetary system and the openness of the economy but also for other relevant factors such as, for example, the degree of exchange rate flexibility in countries that have a floating exchange rate regime in accordance with the IMF, exchange rate mismatches, the pass-through of the exchange rate to domestic prices, and the strength of public finances and the financial system.

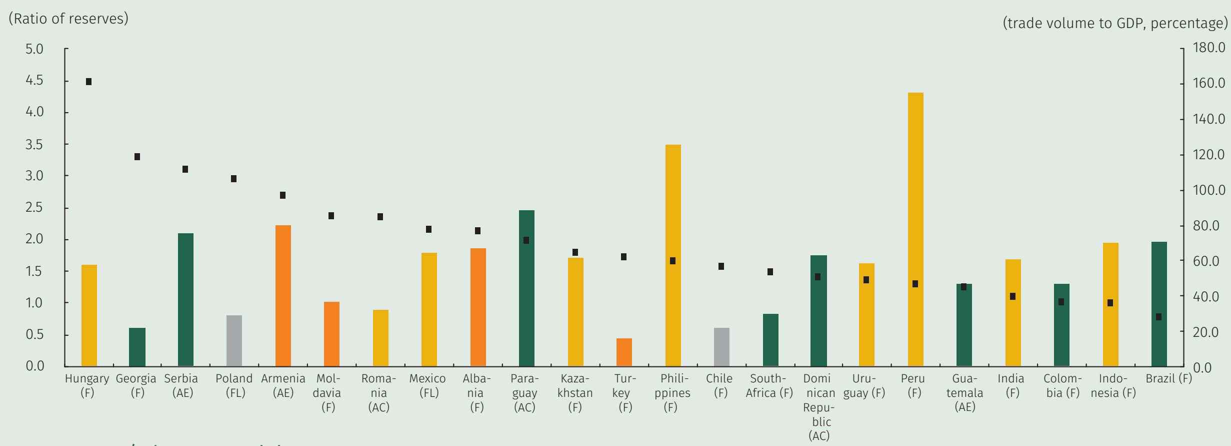
3 According to the IMF, of the 37 countries included in the charts in 2020, 23 had a floating regime, 7 had a free-floating regime, 3 had a stabilization agreement and 4 had a crawl-type agreement.

Graph S2.3
Foreign Reserves Payment Capacity Indicators

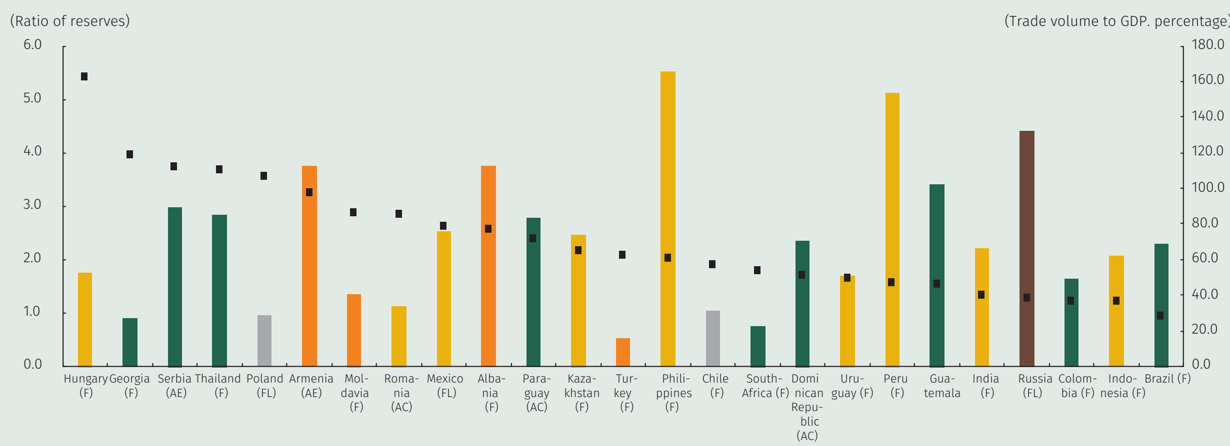
A. Reserves / ARA



B. Reserves / short term debt + current account deficit



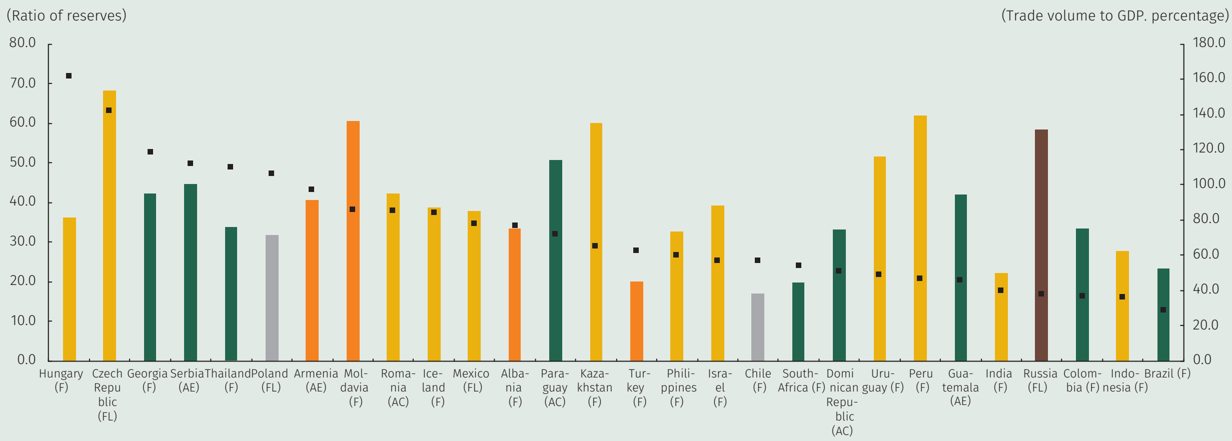
C. Reserves / short-term debt



Group A (A. A-. A+)
Group BBB (BBB+. BBB. BBB-)
Group BB (BB+. BB. BB-)
Group B (B+. B. B-)
Group C
Trade volume to GDP (right axis)

Graph S2.3 (continued)
Foreign Reserves Payment Capacity Indicators

D. Reserve/ M2



E. Reserves / imports

Note: The classification by exchange rate system based on the latest version of the IMF's Annual Report on Exchange Rate Regimes and Exchange Restrictions (AREAER) is included in parentheses after the name of each country. Specifically, FL is free floating with exceptional intervention, F is floating where the exchange rate is determined mainly by exchange market operators with occasional intervention to reduce exchange rate volatility, AC is a crawl-type arrangement in which the exchange rate must remain within a narrow margin of 2.0% of a statistically identified trend for six months or more, and AE is a stabilization arrangement in which the exchange rate is held within a 2.0% margin for six months or more and the required margin of stability may be achieved with respect to either a single currency or a basket of currencies, and the anchor currency or basket is determined or confirmed using statistical techniques.
Source: International Monetary Fund.

05/ Financial Situation of *Banco de la República*

The expansion of Banco de la República's balance sheet in 2021 was mainly due to the higher value of foreign reserves in pesos that resulted from the depreciation of the Colombian peso against reserve currencies and the increase in the TES portfolio. The effect of peso depreciation on foreign reserves was, in turn, reflected in a higher value of equity in the exchange rate adjustment account. The profit for the 2021 fiscal year (COP 632 b) was lower than what it was in 2020 (COP 7,483 b). As was anticipated in previous reports, the extraordinary results that occurred in 2019 and 2020 were not repeated in 2021 due to the significant reduction in the profitability of the foreign reserves. While the return on these reserves was historically high in 2019 (COP 7,638 b) and in 2020 (COP 6,635 b), it was negative (-COP 413 b) in 2021. Therefore, since the main source of income for Banco de la República is the return on foreign reserves, a negative result generated significantly lower profits over the last year compared to what was seen in the previous two years.

5.1 Financial Position of *Banco de la República* (balance sheet)[77]

During 2021, the Bank's balance sheet expanded significantly. At the close 2021, the Bank's assets registered a balance of COP 291,835 b which was COP 42,892 b (17.2%) higher than what was seen in December 2020. The liabilities, in turn, amounted to COP 183,480 b with a COP 21,312 b increase compared to the end of the previous year (13.1%), and the equity totaled COP 108,355 b which is COP 21,580 b higher than what had been registered the year before (Table 5.1).

The increase in assets is mainly due to the higher peso value of the foreign reserves and the rise in the TES portfolio. The balance of the gross foreign reserves in pesos rose COP 30,595 b (15.1%) compared to what had been registered the previous year and resulted from the depreciation of the Colombian peso with respect to the reserve currencies. In 2021, the Bank did not make any purchases or sales of foreign currencies in the market. Nevertheless, in August, the amount in dollars equivalent to the country's general SDR allocation by the IMF was sold to the National Government by the Bank.[78] As payment for these dollars, the Bank received COP 10,688 b in TES at market prices. In addition, the Bank bought COP 5,079 b (net purchases) in these securities on the market.[79] These increases in the portfolio were partially offset by the transfer of COP

77 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 value of the liabilities associated with purchase transactions for the foreign reserves portfolio for which payment has not yet been made is discounted from the assets (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. In this respect, the asset and liability values presented in this Report (COP 291,835 b and COP 183,480 b respectively) differ from those registered in the financial statements as of 31 December 2021 (COP 296,620 b and COP 188,265 b respectively).

78 See chapter 3 in this *Report*.

79 As part of the actions taken to regulate the liquidity of the economy, the Bank sold COP 5,921 b in TES on the market between March and April 2021 and bought COP 11,000 b between September and December.

Table 5.1
Financial Position Statement of *Banco de la República* Classified by Economic Criteria
(billions of pesos)

Accounts	December 2020		December 2021		Change	
	Balance	Percentage share	Balance	Percentage share	Absolute	Percentage
Assets	248,943	100.0	291,835	100.0	42,892	17.2
Gross Foreign Reserves	202,653	81.4	233,247	79.9	30,595	15.1
Share in international entities and organizations	10,126	4.1	10,493	3.6	367	3.6
Investments	26,214	10.5	32,187	11.0	5,974	22.8
TES	21,088	8.5	30,989	10.6	9,901	46.9
Private debt securities	5,126	2.1	1,198	0.4	-3,927	-76.6
Repo operations (transitory liquidity operations)	4,699	1.9	10,122	3.5	5,423	115.4
Other net assets	5,252	2.1	5,784	2.0	533	10.1
Liabilities and equity	248,943	100.0	291,835	100.0	42,892	17.2
Liabilities	162,168	65.1	183,480	62.9	21,312	13.1
Foreign-currency liabilities that affect foreign reserves	29	0.0	33	0.0	4	15.2
Monetary Base	132,674	53.3	145,383	49.8	12,709	9.6
Cash	94,456	37.9	108,599	37.2	14,143	15.0
Reserve	38,217	15.4	36,783	12.6	-1,434	-3.8
Interest-bearing deposits not constituting reserve requirements	2,865	1.2	3,349	1.1	484	16.9
Other deposits	49	0.0	146	0.1	97	195.0
National Government (National Treasury Office L/C)	14,485	5.8	10,966	3.8	-3,518	-24.3
Obligations to international organizations	12,067	4.8	23,603	8.1	11,536	95.6
Total equity	86,774	34.9	108,355	37.1	21,580	24.9
Capital	13	0.0	13	0.0	0	0.0
Reserve	0	0.0	764	0.3	764	-
Surplus	78,703	31.6	109,253	37.4	30,549	38.8
CEC Settlement	521	0.2	521	0.2	0	0.0
Exchange rate adjustment	77,854	31.3	108,398	37.1	30,544	39.2
Investment in assets for cultural activities	329	0.1	334	0.1	5	1.6
Other comprehensive income (OCI)	879	0.4	-2,088	-0.7	-2,967	-337.5
Fiscal year result	7,483	3.0	632	0.2	-6,851	-91.6
Cumulative results: effect of change in accounting policies	-242	-0.1	-188	-0.1	54	-22.5
Accumulated results: Process of convergence with IFRS	-61	-0.0	-31	-0.0	31	-50.0

Source: *Banco de la República.*

3,506 b of TES at market prices to the government as part of the payment of the profits from 2020[80] to be distributed; the COP 1,358 b in negative valuation at market prices; and the maturity of COP 1,002 b in coupons of these securities. As a result, the TES portfolio held by the Central Bank rose COP 9,901 b over the year and reached a balance of COP 30,989 b as of December 2021. Moreover, the balance of the transitory expansion operations (repos) showed an annual change of COP 5,423 b.[81] The above was offset, in part, by the lower value of the private debt portfolio held by the Bank[82] at COP 3,927 b, mainly due to maturities (Table 5.1).

The growth in liabilities was due, for the most part, to the increase in the monetary base and the IMF's general allocation of SDRs to all member countries in August 2021. The monetary base rose COP 12,709 b during the year because of the increased public demand for cash (COP 14,143 b) and was partially offset by a decrease in the bank reserves (COP 1,434 b). In addition, obligations to international organizations rose COP 11,536 b mainly as a result of the allocation of SDRs by the IMF in August 2021.[83] Last of all, the national government's peso-denominated deposits[84] at the Bank showed a COP 3,518 b reduction compared to the close of 2020 (Table 5.1).

Finally, the higher value of equity was mainly due to the higher exchange rate of the peso against reserve currencies. In accordance with *Banco de la República*'s bylaws, foreign exchange fluctuations in foreign reserves are registered under equity, specifically in the exchange adjustment account.[85] In this respect, like most central banks, Colombia does not register the unrealized portion of exchange rate fluctuations as profits. The exchange rate adjustment account increased COP 30,544 b at the end of 2021[86], and was mainly offset by the increase in the peso balance of the gross foreign reserves. The above was partially offset by the lower value (COP 2,967 b) of the account denominated other comprehensive income (ORI in Spanish) that mostly resulted from the devaluation of the TES held by the Bank.[87] Note that, COP 6,629 b in profits were distributed to the government in 2021 against 2020 profits, and COP 764 b in reserves were set up.[88] The result for the fiscal year 2021 was COP 632 b (Table 5.1).

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80 Pursuant to the provisions of Act 2063/2020 article 26. See https://www.banrep.gov.co/es/el-banco-republica-paga-parte-las-utilidades-del-ano-2020-nacion-tes (Available only in Spanish).

81 Includes accrued interest.

82 The Bank acquired bonds and Certificates of Deposit issued by credit institutions as part of the measures they took in March and April 2020 to deal with the negative effects that the health emergency generated by Covid-19 had on the markets.

83 See Chapter 3 of this *Report*.

84 These deposits are made through the General Office of Public Credit and the National Treasury (DGCPTN) at *Banco de la República*.

85 See Box 3: "Accounting Treatment of Foreign Reserves Exchange Rate Fluctuations," in the Board of Directors' Report to the Congress of Colombia, March 2016.

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

87 The TES held by the Bank are registered as assets at their market price value. This includes their yield and variations due to fluctuations in the interest rates. In the P&L statement, the return on these securities is registered at the purchase interest rate (purchase IRR), and the difference between the change in the asset by valuation and this registration in the P&L is posted within the other comprehensive income – OCI (ORI in Spanish) account under equity.

88 Of this amount, COP 583 b corresponded to the foreign-exchange results reserve and COP 181 b to the monetary and currency stabilization reserve.

5.2 Income Statement (L&P)

5.2.1 Close of December 2021

Banco de la República**'s profits came to COP 632 b as a result of COP 2,391 b in income and COP 1,759 b in expenditures.** Compared to the previous year, revenue declined COP 7,472 b (-75.8%) and expenditures decreased COP 621 b (-26.1%). As mentioned before, the annual reduction in the 2021 earnings was due to the negative performance of foreign reserves[89] (Table 5.2).

Revenue was COP 7,472 b lower than what was seen in 2020, mainly due to the yield on foreign reserves (Table 5.3). The foreign reserves showed a loss of COP 413 b at the end of 2021, mainly because of the negative return on the portfolio (-COP 510 b, -USD 134 m). The above was the result of income from accrued interest (COP 2,595 b, USD 696 m) and the devaluation of the foreign reserves portfolio due to increases in the foreign interest rates in which it is invested (-COP 3,106 b, -USD 830 m). The main income items that presented positive results for the Bank corresponded to the yield on the TES held by the Bank (COP 1,511 b), the face value of the coins issued (COP 309 b), income from exchange rate differences (COP 299 b) due to peso variations in foreign currency assets and liabilities (other than foreign reserves) as a result of the depreciation of the peso against the currencies in which they are denominated, income from expansion repo transactions (COP 249 b), and corporate income (COP 239 b). In the case of TES, the increase in income was the result of the higher average balance resulting from purchases made during 2021.

Most of the outlays, in turn, are due to the remuneration paid on the national government's deposits and the corporate expenditures. The remuneration on national government deposits at the Bank showed an annual reduction of COP 284 b and is mainly explained by the lower rate of remuneration in 2021 compared to 2020 (1.95% effective annual rate vs. 2.75%) and the lower average volume of deposits (COP 25,556 b vs COP 28,587 b). The corporate outflows came to COP 699 b in 2021 and were COP 23 b higher than the ones registered in 2020 (3.4%, equivalent to -0.1% in real terms) and of these: 1) personnel costs, COP 447 b, rose 3.4% per annum (-0.1% in real terms); 2) the overhead, COP 128 b, registered an annual change of 2.1% (-1.3% in real terms), and 3) other corporate expenses, COP 125 b, presented an annual increase of 4.6% (1.0% in real terms). The increase in other corporate expenses was due in particular to the increased spending on the group of intangible asset debt repayment.

5.2.2 Reserve Accumulation and Profit Distribution

According to the Bank's legal framework contained in the Constitution, Act 31/1992, and the Bank's by-laws, once the net investment in goods for cultural activity is discounted and the statutory reserves are appropriated, the remainder of the profits will belong to the nation. According to Decree 2520/1993, numeral 2, article 61, the differences in the value of the daily foreign currency purchase and sale transactions on the foreign exchange market with respect to the daily market price are registered on the Bank's Income Statement and, when their value is positive, must be credited to the Reserve for Exchange Results at the end of the period. This reserve could be used to cover losses incurred by the Bank in the future with daily foreign currency purchase and sale transactions. Therefore,

89 Note that the foreign reserves represent the Bank's largest asset, and their yield is the main factor underlying the Bank's final P&L results.

Table 5.2
Banco de la República's Income Statement for 2021
(billions of pesos)

	Implemented:		Change	
	2020	2021	Absolute	Percentage
I. Total Income (A+B+C)	9,863	2,391	-7,472	-75.8
A. Monetary income	9,471	1,843	-7,628	-80.5
1. Interest and returns	9,365	1,534	-7,831	-83.6
Foreign Reserves	6,635	-413	-7,049	n. a.
TES held by *Banco de la República*	1,133	1,511	378	33.4
Interest on Repo Operations (transitory liquidity operations)	241	249	8	3.2
Private Debt Securities Held by *Banco de la República*	309	159	-150	-48.6
Foreign Exchange Regulation Transactions	1,047	29	-1,018	-97.2
Other operations	1	0	0	-68.9
2. Foreign exchange differences	105	299	193	183.4
3. Other monetary income	0	10	10	7,153.1
B. Coins issued	171	309	138	80.8
C. Corporate income	221	239	17	7.8
1. Commissions	192	203	11	5.9
Banking services	55	57	2	4.3
Fiduciary operations	137	146	9	6.5
2. Other corporate income	29	35	6	20.1
II. Total expenditures (A+B+C+D)	2,380	1,759	-621	-26.1
A. Monetary expenditures	1,480	787	-693	-46.8
1. Interest and returns	1,318	581	-737	-55.9
National Government Interest-bearing Deposits	777	493	-284	-36.5
Interest on Monetary Contraction Deposits	77	39	-38	-49.6
Foreign Exchange Regulation Transactions	465	49	-416	-89.5
2. Costs of Management and Handling of Funds Abroad	60	46	-14	-23.4
3. IMF Flexible Credit Line Commitment Fee	98	128	30	30.7
4. Foreign exchange differences	3	31	28	845.9
5. Other monetary expenditures	1	1	0	66.6
B. Banknotes and coins	216	273	58	26.7
C. Corporate expenditures	676	699	23	3.4
1. Personnel costs	432	447	15	3.4
2. Overhead	125	128	3	2.1
3. Other Corporative	119	125	5	4.6
D. Pensioners' expenses	8	0	-8	-100.0
III. Operating results (I - II)	7,483	632	-6,851	-91.6

n.a. Not applicable
Source: *Banco de la República.*

Table 5.3
Return on Foreign Reserve Investments
(billions of pesos)

	2020	2021	Annual change
Foreign Reserves	6,635	-413	-7,049
Portfolio	6,146	-510	-6,656
Interest	3,214	2,595	-619
Valuations	2,932	-3,106	-6,038
Gold	413	-30	-443
International Organizations and the Aladi Agreement	76	127	51

Source: *Banco de la República*.

based on the 2020 results, a reserve of COP 583 b for foreign exchange results was set up in 2021. This amount corresponded to the net result of the foreign exchange regulation transactions in 2020. Of this reserve, COP 20 b was used to cover the negative net result of the foreign exchange intervention transactions in 2021. Moreover, an additional COP 22 b was withheld from profits for net investment in assets for cultural activities and to cover pending losses of COP 31 b and COP 42 b derived from the process of convergence with IFRS and the adoption of IFRS 9 respectively.

In accordance with the above, in February 2022, the BDBR approved a COP 556 b profit transfer to the government which was carried out at the end of March (Table 5.4).

Table 5.4
Distribution of Profits
(billions of pesos)

	Distribution of Profits in 2022
A. Fiscal year result 2021	632
B. Plus: use of reserves	20
Foreign-exchange result reserve	20
C. Minus: accumulation of the reserves and other deductions	95
Monetary and currency stabilization reserve	0
Foreign-exchange result reserve	0
Net Investment in Cultural Activity Goods	22
Loss due implementation of IFRS	31
Loss due to the adoption of IFRS 9: change in accounting policy on TES held by *Banco de la República*	42
Net Result in favor of the national government: A + B - C	556

Source: *Banco de la República*.

5.3 Income and Expense Projection for 2022

The budget for 2022 was approved by the BDBR in December 2021 with the prior approval of the Fiscal Policy Board (Consejo Superior de Política Fiscal - Confis) with regard to the implications for public finances. *Banco de la República*'s budget has two main components: monetary and corporative. The former includes the results of responsibilities such as monetary, foreign exchange, and credit authority; manager of the foreign reserves; banker and lender of last resort for credit institutions; and issuing bank. The corporate results include the administrative management of the Bank such as, for example, income from commissions, personnel costs, operating expenses, and pensioner expenses.

Table 5.5
Budget of *Banco de la República*, 2022
(billions of pesos)

	Approved Budget		Change	
	2021 (A)	2022 (B)	Absolute	Percentage
I. Total Income (A+B+C)	1,856	3,815	1,959	105.5
A. Monetary income	1,360	3,319	1,959	144.1
1. Interest and returns	1,325	3,255	1,929	145.6
Foreign Reserves	-41	659	700	n. a.
TES Held by *Banco de la República*	1,185	1,969	784	66.1
Interest on Repo Operations (transitory liquidity operations)	24	595	570	2,340.4
Private Debt Securities Held by *Banco de la República*	157	32	-124	-79.4
2. Foreign exchange differences	26	59	33	125.3
3. Other monetary income	8	5	-3	-42.3
B. Coins issued	267	241	-26	-9.8
C. Corporate income	230	256	26	11.4
1. Commissions	212	235	23	10.9
Banking services	75	77	1	1.9
Fiduciary operations	137	158	22	15.9
2. Other corporate income	18	21	3	16.4
II. Total expenditures (A+B+C+D)	1,978	2,553	575	29.1
A. Monetary expenditures	843	1,316	472	56.0
1. Interest and returns	598	1,087	488	81.6
National Government Interest-bearing Deposits	503	1,061	558	111.0
Interest on Monetary Contraction Deposits	96	26	-70	-72.9
2. Costs of Management and Handling of Funds Abroad	68	73	5	7.8
3. IMF Flexible Credit Line Commitment Fee	128	120	-8	-6.3
4. Foreign exchange differences	41	29	-13	-30.8
5. Other monetary expenditures	8	8	-0	-2.6
B. Banknotes and coins	328	327	-1	-0.3
C. Corporate expenditures	797	901	105	13.2
1. Personnel costs	489	521	33	6.7
2. Overhead	162	182	20	12.6
3. Other Corporative	142	193	51	35.9
4. Flexible budget availability	4	4	1	13.2
D. Pensioners' expenses	10	9	-1	-11.2
III. Fiscal year result (I - II)	-122	1,262	1,384	n. a.

n.a. Not applicable
Source: *Banco de la República*.

A profit of COP 1,262 b, which is larger than the estimated result (-COP 122 b) and the actual result (COP 632 b) in 2021, is forecast for 2022. The 2022 result is the outcome of COP 3,815 b in income and COP 2,553 b in spending (Table 5.5).

With respect to monetary results, a net income of COP 2,003 b is expected. The budget approved for 2022 includes a 144.1% annual increase in monetary revenues of compared to the budget approved in 2021. This was mainly the result of the higher projected yield of COP 784 b from the TES held by the Bank, followed by the higher value of the estimated COP 700 b yield on the foreign reserves, and the higher income for COP 570 b in monetary expansion transactions (repos). Moreover, monetary expenditures are estimated at COP 1,316 b, which is COP 472 b higher than those budgeted in 2021. The higher cost of the remuneration on the national government deposits is the main reason for this increase.

A net outflow of COP 86 b is expected with regards to issuance of banknotes and coins and putting them into circulation. The face value of the coins put into circulation is estimated to generate an income of COP 241 b with a 9.8% annual decrease compared to what had been budgeted in 2021. The costs of production and putting the monetary specie into circulation are estimated to be COP 327 b, which is 0.3% lower than what was budgeted in 2021.

A net outlay of COP 646 b is expected from the corporate budget. COP 256 b in income and COP 901 b in spending are estimated (annual changes of 11.4% and 13.2% respectively compared to what was budgeted for 2021). The growth is mainly due to what was considered in the Bank's Collective Agreement and the higher expenses resulting from technology projects, maintenance, repairs and modifications, and the increase in the expenditures due to deterioration, depreciation, and debt repayment, etc.

Last of all, expenditures for pensioners came to an estimated COP 9 b, an amount that includes the effect of the pensions shared with Colpensiones.

06/ Environmental Management by *Banco de la República*

The 2022-2025 Strategic Plan included carrying out a process of reflection on the impact of climate change on the functions of Banco de la República as one of its objectives, and subsequently defining a strategy to manage the risks identified. It also included making progress on the goal of contributing to the generation of knowledge about its effects on the Colombian economy. This decision formalizes a process that the Bank started years ago when research was undertaken to identify the economic and financial risks of climate change. The results of this research have been published in several Bank publications.[90]

Banco de la República contributes to the care of the environment by implementing measures focused on the prevention, control, and mitigation of the environmental impacts generated in its operations including overall management of waste, dumping, atmospheric emissions, and efficient use of resources. This commitment is aligned with the strategic objective of being a carbon neutral organization and implementing strategies that improve the efficiency of corporate processes.

6.1 Climate Change and the Impact on the Economy

In the 2022-2025 Strategic Plan, *Banco de la República* included the commitment to develop a research agenda regarding the effects of climate change on the Colombian economy. These effects stem from extreme weather events which, according to international forecasts are likely to become more frequent and intense as a result of climate change, and the patterns of adjustment to a low-carbon economy. The proposed research agenda includes studies of the possible effects of climate change on the natural interest rate and the stability of the financial system,[91] on the ability of our farmers to produce food, and on the supply and prices of electricity in the country. The agenda also includes the development of methodological tools to valuate environmental assets such as water that are subject to possible changes in availability as a result of climate change.

This medium-term agenda represents the continuation of work that the Bank has been carrying out for several years. Studies by Bank researchers on the impact of climate change on the economy were published in 2020 and 2021. These studies include the identification of the macroeconomic and financial risks of climate change,[92] an analysis of the short-term effects of periods of

90 Included in these publications are the series of Borradores de Economía, Documentos de Trabajo sobre Economía Regional (Working Paper on Regional Economy), *Ensayos sobre Política Económica* (Essays on Political Economy), and the *Financial Stability Report* of *Banco de la República*, among others.

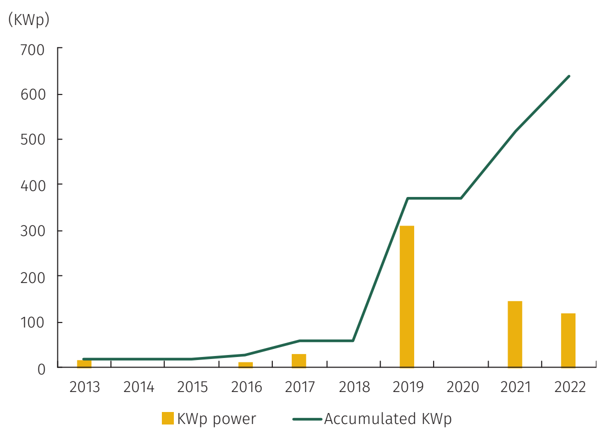
91 This ongoing project is supported by the Swiss cooperation program Bilateral Assistance & Capacity Building for Central Banks (BCC-SECO).

92 The results of these studies were published in Box 4 of the Financial Stability Report for the first half of 2020 and in the Borrador de Economía No. 1127 of 2020: "Climate Change: Policies to Manage its Macroeconomic and Financial Effects", by Joaquin Bernal-Ramírez and Jose Antonio Ocampo.

excessive and scarce rainfall on formal employment[93] and on the use of agricultural land,[94] an estimate of the effect of natural disasters on municipalities' tax collection,[95] and an analysis of the effect of public investment in programs to minimize the frequency and magnitude of landslides in Colombia.[96]

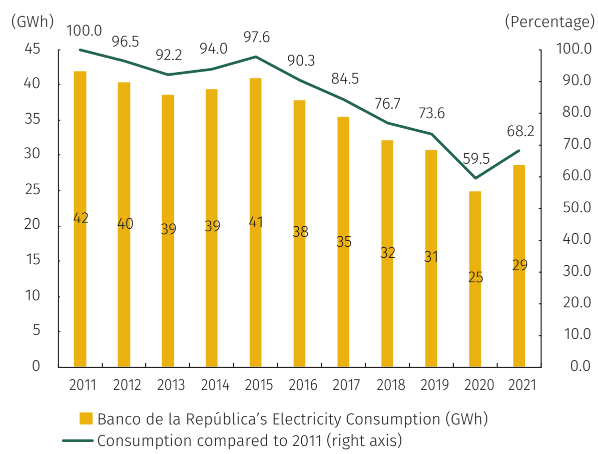
As part of the ongoing work, *Banco de la República* is in the process of preparing an *Economic Policy Essay* (ESPE in Spanish) on the impact of climate change on the Colombian macroeconomy. The objective of this ESPE is to critically review the national and international literature on the expected macroeconomic effects of climate change risks. This review seeks to put the potential impact of this development in Colombia in the coming decades into context and to reflect on the challenges it poses for managing the main areas of economic policy. A similar document will be prepared in the near future with additional advances in the research agenda on the subject.

Graph 6.1
Capacity of the Photovoltaic Systems Installed at *Banco de la República*



Source: *Banco de la República*.

Graph 6.2
Banco de la República's Electricity Consumption



Source: *Banco de la República*.

6.2 Environmental Management System

***Banco de la República* continued to take actions to strengthen energy efficiency and reduce its carbon footprint in 2021.** The projects to upgrade the Bank's facilities have integrated sustainable building approaches that have resulted in energy and water savings. Likewise, the lighting was replaced with LED technology, and air conditioning equipment with more efficient technology was installed in several of the Bank's offices. Moreover, solar panel power generation systems were installed for a total installed capacity of 639 kWp (Graph 6.1). Even when energy consumption in 2021 was higher than in 2020, a year in which the pandemic forced the reduction of administrative activities at the Bank's headquarters and several in-person services to the public were suspended, the downward trend in energy consumption is maintained when compared to the years prior to the pandemic as shown in Graph 6.2. It should be noted that energy consumption in 2021 is affected by the higher production of industrial plants to

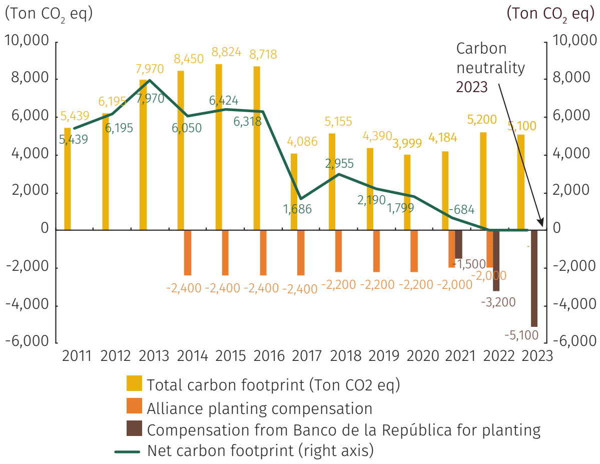
93 Bohórquez-Peñuela, C.; Otero-Cortés, A. (2020). "Blame it on the Rain: The Effects of Weather Shocks on Formal Rural Employment in Colombia," *Banco de la República* Colombia, *Centro de Estudios Económicos Regionales* (CEER) (Center for Regional Economic Studies).

94 This research was supported by the Swiss cooperation program Bilateral Assistance and Capacity Building for Central Banks (BCC-SECO). Bohórquez-Peñuela, C. (2021). "Weather Shocks and Agricultural Production: Evidence on Perennial and Non-perennial Crops in Colombia", Working Paper (BCC-SECO).

95 Ayala-García, J.; Dall'Erba, S.; Ridley, W. C. (2021). "Externalities of Extreme Natural Disasters on Local Tax Capacity," Documentos de Trabajo sobre Economía Regional y Urbana (Working Papers on Regional and Urban Economics), No. 299, *Banco de la República*.

96 Ayala-García, J.; Dall'Erba, S. (2021). "The Impact of Preemptive Investment on Natural Disasters," Documento sobre Economía Regional y Urbana (Regional and Urban Economy Paper), No. 301, *Banco de la República*.

Graph 6.3
Banco de la República's Total Carbon Emissions
(tons of CO2, equivalent year)



Source: *Banco de la República.*

meet cash requirements. These continued to operate on a permanent basis to meet the projected demand. Finally, a project is being implemented to measure and monitor electricity consumption in real time, and this will make it possible to strengthen its efficiency at all the Bank's facilities around the country.

The Bank's environmental sustainability activities are aligned with Act 2169/2021, which encourages low carbon emissions for the country's development, and with Act 2173/2021, which supports ecological restoration through the planting of trees and the creation of forests in the national territory. The carbon footprint generated by the Bank in 2021 was equivalent to 4,184 tons of CO^2 as a result of energy consumption and a lower conversion adjustment factor[97] for the electrical energy consumed. The Bank has been encouraging the planting of native tree species on ecologically interesting sites to offset the carbon footprint as well as protect the natural water sources, the soil, and biodiversity. The Bank plans to be directly involved in tree planting in 2022 and to continue its carbon neutral activities in 2023. Graph 6.3 shows the constant trend toward this transition.

***Banco de la República* maintained their environmental management system (EMS) certification under the NTC-ISO 14001 standard in 2021.** This shows that such a system is advisable, suitable, and effective, and that it facilitates a sustainable management of the Bank's environmental aspects in alignment with the objectives and goals of the environmental policy.

***Banco de la República* has supported the abovementioned initiatives with cultural programs throughout the country through its libraries and museums. The project "El Río: Territorios posibles" began to raise awareness among citizens about the importance of caring for rivers as a resource for the country's sustainable development in 2020.** This project reaches diverse audiences in the national context with physical and digital programming that makes it possible to strengthen cultural ties around rivers and their preservation. Among the 29 cities where the Bank has cultural headquarters, nearly 850 cultural events have been held to enhance the knowledge about and protection of watersheds and their ecosystems.

97 The adjustment factor is determined by the makeup of the sources of electricity generation in this country. Increased generation of energy from renewable sources was seen in 2021.

Shaded section 3: **Participation of *Banco de la República* at the Bank for International Settlements (BIS)**

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

The directors of *Banco de la República* have participated in the periodic meetings that the institution holds and in which recent events and the outlook for the global economy and financial markets are examined. The most recent discussions at the meetings of BIS member country governors have focused on a variety of topics such as monetary policy normalization in an environment of higher inflation, the region's fiscal outlook and its interaction with monetary policy, post-pandemic labor market dynamics, corporate vulnerabilities post Covid-19, long-term post-Covid growth drivers and patterns, and housing prices trends and implications for monetary policy. Central bank management issues such as risk management, interoperability between payment systems and cybersecurity have also been addressed.

Within the framework of the work coordinated by the BIS Consultative Council for the Americas (CCA), the Bank actively participates in research projects, groups, and conferences on various areas relevant to central banks. For example, the Scientific Committee (which includes the chief economists of the respective central banks), the BIS organized the Annual Research Conference in November 2021. The conference focused on the economics of the Covid-19 pandemic and its impact on banks, firms, growth, labor markets, and monetary policy. The annual meeting of the working group on monetary policy in Latin America, which brings together the chief economists of the region's central banks, was also held at the end of last year. The outlook for growth and inflation, the main aspects of monetary policy normalization, and post-pandemic capital flows were discussed at this meeting.

Furthermore, towards the end of last year, the CCA organized the second edition of the two roundtables where CCA member governors and private sector representatives, who included CEOs of financial institutions and New York-based chief economists and strategists for Latin America, discussed the economic outlook for the region, the financial conditions in the current environment, the fiscal consolidation, the "new normal" for Latin America in terms of attracting capital and profitability of firms and banks, and the financial risks of cryptoassets.

In the area of BIS consultative groups that coordinate research and analysis in areas such as financial stability and banking operations, the Consulting Group on Innovation and the Digital Economy (CGIDE) published in September 2021 the report *Enabling open Finance Through APIs: Report on Payment Initiation*[2]. The topics on which they will work in 2022 were defined at the beginning of this year. These will focus primarily on data sharing among financial institutions, fintech firms, and certified third parties, and issues related to the design and implementation of central bank digital currencies (CBDC). *Banco de la República* participates in this consultative group.

Finally, Bank representatives had the opportunity to attend various virtual meetings. In addition to others, the Bank participated in: 1) the annual meeting of the deputy governors of central banks of emerging market economies that are members of the BIS, which focused on CBDCs in emerging economies; 2) The CGIDE meeting where issues related to the policy objectives of CBDCs, their use and functionality, their role in financial inclusion, and aspects related to data privacy were discussed; 3) a meeting on climate

1 (1) This international institution was created in 1930 and currently includes 62 central banks. Its mission is to serve such entities in their quest for monetary and financial stability by fostering international cooperation in these areas as well as to serve as 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 report is available at: https://www.bis.org/publ/othp41.htm

change and central bank monetary policy in Central America and the Caribbean, and 4) a conference on digital technology and financial inclusion organized by BIS and the Asia School of Business.

Box 1
Russia's Invasion of Ukraine: Reflections on the International Economic Context

Russia's invasion of Ukraine is a conflict that has had repercussions on a global scale. Russia's attacks have created a humanitarian crisis in Ukraine as well as destruction of infrastructure and major disruptions in its economy. In response to the above, several of the world's major economies (the United States, the European Union, and the United Kingdom, etc.) have imposed severe economic sanctions on Russia. These have been centered on limiting transactions and freezing foreign assets of several banks and individuals, including the exclusion of specific banks from the Swift international payment system. In addition, access to a portion of the foreign reserves of the Russian central bank was restricted, transactions in the foreign debt market and access to the international capital market were affected, and foreign trade and investments in that country were also restricted. At the same time, the certification of the NS2 pipeline that would bring more gas from Russia to Europe was suspended and importing Russian crude oil into the United States and United Kingdom was banned in addition to other sanctions.[1] These measures have strongly impacted Russia's economy and its outlook.[2] The conflict in Ukraine is taking place in the midst of a global environment in which there is uncertainty with regard to the course of the pandemic and persistent disruptions in global supply chains, supply constraints, and strong inflationary pressure in a significant group of economies.

According to several international organizations and entities (IMF, 2022; ECB, 2022; OECD, 2022), this conflict could generate additional inflationary pressure and affect the international economic growth through several channels: 1) price increases and supply restrictions for various raw materials including crude oil, natural gas, coal, fertilizers, and various agricultural products due to Russia's role as a main exporter of these products and Ukraine's as an exporter of various food items and other raw materials; 2) increased global uncertainty, reduced investor confidence, and deterioration of international financial conditions; and 3) the effects on countries with which Russia and Ukraine have strong trade and financial ties. Furthermore, there may be a negative impact on trade and supply chains as well as a refugee crisis, etc. in the region where this conflict broke out (IMF, 2022). The Organization for Economic Cooperation and Development (OECD, 2022), in particular, notes that, compared to what was forecast before the invasion of the Ukraine, global growth could be 1.1 percentage points (pp)[3] lower and global inflation 2.5 pp higher over the twelve months starting with February 24, 2022. The impact would be different on regions and countries depending on their exposure to the conflict through the aforementioned channels. Likewise, there could be long-term consequences associated with the reconfiguration of international trade and supply chains, fragmentation of international payment systems, and rearrangement of foreign reserves, etc. (IMF, 2022; OECD, 2022). Note that these analyses are recent and great uncertainty remains with respect to the duration and escalation of this war (IIF, 2022b) as well as to the magnitude of its impact (ECB, 2022).[4] With the above in mind, this box describes the importance of Russia and Ukraine in terms of worldwide exports of raw materials and the recent fluctuation of international prices for some of these goods. It also describes Colombia's trade with these two countries. In addition, an analysis of the recent changes in the international financial markets and of some of the impact on capital flows to Colombia is given.

1. Foreign trade and prices of raw materials

Although Russia and Ukraine account for a relatively small share of the global GDP,[5] these countries are major players in the production and export of commodities to foreign markets. First of all, both are food exporters. Russia was a major exporter of wheat and barley in 2020 while Ukraine held a relevant share in the global foreign sales of sunflower oil, corn, barley, and wheat, etc. (Graph B1.1 and B1.2). Moreover, Russia is the world's leading supplier of some fertilizers. The country also plays a prominent role in the worldwide trade of mining and energy products, specifically petroleum and its derivatives, coal and natural gas, and others such as platinum, titanium, aluminum, and copper, which are some of the most notable. Ukraine, in turn, is a major exporter of iron products and oil derivatives. Thus, the impact of the invasion of Ukraine and the sanctions on Russia are likely to affect the production forecast of these raw materials. This has been reflected in rises in the international prices of these commodities. In fact, the average price between the start of January and 18 March 2022 for crude oil (Brent), coal, European natural gas, and

1 See IIF (2022a), Goldman Sachs (2022), Nolsoe, E. and Pop, V. (2022) and the White House (2022).

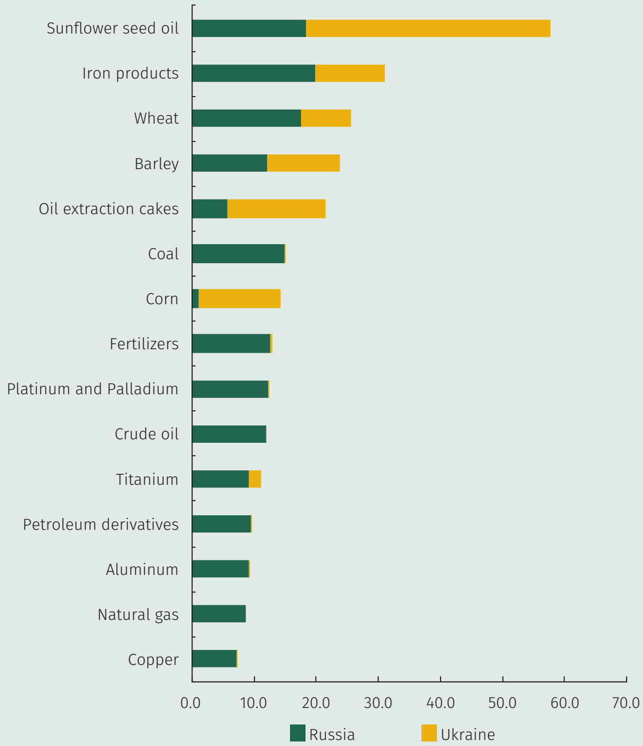
2 In Russia, the currency was significantly devalued, the risk measures increased, the credit rating was downgraded, the stock market plunged and was closed, and the financial markets remain under high stress. In addition, the OECD (2022) forecasts a sharp contraction in GDP and significant increases in inflation in that country.

3 Based on OECD simulations, the economic growth will probably be 1.4 pp lower for the Euro area, 0.9 pp for the United States, and 1 pp for the OECD country average.

4 The European Central Bank reduced the growth forecast for 2022 in the Euro zone from 4.2% to 3.7% in its March publication on macroeconomic projections. However, they point out that a scenario of greater disruptions in energy prices, trade, and confidence associated with the war could reduce the growth to 2.3%.

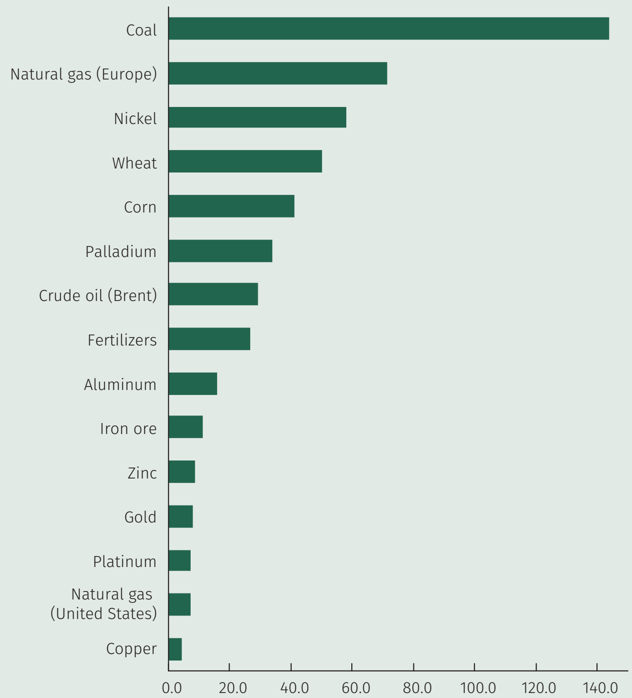
5 According to OECD (2022), these two countries together account for about 2.0% of the global GDP at current market prices.

Graph B1.1
Commodity Exports from Russia and Ukraine [a/]
(percentage of world exports, 2020)



a/ Aggregate data based on 4-digit HTS. Fertilizers correspond to the world total.
Source: TradeMap with Comtrade information.

Graph B1.2
Raw Material Prices[a/]
(percentage, difference between average price in January and the one through March 2022)



a/ The percentage change between the average price for January and the one for the period from March 1 to March 18 is shown. For fertilizers, the North American fertilizer price index from Green Markets is used.
Source: Bloomberg.

the international metals index rose 29.4%, 144.1%, 71.4%, and 13.1% respectively. During this same period, corn and wheat prices rose 41.3% and 50.2% respectively.

Despite the fact that Russia and Ukraine are important players in the global export of raw materials, Colombia's direct trade links with these countries are of low significance. In fact, Colombian exports to Russia and Ukraine in 2021 accounted for only 0.4% of the country's total sales abroad while imports from those countries reached 1.2% of the value imported by Colombia. However, the Russian market is relevant in the case of some products. For example, Russia buys 25% of the total value of meat exports[6] and 17% of dairy products. Likewise, Colombia's fertilizer imports mostly (22%) come from Russia when compared to purchases from the United States (16%) and China (12%).

Although Colombia's direct trade links with Russia and Ukraine are not very strong, the global impact of this conflict on the prices of various raw materials could have an impact on the foreign performance of the Colombian economy. For one thing, the higher prices registered and expected for oil and its derivatives, coal, gold, and nickel are likely to favor the value of Colombian exports of these goods in dollars. These goods together accounted for about 55% of the total foreign sales in 2021. This positive effect on the balance of trade and the terms of trade is likely to be limited because the country also makes purchases abroad of raw materials and is a net importer of agricultural products such as corn, wheat, and barley, and agricultural supplies such as fertilizers and some animal food items. Therefore, the aforementioned increase in the prices of these goods would make imports necessary for domestic production more expensive and threaten to increase inflationary pressure in the country.

2. International Financial Markets

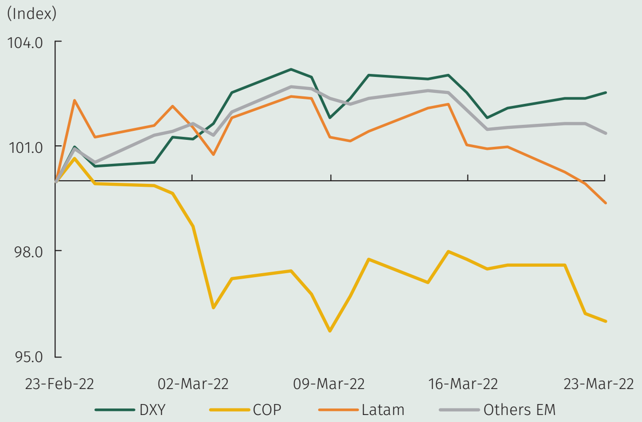
After the beginning of the war between Russia and Ukraine (February 24th), the indicators of the international perception of risk rose significantly as a result of the high uncertainty related to the duration of the conflict and its economic consequences.[7] In this context, the U.S. dollar strengthened against most of the currencies in developed and emerging economies while the stock market indices showed a sharp deterioration in these countries (Graph B1.3). Interest rates in advanced economies, in turn, initially corrected downward as a result of the increased demand for safe-haven assets and fears of an economic slowdown thus leading to a moderation in expectations of a less expansionary monetary policy path.[8] In contrast, in the

6 These exports correspond to deboned beef that is either fresh, refrigerated or frozen.

7 The Vix (implied volatility of three-month S&P 500 options) rose to a level not seen since January 2021. The Vstoxx (implied volatility of three-month options on the Euro Stoxx 50), in turn, reached a level not seen since the beginning of the Covid-19 pandemic.

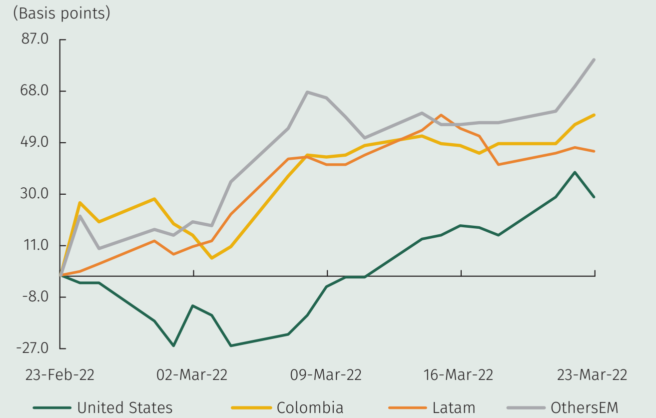
8 While, on 23 February 2022, the futures market was pricing in more than six rate hikes (of 25 bp each) by the Federal Reserve during 2022, the market expectation had declined by 01 March to just a little more than four increases. Likewise, in the case of the European Central Bank, the expectation that interest rates would rise in 2022 as implied by the futures market went from 60 bp to 30 bp between 23 February and 01 March.

Graph B1.3
Exchange Rate Performance after Beginning of Russia-Ukraine War[a/]



Note: Latam corresponds to the average performance of the exchange rates of Brazil, Mexico, Chile, and Peru.
a/ Base 100 = February 23, 2022. An increase indicates a depreciation against the dollar. The DXY is composed of a basket of six currencies of developed countries.
Source: Bloomberg.

Graph B1.4
Performance of 10-year Sovereign Bond Rates After the Beginning of Russia and Ukraine War[a/]



Note: Latam corresponds to the average performance of the 10-year sovereign bond rates of Brazil, Mexico, Chile, and Peru.
a/ Changes (bp) in rates since February 23, 2022 are presented.
Source: Bloomberg.

case of emerging economies, the interest rates rose due to greater risk aversion[9] (Graph B1.4).

As mentioned above, prices for raw materials showed rapid and significant rises starting on 02 March, and this led to a rise in expectations regarding global inflation. This, in turn, resulted in expectations of a less expansionary monetary policy path, in contrast to what was seen during the first days of the war. In this scenario, interest rates resumed their upward trend in developed countries and reached levels above those registered prior to the beginning of the conflict. In the case of emerging countries, the rates continued to rise. The Federal Reserve raised the federal funds rate 25 bp on 16 March in line with market expectations, but below the 50 bp priced in by some market participants prior to the start of the war.[10]

In Latin America, even though interest rates have followed the global trends, most stock market indices have shown a relatively positive performance throughout the entire period in contrast to what has taken place in other emerging markets. Likewise, some currencies in the region have appreciated against the dollar and, those that have depreciated, have done so to a lesser extent than in other emerging countries.[11] This could be the result, in part, of higher raw materials prices and the region's commercial remoteness from the war area which has induced the rebalancing of portfolios towards Latin America.[12]

Since the invasion of Ukraine began, the Colombian peso has appreciated 4.0% (as of 23 March). Aside from the increases in crude oil prices, the behavior of the currency has been sustained by the expectation of inflows of dollars resulting from the announcement of new takeover bids for Grupo Sura and Nutresa and the offer of dollars in the derivatives market by foreign investors.

In view of the geopolitical conflict between Ukraine and Russia, the Colombian public debt and stock market performance has been similar to those of the region. It is noteworthy, in particular, that investors whose portfolios follow investment indices in emerging markets' fixed income securities and stock market shares realized that Russia could lose its share in these investments given the current conditions of the Russian market and the deteriorated accessibility to it. This situation led to the sale of Russian securities, and this generated strong devaluations and the significant reduction of their share in these indices. In the case of the JP Morgan's GBI-EM Global Diversified Index, which has the largest amount of assets under management[13] (USD 221 billion) within its emerging bonds indices denominated in local currency, Russia's share went

9 Between 23 February and 03 March, ten-year rates declined 15 bp on average in the United States, Germany, the United Kingdom, and Japan, and rose 12 bp in Latin America and 19 bp in other emerging economies. Russia, in turn, showed an increase of 300 bp.

10 Although the war had an impact on monetary policy expectations - which declined after the beginning of the conflict and did not return to previous levels as of the March meeting - there has been a rapid recovery in monetary policy expectations for the next meetings. These have even surpassed the levels predicted by the market prior to the beginning of the conflict. For example, on 23 February, the Fed was expected to raise rates more than six times during 2022 while as of 23 March, more than eight hikes (by 25 bp each) were expected.

11 Between 23 February and 23 March, the Colombian peso appreciated 4.0%, followed by the Brazilian real (3.6%) and the Mexican peso (0.1%). The Peruvian sol, in turn, depreciated 0.9% and the Chilean peso depreciated 0.4% while the MSCI EM index showed a depreciation of 1.4% in its basket of emerging currencies.

12 Five-year CDS declined 27 bp in Colombia, 10 bp in Peru, 9 bp in Brazil, and 7 bp in Mexico and Chile between 23 February and 23 March. In contrast, the CDS of a sample of 18 emerging economies rose an average of 30 bp.

13 Followed by GBI-EM Diversified (USD 14 billion).

from 6.84% to 1.84%[14] while Colombia's went from 4.05% to 4.26%[15] between 31 January and 28 February 2022.

JP Morgan announced on February 28th the effective exclusion of Russian securities from its bond indices denominated in local currency starting on 31 March 2022. With this news as well as Russia's remaining 1.84% participation in this index, it is only to be expected that this percentage will be distributed among the other countries that make up the index[16] where Colombia could reach a weighting of 4.38%. As a result of Russia's exclusion from the index beginning in March, this rearrangement could represent approximately USD 276.2 m in inflows into the TES market. However, this value will depend on the investors' decisions, and they can adjust their portfolios following their own investment policies. MSCI, S&P Dow Jones, and FTSE Russell, in turn, also announced the removal of Russia from their equity indices for emerging markets.[17] Colombia also has a share in these indices. Nonetheless, it is not clear what the impact of Russia's exclusion is likely to be on the share held by other countries.

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14 This reduction is the result of the devaluation of local currency securities and the depreciation of the exchange rate in Russia. JP Morgan adjusts its weightings based on the market value in U.S. dollars and the total value of government debt issued by each country in the index.

15 Colombian sovereign bonds participate in the *Emerging Market Bond Index* (EMBI), *Government Bond Index-Emerging Markets* (GBI-EM) and *JP Morgan ESG Index* (JESG EM). The EMBI index takes only securities issued in dollars into account while the GBI-EM and JESG EM indices consider sovereign bonds issued in local currency.

16 The distribution is proportionally based and the rule that a maximum of 10% weighting per country is maintained.

17 Russia was weighted at 1.7% in the *Dow Jones Emerging Markets Index*, 1.6% in the *MSCI Emerging Markets Index*, and 1.7% in the *FTSE Emerging Index* as of 28 February 2022.

Box 2
Determination of the Monetary Policy Stance

Under the inflation targeting plan, currently at 3.0% per annum, *Banco de la República* sets an interest rate, known as the monetary policy interest rate (or MPR) At this rate, it is willing to offer unlimited amounts of overnight liquidity to all entities qualified as eligible to be its counterparty.

When inflation and its expectations deviate from the target and/or economic activity deviates from its sustainable level, *Banco de la República* modifies the monetary policy interest rate (MPR). For example, when economic activity collapsed in the second quarter of 2020 and fell well below long-term sustainable levels, the Bank played an important role in the countercyclical response implemented at the time. This included monetary policy and initiatives in the fiscal area, banking regulation, and financial supervision parameters, all designed to alleviate the effects of the shock on markets, businesses, and households. In this context, the MPR went from 4.25% before the pandemic to 1.75% a few months after.

Having overcome the difficult circumstances of the time, macroeconomic policy in general, and monetary policy in particular, they must now face the challenge of normalizing the use of their economic policy instruments and doing so in an orderly but systematic manner. There were two factors that should have been considered at the end of 2021. First, not recognizing that many of the instruments are far from the levels they exhibited before the pandemic. Second, the remoteness of instruments such as public debt and the MPR from their pre-pandemic levels is occurring in a context of very high growth of both domestic demand and inflation, and constitutes risks to macroeconomic stability, which need to be countered.

In this regard, the Bank has been immersed in a process that seeks to normalize the monetary policy stance by raising the MPR since the last quarter of 2021 and after the highly atypical situation required by the difficult circumstances faced by the economy.

The adjustments to the MPR that the Bank has been implementing in the economic contraction phase of 2020 and the current normalization phase influence other longer-term interest rates. These longer-term interest rates, in turn, change the behavior of businesses and households. In the current phase of normalizing the monetary stance, for example, there is a tendency for their willingness to save to increase and their willingness to borrow to finance higher spending flows to decline. If, as is currently the case, there is a significant excess of aggregate demand to national supply, what is certain is that several things are coinciding. First, the country is increasing its levels of indebtedness to finance this excess demand, a factor that, unless there is a change at some point, may jeopardize future macroeconomic stability. Second, excess demand, in the midst of ample liquidity and credit availability, adversely affects the inflationary process and there is a danger that this will end up being reflected in nominal contracts and make a future reduction in inflation much more costly. Third, in the short term, it is not reasonable to think that aggregate supply adjustments of the magnitudes required to offset this current excess demand will arise: for one thing, there are problems related to supply chains that make it difficult to adjust supply in the short term. But there are also more structural problems that will affect our future productive capacity. For example, the lagging of private investment, employment, labor participation, and productivity.

An intuitive way to measure the monetary policy stance (the degree to which it is expansionary or contractionary) is to compare the MPR in real terms (i.e. correcting for inflation) with the so-called neutral interest rate. The latter is the rate that would prevail in a macroeconomic situation that has two characteristics: 1) economic activity grows steadily at the same rate as its potential rate, i.e., the output gap is zero, and 2) inflation is stably located at the established target level. Based on this definition, when the MPR is below the neutral rate, the monetary policy stance is understood to be expansionary. When both rates coincide, the monetary policy stance is neutral.

Graph B2.1 shows an estimate of Colombia's monetary policy stance for the period 2010-2022 in annual terms. As can be seen, the monetary policy stance would have typically been expansionary over the last twelve years and continues to be so well into 2022 in spite of the normalization process that began at the end of 2021.

Graph B2.1
Monetary Policy Stance in Colombia 2010-2022[a/]

a/ There are multiple ways to estimate a real interest rate when starting from the nominal interest rate and subtracting various inflation expectation measurements. In the particular case of this graph, the annual average of inflation expectations for the twelve-month period from the Monthly Survey of Economic Analysts' Expectations (latest cut-off in February 2022) were discounted from the annual average of the nominal policy interest rate. The real neutral rate corresponds to the one published in the January 2022 *Monetary Policy Report*.
b/ The calculation for 2022 uses the MPR defined by the Board of Directors of *Banco de la República* in January 2022 and that remains in effect for February.
Source: *Banco de la República*; authors' calculations.

The monetary policy normalization process is part of a broader need for macroeconomic policy in general and includes the fiscal and financial regulation components. Therefore, it is necessary and desirable that these processes be harmonious.

The major changes that were made on the financial regulatory and supervisory front as the pandemic crisis began in the second quarter of 2020[1] were of great importance to giving indebted businesses and households relief without unduly compromising the soundness of the banking system. These decisions have been reversed and the system is now operating under normal conditions.

On the monetary front, Colombia's monetary stance, as has been seen, has begun its normalization process and, going forward, harmony with the equally necessary process of fiscal policy normalization will be crucial. This challenge, which is common to many developed and emerging countries in the post-pandemic period, requires that the sequence of fiscal measures that the country will have to adopt in order to achieve a trajectory consistent with the sustainability of public finances, once the countercyclical process required by the pandemic has been overcome, be shown clearly, simply and credibly.

The effects of a change in the monetary policy stance are smooth when there is harmony between monetary policy, financial regulatory policy and fiscal policy. If, on the contrary, the future of public finances is uncertain, such effects are less smooth and may become very disruptive.

First, because in such an environment the financing of the public deficit tends to become more difficult, and this would mean raising the interest rates applicable to the various financial instruments issued by the government. This, in turn, constitutes a new adverse fiscal shock that deepens the initial uncertainties.

Second, because as interest rates rise, the prices of these debt instruments fall. Since public debt instruments have a very significant representation in the total basket of outstanding financial assets, the value of this basket could suffer a significant deterioration, even if the other assets in the basket were not affected. To the extent that this basket is a crucial part of the assets belonging to households (for example, through their pension savings), companies and credit institutions, and eventual asset impairment may jeopardize future macroeconomic stability.

Third, because, as has happened internationally on many occasions, fiscal uncertainty may generate inflationary processes at some point. This is the case, for example, of countries that, unable to reduce public deficits and facing difficulties in accessing sources of credit for their respective governments, choose to finance the fiscal deficit by issuing money. This generates an excess of money supply which, in turn, causes inflationary processes that are sometimes of great magnitude. Even if the central bank does not monetarily finance the deficit, i.e., even if the nominal money supply is constant, fiscal uncertainty may imply a fall in the demand for money by households and firms, for example, by substituting alternative currencies for local currency. This depreciates the exchange rate and raises the general price level.

Fourth, because the fiscal deficit, in itself, is a use of foreign financing. That is, the balance of payments current account deficit (what the rest of the world lends to the country each year) is the source while these flows are used to finance the private deficit, on the one hand, and the public deficit, on the other. In this respect, fiscal uncertainties may turn into adjustments in the willingness of the rest of the world to finance the country's current account as a whole, and the consequent need to adjust private spending very rapidly and in a disorderly fashion with significant effects on economic activity and welfare.

1 Circulars 07 and 014/March 2020 authorized temporary grace periods which benefited 11.8 million debtors. The loans they had amounted to COP 225 billion and represented 42.4% of bank credit and were the obligations currently under ordinary regulation. In the second stage, the Debtor Assistance Program (Programa de Acompañamiento a Deudores, PAD) was created, effective for one year as of July 2020, to facilitate agreements with debtors consisting of loan restructurings, provided that the necessary provisions were made to cover the estimated risks, a mechanism that covered loans for COP 37 trillion (6.8% of the portfolio). These obligations are being repaid, and as of December 2021, they totaled COP 28.4 trillion.

Appendix
Management Policy for the Foreign Reserve Investment Portfolio

According to good practice recommendations, the management of foreign reserves should be based on liquidity, risk management, 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.[1] 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 and portfolios are exposed to and seeks to keep them low. Some of the main policies for risk management are as follows:

Liquidity Risk: Only financial assets that are in permanent demand in the secondary market are allowed and the portfolio is divided into tranches in order to have the ability to convert reserve assets into cash rapidly and at a low cost and to establish tranches that can be liquidated faster.

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

Credit risk: Investments are only made in assets with high credit ratings given that these investments have a low probability of defaulting on their payments. The minimum credit rating for governments and 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 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. Moreover, the maximum exposures are limited by sector and issuer in order to curtail 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 (Statutes of *Banco de la República*). This account rises during those years when reserve currencies become stronger with respect to the Colombian peso and decline in those years when they weaken. Therefore, the variations in the currencies do not have any impact on the consolidated profit or loss statement. *Banco de la República*, like the majority of the central banks around the world, has currencies other than the US dollar as part of 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 payment 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 contract.[2] If they do not have said contract, the minimum rating is A+.

1 One example of good practice in this respect can be found in the document "Guidelines for the Management of Foreign Reserves," produced by the International Monetary Fund and which can be consulted at http://www.imf.org/external/np/sec/pr/2013/ pr13138.htm

2 The purpose of the 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. Tranche of the Investment Portfolio

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

The purpose of the short-term tranche is to cover potential liquidity needs from the reserves in twelve months. Currently, this tranche consists of 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. As of December 2021, the value of the short-term tranche was USD 28,521.6 million, of which USD 1,217.48 million corresponded to working capital and USD 27,304.11 million to the passive portfolio.

The passive portfolio is the main component of the short-term tranche. This portfolio is characterized by an investment horizon and a profile of expected profitability that are higher than those of the working capital portfolio. In addition, it has a foreign exchange breakdown that is intended to replicate the performance of the country's balance of payments outflow, and a profitability that is similar to that of its benchmark.[3] The passive portfolio is invested in multiple currencies and instruments that are in line with those in a benchmark defined under the restrictions that the expected return on the portfolio, excluding the foreign exchange component, must be positive in 12 months with a confidence level of 95% and that the expected value of a possible loss must not exceed 1.0%.

The medium-term tranche is intended to 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 does 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.[4] As of December 2021, the value of the medium-term tranche came to USD 24,627.5 million.

The last tranche corresponds to the Foreign Reserve investments in certified physical gold that can be easily traded on international markets. Gold makes it possible to diversify the investment portfolio since its price behaves differently than prices of the investments in the short- and medium-term tranches. As of December 2021, the market value of gold in the reserves came to USD 273.6 million.

The securities in the investment portfolio are deposited in financial institutions known as custodians.[5] The entities that provide custody service for the securities in the foreign reserves are the New York Federal Reserve, Euroclear, JP 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 benchmark indices[6] for short- and medium-term tranches. Different indices are built for each one of these tranches in order to reflect their investment goals. The indices serve as a 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 benchmark,[7] first of all, a target foreign exchange breakdown is determined. Once the foreign exchange breakdown is defined, a portfolio is sought that maximizes the risk-adjusted return[8] and complies with the loss restrictions defined for this tranche. The foreign exchange breakdown for this index is intended to replicate the trend of the outflows from the country's balance of payments.[9] 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. As of December 2021, the foreign exchange breakdown of the short-term tranche benchmark was 81% US dollars, 9.0% Australian dollars, 4.0% Canadian dollars, 1.0% New Zealand dollars, 2.0% Norwegian krone, and 3.0% Korean won. 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

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

4 The fact that one of the seven active portfolios is managed directly by *Banco de la República* and the rest by external managers is explained in the section, "External Management Program." An explanation on how this program functions can also be found there.

5 Currently, the minimum credit rating allowed for the custodians is A-.

6 In the capital markets, a benchmark index is understood to be 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).

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

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

9 See section "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.

rate effect and 2) that the expected value of a possible loss over a horizon of twelve months does not exceed 1.0% of the value of the tranche.

To build the benchmark of the medium-term tranche, a similar procedure is followed with two basic differences: no restriction is imposed on the foreign exchange breakdown and the loss restrictions are defined over a longer horizon. First, no currency exchange breakdown restriction is imposed given that the goal of this tranche is to maximize the risk-adjusted return in US dollars. Secondly, the restriction of having positive returns at a 95% confidence level and that the expected value of a possible loss does not exceed 1.0% of the value of the tranche is defined for a horizon of three years 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 of December 2021, the benchmarks defined for the two tranches have a low level of market risk with an effective duration of 0.80 for the short-term tranche benchmark and of 1.52 for the medium-term tranche.[10] Graph A1.1 shows the benchmarks approved for the short- and medium-term tranches.[11]

4. External Management Program

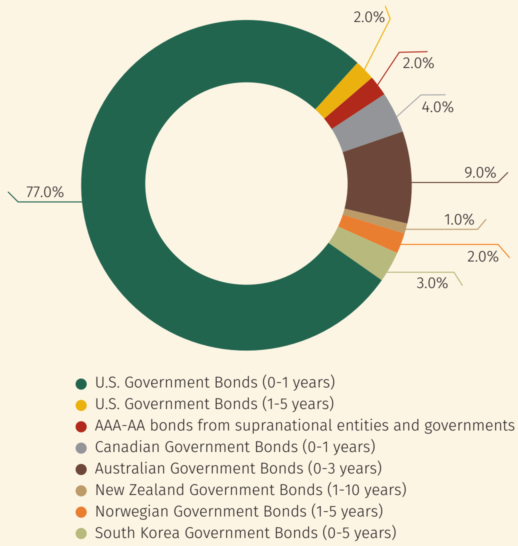
Banco de la República manages the short-term tranche, a portion of the medium-term tranche, and the gold tranche directly. The remaining medium-term tranche funds are managed by external portfolio managers. At the end of December 2021, the portion of the investment portfolio that is managed internally corresponded to USD 37,601.74 million (70,10% of the investment portfolio) while the external management program came to USD 16,035.19 million (29.90% of the investment portfolio).

The main reasons for using external managers are to generate returns that are higher than the benchmark and to improve the diversification of the portfolio. In this respect, the firms chosen to participate in the program have ample experience in the analysis of financial markets and have a sophisticated infrastructure that can benefit the definition of investment strategies and the training of Bank officials in the management of international investments. The latter is another objective of the external management program.

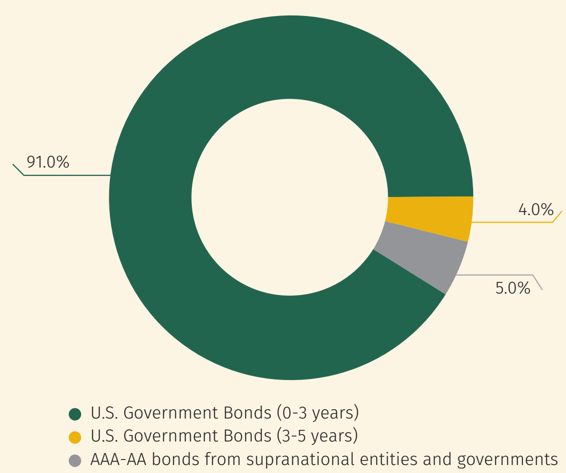
The private firms that participate in the program are chosen through a competitive selection process and continuously evaluated. The amount of assets under management and the continuation in the external management program are tied to the results obtained by each administrator in the evaluation process. The private companies that participate in the external management program currently are: DWS International GmbH, Goldman Sachs Asset Management, L.P., JPMorgan Asset Management (UK) Limited, Pacific Investment Management Company LLC, State Street Global Advisors Trust Company, and UBS Asset Management Inc. (Americas) (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

Graph A1.1
Breakdown of the Benchmark Index
(information as of 31 December 2021)

1. Short-term Tranche



2. Medium-term Tranche



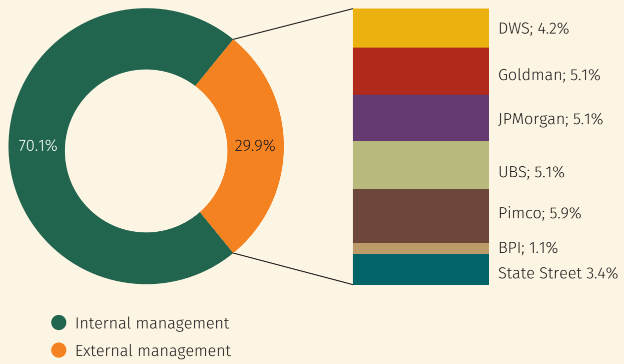
Source: *Banco de la República.*

10 The effective duration is a measure of risk defined as a percentage decrease (increase) in the value of the portfolio with respect to a 1.0% increase (decrease) in the interest rates.

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

that are appropriate for global foreign reserves in an effort by different countries to work cooperatively.[12]

Graph A1.2
Breakdown of the Investment Portfolio
(information as of 31 December 2021)



Note: Approximate values due to rounding.
Source: *Banco de la República*.

12 Investments are currently made in a fund of securities issued by the Chinese government (USD 304.25 m) and a fund of securities issued by non-financial corporations (USD 278.07 m).

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