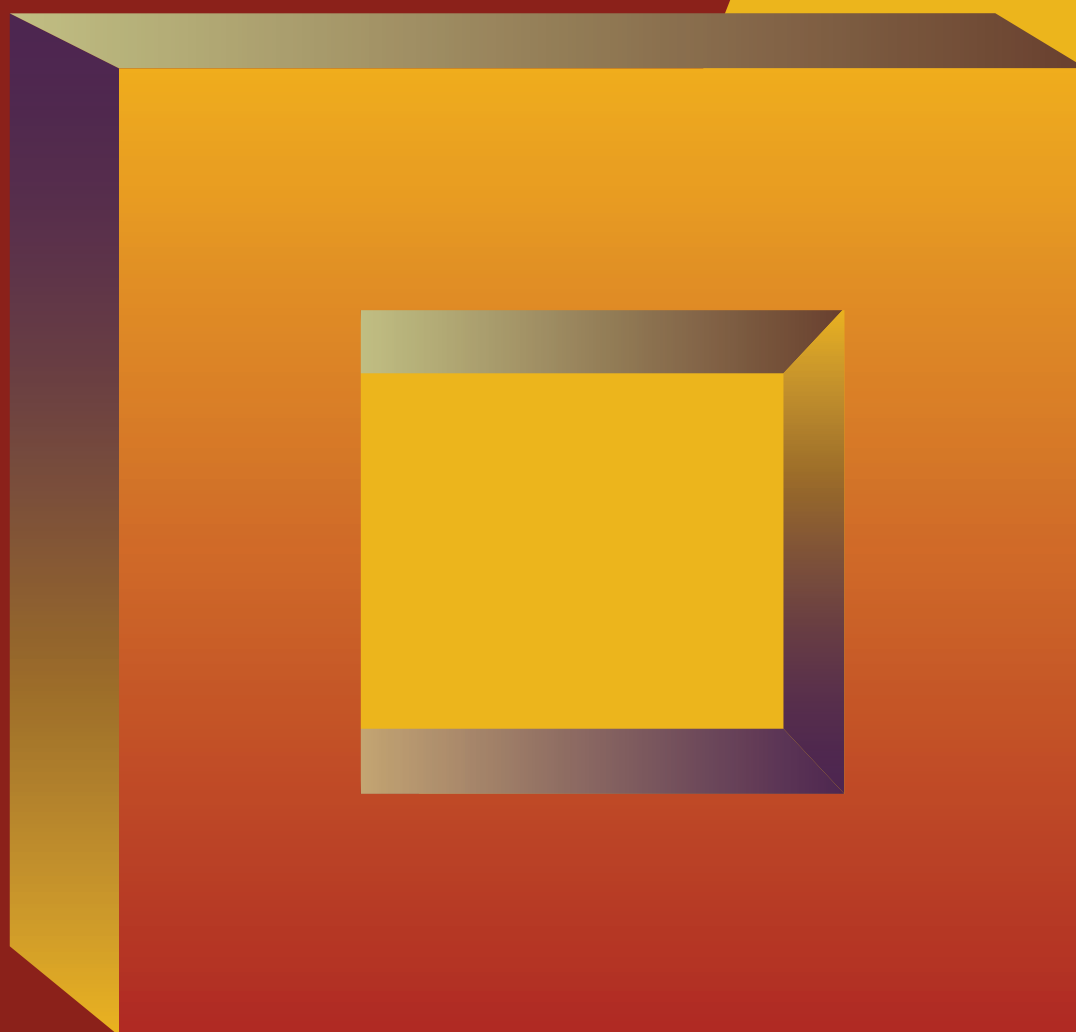


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# FINANCIAL STABILITY REPORT

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# FINANCIAL STABILITY REPORT

*Banco de la República*  
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# FINANCIAL STABILITY REPORT



According to the Political Constitution of Colombia, Banco de la República is responsible for safeguarding the price stability of the economy. The proper implementation of this task depends crucially on maintaining financial stability.

Financial stability is understood as a general condition in which the financial system (financial institutions, markets, and infrastructures):

1. Assesses and manages financial risks in such a way that it facilitates the performance of the economy and the efficient allocation of resources;
2. is capable of autonomously absorbing, dissipating, and mitigating the materialization of the risks that may arise as a result of adverse events.

This Financial Stability Report (FSR) presents the Central Bank's appreciation on the recent performance of credit institutions and their debtors, as well as on the main risks and vulnerabilities that could affect the financial stability of the Colombian economy. The FSR intends to keep the participants in financial markets and the public informed, besides promoting public debate on the trends and risks related to the financial system. The results herein presented also serve as a basis for the monetary authority to make decisions that promote financial stability in the general context of the constitutional objectives of price and macroeconomic stability.

This FSR is complemented by the Payment Systems Report, published annually by Banco de la República, which reports on the performance of the financial infrastructures of the Colombian economy.

  
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# Glossary

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**ACO:** OMO placement agent  
**PFM:** Pension Fund Managers  
**HQLA:** High quality liquid assets  
**LAM:** Liquid assets adjusted for foreign exchange and market risk  
**TLS:** Temporary Liquidity Support  
**BAAAFS:** Banking Sector Benchmark Curve for Simple Fixed Rate Securities and AAA Rating  
**BAS:** Bid-ask spread  
**BOE:** Bank of England  
**BIS:** Bank of International Settlements  
**BVC:** Colombia Stock Market  
**CP:** Collective portfolios  
**SLC:** Savings and Loan Cooperatives  
**CD:** Certificates of Deposit  
**CDS:** Credit default swap  
**IB:** Investment banks  
**FC:** Finance companies  
**NSFR:** Net stable funding ratio  
**COP:** Colombian pesos  
**CCRC:** Central counterparty risk clearinghouses  
**CUD:** System of deposit accounts managed by Banco de la República  
**CSD:** Central Securities Depository  
**DSGE:** Dynamic Stochastic General Equilibrium  
**DTF:** Fixed term deposit rate  
**CI:** Credit institutions  
**ECB:** European Central Bank  
**EUR:** Euros  
**Fed:** Federal Reserve of the United States  
**ASF:** Available Stable Funding  
**RSF:** Required Stable Funding  
**CIF:** Collective investment funds  
**IMF:** International Monetary Fund  
**FNA:** Fondo Nacional del Ahorro  
**Frech:** Reserve Fund for Portfolio Stabilization Mortgage  
**FSB:** Financial Stability Board  
**ALC:** Administrative and labor costs  
**GBP:** Pounds sterling  
**NG:** National government  
**CNG:** Central National Government  
**BBI:** Banking benchmark indicator  
**NPL:** Quality indicator by default  
**QIR:** Quality indicator by risk  
**ICE:** Indicator of consolidated short-term exposure  
**FDI:** Foreign Direct Investment  
**IIE:** Individual indicator of short-term exposure  
**NBFI:** Non-banking Financial Institutions  
**FEMI:** Foreign exchange market intermediaries  
**IPSA:** Stock Index of Chile  
**LRI:** Liquidity Risk Indicator  
**CPI:** Consumer Price Index  
**IRPR:** Indicator of Risk Perception by Rating  
**IERR:** Indicator of Exchange Rate Risk

**LRI:** Liquidity Risk Indicator  
**LIH:** Low Income housing  
**BDBR:** Board of Directors of Banco de la República  
**Libor:** London Interbank Offered Rate  
**MADR:** Ministry of Agriculture and Rural Development  
**MEXBOL:** Mexican Stock Exchange Index  
**GFM:** Gross Financial Margin  
**MHPC:** Ministry of the Treasury and Public Credit  
**MSCI COLCAP:** Colombian Stock Exchange Stock Market Index  
**IFRS:** International Financial Reporting Standards  
**OIS:** Overnight index swap  
**OMO:** Open market operations  
**OPEC+:** Organization of Petroleum Exporting Countries and allies  
**OPA:** Takeover bid  
**PAD:** Debtor Assistance Plan  
**PCMVR:** National Plan for the Construction and Improvement of Low-Income Rural Housing  
**GDP:** Gross Domestic Product  
**NLP:** Net liquidity position  
**PCP:** Proprietary cash position  
**LSRR:** Liabilities subject to reserve requirements  
**TC:** Technical capital  
**UAP:** Unified Accounting Plan  
**FSR:** Financial Stability Report  
**NLR:** Net liquidity requirements  
**ROA:** Return on assets  
**ROE:** Return on equity  
**IMC:** Investment management companies  
**SARC:** Credit Risk Management System  
**SBF:** Stock Brokerage Firms  
**FSC:** Office of the Financial Superintendent of Colombia  
**TC:** Trust Fund companies  
**SMMLV:** Minimum legal monthly salary in effect  
**SPBLPGPT:** Lima Stock Exchange Stock Market Index  
**SPBV:** Retail payment system  
**SCA:** Superintendency of Corporate Affairs  
**ST:** Stress tests  
**Sysmo:** Systemic stress model  
**TES:** Public debt securities issued by the General Office of Public Credit and the National Treasury  
**TC:** Trading companies  
**IMC:** Investment management companies  
**PFM:** Pension fund managers  
**RI:** Intraday repo  
**IBR:** Interbank rate  
**MPR:** Monetary Policy Interest Rate  
**MER:** Market exchange rate  
**USD:** US dollars  
**UVR:** Real Value Units  
**VAR:** Autoregressive vectors  
**VeR:** Value at Risk  
**PH:** Priority housing  
**LIH:** Low-income Housing  
**WATM:** Weighted average term to maturity  
**WEO:** World Economic Outlook

# Introduction

*Banco de la República's* main objective is to preserve the purchasing power of the currency in coordination with the general economic policy that is intended to stabilize output and employment at long-term sustainable levels. Properly meeting the goal assigned to the Bank by the 1991 Constitution critically depends on preserving financial stability. This is understood to be a general condition in which the financial system evaluates and manages the financial risks in a way that facilitates the economy's performance and efficient allocation of resources while, at the same time, it is able to, on its own, absorb, dissipate, and mitigate the appearance of risks that may arise as a result of adverse events.

This *Financial Stability Report* provides *Banco de la República's* diagnosis of the financial system's and the recent performance of its debtors as well as of the main risks and vulnerabilities that could affect the stability of the Colombian economy. That is why the financial market participants and the public are being informed, and public debate on trends and risks affecting the system is being encouraged. The results presented here also serve the monetary authority as a basis for making decisions that will enhance financial stability in the general context of its objectives.

This edition marks the twentieth anniversary of the *Financial Stability Report*, which was first published in July 2002. Over these past twenty years, the credit and macroprudential policy framework in Colombia has been continuously reinforced while financial regulation and supervision have closely followed international standards. As a result the Colombian financial system has expanded its services to the economy and has weathered diverse economic circumstances while remaining sound and stable, since 2002. Over the course of time, the *Financial Stability Report* has been and continues to be permanently updated by *Banco de la República* in order to improve its usefulness to the general public.

The analysis presented in this *Report* allows us to conclude that the recovery of lending activity in Colombia has been consolidated in recent months. Credit (in all its categories) has picked up and the decline in past-due and risky loans continues. The capital adequacy and liquidity indicators of credit institutions are comfortably above the regulatory minimums. The performance of credit institutions and non-banking financial institutions, in a context of increased market volatility, reflects the soundness and stability of the Colombian financial system.

At the same time, the combination of various global events and the recent trend in lending poses some vulnerabilities for the stability of the financial system. First, as mentioned in the previous edition of the *Report*, the exposure of the Colombian economy and financial institutions to sudden changes in global financial conditions has persisted in recent months in an environment of high uncertainty. Second, recent months have seen a rapid expansion of loans to households in Colombia in both the housing category and, especially, the consumer category. The trend in credit growth could eventually cause fragilities given that the ratio of household indebtedness to disposable income is around its historical maximum. In any case, the results presented in this *Report* indicate that the financial system has shown itself to be sufficiently resilient to adverse scenarios on both vulnerability fronts.

In compliance with its constitutional objectives and in coordination with the financial system's security network, *Banco de la República* will continue to closely monitor

the outlook for financial stability at this juncture and will make the decisions that are necessary to ensure the proper functioning of the economy, facilitate the flow of sufficient credit and liquidity resources, and further the smooth functioning of the payment system.

**Leonardo Villar Gómez**  
**Governor**

## Executive Summary and Analysis of Vulnerability

During the last quarter of 2021 and the first few months of 2022, the recovery of lending activity in Colombia was consolidated. The growth rate of the credit institutions' (CIs) assets rose as a result of higher lending growth in all categories, the fall in past-due and risky loans continued to reflect the improvement in credit quality, and the requirements of CIs for approving disbursements were loosened. CIs were able to increase lending to businesses and households while keeping their capital adequacy and liquidity ratios comfortably above the regulatory minimums due to the recovery of profitability and higher growth in capital and deposits. All of the above is a natural result of the recovery of the Colombian economy and of an expansive monetary stance that maintained low interest rates and ample liquidity in the general context of the Covid-19 pandemic.

Non-bank financial institutions (NBFIs: pension fund managers, brokerage firms, trust companies, and insurance companies), in turn, registered lower growth in their proprietary and managed portfolios, and a drop in their profitability. The assets of open-ended mutual funds (CIFs) experienced declines. These results were mainly caused by the valuation losses in public and private debt securities and the higher volatility in local markets. These, in turn, were associated with tighter global financial conditions (including, for instance, the increase in policy interest rates in advanced economies). To the extent that they have occurred gradually and expectedly, these changes may have affected the performance of the NBFIs to some degree, but had no impact on the stability of the system. As evidence of the above, the participation of foreign investors in the local public debt securities market remained stable throughout the period.

As a result of the performance of institutions and markets, the economic authorities, during this period, brought the cycle of extraordinary policies to support the financial system, which had begun in March 2020 in response to the immediate effects of the pandemic, to a complete end. The normalization of financial policy had begun in August 2021 when the Office of the Financial Superintendent of Colombia terminated the Debtor Assistance Program for credit risk management and continued by terminating the National Government's Unidos por Colombia program to support credit with increased guarantees through the Fondo Nacional de Garantías (National Guarantee Fund) in December 2021. This was supplemented by the plan to reduce the volume of public debt projected in the Medium-Term Fiscal Framework of the Ministry of the Treasury and Public Credit. The Board of Directors of *Banco de la República*, in turn, has also been normalizing its monetary policy with the beginning of an upward cycle in the policy interest rate in September 2021 and the return to a plan for liquidity operations under normal conditions. The consolidation of credit growth continues in the absence of extraordinary policy measures and in the expectation of a less expansionary monetary policy than in the past.

This edition of the *Financial Stability Report* concludes that the conjunction of several global events and the recent trend in credit have created some vulnerabilities for the stability of the financial system that will need to be closely monitored in the near future. First, as mentioned in the previous edition of the *Report*, the exposure of the Colombian economy and financial institutions to sudden changes in global financial conditions has persisted in recent months. As was mentioned, the changes in financial conditions have so far been gradual

and expected. Going forward, it is not clear that this will continue to be the case given, for example, the uncertainty about the duration and effects of the Russian invasion of Ukraine and about the trend in global and local inflation. Although the Colombian financial system has no direct exposure to the parties in conflict and has stable access to foreign financing, it could be affected by the effects of a sudden and unanticipated tightening of global financial conditions on the country's external financing, aggregate demand, and economic growth. The persistence of twin deficits (fiscal and current account) in the Colombian economy contributes to the above. Second, recent months have seen a rapid rise in loans to households in Colombia in both the housing category and, especially, the consumer category. Although credit quality and credit boom indicators for these segments are not at worrying levels, the trend of the increase in loans and the loosening of disbursement approval requirements could eventually cause fragilities when the fact that the household debt to disposable income ratio is close to its historical maximum is considered.

In order to study the ability of the financial institutions to cope with these vulnerabilities, this *Report* performs *stress tests* that evaluate the response of CIs and CIFs to extreme hypothetical scenarios that reflect the vulnerabilities described. The results indicate that, despite a reduction in profitability and capital adequacy plus the increase in the risky portfolio, the aggregate financial system has sufficient resilience to face adverse shocks. The results also indicate that the CIFs have maintained their ability to cope with adverse investor withdrawal scenarios. This edition includes, for the first time, a stress test at the consolidated level that evaluates the ability of those CIs with subsidiaries in Central America to face losses in their investments in the region in addition to the aforementioned extreme hypothetical scenarios. In this case, although the impact of the adverse scenarios is particularly high, the aggregate capital adequacy of the entities still remains above the regulatory minimums.

### Heat Map and Vulnerability Matrix

Table A and Graph A respectively show the vulnerability matrix and the heat map of the financial system. The matrix presents a detailed summary of the development of the main vulnerabilities faced by the CIs. The Table shows the direction of the change in each of the vulnerabilities, their status, and mitigating factors during the past six months. The map, in turn, allows to simultaneously view the changes in different variables grouped into specific categories that include the performance of financial institutions, different financial risks, and macroeconomic risks over time. Each variable is represented using a color scale that assigns shades based on the historical trends of the variables and some expert judgments. Thus, reddish tones indicate times when a variable is at risky levels while green tones indicate periods of lower risk. For some variables, such as asset price indices or credit cycle indicators, which reflect risks when they exhibit both high values and low ones, blue shades are used to indicate the risk of low activity in the respective markets.<sup>1</sup>

First, the fragility of financial institutions remains low and has declined since the last edition of the *Report*. There it was argued that the low profitability of the entities could give rise to vulnerabilities in financial stability to the extent that it hindered the ability of the entities to strengthen the soundness of their capital with

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<sup>1</sup> The technical details on the reading of, construction of, and variables used on the map are given in Box 1 of the September 2017 *Financial Stability Report*.

their business earnings. Since then, however, profitability has recovered vigorously as shown by the change from reddish to orange tones in the CI indicators. This, together with the high levels of capital adequacy and liquidity, suggests that there are no significant threats to the soundness of financial institutions in the short term.

In keeping with the trend mentioned in the previous edition of the Report, the vulnerability associated with sudden changes in global financial conditions continues to rise. The risk map continues to show reddish tones in the fiscal deficit and current account deficit categories, which indicates elevated exposure to global financial conditions. Compared to the previous edition, the Russian invasion of Ukraine and the unanticipated rise in global inflation are causing greater uncertainty about the trend in financial conditions.

Finally, with respect to credit risk, the downward trend that had been reported in the previous edition of this *Report* has changed to stable since then as a result of a balance between two trends. On the one hand, there is the rapid rise in loans to households (the risk map shows rapid changes to yellow and reddish tones in the indicators of credit boom and intensity) and the high level of indebtedness relative to disposable income. On the other, there is the improvement in credit quality that is evident in the fall of the non-performing and risky household loan portfolio (reflected in the green shades of growth in non-performing and risky portfolio and changes to yellow shades in credit quality indicators).

Table A  
Financial Stability Vulnerability Matrix

Vulnerabilities	Status	Mitigating factors	Vulnerability direction	
			Previous edition of the Report	This edition of the Report
1. Fragility of Financial Institutions	<ul style="list-style-type: none"> <li>The fragility of financial institutions is not particularly relevant at the moment.</li> </ul>	<ul style="list-style-type: none"> <li>Adequate levels of capital and liquidity.</li> <li>Profitability recovered.</li> </ul>		
2. Exposure to sudden changes in global financial conditions.	<ul style="list-style-type: none"> <li>Twin deficits.</li> <li>High uncertainty about global financial conditions.</li> <li>Uncertainty about the changes in international and local inflation.</li> <li>High volume of public debt in the hands of foreign investors.</li> </ul>	<ul style="list-style-type: none"> <li>Reduced direct exposure to the Russian invasion of Ukraine.</li> <li>Stable access to international financing.</li> <li>Resilience of the financial system to a stress test.</li> </ul>		
3. Credit Risk	<ul style="list-style-type: none"> <li>High growth in household credit.</li> <li>High household debt to disposable income ratio.</li> </ul>	<ul style="list-style-type: none"> <li>Positive performance of the non-performing and risky household loan portfolios.</li> </ul>		

Source: Banco de la República.

Graph A  
Risk Map of the Colombian Financial System

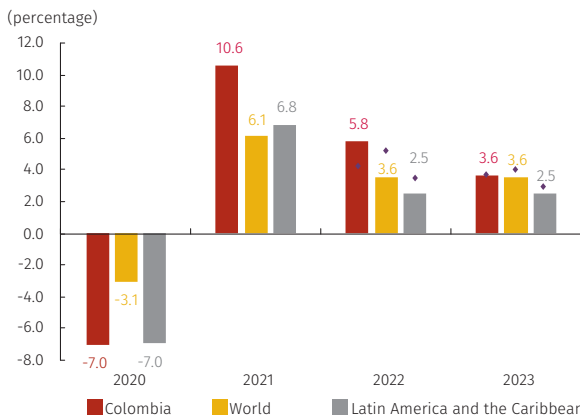


Sources: Office of the Financial Superintendent of Colombia, DANE, Fedesarrollo, Bloomberg, and Banco de la República, calculations by Banco de la República.

# 1. Macroeconomic Environment

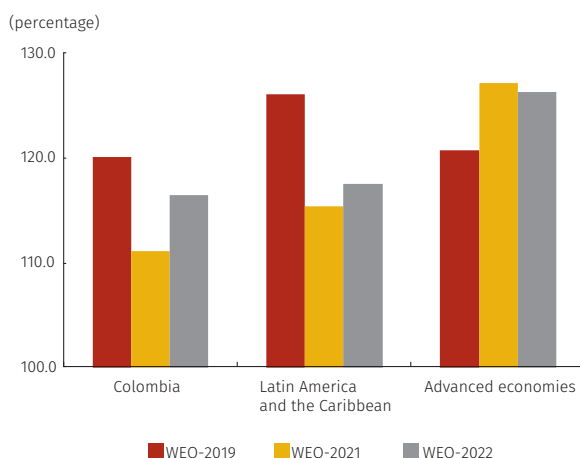
Graph 1.1

## A. Growth Rates for Colombia, Latin America and the Caribbean, and the World (real growth rate)



Note: the purple rhombi correspond to the projections made by the IMF in the October 2021 World Economic Outlook while the bars correspond to the April 2022 projections.

## B. Medium-term Outlook for the Level of Output (projected GDP 2024/GDP 2019)



Source: World Economic Outlook (October 2019, October 2021, and April 2022).

The global economic recovery that began in 2021 was significantly interrupted by the adverse effects stemming from Russia's invasion of Ukraine in a context in which, although the short-term effects of the pandemic have lost relevance in several regions of the world, the potential materialization of other factors that could lead to lower economic growth rates is accentuated.

In its April 2022<sup>2</sup> World Economic Outlook (WEO) report, the International Monetary Fund (IMF) reduced the projected global economic growth 1.3 percentage points (pp) in real terms for 2022 compared to its October 2021 forecast, which placed this growth rate at 3.6% (Graph 1.1, panel A). This sharp correction is largely due to the impact of the war between Russia and Ukraine, which significantly affects these two countries, but also those with trade links to the region in conflict or that are affected by the sanctions imposed on Russia.

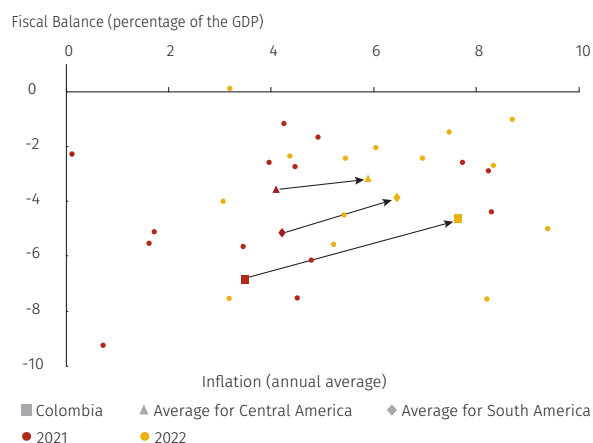
The international implications of the war materialize in the strong variations in the prices of some commodities (such as oil, gas, and fertilizers), a factor that accentuates the inflationary pressure that has been seen since mid-2021, the impact on direct trade with the economies in conflict and the flow of remittances with these economies, the interruption in several value chains due to the effect on the supply of raw materials from Russia and Ukraine, the reduction in the risk appetite of international investors, and the humanitarian impact caused by the deaths and the high flow of refugees, etc.

Furthermore, growth forecasts are immersed in multiple risk factors that could imply the materialization of a worse economic performance such as the possible intensification of the war, together with the increase in sanctions against Russia, a high and persistent inflation, an increase in policy interest rates, lower growth in the Chinese economy due to its zero Covid policy, greater social tensions, explained by the flow of migrants and the impact on living costs, the potential appearance of new variants of the virus, exposure to climate risks as well as the configuration of a new geopolitical order in ideological blocks that could have a widespread impact on economic activity.

Persistent inflation and reduced fiscal space in the context of a lagging economic recovery in the Latin American and Caribbean region exacerbate the trade-offs in monetary and fiscal policy formulation. In addition, this limits their ability to formulate programs related to solving structural problems.

2 World Economic Outlook, published in April 2022.

**Graph 1.2**  
**Fiscal Balance (general government) and Inflation in Colombia and the Main Economies of Latin America and the Caribbean**



Note: the dots correspond to the South American countries (excluding Argentina, Venezuela, Suriname, and Guyana) and the Central American countries in which Colombian banks have a stake: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, and the Dominican Republic. The values for 2021 and the outlook for 2022 are presented each with a different color: red corresponds to 2021 and yellow to 2022. The figures are also emphasized with different dimensions, where the squares illustrate Colombia, the rhombi the South American median, and the triangles the Central American median. Inflation, taken as the average annual variation, is presented on the x axis. The y-axis shows the fiscal balance as a share of GDP and is calculated as the difference between general government revenue and expenditures.

Source: World Economic Outlook Database, April 2022.

The strength of these economies in 2021 and their reduced exposure to the direct effects of the war have been reflected in small adjustments in their expected economic growth rates in 2022, and in a reduction in estimates of the potential medium-term effects of the pandemic on their production capacity (Graph 1.1, panels A and B). Nevertheless, the tightening in global financial conditions has been reflected in high spreads in the cost of financing for several emerging and low-income economies. In this context, the potential increase in market volatility is a factor that may put pressure on their financing costs in the future.

Meanwhile, inflationary pressure caused by the war come on top of reduced fiscal space in most countries in the region, following the response to the pandemic at its peak, and the supply chain disruptions that have been occurring since the second half of 2021 (Graph 1.2). This accentuates the trade-off between growth and inflation control in the monetary framework and between fiscal adjustment and higher spending to support the most vulnerable households.

*Colombia is immerse in the aforementioned risks, but its geographic distance from the conflict zone, reduced trade relations with Russia and Ukraine as well as its status as a fossil fuel exporter have contributed to its growth expectations remaining above the region's average for 2022 and 2023.*

Local economic activity has shown a positive performance during the first quarter of the year, a performance that continues to be largely explained by private consumption, in addition to expectations of high oil prices. In contrast, a reduction in the growth rate of our main trading partners and more persistent inflation are expected compared to the previous *Banco de la República (Banrep) Monetary Policy Report (MPR)*. On balance, this has led Banrep's technical staff to modify their growth expectations for 2022 from 4.7%<sup>3</sup> to 5.01%.<sup>4</sup>

A reduction in the external deficit, in turn, is projected for 2022, going from 5.7% of GDP in 2021 to 4.7% in 2022. This would be in addition to the increased capital inflows that have been seen since the beginning of the war and the expectation of increased capital inflows due to the reduction of Russia's share in the various benchmark stock market indices. This translates into lower external financing needs for the economy and, therefore, a reduction in exposure to this source of vulnerability (which has been repeatedly evaluated in previous versions of this *Report*). In contrast, the fiscal deficit and the level of government indebtedness, both of which are factors that largely explain the loss of investment grade in the colombian sovereign debt in 2021, remain at

3 *Monetary Policy Report* - October 2021.

4 *Monetary Policy Report* - April 2022.

historically high levels and continue to represent a source of vulnerability for the economy. The yield rate of sovereign securities denominated in COP with a 10-year maturity had increased by nearly 200 basis points between September 2021 and March 2022 and thus has caused devaluations in the portfolios of the holders of these securities in the financial system. This factor is analyzed in Chapter 2 of this Report.

In addition to the above, the forecasts for inflation and the policy interest rate have upward biases. This reflects the potential risks of the emergence of persistent and high inflation levels that could be accompanied by less expansionary monetary conditions.

*The measures related to the performance of the local financial system continue to show signs of recovery. However, the trend in household indebtedness has surged significantly.*

The profitability of Credit institutions (CI) measured through ROA as well as their credit risk exposure indicators have continued to show signs of improvement in the last six months, together with liquidity and capital adequacy levels that in the aggregate are well above their regulatory limits. Nevertheless, credit to households, represented in the consumer and housing portfolios, has risen significantly in recent months.

*The stress tests exercises presented in this Report on both individual and consolidated balance sheets of credit institutions as well as the stress test performed on open-ended collective investment funds suggest that these institutions could continue with their usual functions in an adverse scenario without failing to comply in aggregate terms with their prudential requirements.*

The resilience of the financial system is evaluated in Chapter 3 of this Report using a hypothetical adverse scenario of a downturn in the Colombian economy with high inflationary pressure and tighter domestic and external financial conditions. This scenario seeks to reflect an increase in supply chain tensions and a reduction in the growth rate of major trading partners given the current geopolitical tensions and pandemic containment measures in China. Furthermore, starting with this edition of the Report, a stress test at the consolidated level is incorporated. This exercise in addition to the scenario described above, evaluates the resilience of the entities to different trajectories in the devaluation of their investments abroad.

The usefulness of these tests lies in providing an estimate of the potential losses that might be seen in these scenarios and revealing the possible transmission channels through which the vulnerabilities identified could end up affecting financial stability. The results indicate that, in these stress scenarios, there would be negative effects on aggregate indicators of total and core capital adequacy in both the individual and consolidated balance sheets although they would remain at levels above the regulatory limits throughout the period of the exercise. However, the performance of these indicators would vary widely in an analysis by entity. In addition, the loan portfolio and aggregate profitability of credit institutions could present significant deterioration which would reflect the impact that the hypothetical adverse scenario could have on the ability of the entities to grant loans and perform their intermediation work.

With respect to the open-ended collective investment funds it was found that, by March 2022, withdrawals of 10% of their assets under management could jeopardize compliance with prudential liquidity limits for a set of funds representing 20% the

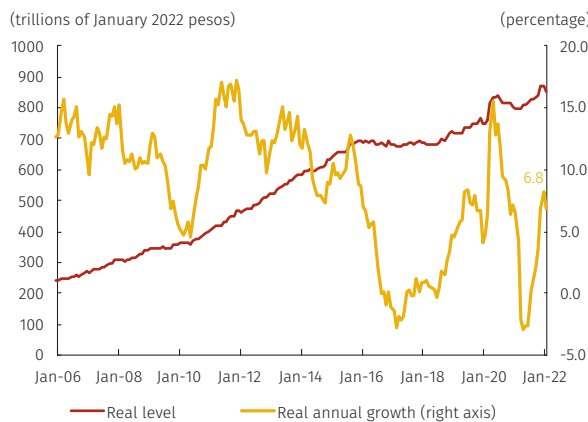
total assets of this market. The above represents a result that is similar to what was reported six months ago and suggests that the funds have maintained their positions in liquid assets over the last six months.

The results of stress tests exercises are obtained from hypothetical scenarios that use a set of restrictive assumptions and do not consider potential policy responses that the various authorities who share a macroprudential objective could implement. It is, therefore, to be expected that, given the active and timely policy response of the different entities that the financial system security network is made up of as well as a smaller magnitude of the shock, the impact on financial stability will presumably be lower.

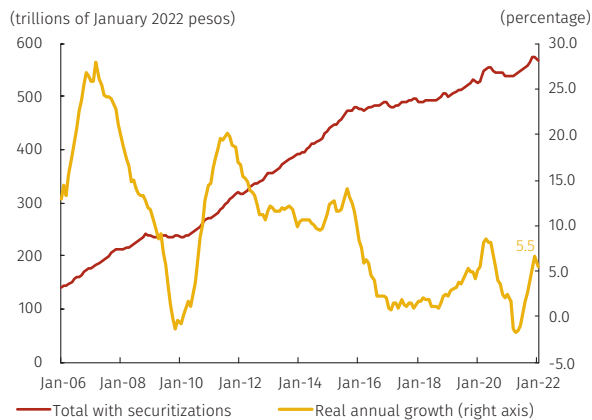
## 2. Vulnerability of the Financial System

Graph 2.1

### A. Credit Institutions' Assets



### B. Total Loan Portfolio



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

This chapter analyzes the general situation of financial institutions during the second half of 2021 and beginning of 2022 in a context of economic recovery and inflationary pressures. An overview of the financial system and an analysis of its exposure to credit, market, liquidity, and interest rate risks are presented below.

### 2.1. Current Situation of the Financial System

#### 2.1.1 Credit institutions: individual financial statements<sup>5</sup>

The balance sheet of credit institutions (CIs) continued the recovery it has been experiencing since the beginning of the second half of 2021 driven, mainly, by the performance of the loan portfolio, especially the commercial and consumer loans.

As of January 2022, CI assets amounted to COP 852.7 trillion (t) and continued to show a recovery in their real annual growth rate<sup>6</sup> (Graph 2.1, panel A). The greater growth of assets has occurred mainly because of the performance of the loan portfolio, which accounted for 66.3% of total assets (Graph 2.1, panel B).

The recovery in the expansion rate of the total loan portfolio was due to greater upswings in all loan categories, especially commercial and consumer loans which together account for 82.4% of the total portfolio (Graph 2.2). The commercial loan portfolio has returned to positive levels in its growth rate after having shown decreases between March and September 2021.

Credit risk indicators for all types of loans declined with the exception of the NPL including write-offs for consumer and microcredit loans.

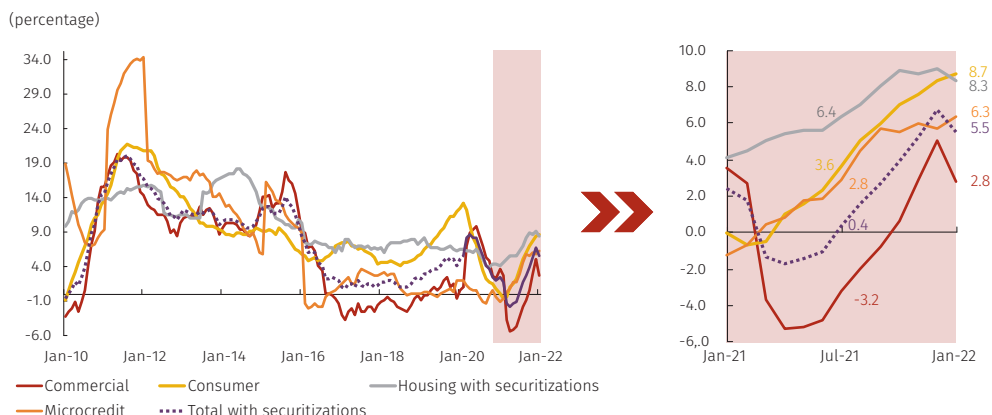
In a context of economic reactivation and after the completion in August 2021 of the Debtor Assistance Program (PAD in

5 The regulations require credit institutions to report their financial statements on an individual basis (that is, including only the business of the credit institution considered as an individual legal entity) and on a consolidated basis (that is, including the business of other financial institutions supervised by the FSC with which they maintain ownership links) for those institutions required to do so. Beginning with this *Financial Stability Report*, this section will include a separate analysis of vulnerabilities using the financial statements reported individually and those reported on a consolidated basis.

6 The real growths presented in this *Report* were calculated using the consumer price index (CPI) excluding food.

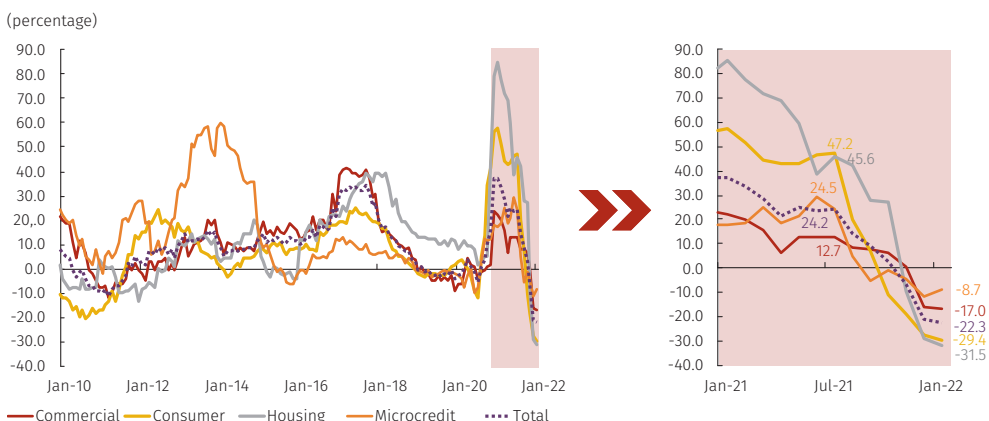
Spanish) implemented by the FSC<sup>7</sup>, the growth of risky and non-performing portfolios of all loan categories continued its downward trend and, in fact, as of January 2022, they registered negative values (Graph 2.3, panels A and B).

**Graph 2.2**  
Real Annual Growth of Credit Institutions' Gross Loan Portfolio, by Type

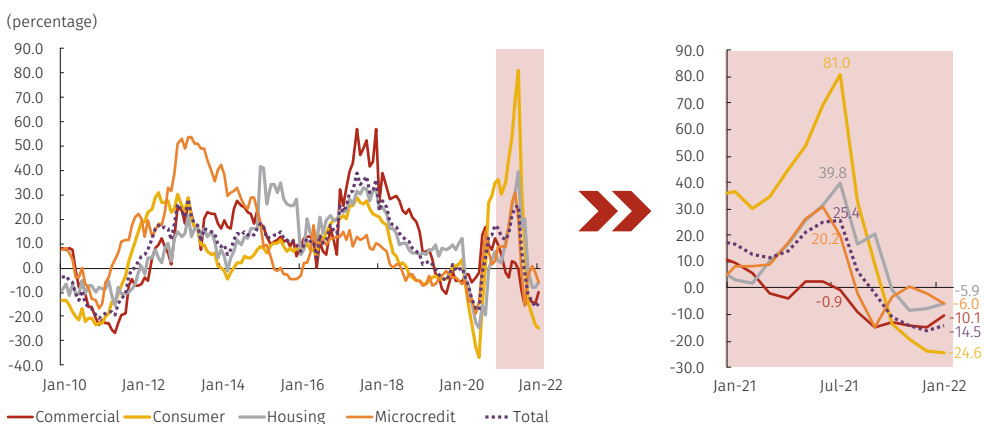


Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

**Graph 2.3**  
A. Real Annual Growth of the Risky Loan Portfolio



B. Real Annual Growth of Non-Performing Loans



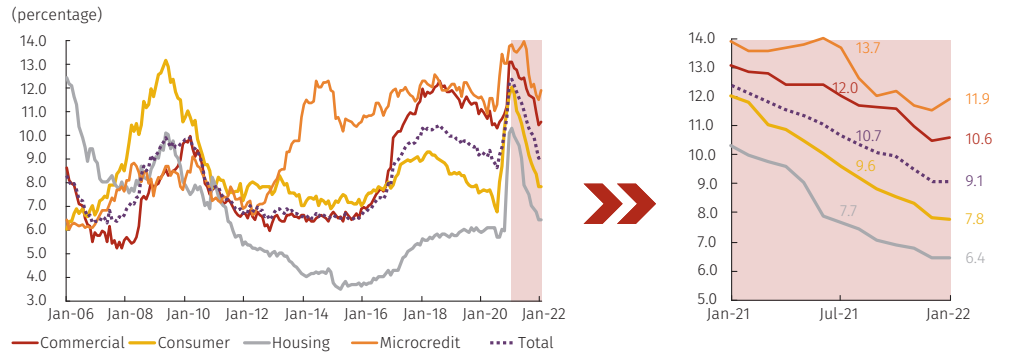
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

7 As of January 2022, the PAD covered 1,852,162 debtors that accounted for an amount close to COP 27 b, which represented 4.7% of the total gross loan portfolio reported that same month. Of these COP 27 b, 85.5% are performing loans.

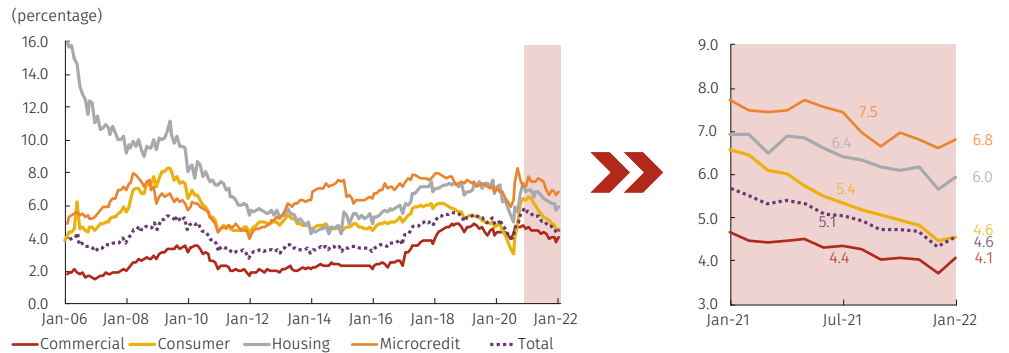
The higher growth of the gross loan portfolio, together with the contraction of risky and past-due portfolios have resulted in an improvement of the traditional credit risk indicators (QIR<sup>8</sup> and NPL<sup>9</sup>). In fact, the NPL for all loan types has reached levels below those registered before the onset of the pandemic (February 2020, Graph 2.4, panels A and B). The decrease in the QIR and NPL has been seen for all types

**Graph 2.4**  
Credit Risk Indicators

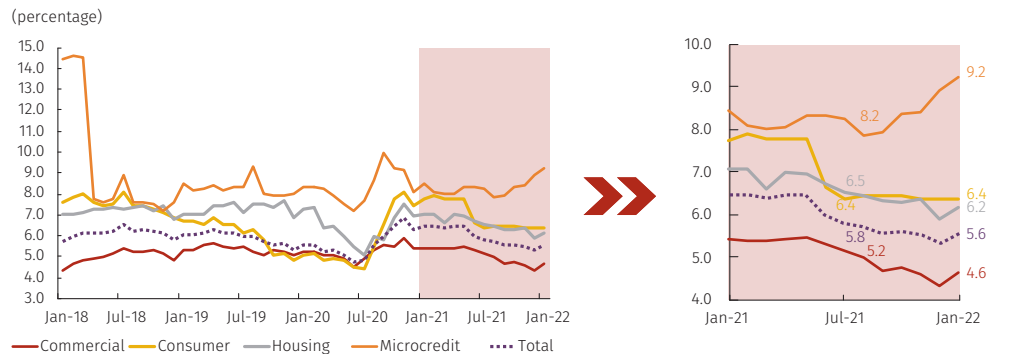
**A. Quality indicator by risk (QIR)**



**B. Non-performing loans indicator (NPL)**



**C. NPL with 12-month cumulative write-offs net of recoveries**



Note:  $NPL\ with\ write-offs = \frac{Non-performing\ loans + Accumulated\ write-offs\ in\ the\ last\ 12\ months\ net\ of\ recoveries}{Gross\ loan\ portfolio + Accumulated\ write-offs\ over\ the\ last\ 12\ months\ net\ of\ recoveries}$

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

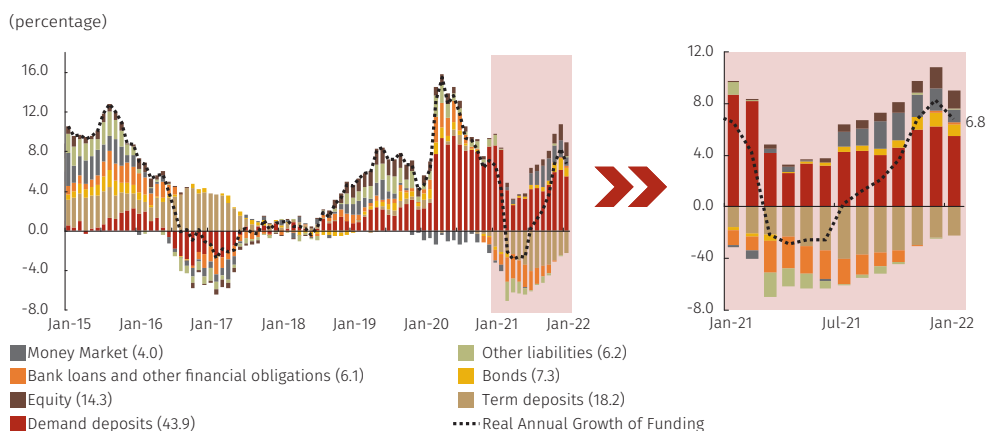
- 8 This is defined as the ratio between the risky and the total gross loan portfolio (the risky loan portfolio corresponds to the balance of loans with ratings different from A on a scale that goes from A to E where A is the best rating).
- 9 This is calculated as the ratio between the non-performing and the total gross loan portfolio (the non-performing portfolio includes the balance of loans that have been in arrears for a period of more than 30 days).

of loan portfolios with the consumer loan portfolio standing out since it is the one where the indicators have declined the most. When write-offs net of recoveries are included to calculate the NPL, a pattern similar to that of the indicator that does not take this item into account is seen for the commercial and housing portfolios while the consumer portfolio shows stability and the microcredit portfolio has shown an increase since August 2021 (Graph 2.4, panel C).

*The growth of CIs' funding continued to recover, mainly due to a greater expansion of demand deposits, equity, and bonds.*

Between July 2021 and January 2022 CIs' funding continued to recover its rate of expansion, mainly due to the fact that demand deposits, equity, and bonds registered a surge in growth and term deposits shrank to a lesser degree (Graph 2.5). In terms of composition, demand deposits (43.9%) and term deposits (18.2%) continued to be the items that accounted for most of the funding. The former together with equity, saw an increase of 0.8 pp and 0.4 pp respectively in their share in the six-month period under analysis, while the latter continued to experience reductions in their contribution (18.2% in January 2022 vs. 19.3% in July 2021).

**Graph 2.5**  
Real Annual Growth of Funding and Contribution of its Components



Note: the share each item has in funding is in parenthesis (liability + equity) with January 2022 as a cut-off date.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

*In the midst of a situation in which the economy is facing inflationary pressures, the CIs' profitability has improved its performance and the capital adequacy, leverage ratio, and aggregate liquidity remained well above their regulatory minimums.*

Between August 2021 and January 2022, the return on assets (ROA) of CIs maintained the rising trend it had been showing since February 2021 and reached a figure higher than the one registered before the onset of the pandemic (1.6% in February 2020, Graph 2.6, panel A). The increase in profitability mainly resulted from an increase in the reimbursement of loan loss provisions for the loan portfolio and recoveries from written-off loans. It also came from a reduction in loan-loss provision expenses and interest paid on deposits (Graph 2.6, panel B).

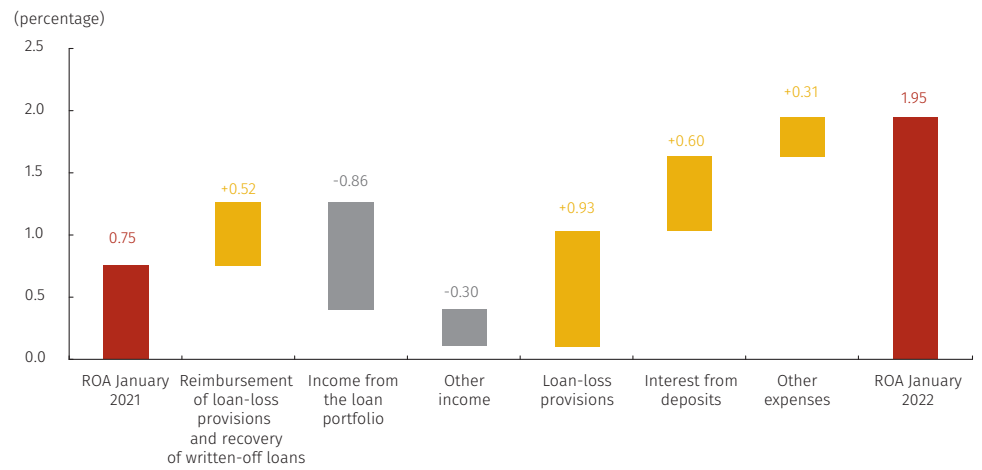
In terms of liquidity, the thirty-day risk indicator (LRI) decreased for cooperatives, rose for finance companies (CFC in Spanish), and remained relatively stable for the other types of institutions and for the aggregate of CIs during the six months from September 2021 to March 2022. Liquid assets continue to significantly exceed the net liquidity requirements both in the aggregate and by type of institution (Graph 2.7).

Graph 2.6

A. Return on assets (ROA)



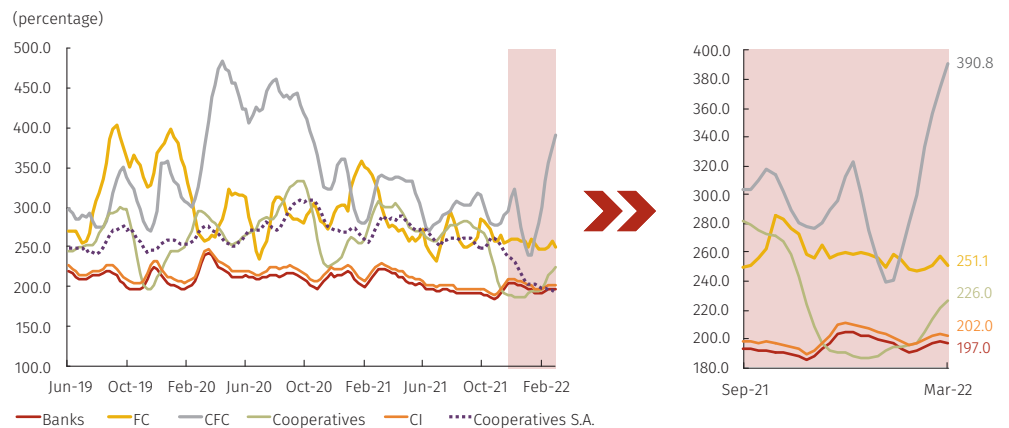
B. Breakdown of ROA



Note: other income includes commissions and fees, net valuation of derivatives, net changes, among others. Other expenses include administrative and labor expenses, taxes, among others.  
 Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

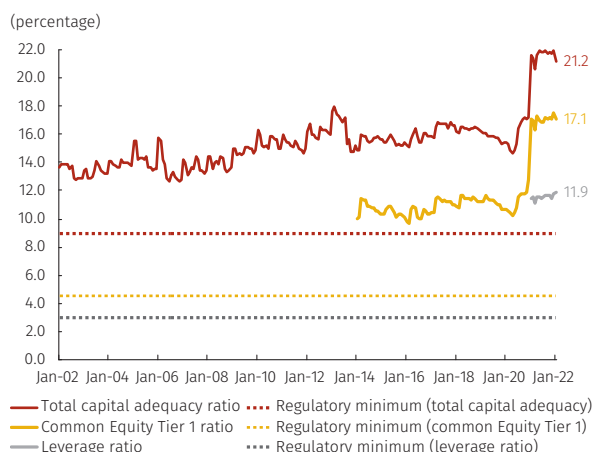
Graph 2.7

Simple Average 30-day Liquidity Risk Indicator (LRI) for CIs<sup>a/</sup>



a/ Simple average of the last four weeks.  
 Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

**Graph 2.8**  
Capital adequacy indicators



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

Note 2: the regulatory limits for total capital adequacy and common equity tier 1 ratios are 9% and 4.5% respectively. In 2022 (2023) the limits, including the conservation buffer are 9.75% (10.125%), 6.0% (6.75%), and 5.25% (5.625%) for the total capital adequacy, additional common equity tier 1, and common equity tier 1 ratios, respectively. For systemically important institutions, an additional 50 bps (75 bps) is required. In practice, failure to comply with capital buffers does not imply non-compliance with regulatory limits and, therefore, does not constitute a situation of insolvency.

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

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

Regarding the institutions' equity soundness, total capital adequacy, Common Equity Tier 1, and leverage ratios register levels that are well above their regulatory minimums and have remained relatively stable during the last year (Graph 2.8).

### 2.1.2. Credit institutions: consolidated balance sheets<sup>10</sup>

At the consolidated level, the CIs presented a performance similar to what was reflected in their individual balance sheets<sup>11</sup> with a slight recovery in assets, and improvements in the loan portfolio quality, profitability, and capital adequacy indicators.

The consolidated assets of CIs amounted to COP 1.124,1 tm as of December 2021<sup>12</sup> and represented 95.5% of GDP (Graph 2.9). Its real annual growth rate reversed the downward trend it had been showing since mid-2020 and returned to positive levels in March of the same year.

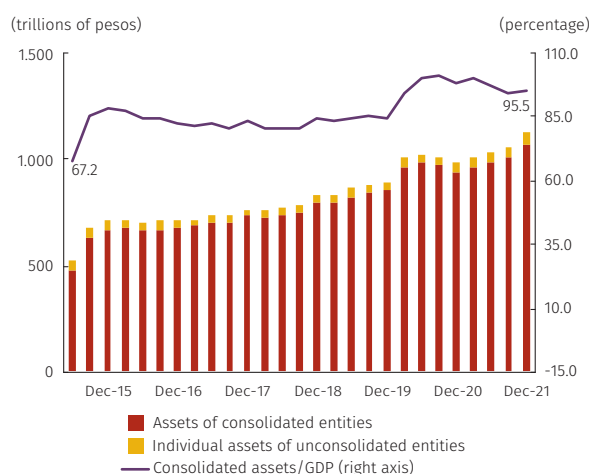
The greater growth of assets over the last few months of analysis was registered mainly due to the performance of the loan portfolio which accounted for 67.9% of the assets. In contrast, investments, which represent 16.9% of assets, have shown a downward trend since the end of 2020.

The surge in the loan portfolio was seen generally in all the different types of loans. The growth of the household loan portfolio led the recovery with real growth of 12.2% in housing and 10.6% in consumer loans. The commercial and microcredit loan portfolios, which have been shrinking for a prolonged period of time, also began to expand at positive rates.

The NPL, in turn, showed signs of recovery after the peaks registered at the end of 2020 as a consequence of the pandemic. The recovery has been led by the consumer loan portfolio that has seen its indicator fall by 1.5 pp since the peak in December 2020. The recent performance of portfolio quality indicators at the individual level suggests that there will be additional corrections in delinquency at the consolidated level.

In terms of profitability, CIs achieved a consolidated ROA of 1.4%, the highest since December 2019 (pre-pandemic levels). Last of all, total consolidated capital adequacy was 7 pp above the regulatory minimum and showed sufficient capital adequacy. However, the gap with respect to the regulatory minimum is smaller than what is seen when the indicator is

**Graph 2.9**  
Consolidated and Individual Assets of CIs



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

10 For more information on the relevance of monitoring consolidated balance sheets, see Shaded section 1 of this Report.

11 Individual balance sheets refer to the separate balance sheets of the CIs.

12 The figures contained in this section are the combined consolidated balance sheets reported by CIs and the individual balance sheets of those CIs that do not consolidate as of 31 December 2021.

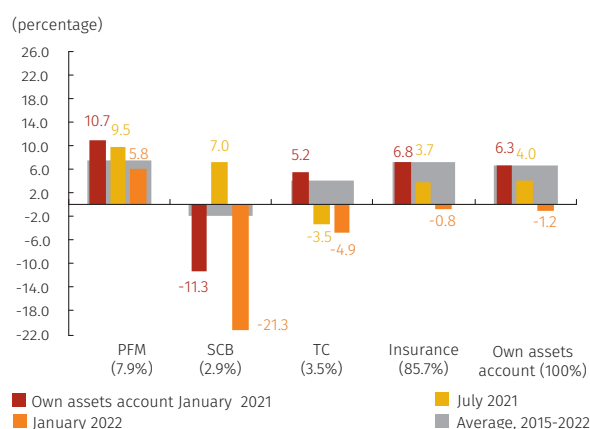
Table 2.1  
Key Financial Indicators of CIs at the Consolidated Level

Indicator	Jun-21	Dec-21	Change (percentage points)	Evolution Dec-19 to Dec-21
Real growth of assets	-1.6	10.5	12.1	
Real growth of investments	6.6	5.0	-1.6	
Real growth of the total loan portfolio	-0.3	10.0	10.3	
Real growth of the commercial loan portfolio	-3.2	9.2	12.4	
Real growth of the consumer loan portfolio	2.2	10.6	8.4	
Real growth of the housing loan portfolio	5.0	12.2	7.2	
Real growth of the microcredit loan portfolio	0.0	7.5	7.5	
NPL of the total loan portfolio	4.7	4.1	-0.7	
NPL of the commercial loan portfolio	3.8	3.2	-0.6	
NPL of the consumer loan portfolio	5.7	4.7	-0.9	
NPL of the housing loan portfolio	5.8	5.4	-0.4	
NPL of the microcredit loan portfolio	8.1	6.7	-1.4	
ROA	0.9	1.4	0.5	
Total capital adequacy	16.6	16.9	0.3	
Core capital adequacy	11.6	12.0	0.4	

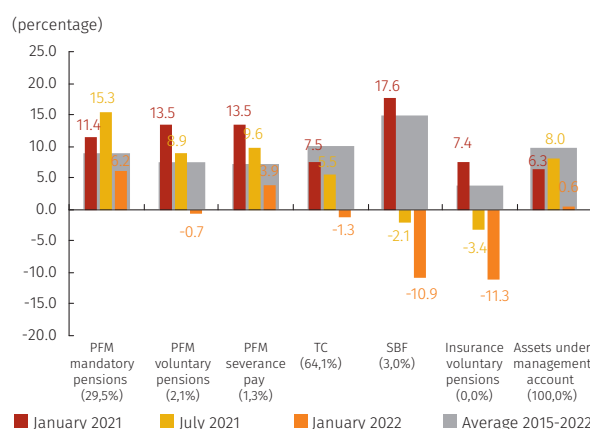
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

Graph 2.10  
Development of Real Annual Growth of NBF Assets

#### A. Own assets



#### B. Assets under management



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

calculated with individual information and reflects the fact that at the consolidated level the same capital is backing a greater volume of activity. Table 2.1 gives a summary of the main financial indicators of the CIs at the consolidated level.

### 2.1.3 Non-bank Financial Institutions

During the last six months, the own assets and the assets under management of non-bank financial institutions continued to decline and, in some cases, showed reductions in real terms as of January 2022.

In the last six months, the share of non-bank financial institutions' (NBFIs) own assets in total financial assets decreased from 5.0% to 4.8%. The downward trend, which had been present since the onset of the pandemic, was exacerbated at the end of 2021 and registered contractions in real terms as of January 2022. By type of entity, only the pension fund managers (PFM) continued to show a positive real growth rate (Graph 2.10, panel A).

The NBFIs' assets under management, which represents 50.7% of total financial assets continued to decline. This downward trend occurred across the board for all types of entities during the second half of 2021 and, as of January 2022, more than half of the portfolio registered decreases in real terms (Graph 2.10, panel B). In general, the decline in both the own assets and the assets under management is mainly due to the devaluation of investments, which is analyzed in section 3.2 of this Report. However, the constitution of the BTG Pactual bank entailed a transfer of assets from its commission agent to the bank, which contributed to the sharp fall in the aggregate assets of the stock brokerage firms (SBF).

The declining trend of the assets of collective investment funds was corrected during the last half year and stabilized around COP 63 b.

During the fourth quarter of 2021, the assets of open-end collective investment funds (CIF) managed by trading companies (TC), SBF, and investment management companies (IMC) decreased COP 11.7 t, mainly due to the withdrawals. In the first months of 2022, the deposits contributed to the recovery of the assets. However, devaluations registered during March 2022 (COP 4.3 t) reduced the amount of total assets (Graph 2.11).

The NBFIs' investment portfolio showed a recovery after the downward trend it had been showing.

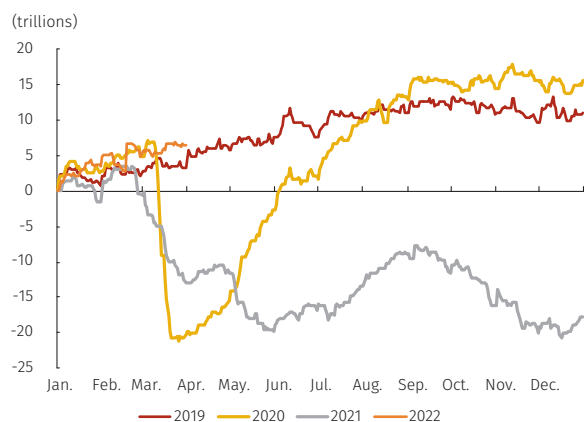
Using the investment information from the March 2022 FSC Form 351, it can be seen that the downward trend of the insurers' proprietary investment portfolio was reversed at the end of 2021 and showed signs of recovery over the course of 2022. This recovery is mainly explained by the performance of the treasury bonds (TES) for both life insurance and general insurance companies (Graph 2.12). Although the investment portfolio managed by TC and SBF continued to show negative growth rates, in the first few months of 2022 it had a better performance driven by CDs. The latter could suggest that the performance of the assets under management

**Graph 2.11**  
Open-ended Collective Investment Funds

**A. Total Assets**



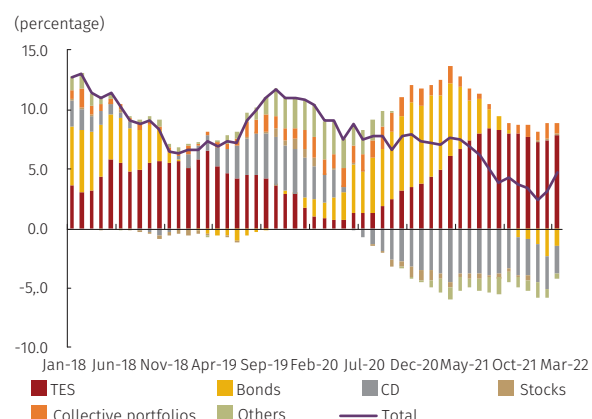
**B. Cumulative Net Deposits**



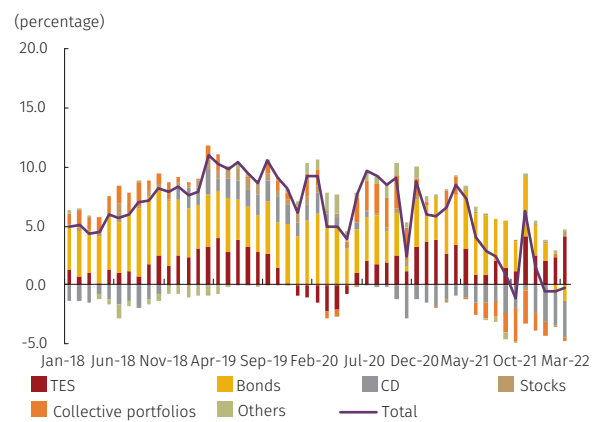
Source: Office of the Financial Superintendent of Colombia (SFC); calculations by Banco de la República.

**Graph 2.12**  
Real, Annual Growth of Loan Portfolio in Proprietary Position

**A. Life Insurance**



**B. General Insurance**

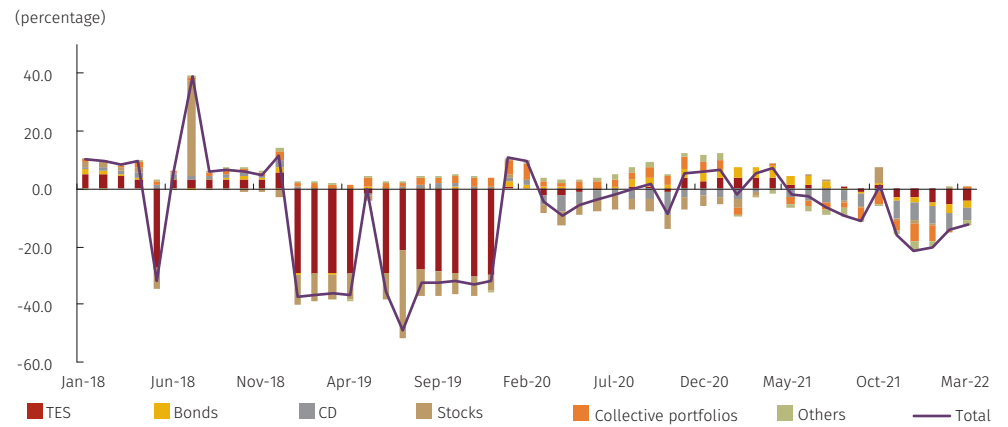


Source: Office of the Financial Superintendent of Colombia (SFC); calculations by Banco de la República.

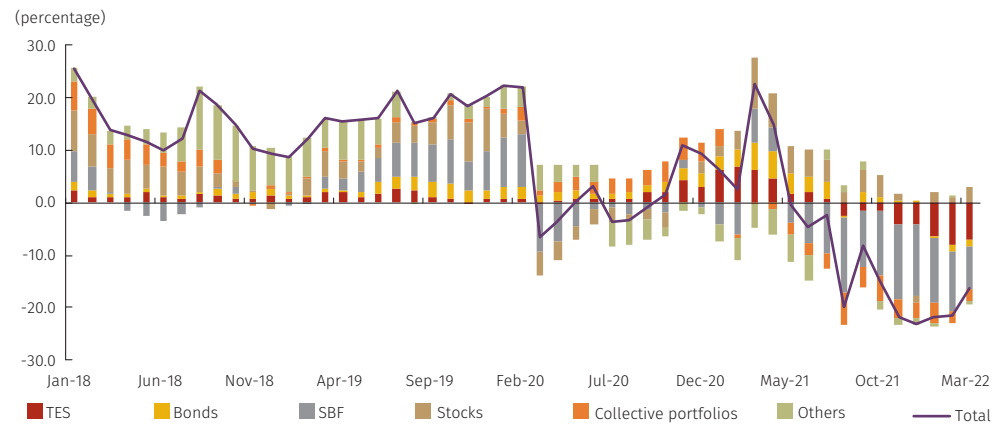
presented at the beginning of this section could improve during the first quarter of 2022. In contrast, the investments managed by the PFM maintained high growth rates (Graph 2.13).

**Graph 2.13**  
Real Annual Growth of Managed Portfolio

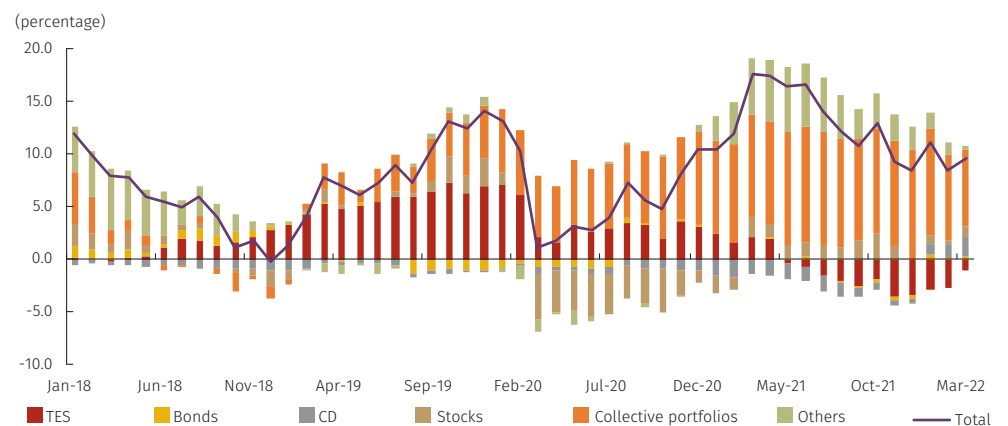
**A. Trust Fund Companies**



**B. Stockbrokers**

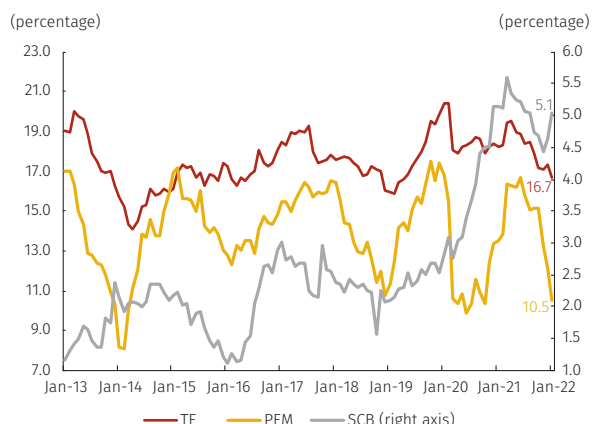


**C. Pension Fund Managers**



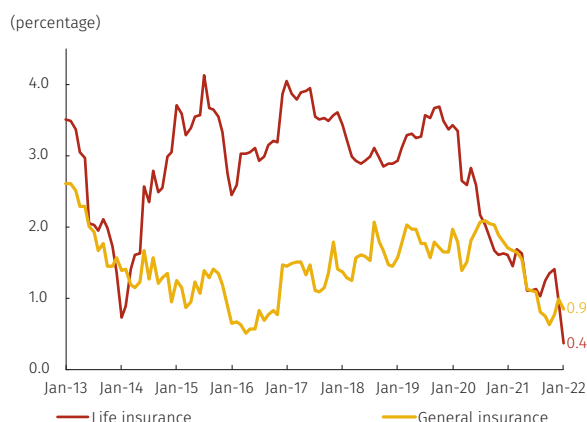
Source: Office of the Financial Superintendent of Colombia (SFC); calculations by Banco de la República.

**Graph 2.14**  
ROA of TC, SBF, and PFM



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

**Graph 2.15**  
Insurance Company ROA



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

Over the course of the year, the profitability of insurance companies continued to decrease and for entities that manage investment portfolios, there was a reversal in the positive trend they had been exhibiting.

The ROA of the PFMs and TCs registered downward trend since mid-2021 due to losses from the valuation of investments, and in TCs, it was also due to an increase in administrative and labor expenses (ALE). For the SBFs, in turn, the indicator continued to decline until the end of 2021 and increased between December 2021 and January 2022, which is explained by the valuation of the investments (Graph 2.14). As for insurance companies, profitability continued its negative trend (Graph 2.16). In both general and life insurance companies, this performance is due to significant increases in claims payments. For the former, claims rate are explained by the automobile and civil liability lines, and the settlement of the Hidroituango hydroelectric power plant claim while for the latter it is due to the disability and survivorship line (Graph 2.15).

## 2.2 Credit Risk

The analysis of credit risk presented below is divided between the corporate sector and households. In the first sub-section, the development of corporate sector indebtedness and the perception and materializing of credit risk for private companies is analyzed by economic sector and by the size of the debtor firm. The indebtedness of households is analyzed in the second sub-section and some risk indicators that are related to the performance of this loan portfolio are presented.

### 2.2.1 Corporate Sector<sup>13</sup>

#### 2.2.1.1 Change in corporate sector indebtedness

In 2021, the indebtedness of the corporate sector declined as a percentage of GDP. This was explained by the economic recovery seen during this period. Nevertheless, this indebtedness remains at historic highs. The percentage of private corporate sector debt in foreign currency with foreign exchange risk mitigation mechanisms had decreased as of December 2021.

As of December 2021, the total indebtedness of the corporate sector as a share of annualized GDP stood at 60.2% and showed a 3.6 pp reduction with respect to December 2020. This

<sup>13</sup> Due to availability of information from the FSC Format 341, "Individual Information by Debtor: Active Credit Transactions," the last actual figures in this section are presented as of December 2021.

reduction is a result of the economic recovery seen during 2021.<sup>14</sup> Nevertheless, indebtedness remains at historic highs.

The private corporate sector<sup>15</sup> contributed 51.6 pp of total debt while the public sector contributed the remaining 8.6 pp. The former presented a decrease characterized by a lower share of indebtedness with domestic financial institutions and bonds issued in the local market between December 2020 and 2021 (Graph 2.16, panel A). The public corporate sector, in turn, saw a reduction in a context of a lower share of loans with foreign financial institutions (Graph 2.16, panel B).

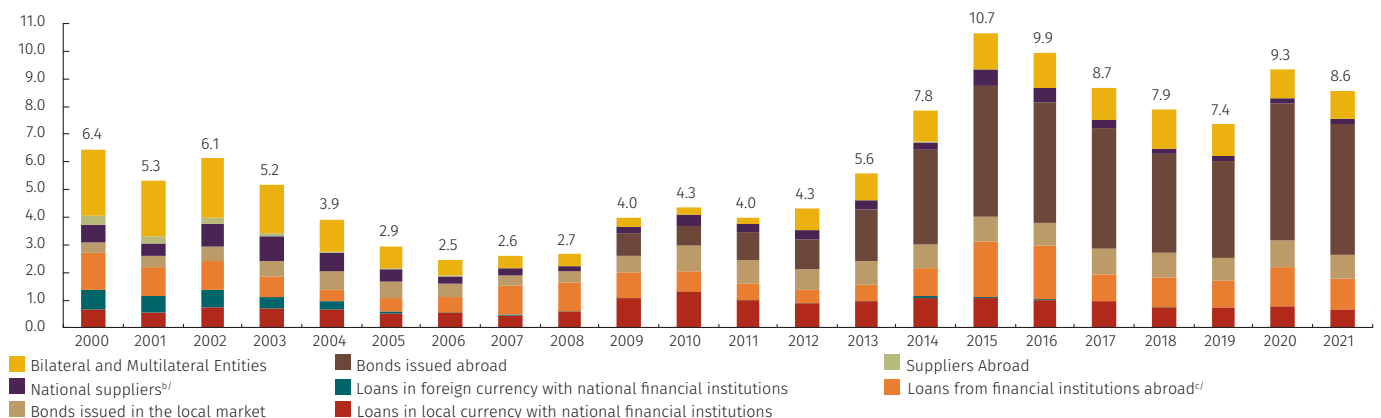
Graph 2.16  
Corporate Sector Financial Debt as a Percentage of GDP by Instrument

A. Private Corporate Sector



a/ This only includes information from companies that report their financial statements to the Superintendency of Corporate Affairs. In 2016, all of the companies registered their financial statements using IFRS which did not make it possible to determine the balance of debt owed to national suppliers. Therefore, in order to do an approximation of the data from these companies, the average percentage that the short and long-term providers reported under current and non-current liabilities respectively, during this period, for the companies that reported between 2007 and 2015 using the UAP was calculated, and an equal percentage for the entities that submitted financial statements in 2016 was assumed. Since the financial statements for 2021 have not yet been published, the information for 2020 is used.  
Sources: Office of the Financial Superintendent of Colombia, Superintendency of Corporate Affairs, and Banco de la República, calculations by Banco de la República.

B. Public Corporate Sector



b/ Includes information on the balance of accounts payable of the main non-financial companies in the public sector. c/ Financial leasing transactions are not included.  
Sources: Office of the Financial Superintendent of Colombia, Contaduría general de la Nación (General Accounting Office), Ministerio de Hacienda y Crédito Público (Ministry of the Treasury and Public Credit), calculations by Banco de la República.

14 If the level of economic activity had remained at December 2020 levels, indebtedness would have stood at 70.9%.

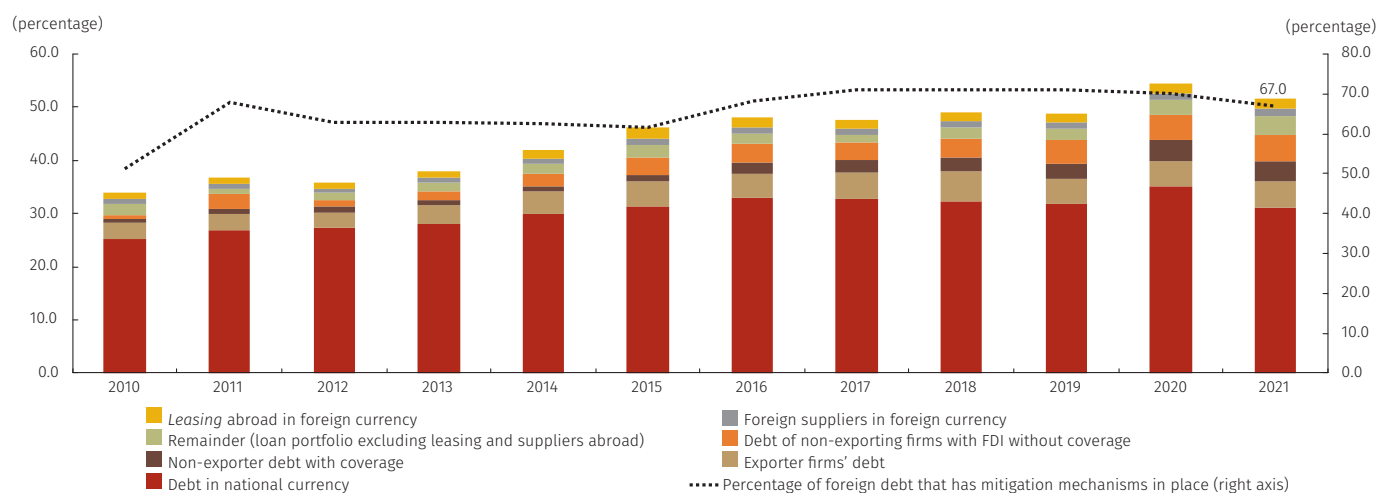
15 Throughout this section, the term “private corporate sector” refers to private companies and excludes those that are monitored by the FSC.

When indebtedness is analyzed by type of currency, private companies continued to keep the majority of their debt in pesos (60.2%). The decrease in the aggregate debt as a percentage of GDP occurred in a context in which the share of debt in local currency (4.0 pp) decreased and the share of debt in foreign currency rose (1.2 pp). The increase in debt denominated in foreign currency is due to the effect of the depreciation of the peso in 2021. If the representative market rate (MER) had remained constant at the value seen in December 2020, the debt in foreign currency as a share of GDP would have declined 1.3 pp.

Debt denominated in foreign currency may be a source of vulnerability for the corporate sector to the extent that it exposes CIs to fluctuations in the exchange rate. Nevertheless, the exposure to exchange rate risk is mitigated if the company is an exporter, if it is hedged (through the use of exchange rate derivatives), or if it has the backing of a foreign entity (*i.e.*: through foreign direct investment, FDI).<sup>16</sup> Graph 2.17 shows the private corporate sector’s financial debt as a share of the GDP by currency hedging, FDI, and the debtor’s foreign trade as of December 2021. As can be seen there, the percentage of debt in foreign currency that has some mechanism to mitigate exchange rate risk decreased (3.0 pp) in 2021. This occurred in a context in which the share held by exporters, non-exporters with coverage and companies with FDI decreased. In spite of the above, debt with mitigation mechanisms still accounts for the largest share of debt (67.0%).

Public companies continued to keep the majority of their debt in foreign currency. The reduction in debt of public companies as a share of GDP occurred in a context in which the debt composition by currencies has remained relatively stable (Graph 2.18).

**Graph 2.17**  
Private Corporate Sector Financial Debt as a Share of GDP by Exchange Rate Coverage, FDI, and Debtor Foreign Trade

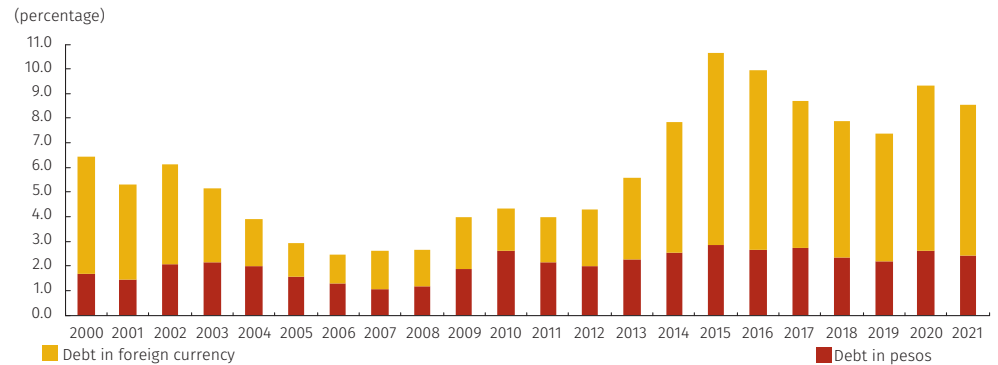


Note: the debt of suppliers in foreign currency and leasing with entities abroad is not available by NIT and, therefore, it is not possible to identify whether or not this debt belongs to hedged companies.

Sources: Office of the Financial Superintendent of Colombia, DANE, and Banco de la República, calculations by Banco de la República.

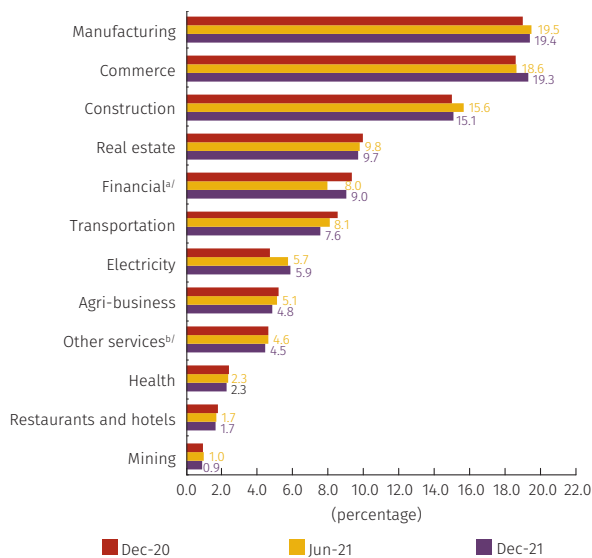
<sup>16</sup> When a foreign entity has FDI in a local company, the foreign exchange risk for the latter is mitigated due to the fact that it is assumed that the investor has an incentive to support the company in the case of a depreciation in the exchange rate. In addition, the structure of the local firm’s foreign currency balance sheet may be a strategy used by the economic group to which the company belongs to reduce the exchange mismatch of the group as a whole.

**Graph 2.18**  
Public Corporate Sector Financial Debt as a Percentage of GDP by Currency



Note: Prepared using the same information as on Graph 2.16, panel B.  
Sources: Office of the Financial Superintendent of Colombia, Contaduría general de la Nación (General Accounting Office), Ministerio de Hacienda y Crédito Público (Ministry of the Treasury and Public Credit; calculations by Banco de la República.

**Graph 2.19**  
Breakdown of the Private Corporate Sector Credit by Economic Sector



a/ The financial and insurance sector excludes the loan portfolio granted to entities supervised by the Office of the Financial Superintendent of Colombia.  
b/ 'Other services' groups firms belonging to the following economic sectors: public administration and defense; education; other community, social and personal service activities; private households with domestic servants; and the organizations and extraterritorial entities.  
Sources: Office of the Financial Superintendent of Colombia, Superintendency of Corporate Affairs, and Banco de la República, calculations by Banco de la República.

**2.2.1.2 Credit risk analysis by sector<sup>17</sup> and company size<sup>18</sup>**

During the second half of 2021, the credit risk indicators analyzed have remained relatively stable or have shown an improvement for most economic sectors. The hotel and restaurant sector continues to show high levels of QIR but registers a declining trend in its NPL. At the same time, there is a deterioration in the indicators for construction and mining.

The economic sectors with the largest share of the loan portfolio granted to the private corporate sector were still manufacturing, commerce, and construction which, as a whole, accounted for 53.7% of this portfolio as of December 2021. The share held by the financial and commerce sectors increased the most while that held by the construction and transportation sectors decreased the most between June and December 2021 (Graph 2.19).

In a context where the Colombian economy is facing inflationary pressures, some productive sectors have experienced significant increases in their production costs which, together with the difficulty of reacting to mitigate the effect of these hikes (e.g.: housing construction), may lead to

17 In this subsection, abbreviations will be used to refer to the following sectors: 1) real estate, rentals and business as real estate; 2) agriculture, animal husbandry, hunting, forestry, and fishing as agribusiness; 3) mining and quarrying as mining; 4) electricity, gas and water as electricity; 5) transportation, warehousing, and communications like transportation, and 6) financial intermediation as finance.

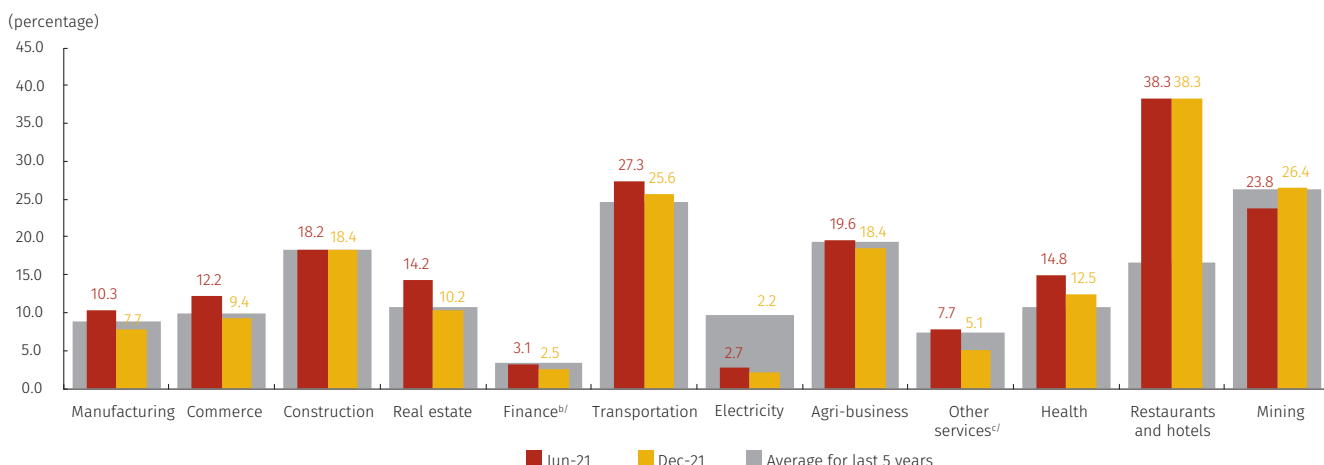
18 For this subsection, the companies are classified by size using the limits stipulated in Chapter II, Appendix 3 of the Basic Accounting and Financial Circular of the Office of the Financial Superintendent of Colombia in which large companies are defined as those with assets exceeding 15,000 current minimum monthly salaries (SMMLV), medium-sized companies as those with assets between 5,000 and 15,000 SMMLV, and small companies as those with assets of less than 5,000 SMMLV. With respect to those companies that registered different sizes over the period analyzed (2016-2021), they are assigned the category with the highest frequency.

a reduction in their profits and thus to a deterioration in their creditworthiness. Given the above, it is particularly important to continuously monitor credit risk indicators by economic sector in the midst of this situation in order to identify possible vulnerabilities for CIs.

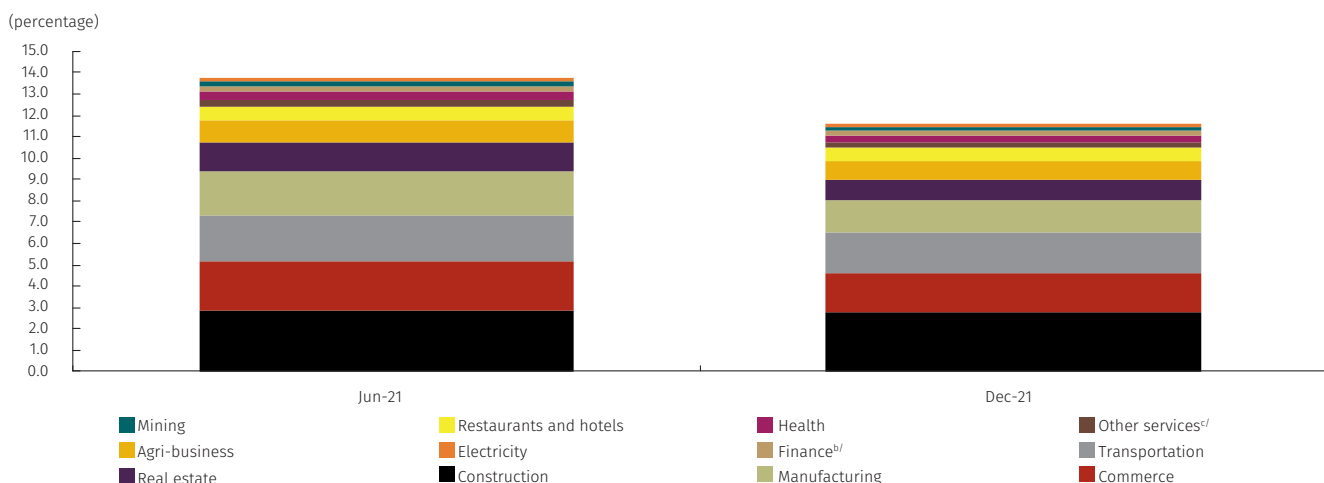
When the QIR is calculated by economic sector, it is clear that the indicator declined during the six months under analysis for all sectors except hotels and restaurants, construction, and mining. The situation for hotels and restaurants is particularly notable since the indicator continues to show high levels. The behavior of mining is also relevant since it was the sector that showed the greatest deterioration and reached a figure slightly higher than the average for the last five years (Graph 2.20, panel A). The contribution, in turn, to the QIR of the commercial loan portfolio of all sectors decreased, especially for manufacturing, commerce, and real estate (Graph 2.20, panel B).

Graph 2.20  
QIR of the Private Corporate Sector

A. Quality Indicator by Risk (QIR) by Economic Sector<sup>a/</sup>



B. Contribution to QIR by Economic Sector



a/ The sectors are organized horizontally from the most to the least representative.

b/ The financial and insurance sector excludes the loan portfolio granted to entities supervised by the Office of the Financial Superintendent of Colombia.

c/ 'Other services' groups firms belonging to the following economic sectors: public administration and defense; education; other community, social and personal service activities; private households with domestic servants; and the organizations and extraterritorial entities.

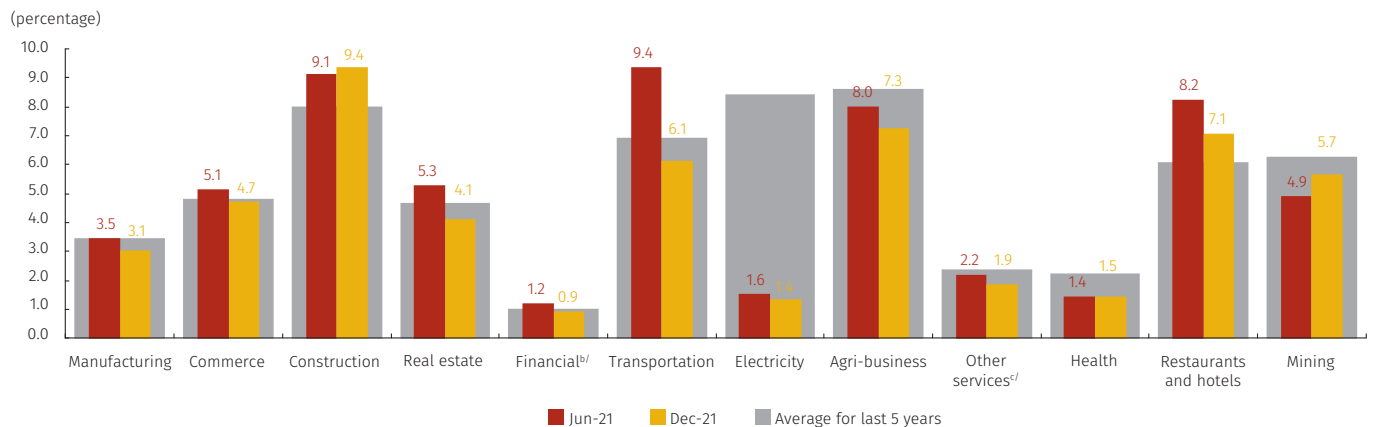
Sources: Office of the Financial Superintendent of Colombia, Superintendency of Corporate Affairs, and Banco de la República, calculations by Banco de la República.

When the sectoral NPL is evaluated, a trend similar to the QIR is seen. In fact, all the sectors that showed an improvement in their QIR also saw one in their NPL with the exception of the health sector which remained relatively stable. The construction and mining sectors, in turn, showed deterioration (Graph 2.21, panel A). In the case of hotels and restaurants, it is clear that even though the Cls' risk perception of this economic sector remains at high levels, its materialization is still showing a downward trend. Like the QIR, the contribution to the commercial portfolio's NPL declined for most sectors. However, in the case of this indicator, transportation was the one that registered the largest decrease (Graph 2.21, panel B).

The analysis by company size reveals that all of the companies exhibited a rebound in portfolio growth during the second half of 2021. In terms of credit risk, the three sizes presented improvements in both risk perception and materialization, and their indicators reached figures that were lower than the average for the last five years.

Graph 2.21  
NPL of the Private Corporate Sector

A. Quality Indicator by Default (NPL) by Economic Sector<sup>a/</sup>



B. Contribution to NPL by Economic Sector



a/ The sectors are organized horizontally from the most to the least representative.

b/ The financial and insurance sector excludes the loan portfolio granted to entities supervised by the Office of the Financial Superintendent of Colombia.

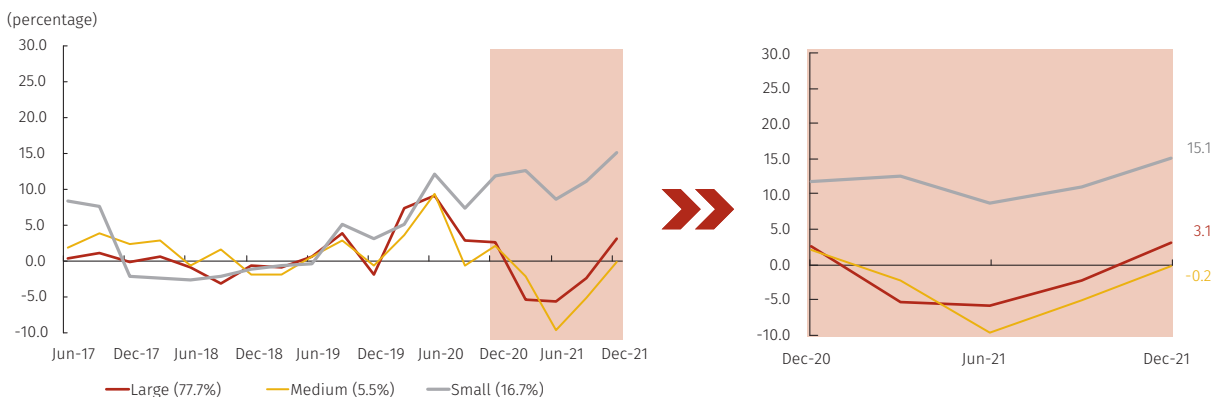
c/ The firms that belong to the following economic sectors are grouped under 'other services': public administration and defense, education, health and social services, other community, social, and personal services, private households with domestic help, and extraterritorial organizations and entities.

Sources: Office of the Financial Superintendent of Colombia, Superintendency of Corporate Affairs, and Banco de la República, calculations by Banco de la República.

As a complement to the sectoral analysis, the performance of the portfolio granted to the private corporate sector by size is also provided. With respect to portfolio trends, note that all the company sizes experienced an upturn during the second half of 2021 with small companies that reached their highest level of growth since 2017 being the most notable case (Graph 2.22). Related to the latter, after having spurred growth in commercial lending to small businesses during the most critical period of the pandemic (March 2020 - June 2021), loans that are guaranteed by the National Guarantee Fund continue to drive much of this surge.

When the credit risk indicators are analyzed by size, it is clear that the QIR and NPL decreased for all categories during 2021 and, in fact, reached levels below the average of the last five years. In the case of small and medium-sized businesses (SMEs), this decrease was greater than what was seen in the case of large companies (Graph 2.23).

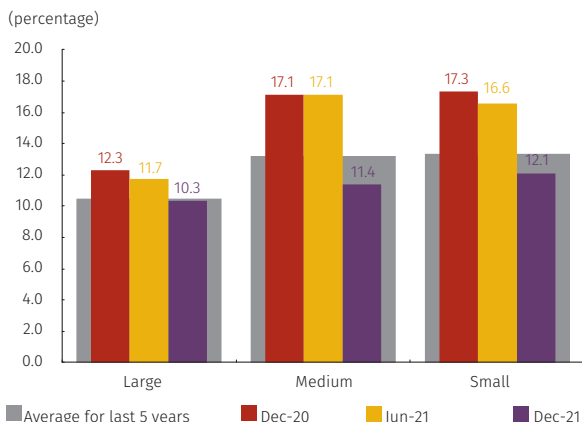
**Graph 2.22**  
Real Annual Growth of the Private Corporate Sector Credit by Size of Firm



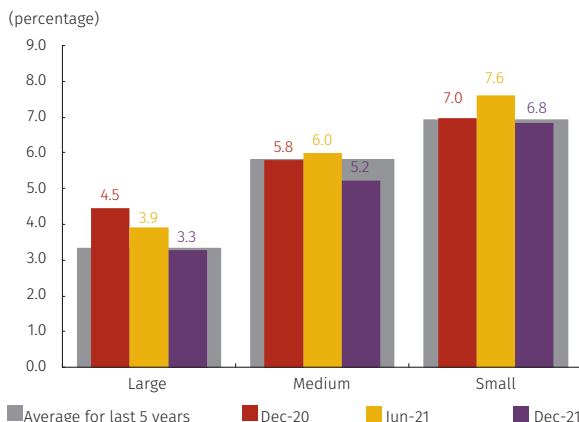
Sources: Office of the Financial Superintendent of Colombia, Superintendency of Corporate Affairs, and Banco de la República, calculations by Banco de la República.

**Graph 2.23**  
Credit Risk Indicators by Company Size

**A. Quality Indicator by Risk (QIR) by Company Size**

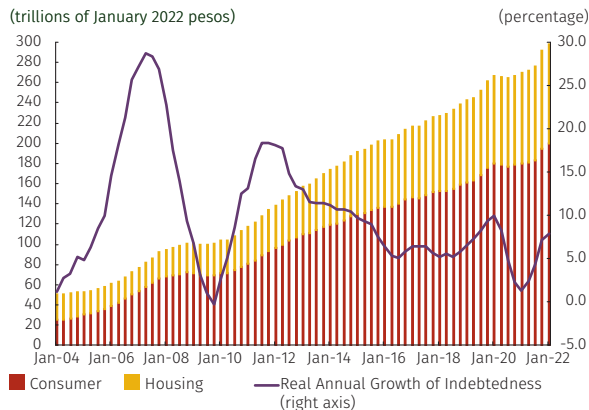


**B. Quality Indicator by Default (NPL) by Company Size**



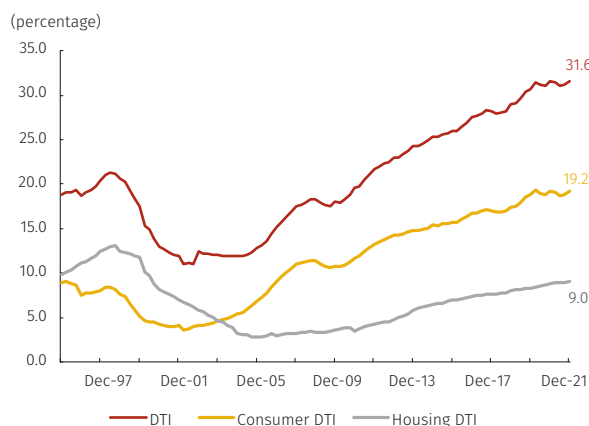
Sources: Office of the Financial Superintendent of Colombia, Superintendency of Corporate Affairs, and Banco de la República, calculations by Banco de la República.

**Graph 2.24**  
Breakdown and Real Annual Growth of Household Indebtedness



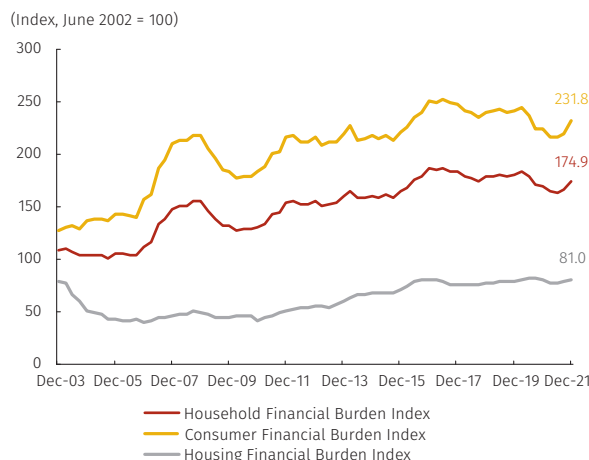
Sources: Financial Superintendency of Colombia, Superintendency of Economic Solidarity, Titularizadora Colombiana, calculations by Banco de la República.

**Graph 2.25**  
Debt-to-Available Household Income



Sources: Office of the Financial Superintendent of Colombia and DANE, calculations by Banco de la República.

**Graph 2.26**  
Household Financial Burden Index



Sources: Office of the Financial Superintendent of Colombia and DANE, calculations by Banco de la República.

### 2.2.2 Households

Household indebtedness continued to increase in January 2022 and consolidated the trend observed during 2021. As a share of their income, the level of leverage for these debtors remains high while their financial burden index rose in the second half of the year.

The household loan portfolio stood at COP 297.3 b with a real annual growth rate of 8.0% as of January 2022, the largest expansion since April 2020 (8.2%, Graph 2.24). Of the total indebtedness, approximately two thirds correspond to consumer loans and the remainder to housing loans, where both types of loans grew in real terms by 8.5% and 6.9% respectively.<sup>19</sup>

Despite the recovery in household income in 2021, the ratio of household debt to disposable income<sup>20</sup> remained at around its historical highs throughout the year although its upward trend appears to have stabilized. The consumer loan portfolio accounted for the largest share of the total indicator (Graph 2.25). The household financial burden index,<sup>21</sup> in turn, which reflects changes in the ratio of installment payments (principal and interest) to disposable income, increased 7.2% between June and December 2021, mainly as a result of the rise in the indicator for the consumption category (which grew 7.5% during the same period). When the parameters of the financial burden were analyzed, it was found that its increase was due to the surge in loans to households and the increase in their interest rate. Like the household debt to disposable income ratio, the financial burden index is close to its historical maximum (Graph 2.26).

The disbursements remained at levels higher than those seen prior to the pandemic as of March 2022. This has been the case for both types of credit while consumer credit reached record highs. This coincides with lower lending requirements for these segments.

19 These growth rates differ from the ones presented in section 2.1 since, in order to build Graph 2.2, households' obligations to savings and loan cooperatives and employee funds were also taken into account.

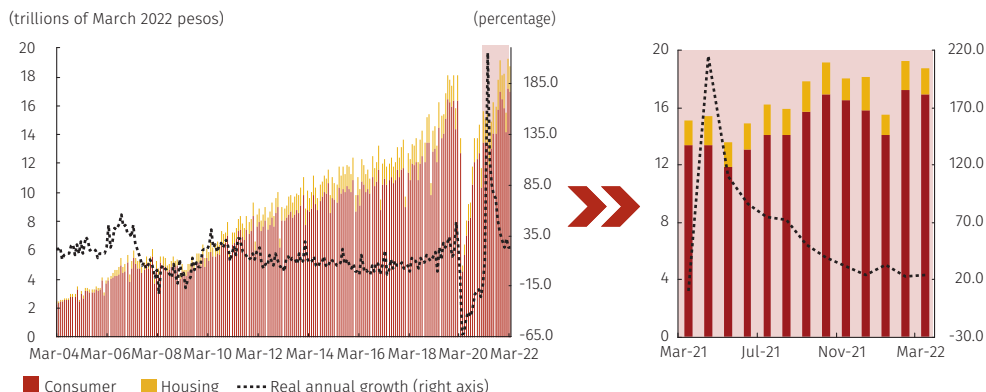
20 Household disposable income comes from DANE's quarterly national accounts classified by institutional sector.

21 This index is calculated based on the fixed installment formula with a constant interest rate proposed in the document "How much income is used for debt payments?" This is a new database for debt service ratios from the September 2015 BIS Quarterly Review that uses information on the volume of debt, average interest rates, and average maturity of consumer and housing loan portfolios. The value of the installment (principal and interest) calculated with these parameters is divided by the disposable income of all households in the economy and converted into an index. This ratio is presented as an index to focus the analysis on its changes over time and not on its level. This is because when the disposable income of all households in the economy (and not only that of those with debt) is included in the denominator, a bias in the level of the ratio may be generated.

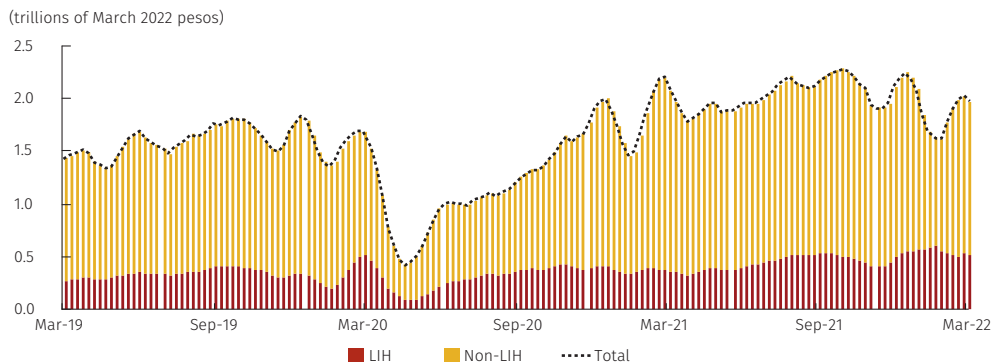
During 2021, against a backdrop of low interest rates, disbursements registered a significant recovery (Graph 2.27). Housing loan placements reached an all-time high<sup>22</sup> in both the Non-LIH (March 2021) and LIH (September 2021) segments. These disbursements, in turn, continued to show high levels in the first quarter of 2022 although their growth has slowed down slightly (Graph 2.27, panel B). In contrast, consumer loans have gained share and reached an all-time high in March 2022,

**Graph 2.27**  
Monthly Loan Disbursements to Households

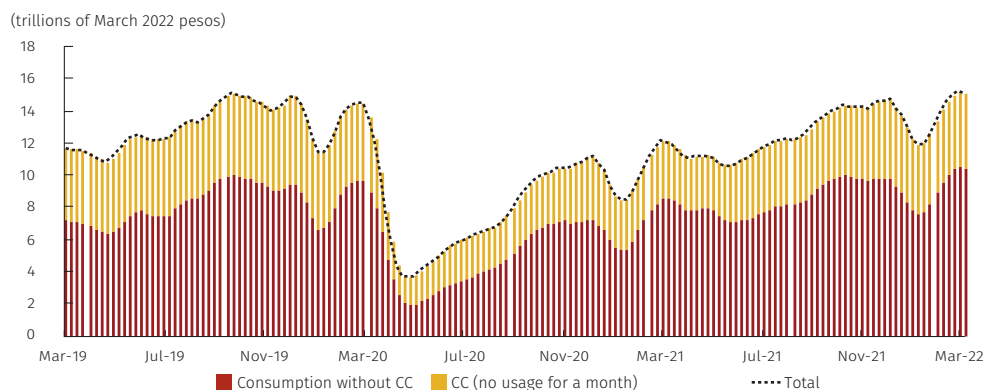
**A. Total**



**B. Housing by segment**



**C. Consumption by segment**

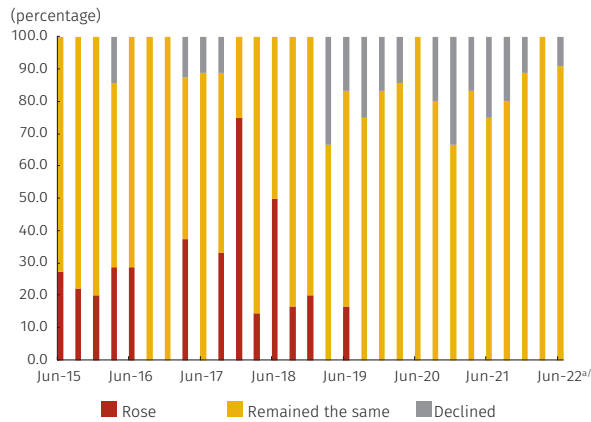


Note: data are presented as four-week moving averages.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

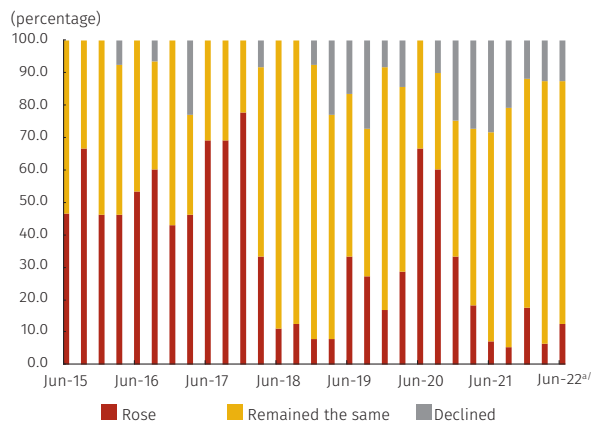
22 The information on portfolio disbursements comes from FSC Form 88, which has been available since 2002.

**Graph 2.28**  
Change in Requirements for Allocating New Loans

**A. Housing Loans**

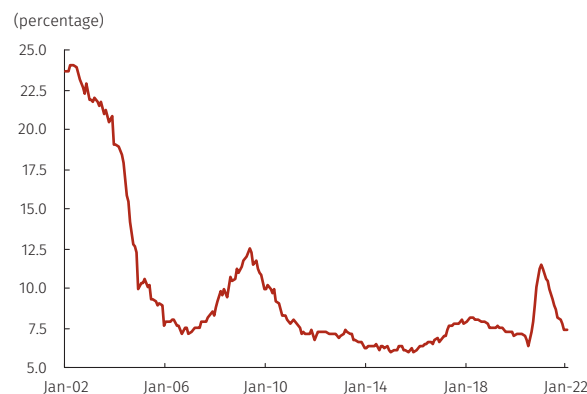


**B. Consumer Loans**



a/ Expectations in March 2022 for the next quarter.  
Source: Survey of the credit situation in Colombia, March 2022, calculations by Banco de la República.

**Graph 2.29**  
Household QIR



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

mainly due to placements other than credit cards (CC; Graph 2.27, panel C).

Along with the increase seen in consumption and housing disbursements, the banks' stance on new loans remains less restrictive. According to the March 2022 *Survey of the Credit Situation in Colombia*, no institution has said it will tighten its requirements for the housing loan portfolio since the end of 2019, and all of the banks surveyed declared that they would keep them the same (Graph 2.28, panel A). The percentage of banks, in turn, that lowered or maintained their requirements for granting consumer loans has shown an upward trend since June 2020 and reached 93.7% in the latest version of the survey (Graph 2.28, panel B).

Expectations of demand for the next three months suggest that high disbursements in both categories will continue to be strong. In spite of the above, CIs had a credit approval rate of 38.7% and 70.5% for the consumer and housing portfolios respectively as of December 31,<sup>23</sup> and the Quarterly Survey of Economic Expectations of *Banco de la República* showed a low perception of credit availability (only 18% of those surveyed expect higher availability in the next six months).

*The risky and non-performing portfolios of households have shown a downward trend in the last twelve months and registered real contractions that corrected the strong growth registered up to January 2021. Given the above, the credit risk indicators have been declining although when write-offs are included, the indicator remains stable.*

In terms of credit risk indicators, after the high growth seen since the second half of 2020, the risky portfolio granted to households has seen a decline. This has resulted in a 7.4% reduction of the QIR for this sector in January 2022 which is lower than the 8.6% registered in August 2021 (Graph 2.29).

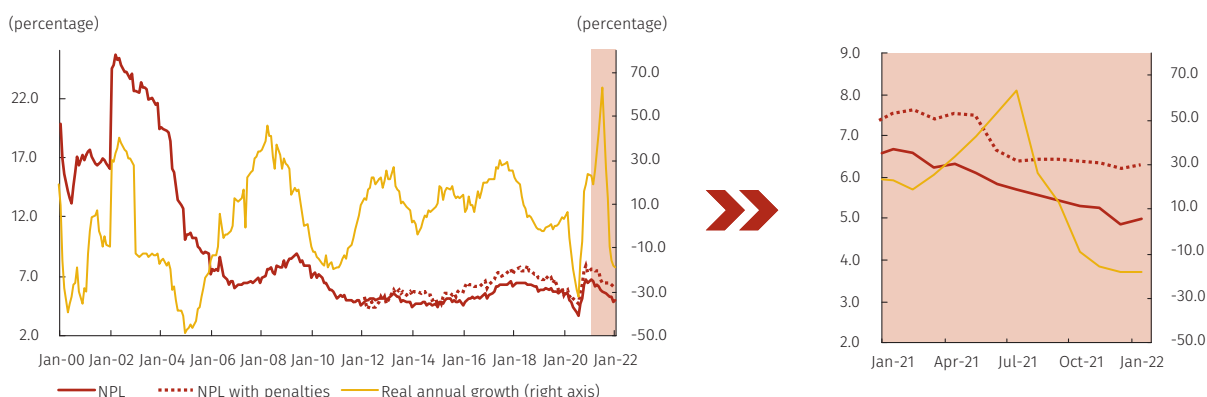
Consistent with the above, the growth rate of non-performing loans to households registered a real 18.5% decline, thus correcting the sharp increases recorded in the first half of 2021. In line with this result, the NPL was lowered to 5.0% in January 2022 and even improved on records prior to the onset of the pandemic. Despite the above, when the accumulated flow of write-offs net of recoveries for the last twelve months are included in the indicator, the conclusion can be drawn that the adjusted delinquency rate has remained relatively stable over the last six months. In December 2021, the gap between the two indicators reached the highest value seen since July 2018 (Graph 2.30).

23 For more information, see the report on the financial system during the mandatory quarantine for life from the FSC as of February 02, 2022.

When analyzed by type of credit, the NPL of the consumer loan portfolio segments have declined across the board and have reached lower levels than those registered prior to the pandemic. The decrease is significant, especially in the categories of unspecified use loans, and credit cards (which represent 20% of the consumer loan portfolio) which reached historically high default levels twelve months ago (Graph 2.31, panel A). In the case of housing, default by segment is also lower than it was prior to the pandemic, and its improvement has been driven mainly by the non-LIH segment which accounts for 72% of the loans in this portfolio (Graph 2.31, panel B).

The results of the quality indicators are consistent with the findings of the credit bureau Transunion’s publication Consumer Pulse Colombia, which has been doing a survey since March 2020 to measure the financial impact of the pandemic on Colombian consumers. As shown in Graph 2.32, the percentage of respondents currently affected by the pandemic is at 30%, which is significantly lower than the

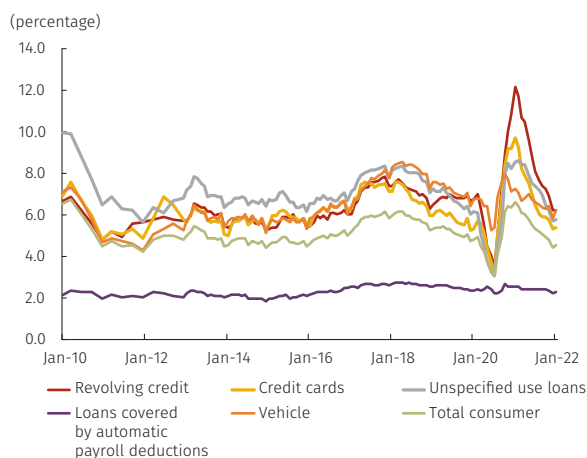
**Graph 2.30**  
Non-performing Loan Portfolio Behavior and Household NPL



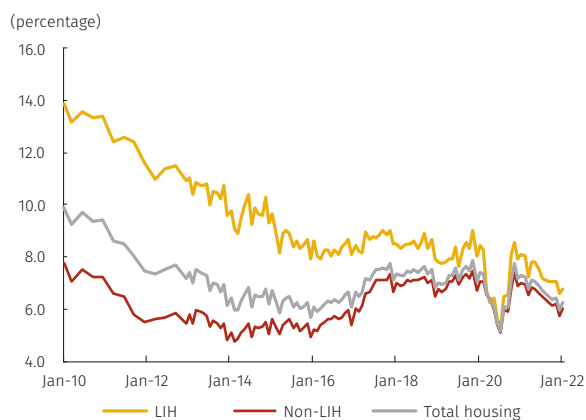
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

**Graph 2.31**  
Quality Indicator by Default for each Segment

**A. Consumer**

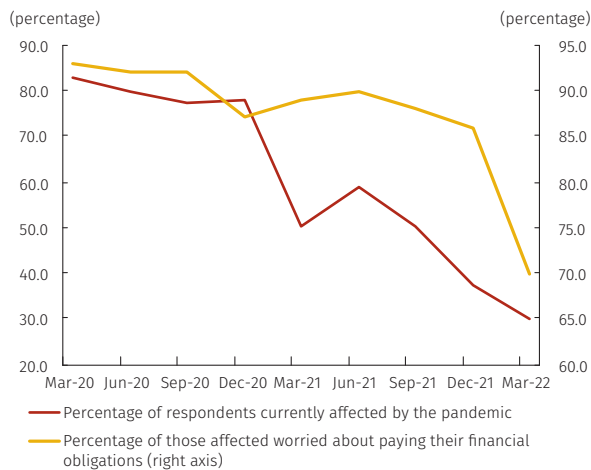


**B. Housing**



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

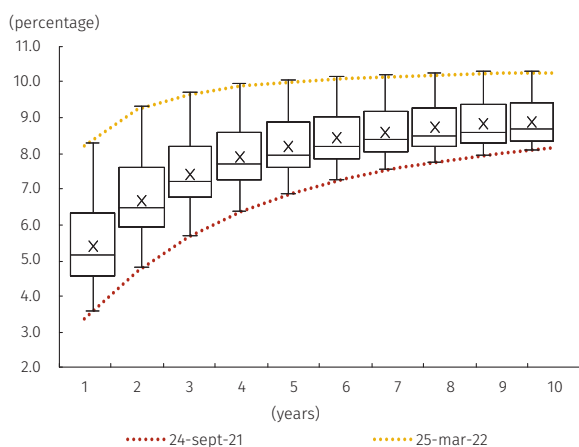
**Graph 2.32**  
**Perception of Impact of the Pandemic on Colombian Consumers**



Source: Transunion.

**Graph 2.33**  
**Peso-denominated TES Market**

**A. Yield Curve**



Note: The box-and-whisker plots in Panel A correspond to the distribution of yields for each vertex between the two dates of analysis. The mean/median is marked with an X

**B. Interest Rate Differential between 10 and 1 Years**



Note: The yellow bars in panel B bars indicate the periods in which the decrease in the differential is greater than 1 pp with respect to the previous month. Sources: DCV and Precia, calculations by Banco de la República.

83% in March 2020. Similarly, the percentage of those affected who are concerned about paying their financial obligations went from 93% in March 2020 to 70% in the same month of 2022.

**2.3 Market Risk**

*The public debt securities showed devaluations.*

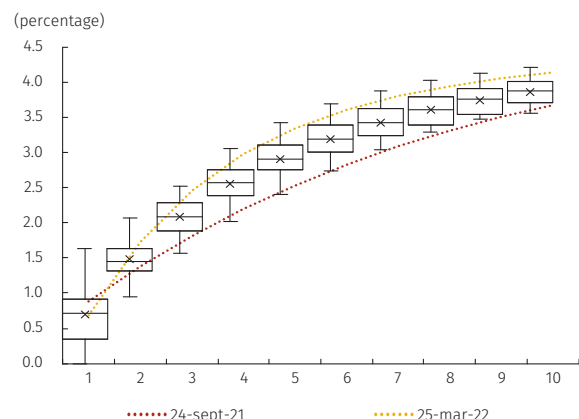
The yield curve for the peso-denominated government bonds flattened between September 2021 and March 2022. The distribution of yields by maturity between these periods exhibited a devaluation in which the latest data is located at the 99th percentile (Graph 2.33, panel A). The higher devaluations in the short-term yields were explained by an elevated inflation and a significant rise in inflation expectations, and by an increase in the expected path of policy rate. The rise in the long-term yields was associated with the uncertainty due to local fiscal and political changes and the performance of US Treasury bonds, which yield curve showed devaluations owing to higher inflation expectations related, among other factors, to the geopolitical tensions between Russia and Ukraine. To quantify the impact of this latter on the portfolio of financial institutions, a static stress test was carried out: a parallel shift in the yield curve of 200bp. This magnitude corresponds to the increase in the 10-year TES rate during the analyzed period. To this shock, equity losses of 3.2% would be observed for the entire financial system.<sup>24</sup>

In line with the performance of global public debt markets, the spread between the 10- and 1-year rates for the peso-denominated-TES narrowed. After the steepening registered since the beginning of the pandemic, it presented a sharp drop not observed since 2010 (Graph 2.33, panel B).

Regarding the public debt market in UVR, the yield curve steepened due to valuations in the short-term yields and devaluations in the medium and long-term yields (Graph 2.34). During the analyzed period, valuations in shorter term maturities were associated with purchases by the MHCP. However, as of 25 March 2022, the short-term yields were at levels similar to those registered on September 24, 2021. The devaluations in the longer term maturities, in turn, were lower compared to the peso yield curve due to higher-than-expected inflation. In general, for both markets this performance is in line with that observed for emerging markets and the United States, given higher inflation expectations and a tight monetary policy stance.

24 When carrying out the same exercise during April 2013 and March 2020, periods corresponding to the beginning of the FED tapering and the coronavirus in Colombia, equity losses of 2.9% and 3.7% respectively were found.

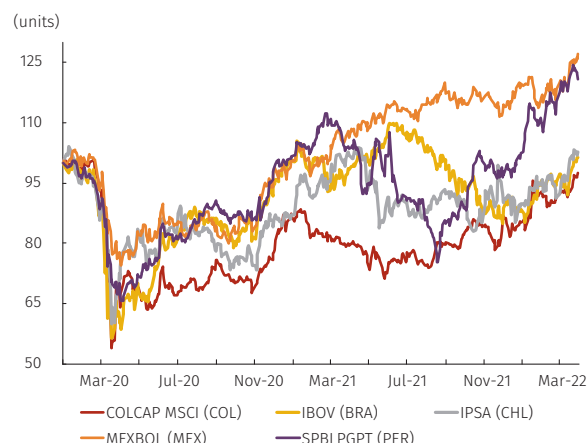
**Graph 2.34**  
UVR-denominated TES Market



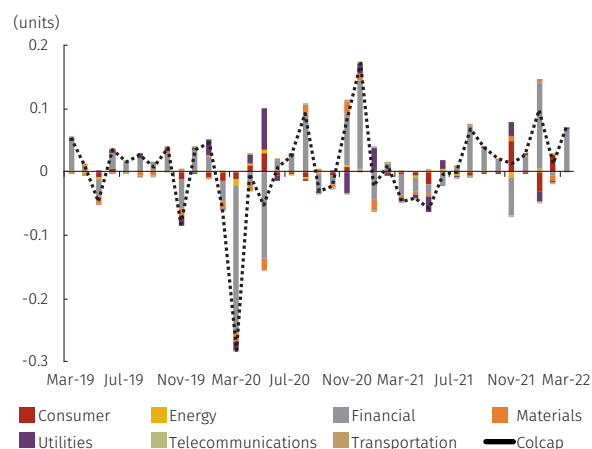
Note: The box-and-whisker plots in Panel A correspond to the distribution of yields for each vertex between the two dates of analysis. The mean/median is marked with an X  
Sources: DCV and Precia, calculations by Banco de la República.

**Graph 2.35**  
Variable Income Market Performance

**A. Regional Stock Market Indices**



**B. Breakdown of MSCI Colcap Growth**



Note: The indices are presented with base 100 as of January 2020 in panel A.  
Sources: BVC and Precia, calculations by Banco de la República.

The local stock market presents recoveries due to an increase in the value of the target companies of the takeover bids presented on the stock exchange. Volatility in the markets reflects the contrasting performance of stocks and local debt.

The stock market price has increased since the end of 2021 due to positive corporate results and rising commodity prices (Graph 2.35, panel A). In Colombia, the MSCI Colcap, which had decreased during the first few months of 2021 due to internal social tensions, recovered during the second half of the year. This trend deepened with the takeover bids (OPA) for Nutresa and Grupo Sura, which boosted their market values<sup>25</sup> (Graph 2.35, panel B). Therefore, despite the slow recovery exhibited by the Colombian stock market compared to its regional peers, so far in 2022 the stock index has reached levels similar to those registered in February 2020.

The stock market volatility peaks between November 2021 and January 2022, which may be due to the takeover bids. Afterwards, it declined to the levels registered in February 2020. As for the debt markets, there was a rising trend in volatility levels during the first quarter of 2022, which is due to factors associated with the devaluation and flattening of the public debt yield curve (Graph 2.36).

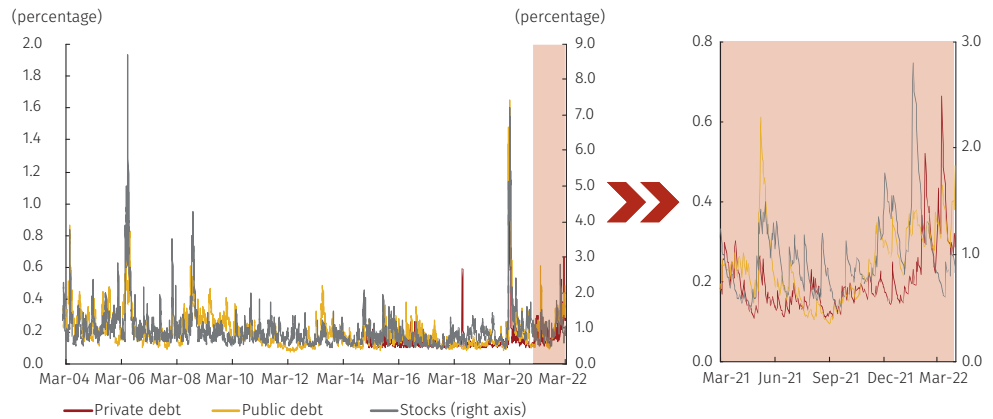
So far in 2022, foreigners' holdings of TES remained stable. On the other hand, Banco de la República's interest rate expectations forecast a less expansionary monetary policy until the first quarter of 2023.

The foreigners' holdings of TES<sup>26</sup> declined 1.4 pp during the fourth quarter of 2021. So far in 2022, the participation of foreigners in the local public bond market remained stable at around 24.0%, and a slight recomposition of holdings in pesos towards UVR was observed: between September 2021 and March 2022, the participation of foreigners in indexed securities went from 1.1% to 1.3% (Graph 2.37, panel A). Compared to the last four years, the cumulative change in foreigners' holdings of TES is the most stable (Graph 2.37, panel B).

25 The takeover bids for Nutresa and Sura on 17 January 2022 increased the returns of Colombian market stocks; see L. F. Melo-Velandia, C. A. Orozco-Vanegas, and D. Parra-Amado (2022). "Takeover Bids and their effect on stock market returns: the case of Nutresa and Sura in Colombia," Borradores de Economía, No. 1195, Banco de la República de Colombia.

26 The participation of foreigners in the local public bond market is analyzed due to the fact that: i) over the course of the past seven years, foreigners have become the largest participants in this market, and ii) in the literature, they are traditionally considered to be the class of investors that is most likely to liquidate their positions in the event of a deterioration in the country's economic conditions or in international financial conditions; See M. C. Ebeke and M. A. Kyobe (2015). "Global financial spillovers to emerging market sovereign bond markets". International Monetary Fund; and D. Park, K. Taniguchi and G. Tian (2018). "Foreign and domestic investment in global bond markets". ADBI Working Paper 535.

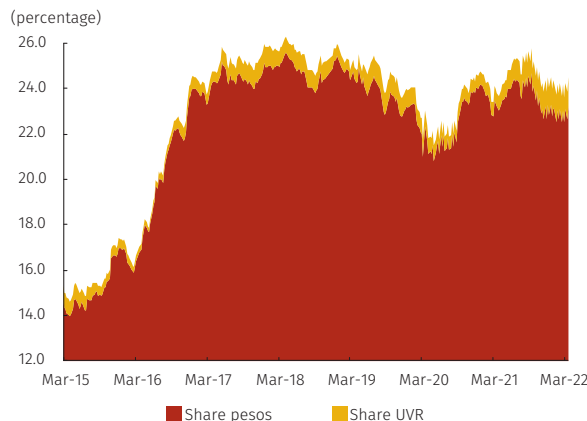
**Graph 2.36**  
Conditional Volatility of Colombia's Fixed Income and Stock Markets



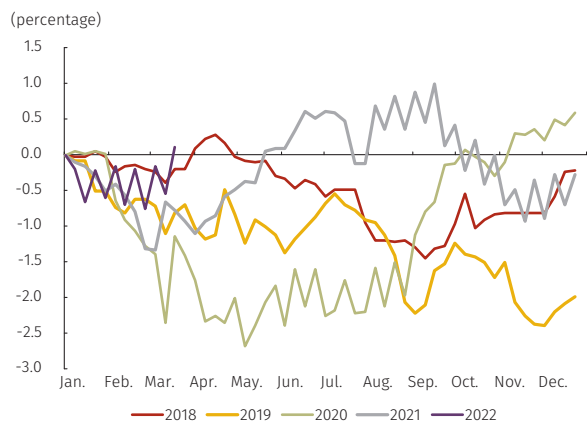
Note: The series is estimated with the GARCH model of conditional volatility.  
Source: Precia; calculations by Banco de la República.

**Graph 2.37**  
Share of TES held by foreigners

**A. Historical Performance**



**B. Cumulative Change**



Source: DCV, calculations by Banco de la República.

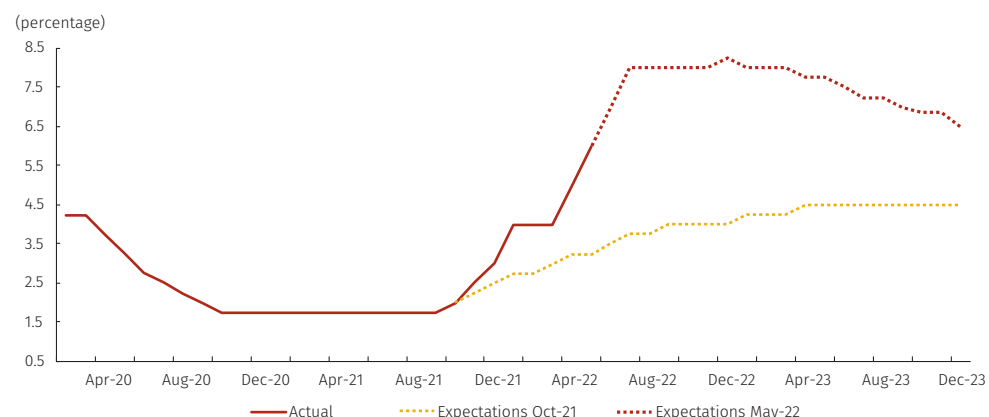
Regarding Banco de la República's benchmark rate, market analysts have modified their forecasts given the inflationary pressures (Graph 2.38). Compared to the expectations registered in October 2021, the new forecasts suggest a less expansionary monetary policy stance until reaching a rate of 8.25% in December 2022.

*Lastly, due to the devaluation in the debt markets and the recovery of the stock market, the market risk exposure of financial institutions towards the latter has risen.*

The investment in securities exposed to market risk,<sup>27</sup> is concentrated in the fixed income securities where the government bond market represents the largest share (Table 2.2). For banks, a recombination of TES towards private debt is observed, contrary to what is registered for CFCs. As for the FCs, their investment portfolio increased in all three markets. For NBFIs there is an aggregate growth in shares except for pension funds in their own portfolio. The SBF in their own portfolio were the only ones to increase their exposure to private debt, and the insurance and capitalization companies increased their exposure to public debt securities. Finally, a shrinking of TC investments in debt securities was registered for the managed portfolio, opposite to what was observed for the SBFs. The exposure to the equity market increased for both types of entities.

<sup>27</sup> This balance is at market prices and is calculated according to the guidelines of the Basic Accounting and Financial Circular. The balance in shares was analyzed for the equity instruments of domestic issuers while, for debt securities, the ones that are marketable and available for sale were analyzed.

**Graph 2.38**  
Expectations for Banrep Benchmark Rate



Source: Banco de la República (Survey of Economic Analysts' Expectations)

**Table 2.2**  
Financial Institutions' TES Balances (in pesos and UVR), Private Debt Securities, and Shares Exposed to Market Risk

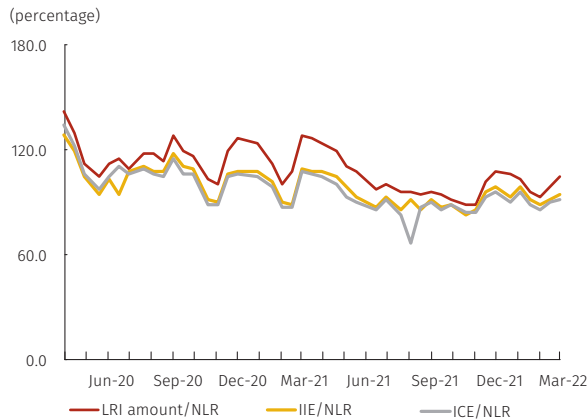
Type of Entity	TES <sup>a/</sup>	Private debt	Stocks	Total	TES	Private debt	Stocks	Total
	(balance in trillions of pesos as of 25 March 2022)				(percentage change in the last six months)			
Credit institutions	50.56	5.43	16.81	72.79	-1.17	11.45	6.87	1.45
Commercial banks	46.74	4.85	0.00	51.59	-1.68	11.58	0.00	-0.57
Investment banks	2.91	0.38	16.80	20.09	6.23	25.93	6.89	7.10
Finance companies	0.91	0.14	0.02	1.07	3.34	-14.42	-6.74	0.37
Financial cooperatives	0.00	0.05	0.00	0.05	0.00	-1.82	0.00	-1.82
<b>Non-banking Financial Institutions (NBFi)</b>	<b>12.95</b>	<b>9.96</b>	<b>6.94</b>	<b>29.85</b>	<b>4.38</b>	<b>-2.46</b>	<b>5.41</b>	<b>2.22</b>
Pension Funds proprietary position	0.23	0.75	0.13	1.11	-21.43	-17.22	-9.52	-17.30
Stock Brokerage Firms: proprietary position	1.18	0.25	0.15	1.58	-12.95	83.52	22.34	-2.25
Trust Fund Companies proprietary position	0.32	0.26	1.10	1.68	-6.23	-10.68	8.35	1.96
Insurance and Capitalization Companies	11.22	8.71	5.56	25.49	7.70	-2.00	4.87	3.59
<b>System in Proprietary Position</b>	<b>63.51</b>	<b>15.39</b>	<b>23.75</b>	<b>102.64</b>	<b>-0.09</b>	<b>2.03</b>	<b>6.44</b>	<b>1.67</b>
<b>Managed position</b>								
Stock-brokerage firms third party position	2.39	9.65	9.79	21.83	15.32	13.31	22.81	17.62
Trust Fund Companies third party position <sup>b/</sup>	102.89	35.84	14.90	153.63	-9.68	-8.00	14.28	-7.40
<b>System</b>	<b>168.79</b>	<b>60.88</b>	<b>48.44</b>	<b>278.11</b>	<b>-5.99</b>	<b>-2.68</b>	<b>11.81</b>	<b>-2.57</b>

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 data.

b/ Pension liabilities managed by trust companies are excluded.

Sources: Central Securities Depository (CSD), Office of the Financial Superintendent, calculations by Banco de la República.

**Graph 2.39**  
30-day Short-term Liquidity for CI Acting as FXMI<sup>a/</sup>



Note: in the numerator of these measures the amount liquidity indicators are used, so the regulatory limit in the graph corresponds to zero.  
a/ Foreign exchange market intermediaries. IIE: Indicator of individual exposure, LRI: Indicator of Liquidity Risk, ICE: Indicator of consolidated exposure and NLR: Net liquidity requirements for 30-day LRI.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

## 2.4 Trading Book Liquidity and Interest Rate Risk

### 2.4.1. Liquidity Risk

CI's short-term liquidity position in local and foreign currencies remains sound.

Aggregate short-term liquidity measures for CI —the indicator of individual exposure (IIE), the indicator of consolidated exposure (ICE)<sup>28</sup> and the liquidity risk indicator LRI —, suggest that entities are still holding enough funds to cover their net 30-day liquidity requirements and, at the same time, they far exceed the regulatory minimum. These indicators, which are measured over the net 30-day liquidity LRI requirements, have shown stability since September 2021 (Graph 2.39).

Liquid assets continued to record low growth rates, while net requirements accelerated.

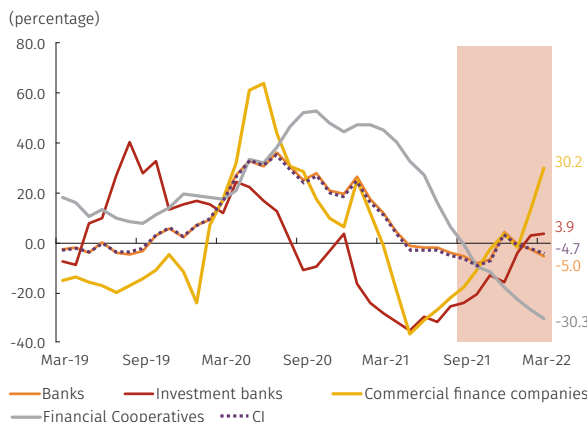
During the last six months, the short-term liquidity of the CI registered a decrease compared to what was seen one year ago (see Graph 2.7, in Section 2.1.1) as a result of liquid assets registered real growth rates were close to zero.<sup>29</sup> The aggregate trend is driven by the banks' situation. For them, the cash rose, high quality investments shrank, and expected outflows expanded. For the other types of CIs, the expansion of liquid assets in the CFCs and the decrease in the cooperatives are due, in both cases, to the dynamics of cash and, in the case of net thirty-day liquidity requirements, the increase in the CFCs is due to a rise in their expected outflows (Graph 2.40).

In terms of funding liquidity, the net stable funding ratio (NSFR) the indicator showed a level higher than regulatory limits. In addition, CI have increased their funding, mainly with sources of medium stability.

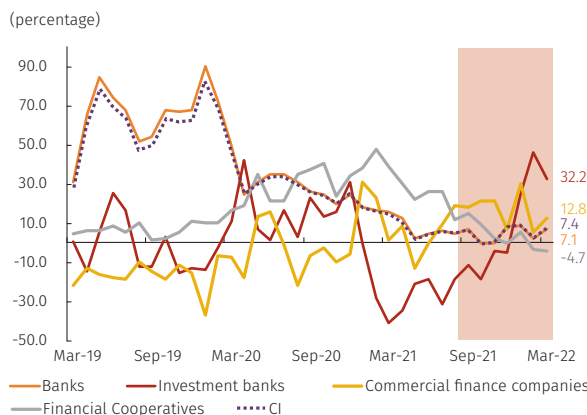
The NSFR rose in annual terms as a result of a greater increase in the available stable funding (ASF) with respect to the required stable funding (RSF). This was due to an increase in bonds funding with maturities ranging from six months to one year, equity, and demand deposits from wholesalers, SMEs, and government entities. As for the RSF, its rise is a result of a larger contribution of loans to the corporate sector and of the housing loans with a maturity of more than one year, as well as of non-liquid shares (Graph 2.41, panel A). As of March 2022, the period of convergence to the standard established

**Graph 2.40**  
Real Annual Growth of LRI Components by Type of CI

#### A. Liquid Assets



#### B. Net Liquidity Requirements



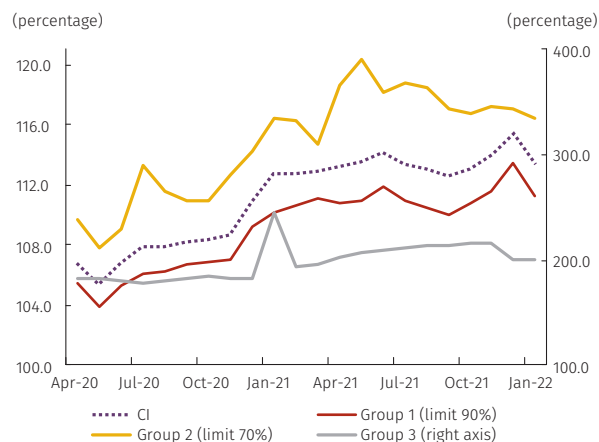
Note: The real annual growth of the last month is shown in the Graph.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

28 The IIE and the ICE indicators make it possible to measure the liquidity risk of the foreign exchange market intermediaries (FXMI) while keeping in mind the currency mismatches over a horizon of thirty days. For more information on the calculation of these indicators see Banco de la República's External Regulatory Circular DODM-398.

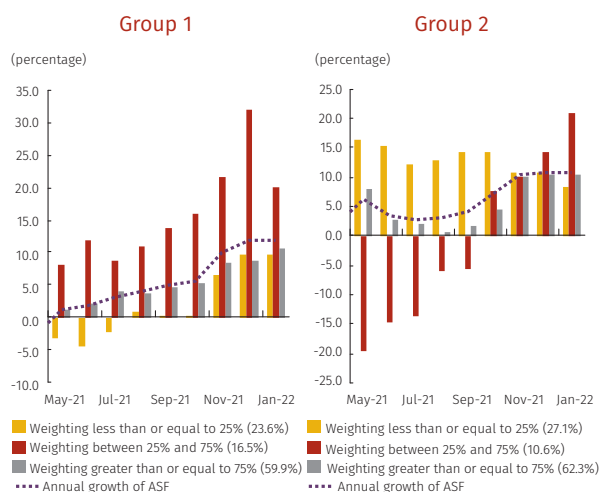
29 This performance was accompanied by the recovery in CI originations and follows the expansion that occurred in the first months of the COVID-19 crisis when the CI accumulated excess liquid assets.

**Graph 2.41**  
Funding Liquidity of CI

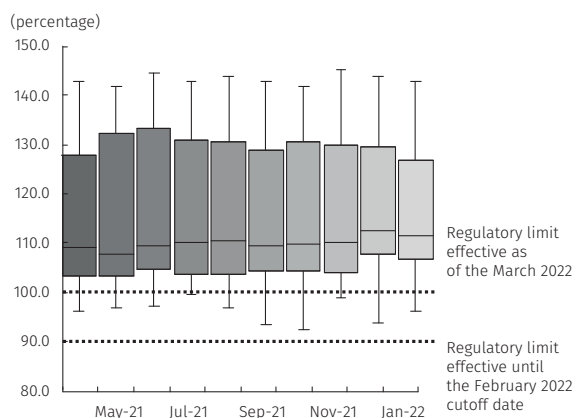
**A. Net Stable Funding Ratio (NSFR)**



**B. ASF Trend by Stability (annual growth)**



**C. Distribution of NSFR of Group 1 Entities (information as of January 2022)**



Note 1: in panel B, the share of the item in the total unweighted ASF is shown in parentheses in the labels.  
 Note 2: in panel B, the analysis of the ASF is based on the unweighted values of each item.  
 Note 3: the distribution of group 2 NSFR is not presented because their regulatory limit is lower and the indicator seen is, on average, higher.  
 Source: Office of the Financial Superintendent of Colombia; calculations by *Banca de la República*.

in External Circular 019/2019<sup>30</sup> will end, a rise in all of the ASF stability categories has been seen as of January 2022, mainly in the sources of medium stability<sup>31</sup> (Graph 2.41, panel B). This contrasts with what was seen during the first half of 2021 when the CIs' funding strategy was mixed. In spite of sufficient funding liquidity at the aggregate level, there are disparities within the Group 1 entities (Graph 2.41, panel C).

*This increase in funding was the result of an increase in demand deposits and a smaller decline in term deposits.*

The funding of the CIs (the sum of liabilities and equity) expanded in real terms since July 2021 consistent with the performance of the loan portfolio, after the reduction it had registered during the first half of the year. This was mainly due to the contribution of demand deposits while term deposits showed smaller decreases (see Graph 2.5 in Section 2.1.1). In the first case, deposits by non-financial government institutions and open-ended CIFs sustained the growth while deposits by the real wholesale sector and large individuals<sup>32</sup> (main counterparty to the CI) and foreign wholesalers registered lower expansion rates (Graph 2.42).

in the case of term deposits, the change in trend towards recovery occurred for all counterparties with the exception of corporate sector TDC. As of January 2022, the deposits by individuals have been the only ones that registered positive real growth and the deposits of the non-financial public sector registered the strongest trend toward recovery (Graph 2.43, panel A). Based on maturity, the best performance is a result of the trend of the TDC between 30 and 360 days (Graph 2.43, panel B). Finally, since 2020 there has been a reduction in the average maturity of TDC in line with the reduction in the rates at which deposits are made and the preference for liquidity that was seen after the start of the COVID-19 crisis.

**2.4.2 Trading Book Interest Rate Risk**

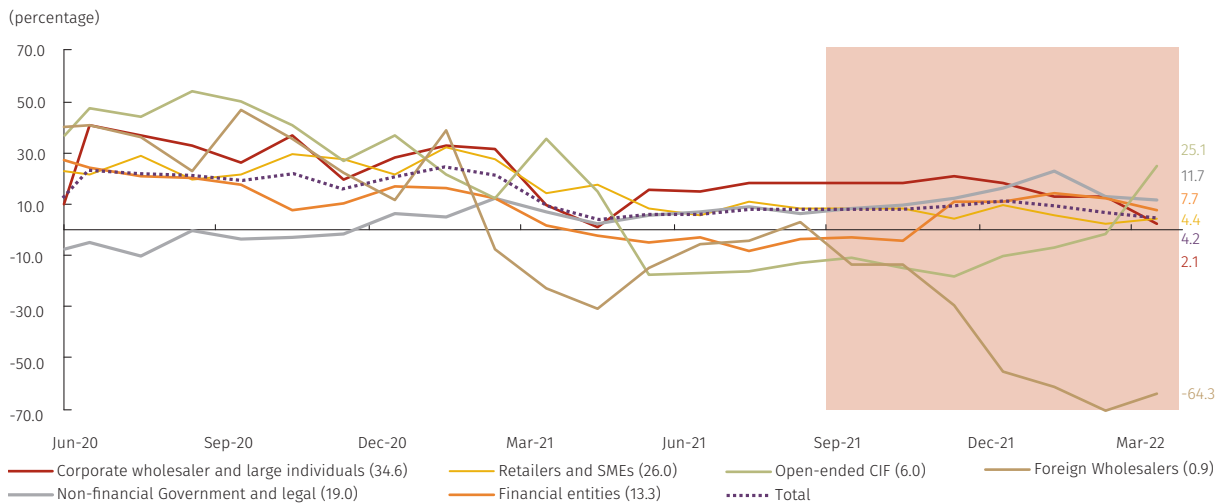
The structure of the interest rates on the balance sheet of the CIs' is analyzed in this section as is their exposure to the

30 Group 1 includes CIs with assets exceeding 2.0% of total banking assets. The entities that have a loan portfolio that is a significant asset but do not qualify for group 1 are in group 2, and the remaining entities are in group 3. The regulatory limits that the entities must achieve based on their group will be progressively raised. Thus, starting March 2021, these are 90% and 70% for groups 1 and 2 respectively and will be 100% and 80% starting March 2022. Entities belonging to group 3 calculate their indicator only as information for the supervisor.

31 The stability criterion of the items in ASF is based on the weighting assigned by the regulation: sources with a weighting of less than 25% are classified as having less stability, from 25% to 75% as medium stability, and greater than 75% as high stability. This classification was used in panel B of Graph 2.38.

32 This corresponds to counterparties whose deposit amounts are higher than 220 SMLMV.

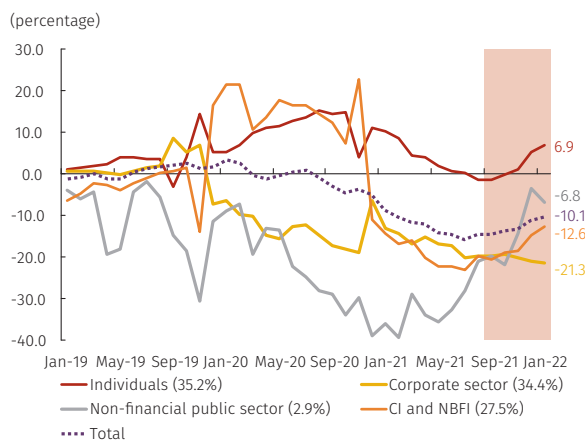
**Graph 2.42**  
Real Annual Growth of Demand Deposits by Counterparty



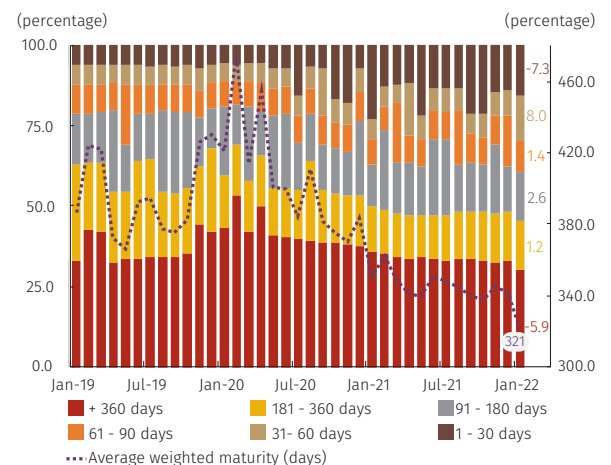
Note: The values in parentheses accompanying the legends correspond to the counterparty's share in the demand deposits of CI.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

**Graph 2.43**  
Distribution of the CIs' CDs

**A. Real, Annual Growth by Counterparty<sup>a/</sup>**



**B. Distribution by Residual Period<sup>b/</sup>**



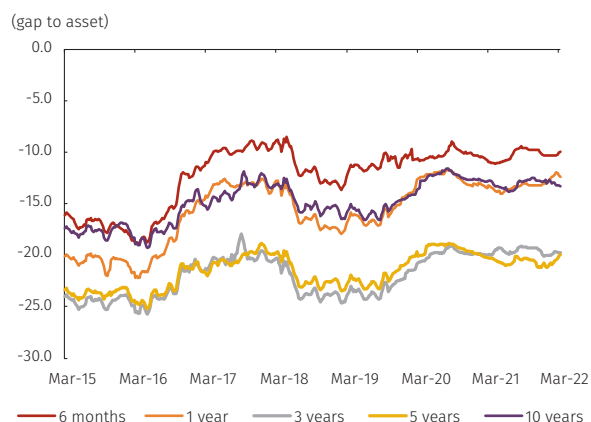
a/ The share of each counterparty in the total is shown in parentheses.  
b/ The labels at the bottom of the graph (in colors) represent the annual delta of the share of each of the time periods.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

trading book interest rate risk.<sup>33</sup> The measurement of this risk seeks to estimate how changes in the interest rates for assets and liabilities affect net interest income.

*The increase in liability duration and the lower exposure to variable interest rates gradually lowered the trading book interest rate risk.*

33 The interest rate risk has two dimensions: the first is analyzed in the section on market risk and refers to the risk of devaluations of the assets on the treasury ledger in the event of interest rate movements; the second, which is analyzed in this section, corresponds to the ratio of the risk of interest rate changes to the entities' net interest income based on the information in the trading book.

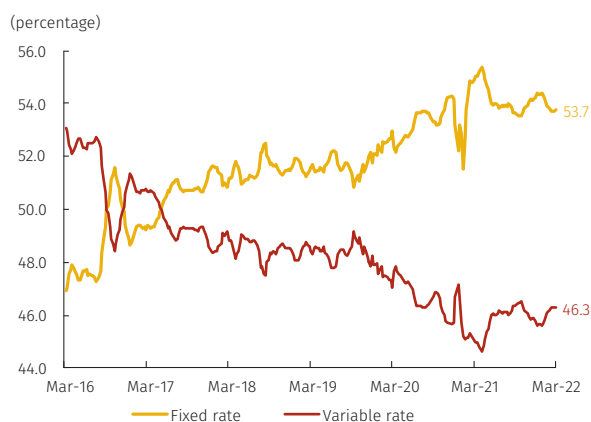
Graph 2.44  
WATM gap by Maturity<sup>a/</sup>



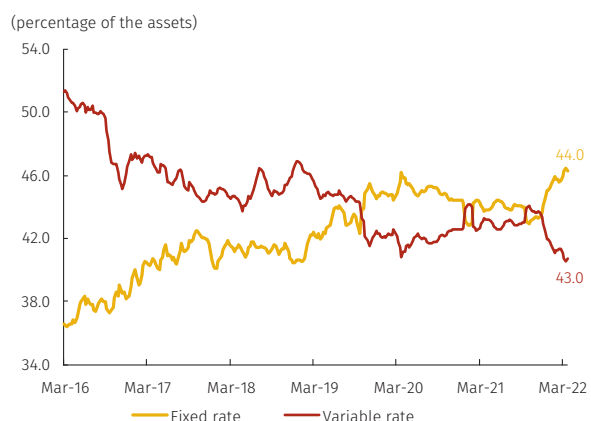
a/ Corresponds to the total value for the CIs. 4-week moving average.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

Graph 2.45  
Change in Breakdown of Assets and Liabilities by Type of Interest Rate<sup>a/,b/</sup>

A. Assets



B. Liabilities



a/ The balances of liabilities at fixed rates and at variable rates are presented as a proportion of the total assets.  
b/ The balance of liabilities at a fixed rate incorporates demand deposits of individuals while the demand deposits of legal entities and government entities are included in the liabilities contracted at variable rates.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

The *weighted average term to maturity (WATM) gap* was calculated in order to measure the exposure of the trading book to interest rate risk. This is defined as the difference between assets and liabilities that are sensitive to changes in interest rates for different periods. This measurement of interest rate risk mainly depends on two factors: the share of assets and liabilities contracted at variable rates and the maturity of fixed-rate assets and liabilities. The indicator is negative because the maturity of the assets is much greater than that of the liabilities. Meanwhile, the size of the gap is determined by the variable-rate-tied component on both sides of the balance sheet that captures the effect of changes in benchmark rates on the ECI balance sheet.<sup>34</sup> Under a negative WATM gap, an increase in lending and deposit rates of the same magnitude could generate a reduction in the net interest income. In this context, a reduction in the interest rates could lead to an increase in the net interest income.<sup>35</sup>

Graph 2.44 presents the *WATM gap* for different maturities following the actual duration of the assets and liabilities of the CIs. This measure remains at negative levels for all time horizons in line with the balance sheet interest rate structure and the longer duration of assets compared to liabilities.<sup>36</sup> Note that the *WATM gap* widened for all maturities between September and December 2021 and that this trend reverses during the first quarter of 2022, and the *gap* has tended to close in most of the maturities, especially in those of less than one year.

*The CIs have adjusted the components on both sides of the balance sheet and extended the duration of the liabilities.*

Between September 2021 and March 2022, the share of the CI assets contracted at variable rates gradually increased compared to the percentage contracted at fixed rates. The share of liabilities tied to fixed rates, in turn, has increased

34 The indicator is defined as:  $\frac{1}{T} \sum_i \frac{RSA_i}{D_i} - \frac{1}{T} \sum_j \frac{PSR_j}{D_j}$ , where  $RSA_i$  corresponds to assets  $i$  subject to interest rate risk and  $PSR_j$  are liabilities  $j$  subject to interest rate risk.  $D$  is the duration of both the asset  $i$  and the liability  $j$  and  $T$  is the period over which the indicator is evaluated (six months to ten years). In the calculation of the indicator, assets and liabilities at variable rates are weighted at 100% while those at fixed rates are weighted based on the duration of each period. For more detail on the calculation of the *WATM gap*, see the box "Interest Rate Risk of Colombian Credit institutions' Trading Book" in the September 2015 Financial Stability Report.

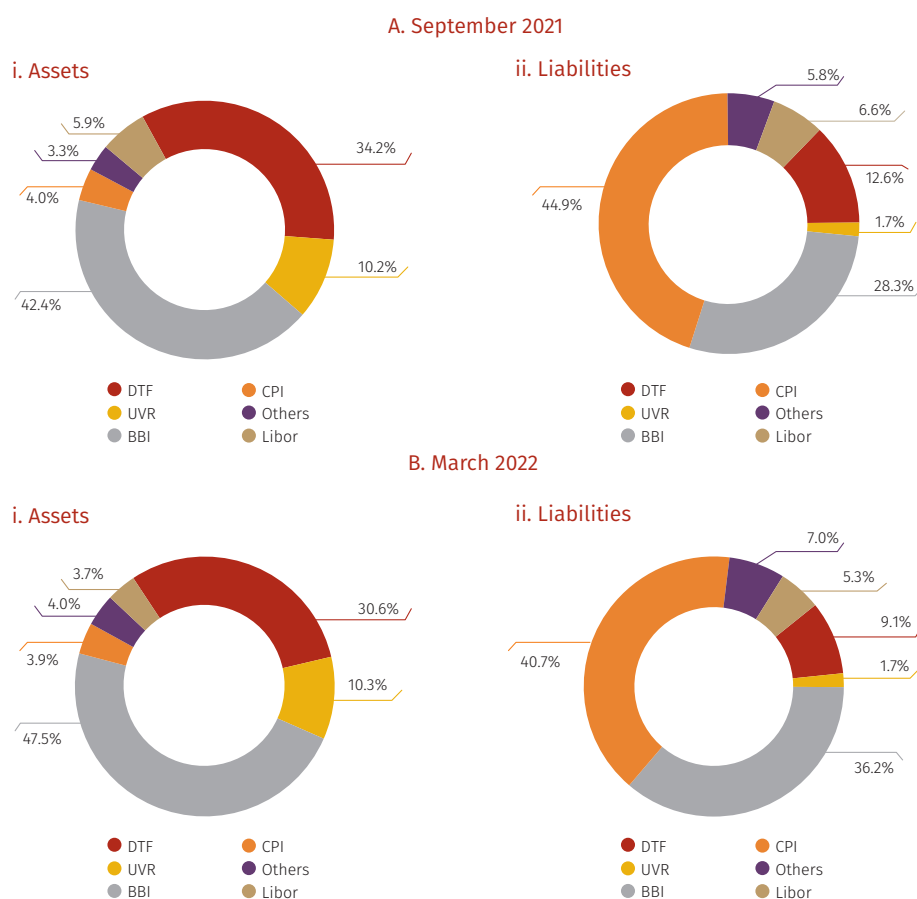
35 The indicator refers only to trading book positions and not to treasury book positions. For the latter, where accounting is done at market prices, changes in interest rates directly affect the value of the positions. For trading book positions, changes in the interest rate affect the financial institution's cash flow, profits, and thus equity.

36 The *WATM gap* assumes a greater transmission of the policy rate to the BBI and DTF benchmark rates and a partial transmission to UVR and the CPI. The transmission is based on the calculation of the short-term elasticities between each interest rate and the IBR (taken as a proxy for the monetary policy rate). For more details, see the *Financial Stability Report* for the first half of 2021.

compared to those tied to variable rates, a fact that may reflect the response of the CIs' balance sheet to rising interest rates (Graph 2.45). The above is because of the fact that in a scenario of rising interest rates, a higher exposure of the asset to variable rates increases profitability. A lower exposure of liabilities to variable rates, in turn, reduces funding costs.

When the structure and breakdown of the balance sheet items contracted at variable rates are analyzed, it is evident that the positions indexed at the benchmark rates are more relevant than the ones associated with inflation on both sides of the balance sheet, especially on the asset side. In March 2022, 78.1% of the asset positions were indexed to benchmark rates (BBI and DTF) while 14.2% depended on inflation (CPI and UVR). At the same time in liabilities, 45.3% was tied to the benchmark rates and 42.4% to inflation (Graph 2.46). Between September 2021 and March 2022, the CIs lowered the exposure of their assets to DTF and raised their share in instruments indexed to the BBI. With respect to liabilities, there was a increase in the instruments indexed to the BBI and a reduction in the share of the instruments tied to the DTF, CPI, and Libor. Just as in the previous six months, there was, for liabilities, an increased exposure to foreign interest rates compared to assets although their share on the CI balance sheet is relatively low (panel A vs. panel B).<sup>37</sup> The increase in CI exposure to BBI on both sides of the balance sheet

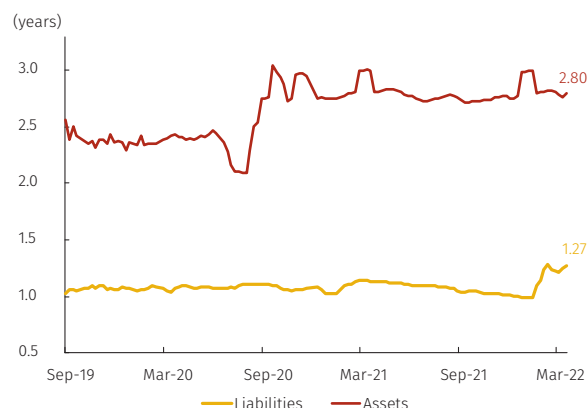
**Graph 2.46**  
Breakdown of Balance Sheet Contracted at Variable Rates by Type of Rate



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

37 The effects of the transition from Libor to different benchmark rates in advanced economies are analyzed the Box entitled “Transition from Libor and other international benchmark rates” in the September 2021 *Financial Stability Report*. In the March 2022 Foreign Borrowing Survey, there is less indebtedness of CIs to Libor-bound instruments.

**Graph 2.47**  
Average Duration of CI Assets and Liabilities<sup>a/</sup>



a/ Corresponds to the total value for the CIs. 4-week moving average.  
Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

suggests a greater reaction on the part of their balance sheet to the behaviour of the monetary policy rates.

The average duration of liabilities registered a 23.3% increase as it went from 1.03 years in September 2021 to 1.27 years in March 2022. At the same time, the average duration of assets rose 1.5% (it went from 2.76 years to 2.80 years) during the same period (Graph 2.47). The longer duration of the liabilities versus the stability in the duration of the assets of the CIs implies a smaller maturity mismatch that contributes to the reduction of the *WATM gap*.

## Shaded section 1: Importance of Monitoring Credit Institutions' Consolidated Balance Sheets

In recent years, the institutions of the Colombian financial system have expanded their operations and have made their ownership structures more complex given the presence of different financial groups in various lines of business (such as banking intermediation). The existence of a common capital to support the activity of these different niches, and the presence of cross trades between institutions in the same group have generated the necessity to analyze the consolidated financial statements<sup>1</sup> of the entities in order to more accurately measure their balance sheet and their exposure to risks.<sup>2</sup>

A particularly relevant case in which the analysis of consolidated balance sheets becomes necessary is that of the presence of Colombian subsidiaries abroad, which constitutes a more complex and dynamic scenario, and one in which supervision and monitoring at the consolidated level becomes more relevant from a financial stability perspective.

Expansion into other jurisdictions may bring different benefits to financial institutions. For example, authors such as Berger et al. (2000) mention some, such as value maximization, cost reduction, and risk diversification. However, the analysis of these structures presents challenges, considering the economic scope, the interconnection between entities, and the coexistence of different regulatory systems (BIS, 2012).

The assets of Colombian banks abroad represented COP 317.3t(USD 79.711 million) in December 2021. The highest concentration of foreign banking assets is in Panama (44.5%). However, the participation of these entities in the Panamanian banking system is 26%. The countries that follow Panama in terms of asset representation are El Salvador and Costa Rica with 14.1% and 13.9% respectively (Graph A).

### References

Berger, Allen; DeYoung, Robert; Genay, Hesna; Udell, Gregory F. (2000). "Globalization of Financial Institutions: Evidence from Cross-Border Banking Performance", FRB Chicago Working Paper, no. 1999-25.

The Basel Committee on Banking Supervision (2012). "Principles for the Supervision of Financial Conglomerates".

1 According to Chapter X of the Basic Accounting and Financial Circular of the Office of the Financial Superintendent of Colombia, consolidated financial statements are those that "[...] present the financial position, results of operations, changes in equity as well as cash flows of a parent or controlling entity and its subordinate or dominated entities, all of which are subject to the inspection and surveillance of the Office of the Financial Superintendent of Colombia, as if they were those of a single company. This implies the elimination of reciprocal operations and transactions between the entities subject to consolidation."

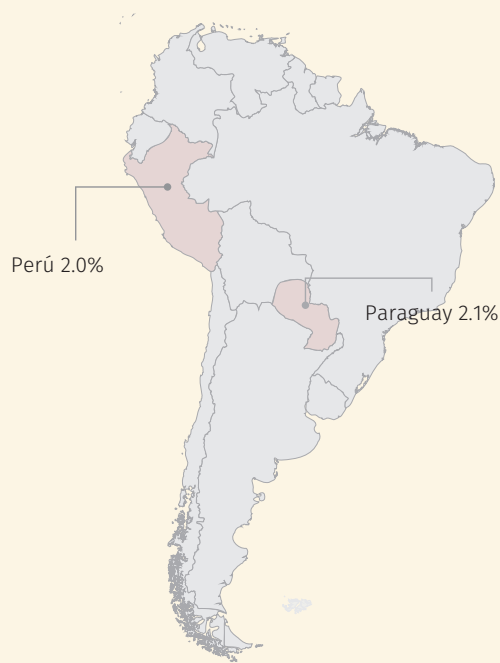
2 Not all financial groups account at the consolidate level their component entities on their balance sheets through a holding company. An example of this is insurance companies, for which the regulations prevent a credit institution from consolidating them. Despite the above, both can be consolidated by group rather than in a particular entity.

Graph A  
Foreign Bank Subsidiaries by Region

A. Central America



B. South America



Note 1: the percentages represent the share of the assets of subordinate banks in each jurisdiction to the total foreign assets of Colombian banks.  
 Note 2: there is also a Colombian presence in other countries such as Barbados, Puerto Rico, Cayman Islands, and Bahamas. They are not shown on the graph since they represent less than 2.0% of the total.  
 Source: Office of the Financial Superintendent of Colombia; calculations by Banco de la República.

# Box 1: Negative Currency Mismatch of Colombia's Real Sector in 2021

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## 1. Introduction

In an increasingly globalized world, it is common for companies, governments, and households to make transactions in currencies other than those of their own economy. This type of capital movement makes it possible, for example, to increase current spending, finance capital expansion projects, and even restructure the financial assets and liabilities of the various economic agents. However, when the difference between assets and liabilities in foreign currency widens, a phenomenon known as currency mismatch which can be positive if these assets are greater than the liabilities and negative in the opposite case, the dynamics of the exchange rate may generate substantial changes in the balance sheets of real sector companies and, in turn, increase the economy's foreign vulnerability through investment, growth, liquidity, and capital adequacy.

In view of the above, different papers study the effect of the currency mismatch on different economic variables. Calvo, Izquierdo, and Mejía (2004) find that the presence of a recurring current account deficit and a high dollarization of liabilities increases the probability of exchange rate and economic crises. Along the same lines, Geczy, Minton, and Schrand (1997), Céspedes, Chang, and Velasco (2000), Allayanis and Ofeck (2001), and Cowan et al. (2005) conclude that when companies' liabilities are dollarized, a real depreciation has a detrimental effect on equity and results in a contraction of investment. In the case of Colombia, Restrepo, Niño, and Montes (2014) as well as Barajas et al. (2017) found that a depreciation of the real exchange rate is associated with a reduction in the rate of investment in fixed assets of those companies that have more than half of their liabilities in foreign currency.

As described above, the implications of a negative currency mismatch, i.e., liabilities in foreign currency (f/c) are greater than assets in f/c for both companies and the economy as a whole, imply that monitoring it, studying its determinants, and its measurement and impact are of vital importance for economic policy makers. In order to classify this phenomenon and have an overview of the private and public real sector companies that are affected by it, the exercise in this box first describes the sources of information and the methodology used to calculate the negative currency mismatch and, subsequently, the description of the recent trends of this phenomenon.

The second stage of this analytical exercise involves quantifying the impact of the negative currency mismatch on companies' balance sheets and the risk they could transmit to the financial sector. In order to complete this step, it is necessary to incorporate the financial statements up to 2021, information which, at the time of writing, is not available, and will therefore be presented in the next *Financial Stability Report*.

## 2. Methodology for calculating the mismatch

As established in the first part of this document, following the Restrepo, Niño, and Montes (2014) definition, the currency mismatch is calculated as the difference between assets and liabilities in foreign currency:

$$Dc_{i,t}(\$US) = Ame_{i,t} - Pme_{i,t}$$

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Where  $Ame_{i,t}$  are the foreign currency assets of company  $i$  in period  $t$  (deposits, loans, portfolio investments, and *forwards* when the net position is long) and  $Pme_{i,t}$  are the total foreign currency liabilities (foreign debt, foreign currency debt with local banks, commercial loans, and *forwards* when the net position is short). However, since the literature mainly assesses the impact of depreciation on companies' balance sheets and income, this paper focuses on the analysis of the negative currency mismatch, i.e., when the following

$$Pme > Ame$$

For this test, the data source used is the reports of the foreign exchange declarations received by the Department of International Exchanges and Payments (DCIP in Spanish) of *Banco de la República*, where both asset and liability transactions in f/c are identified, namely: deposits, foreign debt, foreign currency debt with local banks, active loans, portfolio investment, and net position of *forwards*.

In order to provide a more exhaustive description of real sector companies with a negative mismatch, the exchange rate data are supplemented with company-level information on exports of goods from the National Bureau of Statistics (DANE in Spanish) and on imports from the National Revenue and Customs Bureau (DIAN in Spanish). Finally, for public sector companies, the reports made by these companies to the Ministry of the Treasury and Public Credit are used in addition to all of the above sources.

### 3. Results of negative currency mismatches

#### 3.1. Real Colombian private sector companies

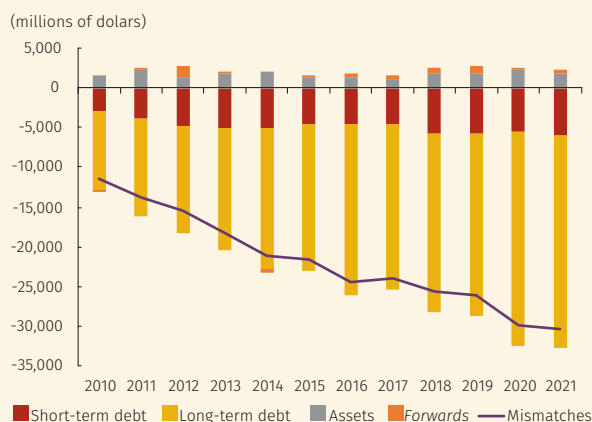
The results of the negative mismatch of private companies in the Colombian real sector are described below. This analysis does not include companies in the financial sector, neither depository (banks) nor non-depository (other financial companies). It also excludes some companies that have financial leasing liabilities because they are secured by a real asset (capital asset) of the same value. Including the latter could bias the foreign exchange risk analysis.

In the last ten years, the negative currency mismatch measured in dollars has shown a rising trend (more negative mismatch). This value is expressed in nominal terms and without scaling to some measurement of company size. This growing negative mismatch can be explained by the growth in economic activity, which means that companies require more working capital and have greater financing needs to make productive investments. Given the above, in addition to the greater ability of Colombian companies to get access to international financial markets, their foreign currency debt has been rising but their foreign currency assets have not been increasing to the same extent.

In 2021, 8,243 Colombian companies were estimated to have had USD 30 billion (b) in negative currency mismatches (Graph B1.1). This figure rose USD 619 millions (m) with respect to 2020 when 8,065 companies accumulated a negative mismatch of USD 29.78 b. 10% of the companies account for about 90% of the value of the negative mismatch (Graph B1.2). This characteristic of high concentration is recurring throughout the various years of the study.

Based on component, this annual increase (2021 vs. 2020) in the negative mismatch is mainly the result of the increase in short-term debt (USD 446 m) and the reduction in foreign currency financial

Graph B1.1  
Recent Developments and Overview of Negative Exchange Rate Mismatches



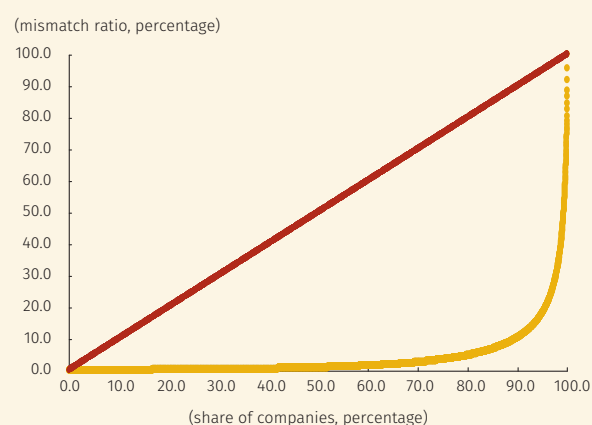
Source: Banco de la República, DANE, DIAN, MHCP, calculations by Banco de la República.

**Table B1.1**  
Negative Currency Mismatch by Economic Sector

Economic Sector	Negative mismatch (millions of dollars)	Negative mismatch share (percentage)	Percentage of companies with FDI (percentage)
Transportation, Storage, and Communications	6,699	22.0	4.9
Manufacturing Industry	4,410	14.5	8.4
Commerce, hotels, and restaurants	3,491	11.5	4.4
Mining and Quarrying	2,957	9.7	23.3
Remaining sectors	12,843	42.2	4.9

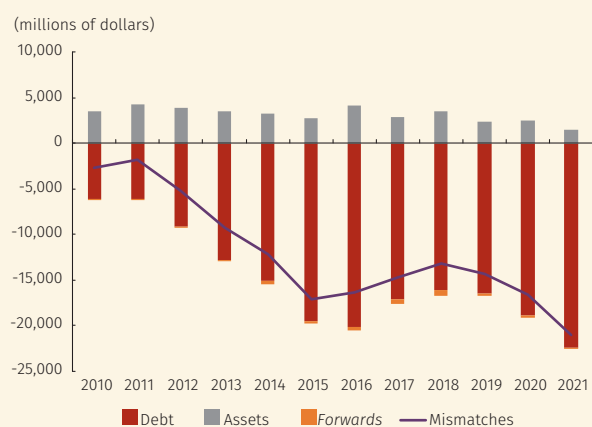
Source: Author's calculations based on the sources described in number 2.

**Graph B1.2**  
Lorenz Curve Negative Currency Mismatch Real Private Sector Companies



Source: Banco de la República, DANE, DIAN, MHCP, calculations by Banco de la República.

**Graph B1.3**  
Negative Currency Mismatch for Public Sector Companies



Source: Banco de la República, DANE, DIAN, MHCP, calculations by Banco de la República.

assets<sup>1</sup> (USD 397 m) that are partially offset by lower long-term debt (USD 117 m) and the higher net forward position<sup>2</sup> (USD 105 m).

The foreign currency debt that is part of the negative mismatch these companies have can be classified into three groups based on the type of lender. Fifty-five percent of this debt corresponds to what has been contracted between companies with a direct investment link.<sup>3</sup> In terms of risk, this debt implies a lower level of vulnerability since there is greater flexibility in the financial conditions. Secondly, there is the debt with foreign financial institutions (non-resident banks of the Colombian economy) that totals 38%. Last of all, 7.0% of this balance has Colombian banks as counterparties.

When the negative mismatch is distributed by economic sector, transportation, storage, and communications with 22% of the total are in first place (Table B1.1). This sector includes port and airport operating companies as well as mobile telecommunications companies. The manufacturing industry sector is in second place with 15%. The main companies in this group are producers of construction materials and food and beverages. Third is the trade, hotels, and restaurants sector with 11% of the total value of the negative mismatch. In this sector, large supermarkets and retailers of imported products stand out. The mining and quarrying sector is in fourth place with 10%, and the main companies are engaged in the extraction of coal, gold, oil, and natural gas. Companies operating in the listed sectors accounted for 58% of the total value of the negative exchange rate mismatch in 2021.

Companies in the transportation, storage, and communications sector have very little export and import activity, so this activity is mostly non-tradable, and this makes the risk associated with their mismatch level higher since they do not have possible natural hedges. In spite of the above, these companies have a high degree of power and a high market share in their respective markets. This allows them to pass on the higher costs associated with a depreciation of the peso to their consumers. Furthermore, due to their link to international trade, transportation companies have a high percentage of their revenue denominated in dollars. Companies in the other three sectors have a high participation in export and import markets, either directly (manufacturing industry and commerce) or through trading companies (mining and quarrying).

### 3.2 Public sector Colombian companies

In 2021, the negative mismatch of public sector companies, which total sixteen corporations, amounted to USD 21.1 b, 98% of which is concentrated in three conglomerates belonging to the mining-energy and electricity, gas, and water supply sectors. The companies that account for the mismatch are actively involved in the export of goods, and therefore have natural hedges. These companies generally have significant direct investments abroad, particularly in Central and South America, and have a high market share in their respective markets. This allows them to pass on the higher costs associated with a depreciation of the peso to their consumers.

With respect to 2020, the increase in the mismatch was 28% (USD 4.44 b), most of which was due to the indebtedness incurred by these companies to finance investments in the electricity sector.

1 Loan assets, bonds and deposits.

2 Purchase minus sale.

3 The lender is the parent company or subsidiary of the debtor company.

Regarding the description of foreign currency debt, the maturity for which it is mainly contracted is greater than one year (99%). Of these instruments, 63% correspond to bonds issued in international markets, 27% to foreign commercial banks, and the remaining 10% correspond to obligations with bilateral and multilateral banks. In terms of foreign exchange earnings, net exports of public sector companies account for about half of the amount of their negative foreign exchange mismatch.

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## 3. Stress Test

*Considering the vulnerabilities identified throughout the Report, this chapter presents two exercises that measure the capacity of the financial system to face adverse scenarios in terms of credit and liquidity risk and to continue providing its basic functions over a short- and medium-term horizon.*

This chapter presents two exercises to assess the resilience of the financial system in the event of a hypothetical materialization of relevant sources of risk, in line with the analysis of vulnerabilities presented in previous chapters. The first exercise, which is known in international literature as a stress test, is intended to measure the ability of CIs to deal with a hypothetical, adverse, and improbable scenario by using a model that considers both solvency and liquidity risks together.

The second test, in turn, estimates the effect that different withdrawal shocks could have on the liquidity position of open-end mutual funds. This test aims to evaluate the capability of these institutions to meet their obligations normally in the short term in a stressful scenario.

### 3.1. Capital and Liquidity Stress Test of CIs

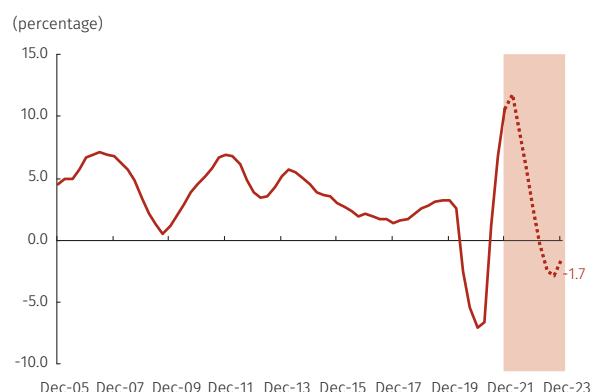
*This section describes the scenario and the results of the stress test on the CIs that Banco de la República carries out every six months. The objective is to measure the resilience of CIs to a hypothetical, adverse, and unlikely scenario.*

The stress test evaluates the impact that a hypothetical, adverse scenario of a contracting of the Colombian economy with high inflationary pressures and more restrictive financial conditions at the global and local levels could have on the CIs. This scenario is intended to reflect increased supply chain and import frictions associated with the war in Europe and lagged effects of the pandemic. At the same time, this situation could affect the economic activity of Colombian trading partners which would generate an external demand shock for the country. In this context, the deterioration in the quality of the portfolio of sectors vulnerable to inflationary shocks and of the riskiest debtors in the housing category is also considered, taking into account high growth of household indebtedness.

The results suggest that higher loan-loss provisions and a decrease in net interest income would be the main sources of the decline in CI profitability in the adverse scenario. The above would be likely to generate negative effects on aggregate common equity tier 1 and tier 2 ratios on both the individual and consolidated balance sheets, but they would probably remain above the regulatory limits during the entire horizon of the exercise. Although the analysis of the individual institutions is heterogeneous, the above implies that the system currently has enough equity capacity to absorb the potential losses in the adverse scenario.

In addition, this edition of the Report assesses the resilience of the institutions that have positions in Central America. In a context of uncertainty about the fiscal sustainability of some of these countries, the exercise considers the impact on consolidated balances of various scenarios of devaluing assets at the subsidiaries in the region.

**Graph 3.1**  
Real Annual Growth of GDP in the Hypothetical Adverse Scenario



Source: DANE (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

**Table 3.1**  
Macroeconomic variables – Adverse Scenario

Variables (percentage)	Starting point Dec-21	End point Dec-23	Critical point <sup>a/</sup>
GDP Annual Real Growth	10.6	-1.7	-2.8
Annual inflation	5.6	5.9	12.1
Unemployment Rate	12.3	15.6	15.6
Interest rate 1-year TES	3.2	9.6	9.6
Interest rate 10-year TES	7.7	13.6	13.6

a/ The critical point refers to the most extreme value reached by each variable during the 2-year horizon.  
Source: calculations by Banco de la República.

These tests do not constitute any prediction regarding the future development of the economy or the financial system since the scenarios considered reflect a hypothetical, adverse situation. Therefore, the results should be interpreted as quantitative evaluation of the resilience of the CIs in the event of adverse scenarios based on their current financial conditions and under restrictive assumptions. Likewise, the tests do not consider policy reactions to the deterioration in the entities' financial statements nor preventive actions to follow up on their risk management.

The usefulness of the tests lies in providing an estimate of the potential losses that would be seen if the adverse scenario were to materialize. Furthermore, it helps shed light on the possible transmission channels by means of which the vulnerabilities identified could affect financial stability.<sup>38</sup>

### 3.1.1 Macroeconomic Scenario and Materializing Risks

*The adverse scenario trajectories include a contraction of the economy in a context of high inflationary pressures and tighter financial conditions.*

The stress test seeks to capture the effects of an adverse and hypothetical macroeconomic context that reflects various supply shocks that could be caused by the intensifying negative effects of the crisis in the global supply chain and the increase in the price of imported goods while considering the lagged effects of the pandemic and the war between Ukraine and Russia. In addition, given the possible impact on the economic activity of Colombian trading partners, the scenario also envisions a shock to external demand in the country.

The combination of these elements is likely to generate an economic slowdown that could result in a 1.7% contraction of output by the end of 2023 (Graph 3.1, the shaded area corresponds to the analysis horizon of the exercise) and a 12.1% inflation peak. This would trigger an upward reaction of the monetary policy rate and an increase in unemployment (Table 3.1). This scenario was constructed using the distribution of future GDP growth based on the GDP-at-risk methodology.<sup>39</sup> In addition, in order to reflect tighter financial conditions, the gradual liquidation of 25% of foreign investors' holdings in the

38 The technical details of the model used in this test which include a description of the performance of the entities in a hypothetical scenario and the channels through which their financial health could be affected are presented in the series *Borradores de Economía* No. 1028: "SYSMO I: A Systemic Stress Model for the Colombian Financial System", Banco de la República.

39 In particular, the 3-percentile path of the distribution of future GDP growth based on the GDP-at-risk methodology is taken. For more detail on this methodology see Box 1 of the *Financial Stability Report* for the first half of 2018.

public debt portfolio during the two years of the test and the rise in the average spread between the monetary policy rate and the lending and deposit interest rates of the CIs are considered.<sup>40</sup>

*This hypothetical scenario could cause an increase in loan portfolio defaults and losses in the public debt portfolios.*

A hypothetical scenario of economic shrinking would imply the appearance of credit and market risk for the CIs in a first stage. Their endogenous response to such a scenario could, at a second stage, unleash the materialization of additional risks that would depend on the financial statements of each institution (financing, liquidity, interest rate, and contagion risks).

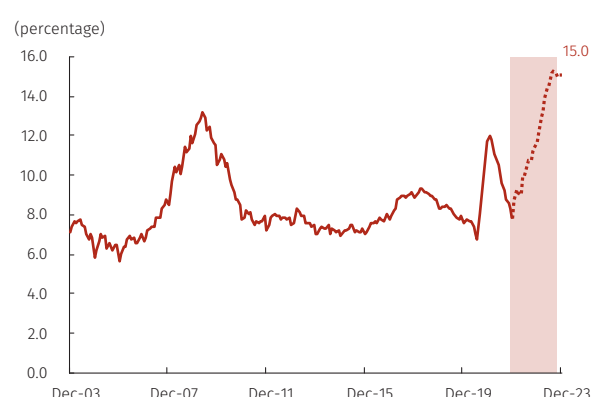
Concerning credit risk, two elements are incorporated. First, the natural consequence of a macroeconomic deterioration would be to lower the ability of economic agents to make their payments and thus increase the default rates. The hypothetical trajectories of the quality indicators by risk for the four categories of loan portfolios are presented in Graph 3.2. The results suggest that in a scenario such as the one described above, the quality of the consumer portfolio would be particularly affected.

**Graph 3.2**  
QRI Trajectory by Loan Portfolio Type in the Hypothetical Adverse Scenario

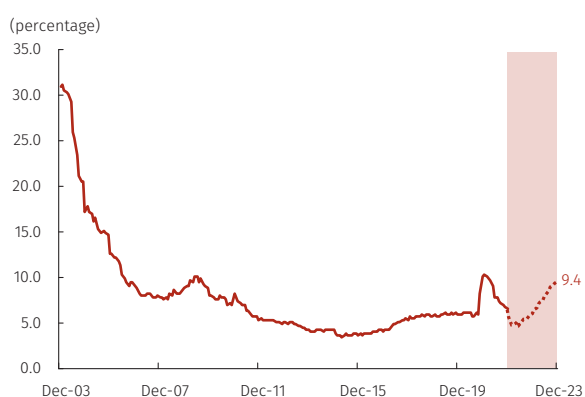
**A. Commercial**



**B. Consumer**



**C. Housing**



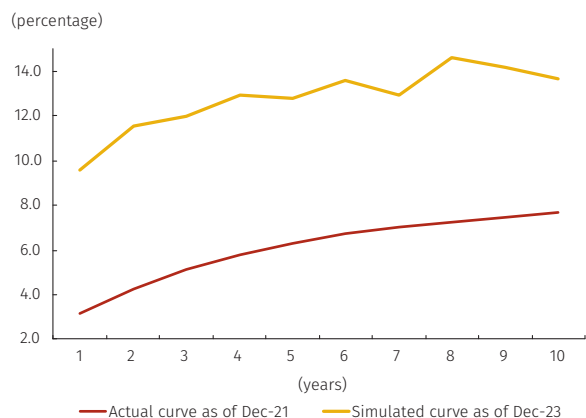
**D. Microcredit**



Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

<sup>40</sup> Details of the interest rate models used in this model are presented in Box 4 of the *Financial Stability Report* for the second half of 2021.

**Graph 3.3**  
Peso-denominated TES Curve in the Hypothetical Adverse Scenario



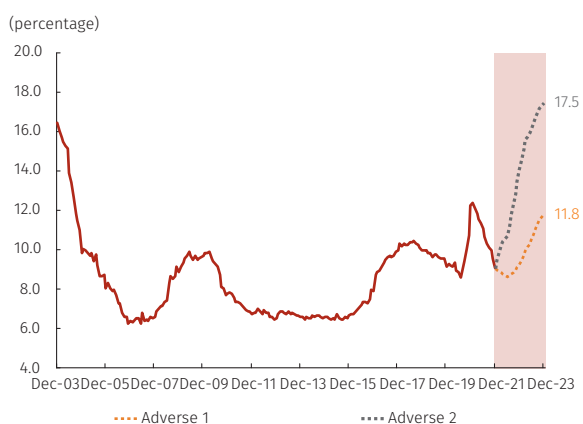
Sources: DCV and Precia, calculations by Banco de la República.

**Table 3.2**  
Stress testing Main Results

Variables (percentage)	Starting point Dec-21	End point Dec-23	Critical Point Dec-23
QRI	9.1	11.8	17.5
ROA	1.9	-0.5	-0.9
Loan Portfolio Real Annual Growth	4.7	-3.2	-4.2
Total capital ratio at individua basis	22.0	17.1	15.9
CET1 ratio at individua basis	17.5	13.4	12.1
Total capital ratio at consolidated basis	16.2	13.7	12.7

Source: calculations by Banco de la República.

**Graph 3.4**  
Quality Risk Indicator (QRI)



Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

Second, the adverse scenario is assumed to trigger a two-level rating downgrade<sup>41</sup> of vulnerable debtors in the commercial and housing portfolios. On the one hand, the high inflation levels in the adverse scenario will probably raise the costs of certain segments of the construction sector where the projects were sold prior to the price shock and, therefore, construction companies will have difficulty meeting their credit obligations.<sup>42</sup> On the other, considering the high growth rates of the housing category over the last year, it can be assumed that borrowers with a poorer credit history will default on their loans.<sup>43</sup>

Concerning market risk, two elements are considered. In the first place, consistent with the increase in interest rates, shifts in the TES zero-coupon curve and the private fixed-income curve will probably be generated. Moreover, the gradual and permanent exit of 25% of the foreigner’s holdings from the local public debt market could have a direct impact on the prices for debt securities. These two elements would produce shifts of between 535 bp and 733 bp in the TES curve (Graph 3.3).

### 3.1.2 Results

*In the adverse scenario, there could be a negative aggregate profitability for CIs, a contraction of its balancesheet, and a fall in the individual and consolidated capital adequacy ratios, although they would remain well above the regulatory minimums.*

The main stress test results are summarized in Table 3.2, while the trajectories of the aggregate CI variables are presented in Graphs 3.4 to 3.8. The scenarios considered are: 1) deterioration associated only with the macroeconomic scenario (dotted orange line), and 2) macroeconomic deterioration and default of vulnerable debtors in the commercial and housing loan portfolios (dotted gray line).

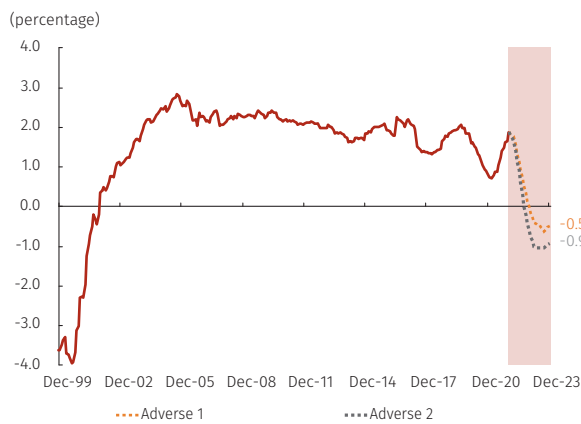
In scenario 1, the deterioration of loan portfolio quality is comparable to the one observed during the pandemic shock while, in scenario 2, the QRI would reach levels close to what was registered during the period after the financial crisis at the end of the century (Graph 3.4). Given the severity of the macroeconomic shocks, ROA would reach negative values. In scenario 1, this indicator would be in negative starting March

- 41 In Colombia, loans granted by the institutions supervised by the FSC are rated on a scale ranging from A to E, where A is the best rating.
- 42 As of December 2021, the portfolio of loans granted to building and public works construction companies represents 12.6% the commercial portfolio.
- 43 This considers the default of debtors who, between the first quarter of 2015 and the fourth quarter of 2021, has more than ninety days past-due loans or had a rating lower or equal to C. These debtors account for 8.5% of the housing portfolio as of December 2021.

2023 (reaching a minimum of -0.6%) while, in scenario 2, negative values would appear as of September 2022 and reach their lowest level in the second quarter of 2023 (-1.0%; Graph 3.5).

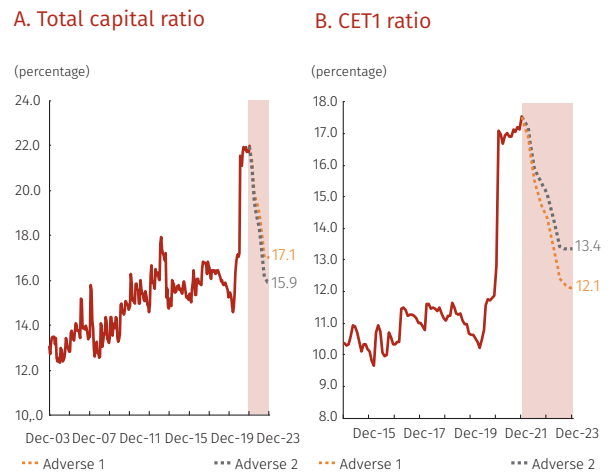
With respect to real loan portfolio growth, contractions in line with the decline in output would be seen, which could intensify in scenario 2 due to higher loan-loss provision expenses (Graph 3.6). The accumulated losses for the 2-year horizon would cause reductions in the aggregate capital adequacy indicators, although for scenario 1 the indicator would stabilize by the end of 2023 (Graphs 3.7 and 3.8). Nevertheless, the aggregate capital adequacy ratios would stand at levels

**Graph 3.5**  
Return on Assets (ROA)



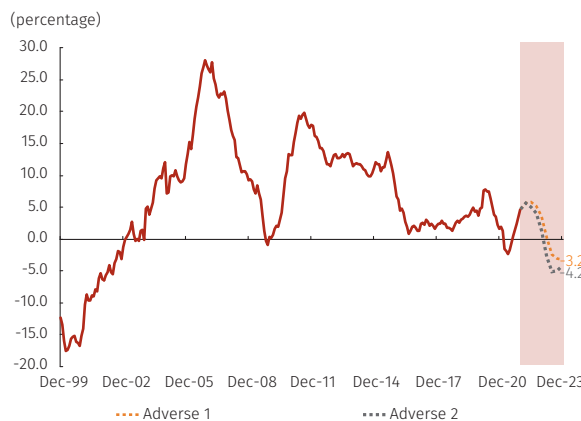
Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

**Graph 3.7**  
Aggregate Total Capital Ratio at Individual Basis



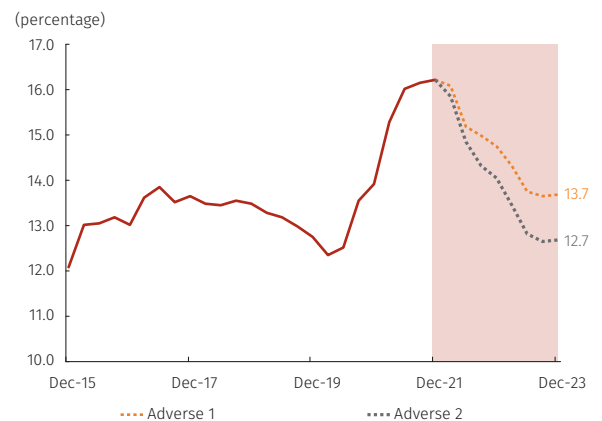
Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

**Graph 3.6**  
Loan Portfolio Annual Growth



Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

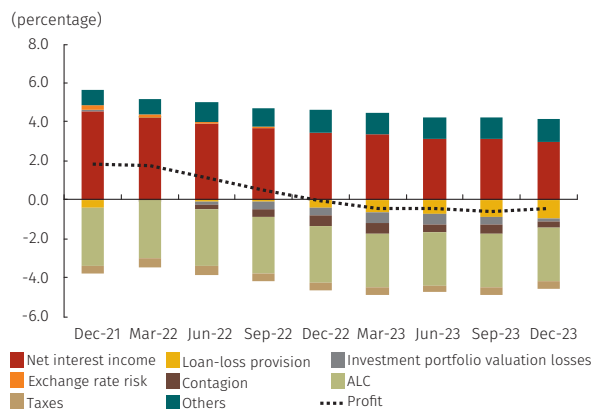
**Graph 3.8**  
Total Capital Ratio at Consolidated Basis



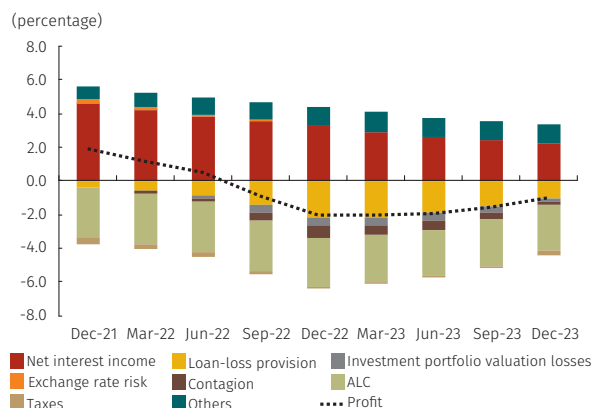
Note: the aggregate consolidated capital ratio includes only those banks that consolidate their financial statements.  
Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

Graph 3.9  
ROA Distribution

A. Adverse 1



B. Adverse 2



Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

above the regulatory thresholds<sup>44</sup> at both individual and consolidated basis.<sup>45</sup> In the most drastic scenario, capital adequacy indicators would fall to levels similar to those seen before the change in capital regulation in 2021. In addition, given that the aggregated consolidated total capital ratio is lower compared to the one at individual basis, the indicator would drop to levels close to the prudential level of 11% (regulatory minimum and buffers of capital) in scenario 2.

Graph 3.9 shows the breakdown of ROA. In both scenarios, the items contributing most to the drop in ROA are loan-loss provision and the reduction in net interest income. The latter would be a consequence of the interest rate risk of the trading book and the materialization of credit risk. The additional default of vulnerable debtors in the commercial and mortgage portfolios in scenario 2 would generate significantly greater loan-loss provisions, and a contagion risk.<sup>46</sup>

Finally, even though the aggregate indicators of the CIs may have presented moderate levels of deterioration compared to the regulatory requirements, the results by entity are heterogeneous. Regarding total individual capital ratio, in both scenarios the group of institutions that would fall below 9.0% represent nearly 17% of the total loan portfolio as of December 2021 (Figure 3.10). Based on these results, to keep the entire financial system in compliance with regulatory capital ratios and capital buffers<sup>47</sup>, a capital injection of COP 16.1 t would be required in scenario 1 and COP 17.4 t in scenario 2 during the 2-year horizon.<sup>48</sup>

### 3.1.3 Stress test of investments in Central American subsidiaries

The Colombian financial system has experienced a significant expansion of the main financial conglomerates abroad in the last decade, especially in Central American region (assets of

44 The regulatory thresholds for total capital and CET1 ratios are 9.0% and 4.5% respectively.

45 The aggregate consolidated capital adequacy is presented in Graph 3.8 only for those entities that consolidate their financial balance sheets.

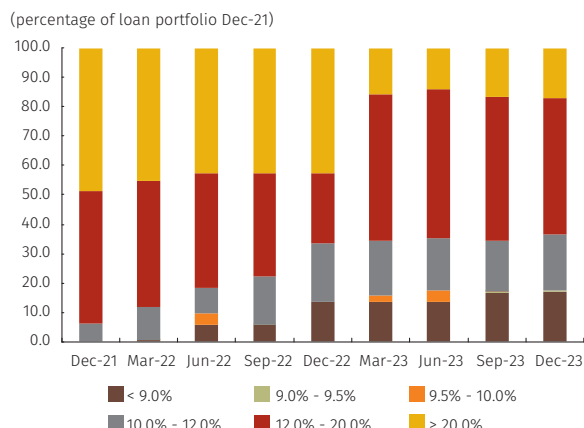
46 The contagion component of the exercise includes two elements. The first corresponds to direct contagion and is determined by direct exposures between CIs. The second element corresponds to indirect contagion, which involves asset fire sales losses generated by banks that are close to the regulatory capital limits.

47 Regulatory limits for total and CET1 ratios are 9.0% and 4.5%, respectively. In 2022 (2023) the limits, including the conservation capital buffer are 9.75% (10.125%), 6.0% (6.75%), and 5.25% (5.625%) for total, CET2, and CET1 ratios. For systemically important banks, an additional 50 bps (75 bps) is required. In practice, failure to comply with capital buffers does not imply non-compliance with regulatory limits and, therefore, does not lead to the same FSC sanctions.

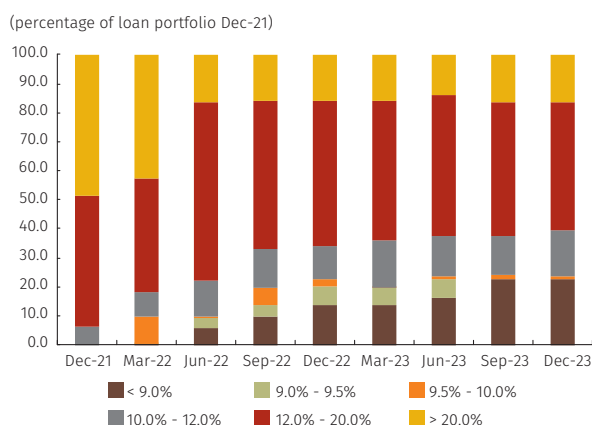
48 As of December 2021 Fogafin's deposit insurance reserve reached COP 28.8 b, which imply that the capital injection required in the most extreme stress scenario represents less than 70% of such reserve.

**Graph 3.10**  
Distribution of Total Capital Ratio at Individual Basis by Share of Loan Portfolio

**A. Adverse 1**

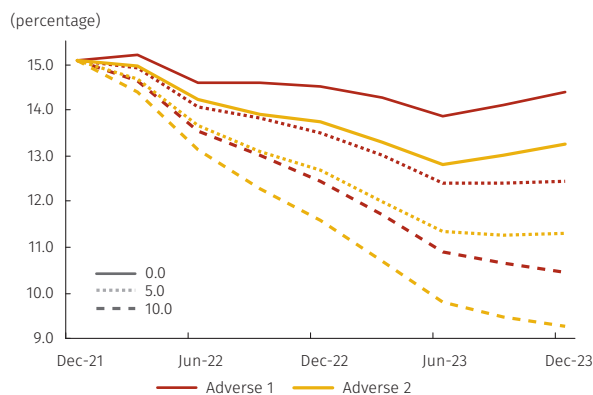


**B. Adverse 2**



Source: Office of the Financial Superintendent of Colombia (up to December 2021), calculations by Banco de la República (March 2022 to December 2023).

**Graph 3.11**  
Total Capital Ratio at Consolidated Basis



Source: calculations by Banco de la República.

subsidiaries in this region represent 31.4% of the aggregate consolidated assets). This shows the importance of evaluating the resilience of CIs to valuation shocks of these investments.

Therefore, an additional stress test was done on CIs with subsidiaries in Central America in a consolidated basis, using the results of section 3.1.2 as a starting point. Specifically, a range of 0% to 10% in total assets valuation is considered for subsidiaries in this region.<sup>49</sup> The exercise assumes that the materialization of this shock could occur gradually starting in the first quarter of the simulation.

In Figure 3.11, the total consolidated aggregate capital ratio is presented for the different devaluation magnitudes. Results show that in both scenarios banks are resilient to any of these shocks. The greatest impacts would occur in scenario 2 with a 10% shock, which would cause the consolidated aggregate total capital ratio of the CIs included in this exercise to reach levels close to the regulatory minimum of 9%.

**3.1.4 Final Comments**

Despite the severity of the adverse scenarios, Stress testing results suggest that the majority of the CIs would be able to keep their aggregate capital ratios at individual and consolidated basis above the regulatory minimum. That reflects the resilience of institutions in the short term in face of a macroeconomic scenario like the one described above.

As has been discussed, the stress test presented in this section is built on the basis of a set of assumptions that, by incorporating various simultaneous shocks, reflects an adverse situation for the Colombian economy. Furthermore, it assumes that economic authorities do not take any additional action in response to the deterioration of the CIs' financial situation. At the same time, banks' shareholders are presumed to be excessively passive to the degree that they only capitalize the profits without taking any other kind of strategic initiative in order to face the financial stress.<sup>50</sup> however, if any one of these assumptions is removed, the magnitude of losses would be expected to be cushioned so that the impact of the adverse scenario would presumably be smaller.

**3.2 CIF Stress Test**

*During the last six months, open-ended collective investment funds registered an increase in their liquid assets. Nevertheless,*

49 The maximum value of this range, equivalent to a 10% shock to subsidiaries assets, would correspond to a loss of 67.9% of the subsidiaries' equity.

50 Specifically, shareholders do not inject external capital into the business, they do not seek synergies or mergers between entities, nor manage them in order to increase the efficiency of their operations.

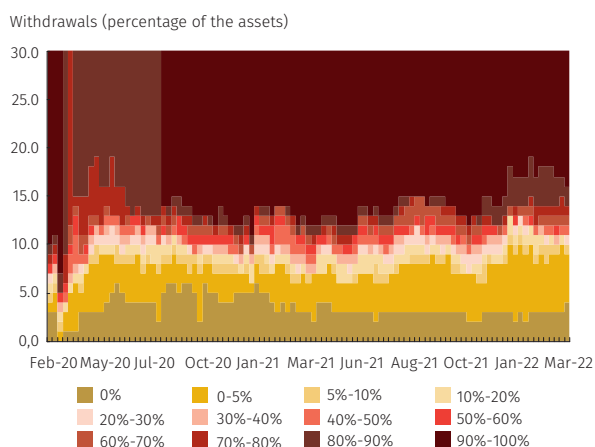
*the impact of market devaluations means that their sensitivity to withdrawal shocks remains stable.*

The open-ended CIFs are vulnerable to withdrawal shocks from investors, so it is relevant to simulate hypothetical withdrawal scenarios that they may face. In this respect, a static stress test has been designed to determine the resilience of these funds to a withdrawal shock without considering mitigation measures or second-round effects.

Based on cash level information at fund level,<sup>51</sup> different withdrawal shocks are simulated in order to calculate the LRI that the CIFs would probably present in each scenario. For each level of withdrawal, those funds that would be likely to register non-fulfilment<sup>52</sup> on their liquidity indicator were identified, and their share of total assets was calculated. In Graph 3.12, each color represents the share of the total assets of open-ended CIFs that could be affected by non-compliance of their LRI. Higher values correspond to withdrawal levels having a greater impact on the CIF market.

The results indicate that, during the last quarter of 2021, the resilience of the funds was mainly affected by the increase in redemptions relative to what was seen in early 2022, when contributions exceeded withdrawals. Subsequently, although the flow of contributions was maintained, the resilience of the funds remained stable due to the market devaluations suffered by the portfolios. In this respect, when the sensitivity was evaluated in March 2022, it was noted that in the case of withdrawals of 10% as a percentage of assets (27.3% as a percentage of cash) the funds that would have failed to meet the liquidity requirement accounted for 20% of total assets. Among these, there are two equities CIFs, one monetary CIF, and 16 fixed-income CIFs. This result is similar to what was seen in September 2021. Therefore, it concludes that funds have held their positions in liquid assets over the last six months.

**Graph 3.12**  
**Results of CIF Stress Test**



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

51 The information on cash is obtained from FSC's Form 519.

52 A default corresponds to an LRI value of less than 100% which is the regulatory limit according to the FSC.

## Box 2: Results of the International Monetary Fund/ World Bank's Colombian Financial Sector Assessment Program

Daniel Osorio\*

### 1. Introduction: evaluation programs

Throughout 2021, *Banco de la República* participated, together with the other safety net authorities of the Colombian financial system, in the Financial Sector Assessment Program (FSAP) coordinated by the International Monetary Fund (IMF) and the World Bank (WB). This box briefly describes the main results of the program, which could possibly serve as material for a potential agenda of financial system reforms in Colombia.

According to the IMF,<sup>1</sup> an FSAP seeks to provide a “comprehensive and in-depth analysis of a country’s financial sector” by assessing the stability and soundness of the financial system and its potential contribution to the growth and development of the economy. Since 1999, 113 countries have participated in a total of 240 FSAPs, which indicates how these programs have become a routine evaluation exercise for a large number of jurisdictions. Colombia has participated in three FSAPs to date (2004, 2012, and 2021). Although these programs were scheduled by the Colombian authorities on a voluntary basis, the country joined the list of IMF member jurisdictions that must carry out at least one FSAP every ten years as of 2021 due to the systemic importance of the Colombian financial sector.<sup>2</sup>

In practice, an FSAP consists of cycles of meetings between the IMF and the WB, on the one hand, and financial system safety net authorities, financial institutions, other government bodies, and service providers, on the other. At these meetings, the participants’ views on the characteristics of the financial system, the regulations, and functioning of the sector are discussed, weaknesses and strengths are identified, and methodologies and quantitative financial stability assessment exercises used locally are presented. At the same time, participants share an extensive set of information on the system with the IMF and the WB. Based on these meetings, and using the information shared as input, the IMF and the WB publish an assessment containing the results of both their qualitative analysis and quantitative exercises based on methodologies and scenarios that have been previously discussed with local authorities. The results include a set of policy recommendations for financial authorities.

### 2. Main results of Colombia's FSAP in 2021

In April 2022, the IMF and the WB published the results of the FSAP done for Colombia during 2021. These results are presented in two papers (IMF and WB, 2022 and IMF, 2022): First, the IMF published the results of its Financial System Stability Assessment (FSSA), which includes its assessment of the frameworks for banking supervision, macroprudential policy, resolution, and crisis management as well as its quantitative stress tests of the financial system’s ability to cope with adverse scenarios on different risk fronts. Second, the IMF and the WB publish the results of the Financial Sector Assessment (FSA), which, in

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1 See <https://www.fmi.org/es/About/Factsheets/Sheets/2016/08/01/16/14/Financial-Sector-Assessment-Program>

2 The IMF established a list in 2010 of 25 jurisdictions with systemically significant financial systems (mainly advanced economies) that were required to have at least one FSAP every five years. The list was expanded to 29 countries in 2013. A new list of countries that, since they have financial systems with some systemic importance, will be required to have at least one FSAP every ten years was added to this list (expanded to 32 jurisdictions) in 2021. The IMF placed Colombia on the latter list, which is mainly composed of emerging economies.

addition to reiterating the results of the FSSA, has a special focus on aspects of the overall development of the financial system.

### 3. Stability of the Financial System

Colombia's FSSA results reflect progress in banking supervision, the strengthening of resolution and crisis management mechanisms, and the effectiveness of the macroprudential policy framework. The evaluation also highlights the financial system's ability to cope with sudden shocks to its capital and liquidity.

With regard to banking supervision, the evaluation highlights recent progress in terms of operational independence and integrated functions of the Office of the Financial Superintendent of Colombia (FSC), the establishment of a supervisory framework for financial conglomerates, and the convergence of financial regulation with international standards. At the same time, the evaluation recommends strengthening the independence of the FSC (for example, establishing minimum terms of office for the superintendent by law, explicit grounds for removal, and legal protection for supervisory tasks), establishing a consolidated framework of regulatory requirements for transactions between related counterparties,<sup>3</sup> and aligning the parameters of the liquidity risk indicator (LRI) and of the net stable funding ratio (NSFR) with those established by international standards.

In the area of crisis resolution and management mechanisms, the IMF recognizes the significant progress in what has been implemented since 2015. In that respect, the recommendations made by the FSSA include maintaining the agenda of improvements and adjustments in resolution processes (e.g., expanding the use of recovery and resolution plans, or considering bail-in mechanisms, within the list of resolution tools). Two aspects in which the FSSA was particularly critical of the current system are the presence of the Financial Institutions Guarantee Fund (Fogafin) as a shareholder of bridge banks<sup>4</sup> and the need for mechanisms to strengthen the protection of the financial situation of this institution (e.g., by guaranteeing its access to lines of credit with foreign agents).

According to the evaluation, the macroprudential policy framework in Colombia (involving the national government, *Banco de la República*, and Fogafin) has been effective in containing the emergence of financial imbalances while Colombian authorities have developed an advanced framework for monitoring systemic risks. In this regard, the FSSA proposes three areas for improvement: first, making progress in the collection of key information for the analysis of financial stability (especially in the areas of household indebtedness and cross-border linkages of local financial institutions). Second, strengthening the role of *Banco de la República* in systemic risk monitoring (e.g., in policy discussions within the Committee for the Coordination and Surveillance of the Financial System) and authorizing a joint mandate (with the FSC) on some existing macroprudential tools.<sup>5</sup> Finally, expanding the macroprudential toolkit, including instruments that would make it possible to control specific risks (for example, a NSFR requirement at the consolidated level to mitigate risks arising from cross-border exposures, and limits on the loan-to-value ratio for leasing operations, or limits on the debt-to-income ratio for the non-mortgage household portfolio to mitigate credit risks) and studying the adoption of a countercyclical capital requirement to complement the current countercyclical loan-loss provision model.

In addition to these thematic reflections, the IMF presents in the FSSA several quantitative stress tests that seek to assess the capability of the Colombian financial system to deal with adverse scenarios on several risk fronts: capital adequacy, liquidity, interconnectedness and contagion, corporate debt, and climate change.<sup>6</sup> In line with the results obtained in Chapter 3 of this Report, the FSSA concludes that the Colombian system has the ability

3 In this regard, the national government is currently working on a draft decree.

4 The IMF argues that there could be a conflict of interest between Fogafin as a shareholder and Fogafin as the resolution arm of a bridge bank. In contrast to this argument, in practice it is likely that a bridge bank will always require the State's shareholding precisely because those assets and liabilities that other potential shareholders did not acquire (presumably because of their high risk) are transferred to such entities.

5 For example, the limits on the loan-to-value (LTV) ratio of the housing portfolio currently established by the National Government.

6 Stress tests to assess the risks associated with climate risk were published in Perez-Archila and Sever (2021), and Reinders, Calice, and Escobar (2021).

at the individual level to continue providing its services even if it were to experience profoundly adverse situations on those risk fronts. Nevertheless, the presence of a minority number of consistently vulnerable entities, the complexity of cross-border exposures, the high exposure of the system to corporate debt, and the acceleration of climate change highlight the need to make progress in systemic risk monitoring on an ongoing basis.

#### 4. Development of the Financial System

The evaluation of the overall development of the financial system included aspects of competition, digital financial inclusion, the role of the State in the sector, and the development of the capital market, among others. The results simultaneously identify a broad set of advances and challenges in promoting the development of the Colombian financial system.

In terms of competition, the FSA concludes that in the Colombian financial system a high concentration of business coexists with competitive forces although the latter are more prevalent in specific segments such as consumer loans. Going forward, competition in the sector could be further affected by the presence of financial conglomerates, the creation of Grupo Bicentenario as the country's third largest financial conglomerate<sup>7</sup>, and vertical integration in the payment system. Therefore, the IMF and the WB recommend strengthening and articulating (possibly through memorandums of understanding) the actions of the FSC and the Superintendency of Industry and Commerce regarding competition in the financial sector, and developing tools to include aspects of competition in the evaluation of reforms to financial regulation and supervision. At the same time, the FSA notes that there is a low frequency of sanctions for anti-competitive practices in the financial sector, and therefore recommends reviewing the procedures for evaluating mergers and acquisitions in the sector as well as strengthening the surveillance and enforcement capabilities of the authorities involved.

The evaluation highlights the commitment of public policy to the goal of financial inclusion, which has made it possible to make progress in the goal of connecting broader sectors of the population to the services provided by the financial system. Significant lags and inequalities persist in the area of digital payments, exacerbated by the lack of access to critical digital infrastructure. Therefore, the FSA recommends pressing ahead with structural reforms to establish more effective institutional mechanisms: the creation of a National Payments Council and the adoption of flexible and modern regulatory systems, together with the strengthening of competition in the use of the payment infrastructures (which, ultimately, may require the participation of *Banco de la República's* infrastructure).

Regarding direct state participation in the financial sector, along with the recommendation to quickly formalize the Bicentennial Group and move forward in the governance of state financial institutions (to, among other things, strengthen their mandate to advance financial inclusion), the FSA recommends a structural evaluation of interest rate limits in the financial sector (including usury rates, limits on agricultural credit rates, and the maximum remuneration rate for housing loans), and of the mandatory investments currently in place (including Agricultural Development Securities and Solidarity Securities). The above is intended to ensure that the regulation of maximum rates and mandatory investments does not distort the development of private credit markets.

Finally, the FSA admits that the Colombian capital market, despite its recent development and the depth and liquidity of public debt markets, is "shallow, illiquid, dominated by only a few institutions", such that it "limits investment and growth". At the same time, the evaluation highlights the presence of an ongoing reform agenda and, in addition to recommending that it be expedited, highlights the need to resume efforts to eliminate the tax on financial transactions, rule out early withdrawals from private pension funds (which, according to the evaluation, could affect financial stability<sup>8</sup> and limit the options for some agents to obtain long-term financing), make the application of Law 2112/2021 (which imposes a mandatory investment in private equity funds on pension and severance fund management companies) more flexible, and redefine the concept of "equity detriment"

7 According to the assessment, the state ownership of the Group could affect the ability of the private sector to compete on a level playing field.

8 For an alternative analysis of the issue, see Box 1 of the *Financial Stability Report* for the second half of 2020.

in the management of public assets which, in practice, has the effect of limiting feasible investment options for administrators.

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## 4. Financial Regulation

This chapter presents the main legal changes with respect to financial regulatory standards issued between November 2021<sup>53</sup> and April 2022. First, there are the standards that relate to the financial stability vulnerabilities described in this report. Second, regulatory changes to encourage economic development and facilitate convergence to international standards in the areas of risk management, financial inclusion, and capital market development are presented. Last of all, other regulatory adjustments and issuances are presented.

### 4.1 Regulations Related to Financial System Stability Vulnerabilities

In 2020, the Board of Directors of *Banco de la República* adopted a series of measures to ensure the liquidity of the economy and financial markets in response to the risks and adverse effects associated with the Covid-19 pandemic. This implied the implementation of new liquidity provision mechanisms and adjustments to the conditions of some of the instruments that *Banco de la República* uses to regulate the economy's liquidity and facilitate the normal functioning of the financial markets and the payment system in an environment of extraordinary tension.

Given that the risks for the liquidity of the financial system derived from the global pandemic have attenuated, and in order to ensure the proper functioning of the payment system, on 31 March 2022 *Banco de la República* decided to adjust the liquidity provision structure (Open Market Operations structure) in order to regulate the liquidity in the economy and facilitate the normal functioning of the payment system under normal conditions as of 04 April 2022 (Table 4.1 shows said structure). Changes include the following:

- a. The following entities were defined as *Banco de la República's* counterparties in the transitory expansion transactions instrumented with public debt: 1) Clss (including Bancoldex) that register balances of liabilities with the public, 2) CIs and SBF acting on their own behalf that participate in the public debt market makers program of the Ministry of the Treasury and Public Credit, and 3) SBF, TC, and IMC exclusively on account of their open-end CIF.
- b. All entities participating in the CUD system of *Banco de la República* with the exception of social security information operators, the Ministry of the Treasury and Public Credit, the Colombian Institute of Educational Credit and Technical Studies Abroad (Icetex) and financial market infrastructures were authorized as eligible counterparties for the intraday repo (RI) and its automatic conversion into overnight. Central counterparty risk clearinghouses are maintained as eligible counterparties for these operations.

The suspension of two mechanisms for liquidity provision implemented in 2020 was also announced: repo transactions backed by private debt and bank notes, and repos with maturities of nine months and one year backed by public debt.

53 The *Financial Stability Report* (FSR) for the second half of 2021 included the regulations issued up to 02 November 2021. The standards presented in this version of the FSR include those issued as of that date.

Table 4.1  
New Structure of Eligible Counterparties (as of 04 April 2022)

Authorized transactions	Expansion					Contraction		Definite expansion and contraction through NDF <sup>a/</sup>	Intraday repos
	Transitory			Definitive		Transitory with remunerated deposits	Definitive		
	Public debt (number 3.1.1 ERC DEFI 354)	Private debt (number 3.1.2 ERC DEFI 354)	Bank loans (number 3.1.3 ERC DEFI 354)	Public debt (number 3.2.1 ERC DEFI 354)	Private debt (3.2.2 ERC DEFI 354)				
Individual limit	Not applicable	Not applicable	15% PPP <sup>c/</sup>	Not applicable		Not applicable	Not applicable	Not applicable	Paragraph 2 of the CEOS DFV-120 <sup>d/</sup>
Entities authorized as ACO									
Credit Institutions <sup>e/</sup>	X	X	X	X	X	X	X	X	X
Bancoldex	X	X	X	X	X	X	X	X	X
SBFs that participate in the public debt securities Market Makers Program (proprietary account)	X	X		X	X	X	X	X	X
Financiera de Desarrollo Nacional, Fondo Nacional del Ahorro, Fondo para el Financiamiento del Sector Agropecuario (Finagro) and Financiera de Desarrollo Territorial (Findeter)		X	X	X	X	X	X	X	X
Icetex				X	X	X	X		
SBF, TC, and IMC on behalf of the open-ended CIFs that they manage	X	X		X	X	X	X	X	X
SBF, TC and IMC for their proprietary account and on behalf of third-party accounts or managed funds, PFMs on behalf of severance pay funds, securitization companies, and insurance companies		X		X	X	X	X	X	X
PFM for their proprietary account and on behalf of third parties or managed funds other than severance pay funds				X		X	X	X	X
Fogafin and especially Foreign Exchange and Financial Intermediation Service Companies				X	X	X	X	X	X
Capitalization Companies				X		X	X	X	X
Companies specializing in electronic deposits and payments and central counterparty risk clearinghouses						X	X	X	X

## Notes:

a/ NDF: non delivery forward.

b/ Specific eligible securities can be found in External Regulatory Circular (ERC) DEFI-354.

c/ PPP: liabilities/obligations with the public.

d/ External Operating and Services Circular DFV-120 (CEOS DFV-120) of Banco de la República's Fiduciary and Securities Department.

e/ ROC (Repo Overnight por Compensación, in Spanish) is an overnight repo used only for covering operations arising from interbank check clearings. Eligible counterparties for ROC will be those credit institutions that participate in the interbank clearing service for Banco de la República's checks and other payment instruments. Eligible securities shall be those set forth in numeral 3.1 of this Circular. The individual limit will be the one indicated in the Operational and Services External Circular DSP-36, numeral 4 of the Payment Systems Department at Banco de la República.

Source: 31 March 2022, Bulletin 21, by Banco de la República.

These mechanisms may be activated when the economic situation requires them and they sought to guarantee broad access to and distribution of *Banco de la República's* liquidity, preserve confidence in the financial system, facilitate the functioning of the markets, provide entities with sufficient funding to support the payment system and promote the supply of credit in the economy.

In addition, *Banco de la República* announced that they will offer seven-calendar-day term repos with public debt securities on a daily basis in a cascade system<sup>54</sup> along with the overnight repos. This is intended to contribute to reducing the operating capacity of the entities in the management of liquidity. Normally, seven-calendar-day term repos auction will not be held when auctions of monetary contraction operations are being carried out.

Regarding the recovery of the loan portfolio and the decrease in the credit risk indicators explained at the beginning of this report, the FSC issued External Circular (EC) 009/2022 (April 29). This seeks to promote credit reactivation that is sustainable through mechanisms that facilitate access to credit for debtors and different sectors of the economy that have obligations that have been written off in the context of the pandemic. To this end, EC 009/2022 implemented changes in the Basic Accounting and Financial Circular (CBCJ in Spanish) related to the SARC, including the following:

- a. Previously, in the models adopted by financial institutions for estimating or quantifying expected losses, a situation was considered a default one when the debtor registered written-off obligations with the financial institution or in the system based on information from the credit bureaus or any other source. Now, new loans granted to debtors with written-off obligations and on which the disbursement of the value of the approved loan has already been made will not be considered as in default in these models.
- b. Regarding the rules on credit rating and re-rating: now the assignment and adjustment of the debtors' rating must be based on the analysis of complementary variables, such as: 1) whether the debtor has had restructured loans and the characteristics of these restructurings, and 2) whether the debtor has written-off obligations and the characteristics of these write-offs (such as the amount, whether the obligation was fully or partially recovered and the age of the write-off, understood as the time elapsed between the date of the write-off and the evaluation).
- c. As a general rule within any SARC, financial institutions must evaluate the risk of their loan portfolio by introducing modifications to the respective ratings when there is a new analysis or information that justifies such changes. To do this, the institutions must consider the debtor's credit behavior in other institutions. Under EC 009/2022, in addition to reviewing whether, at the time of the evaluation, the debtor has restructured obligations, whether the debtor has written-off obligations must also be taken into account based on information from credit bureaus or any other source
- d. CIs, in accordance with their risk appetite, must establish policies for the granting and rating of new loans to debtors with written-off obligations. In addition, the institutions must implement special procedures for the

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<sup>54</sup> Cascade system: sequence of repo auctions at different maturities on the same day, in which the quota of each auction depends on what was allotted in the previous auction.

management and follow-up of these debtors and submit information to the FSC on the analysis of these debtors' behavior in accordance with the requirements established by the FSC.

By means of paragraphs b, c, and d, write-offs are included as additional criteria in the risk assessment, thus facilitating the access of written-off debtors by clarifying to the entities the rating rules that are relevant to them.

## 4.2 Regulations Related to Structural Changes and Issues of Interest in the Medium and Long Term.

During the period under review, the issuance of regulations on financial inclusion, prudential issues, capital market development, sustainability, and risk management, including social, environmental, and climate risks, continued. These changes are presented below.

### 4.2.1 Regulations issued by the Congress of Colombia

**Act 2177 (30 December 2021):** The purpose of this law is to establish conditions to guarantee the access of participants in the mining industry<sup>55</sup> to financial products and services offered by institutions supervised by the FSC and/or the Superintendency of Economic Solidarity (SES). Along with other things, the entities supervised by the FSC and/or SES are ordered to include financial education programs for the population described above and to provide training on the process of getting access to financial products and services. It also specifies that these entities will provide such products and services as long as the target population complies with the risk analysis established by each institution.

**Act 2186 (06 January 2022):** the purpose of this law is to increase financing for the country's small and medium-sized agricultural producers. Among other things, it was established that: 1) the allocation of substitute placements or alternative mechanisms for the fulfillment of investments in debt securities for agricultural development (TDA) will be at least 50% for small and medium-sized producers; 2) the National Agricultural Credit Commission (CNCA in Spanish) may increase financing for small and medium-sized agricultural producers organized or not through associations or cooperatives and/or any other associative form that develops productive projects; 3) agricultural loans included in Act 16/1990, Article 26, may be backed by national guarantees and/or complementary national guarantees<sup>56</sup> of 90% for small producers and 80% for medium-sized producers, and 4) the National Government will adopt the necessary measures so that rural women may have timely and priority access to the allocation of substitute placements or alternative mechanisms for the fulfillment of TDA investments.

### 4.2.2 Regulations issued by the FSC

**Circular Letter 71 (12 November 2021):** information was provided on aspects related to the Statute for Temporary Protection of Venezuelan Migrants under the Temporary

<sup>55</sup> For this Act, the mining industry includes the following actors: mine owners; authorized mine operators; mineral traders; processing plants; special service providers (those who carry out exploration, construction and assembly, mining and closure, and abandonment) as well as miners in the process of formalization and legalization, account participants and other stakeholders involved in the supply chain.

<sup>56</sup> Supplementary guarantees may be granted by subnational entities such as municipalities. This is intended to complement the guarantees offered at the national level.

Protection Regime: Temporary Protection Permit (PPT). Specifically, the Special Permit to Stay (PEP) will continue to be valid as a means of identification for access to the financial system. Likewise, the PPT document is fully valid for the identification of its holder. Therefore, it must be accepted for obtaining and contracting financial products and/or services in the institutions supervised in Colombia.

**External Circular 027 (22 November 2021):** instructions were issued regarding the procurement of additional protection and the casualty deviation reserve for the occupational risks segment of insurance companies. In general, the specific rules applicable to this line of business were specified as regards the contracting of reinsurance coverage, the conditions of reinsurance contracts, the rules on modeling different events, and the methodology for calculating the loss deviation reserve. Furthermore, the decision was made that insurance companies must collect the necessary information to determine the impact of terrorism, pandemic, and industrial accident explosion events on the portfolio of insured risks.

**External Circular 031 (22 December 2021):** In order to standardize and improve the relevance of information on sustainability practices for investors and strengthen disclosure by securities issuers, the FSC issued instructions regarding the disclosure of information on social and environmental issues, including climate issues (SAC). The above can be done by adopting the international standards of the Task Force For Climate Related Financial Disclosure (TCFD) and the SASB<sup>57</sup> Standards of the Value Reporting Foundation.

By virtue of the foregoing, Appendix 2 was added to the Basic Legal Circular (CBJ) Part III, Title V, Chapter I to define the rules applicable to the disclosure of information on SAC matters for issuers under a proportionality criterion, i.e., based on the size and characteristics of the issuers.

**External Circular 003 (06 April 2022):** In order for the Integrated Securities Market Information System (Simev in Spanish) to provide greater value as a source of official information in the securities market and to optimize access to it and consultation for decision making by the different participants, the FSC issued instructions to require securities issuers and securities market agents to send additional information to the National Registry of Securities and Issuers (RNVE in Spanish) and to the National Registry of Securities Market Agents (RNAMV in Spanish) as well as to enable a web service between the Securities and Issuers Self-Regulator (AMV in Spanish) and FSC for the transmission of information from securities market professionals.

**External Circular 005 (08 April 2022):** the FSC issued instructions regarding the adoption of the Colombian Green Taxonomy. This constitutes a transcendental step for the homogeneous and standardized identification of activities and assets that contribute to the achievement of the country's environmental objectives and thus facilitates the common understanding of entities, investors, and the general public.

#### 4.2.3 Regulations issued by the MHCP

**Decree 1727 (15 December 2021):** this modifies Decree 1068/2015 (Sole Regulatory Decree of the Treasury and Public Credit Sector) with respect to the coverage of the Frech non-LIH (Frech no VIS in Spanish) program. A decision was made to grant

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<sup>57</sup> SASB standards are those defined by the Sustainability Accounting Standards Board and are designed to guide different companies in disclosing sustainability information to investors.

a differentiated interest rate coverage for the acquisition of housing for the non-LIH segment that includes sustainability requirements. Specifically, an additional coverage of ten minimum legal monthly salaries in effect (SMMLV) was added to what had already been established for the year 2022.

**Decree 053 (20 January 2022):** in order to encourage the efficiency, vitality, and depth of the capital market through the participation of new issuers and greater access to different types of investors, Decree 2555/2010 was amended to establish the following:

- a. Closed-end CIFs were authorized as bond issuers in the capital market. They may issue bonds to be placed through public offerings, subject to prior authorization by the FSC. The parameters that emissions must take into account were also established.
- b. Money market transactions (repos, sell/buy backs, and TTS) were allowed for periods that were longer than one year when the CCRC interposes itself as a direct counterparty and manages the clearing and settlement of such transactions.
- c. Shareholders with stakes of less than 5.0% in crowdfunding projects<sup>58</sup> were given the possibility to invest in those same projects.
- d. Transactions carried out in the over-the-counter market were allowed to be cleared and settled by legally authorized entities provided they are carried out on products that can be traded on an agricultural or agro-industrial goods and services exchange or one for other commodities.

**Decree 175 (03 February 2021):** this modifies Decree 2555/2010 with respect to the technical equity (TE) of third-party asset managers TAM: TC, PFM, SBF, and IMC. The purpose of this is to incorporate better international standards and recommendations on the quality of TE for these administrators and to update the risk measurement methodologies associated with the nature of the transactions carried out by these entities.

Previously, through Decree 415/2018, progress was made in standardizing the capital adequacy ratio requirements to be met by TAM. This established that the four groups of entities must have a minimum capital adequacy ratio (CAR) of 9.0% and unified the calculation formula as follows:

Where:

$$\text{Capital adequacy ratio} = \frac{\text{Technical equity}}{AWRL + \frac{100}{9} VeR RM + \frac{100}{9} VeR RO}$$

*AWRL* : assets weighted by risk level rating.

*VeR MR*: value at risk due to market risk.

*VeR OR*: value at risk due to operating risk.

Although this unification was carried out, there were still differences in the calculation of the *CAR* for each group of entities, largely due to the different definitions of *PT* applied to each type of entity.

<sup>58</sup> According to Decree 1357/2018, crowdfunding activity is one that is carried out by entities authorized by the FSC based on an electronic infrastructure that may include interfaces, platforms, internet pages or other means of electronic communication through which a plural number of contributors are put in contact with recipients who request financing in their own name for allocation to a productive investment project.

Thus, Decree 175 defined, among other things, the following:

- a. A unified definition of TE was established for the four types of TAM. The definition includes the instruments that the core equity is made up of, deductions from the core equity, additional equity, and deduction from technical equity.
- b. The criteria established by the Basel Committee for the classification of shares and debt instruments in the TE were implemented in line with the adoption already made for CIs.
- c. Some additional deductions from core equity were defined for the case of the PFM.
- d. The classification of AWRL was updated in accordance with the treatment established for CIs. The purpose of this is to have a greater sensitivity to risk than was afforded by the previous classification which was divided into only three categories.

The Financial Regulation Unit (FRU) did an impact assessment of the regulatory change and found that, with the new regulations, the CAR would probably rise for the four groups of entities.

Last of all, the TAM were given twelve months to comply with the aforementioned changes starting from the date on which the FSC publishes instructions for their application. The FSC has 12 months from the publication of the decree to issue the instructions for it.

#### 4.2.4 Regulations issued by the BVC (Colombian Stock Exchange)

**BVC Regulations (Normativo BVC) 048 (23 December 2021):** Technical conditions or criteria were established for the liquidity creator program in relation to certain variable-income securities identified in this regulation.

**BVC Regulations (Normativo BVC) 006 (31 January 2022):** amendments were made to the BVC's Sole Circular regarding the web page requirements for securities issuers and the definition of the general and specific requirements for the registration of syndicated bond issues (SBI)<sup>59</sup> on the stock exchange and their approval process. This was done in order to make SBIs viable on the stock exchange, to diversify the financing structures available to securities issuers, and to contribute to the development of the capital market.

#### 4.2.5 Regulations issued by Banco de la República

**Bulletin 03 and 04 (07 January 2022):** External Regulatory Circular (ERC) DEFI-354 and ERC DEFI-360 were amended in order to eliminate the securities related to IBOR rates from the eligible securities of financial investments of foreign issuers.

**Bulletins 08 and 09 (28 February 2022), 13 (01 March 2022) and 16 (16 March 2022):** External Resolution (ER) 2/2015 (rules on transactions to regulate the liquidity in the economy and facilitate the normal functioning of the payment system), RE 1/2018 (international exchange regime), ER 1/2018, ERC DEFI-354, and ERC DOAM-148 were amended. The following was implemented:

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<sup>59</sup> Syndicated bonds are bonds issued by several issuers that establish the basic conditions of the issue by means of an agreement entered into between themselves.

- a. When an ACO (OMO placement agent) is expelled from the AMV, it will lose its ACO status.
- b. *Banco de la República* will do a technical evaluation beforehand to allow the participation of an entity in the repos, RI, and ROC<sup>60</sup> when, having defaulted on the payment of an obligation derived from an TLS in the last 180 days, the entity has been subject to a seizure of possession by the FSC in which its liquidation has not been determined.
- c. The eligible counterparties and the characteristics of the non delivery forward (NDF) transactions for the purchase of TES were included.
- d. When the ACO fails to pay the pecuniary penalties for OMO, RI, and ROC or with the definitive transactions through NDF of TES class B, as established in SR 5/2022 (SR that replaced SR 2/2015) or the foreign exchange penalties as established in SR 1/2018, it will lose the OPA status and will be suspended from entering into foreign exchange intervention transactions.
- e. In order to reestablish access to the transactions mentioned in the previous sentence, the ACO must pay the penalties (monetary and foreign exchange) or NDF transactions and the corresponding interest for late payment. To this effect, the number of days in arrears shall be added to the initial calculation of the pecuniary penalty.
- f. ACO status cancellations that were subject to the suspension period were eliminated. The new regulation establishes requirements by type of transaction.
- g. Clarification was made that when *Banco de la República* carries out operations in blind or semi-blind trading systems, entities other than ACO may act as counterparties.
- h. Additional conditions were included for the process of compliance with the maturity of repo transactions and the payment of financial penalties.
- i. In the event of passive or active noncompliance with the limits stipulated<sup>61</sup> as requirements for access to repos (including RI and ROC) and maintenance of ACO status, *Banco de la República* will request information from the FSC regarding the existence of adjustment plans, adoption of corrective measures, or if they are monitoring the situation to ensure that the institution regularizes compliance with the limit. If the FSC informs *Banco de la República* that the institution has no such plans, the central bank will proceed to suspend the entity from participating in repo transactions (including RI and ROC as applicable).

**Bulletin 10 (28 February 2022) and 15 (02 March 2022):** this amended ER 2/2019 (regulations for developing the role of *Banco de la República* as lender of last resort) and the ERC DEFI-360. The following was established:

- a. In addition to the conditions already established, CIs will not be able to get access to or keep the resources of an TLS (the immediate return of the resources will be required) if they are expelled from the AMV, when they are

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60 Repo *Overnight* por Compensación (ROC) is an overnight repo used only for covering operations arising from interbank check clearings.

61 These limits include: individual credit and risk concentration limits when applicable by regulatory provision under the terms of Single Decree 2555/2010. Configuration limits, investment limits and risk concentration in CIFs, third party portfolios, managed funds, margin accounts, and limits on the gross global position of term and carousel operations with respect to the technical equity of the company, maximum limits on the technical equity in the funds they manage and for the creation of portfolios, as applicable, under the terms of the Single Decree 2555/2010. Furthermore, there are maximum investment limits per issue, global limits, concentration limits, and investment limits in accordance with the terms of the Single Decree 2555/2010.

- declared to be in a state of voluntary liquidation or ordered to do so by decree, or when they fail to pay any penalty arising from the operations referred to in ER 2/2015 or foreign exchange intervention as established in ER 1/2018.
- b. Compliance with the individual and consolidated leverage ratio was included as a new entry and maintenance requirement in the TLS.
  - c. In the event of passive or active noncompliance with the limits stipulated (the same as those applicable to ACO) as requirements for access to and maintenance of TLS, *Banco de la República* shall request information from the FSC regarding the existence of adjustment plans, adoption of corrective measures, or if they are monitoring the situation to ensure that the entity regularizes compliance with the limit. If the FSC informs *Banco de la República* that the entity has no such plans, the central bank will request the immediate return of the funds.

**Bulletin 14 (02 March 2022):** ERC DOAM-317 (trading systems and systems for registering foreign exchange transactions) was amended to state that entities supervised by the FSC other than foreign exchange market intermediaries must register the derivative transactions carried out with *Banco de la República* in the registry system for foreign exchange transactions.

**Bulletin 19 and 24 (31 March 2022):** ER 2/2015 was replaced in its entirety by ER 5/2022 which summarizes and issues the rules on operations to regulate the liquidity in the economy and facilitate the normal functioning of the payment system. ERC DEFI-354 and ERC DOIV-413 were also amended to eliminate the physical promissory note of bank loans as an eligible security in repo transactions with bank loans as collateral.

**Bulletin 20 (31 March 2022):** ER 2/2019 was amended to clarify that the sum of the balances in TLS transactions and in repo transactions with loans as collateral may not exceed the maximum of the limits established for each of them.

### 4.3 Other Regulatory Developments

In addition to the regulations described above, other operational standards were issued during the period under analysis to improve the efficiency of regulatory processes and to align current standards with directives from higher levels. These changes are presented below.

#### 4.3.1 Regulations issued by the FSC

**External Circular 028 (13 December 2021):** The FSC issued instructions on the handling of information regarding requests for the opening of single accounts for the management of electoral campaign resources as well as the special channels available to address concerns and queries related to requests to open single accounts and the granting of bid bond policies.

**External Circular 029 (17 December 2021):** Account 8119 (custody of securities of voluntary pension funds) and its respective subaccounts were added to the CUIF. The purpose of the foregoing is that the TC that are custodians of securities representing investments in voluntary pension funds report the accounting information related to this activity.

**External Circular 030 (17 December 2021):** The repeal and modification of several proformas and formats was carried out in order to adapt the information reports,

update the types of entities, specify the products to be reported, clarify reporting instructions for entities that carry out digital operations, etc.

**External Circular 032 (22 December 2021):** instructions were issued to standardize the reporting of information to the Attorney General's Office (Fiscalía General de la Nación) by banking institutions. The reports include information on cashed checks, bank transactions, financial obligations, and wire transfers.

**External Circular 033 (27 December 2021):** Report forms 412 (number of service channels by municipality) and 413 (transactions through distribution channels or transactional services provided by the supervised entities) were created. This is in the context of the country's digital transformation and the relevance that the payment system has acquired in the economy, and in order to have timely and detailed information on transactions, distribution channels, and the number of points of service.

The forms must be filled out by banking institutions, financing companies, financial cooperatives, Sedpes, entities that administer low-value payment systems, and *Banco de la República*.

The first official transmission of the formats must be made no later than 10 March 2023 with the information corresponding to January and February of the same year. Reports for March 2023 and thereafter should take into account the deadline defined in the corresponding instructions.

**External Circular 034 (27 December 2021):** Format 414 (lending rates by type of credit) was created. This is intended to determine the trend in lending rates, classified by type of person, gender, size of company, category, type of loan, type of guarantee, type of product and maturity as well as the number and amount of loans disbursed. The first official transmission of this format must be made by 01 July 2022.

**Circular Letter 07 (03 February 2022):** the FSC requested a report from insurance companies to identify the design of innovative, accessible, and affordable products that meet to the needs of their clients. The reason for this was to analyze and follow up on the state of financial inclusion in the country in the area of insurance.

**External Circular 002 (10 February 2022):** given the modifications to the interest rate coverage of the Frech non-LIH program implemented through Decree 1727/2021 and Resolution 0188/January 24, 2022 issued by the Ministry of the Treasury and Public Credit, the FSC modified the Basic Legal Circular (CBJ in Spanish), Part II, Title I, Chapter VI, Appendix 8, regarding the total amount of interest rate coverage for the financing of new urban non-LIH housing when the financed housing units meet the sustainability criteria defined by the Ministry of Housing, City, and Territory in Resolution 0019/January 13, 2022.

**Circular Letter 14 (21 February 2022):** in accordance with the provisions of Resolution 2231/2021 issued by the Ministry of Foreign Affairs, the FSC informed its supervised entities that the passport of Venezuelan nationals, which has expired or is about to expire, will serve as an identification document for Venezuelan nationals in the national territory as long as it has the entry and stay stamp granted by the Special Administrative Unit of Migration Colombia.

**Circular Letter 19 (11 March 2022):** aspects related to the requirement of quarterly information on the requests for financial products and services submitted by stakeholders in the mining sector under the terms of Act 2177/2021 were reported.

**External Circular 004 (06 April 2022):** in order to generate a new structure for capturing information regarding financial derivatives instrument transactions and consolidate the data that is currently transmitted by means of different reports in a single proforma, format 415 (derivative financial instruments) was created and the following formats were repealed: Format 468 (currency forwards, including FX-Swap), 469 (securities forwards), 471 (European over-the-counter options, OTC) and 472 (swaps: interest rate swap: IRS, cross currency swap: CCS, and credit default swaps: CDS).

**External Circular 006 (18 April 2022):** proforma F.7000-20 (format 535): “Non-compliances and/or possible non-compliances shown by the securities custodians in the development of the transactions carried out by the CIFs and VPF portfolios” was modified. The purpose of the foregoing is to standardize the calculation of the limits applicable to CIFs and voluntary pension funds in order to create a homogeneous environment for securities custodians in the reporting of information.

**External Circular 007 (20 April 2022):** in order to address the technological renovation process of *Banco de la República’s* CSD (DCV in Spanish), the proformas F. 0000-110 (format 351), “Components of the investment portfolio”, and F.0000-132 (format 397), “Repos, sell/buy-backs and temporary transfer of securities” were modified.

#### 4.3.2 Regulations issued by the FSC and Colombia Compra Eficiente

**Joint Circular 002 (23 December 2021):** the FSC and the national public procurement agency Colombia Compra Eficiente issued instructions in order to extend the effects of Joint Circular 001/20 August 2021 to non-contractual civil liability insurance and all contractor risks within the framework of state contracting processes.

#### 4.3.3 Regulations issued by the MHCP

**Resolution 3486 (30 December 2021):** financial entities that could participate in the Public Debt Securities Market Makers Program for the 2022 period were defined. Fifteen market making entities (thirteen banks, one FC and one SBF) were designated for this period.<sup>62</sup> The purpose of this program is to promote adequate financing conditions for the Nation in the capital market through the development of the public debt securities market.

#### 4.3.4 Regulations issued by the BVC (Colombian Stock Exchange)

**BVC Regulation 047 (Normativo BVC) (21 December 2021):** modifications were made with respect to the definition of the requirements for the recognition of investor relations (IR) for issuers with equity securities registered in the stock exchange. IR recognition is given to issuers that adopt best practices in disclosure and investor relations. This seeks to make Colombia a more eligible market for investment.

<sup>62</sup> The whole list of entities can be found in the resolution in the regulatory section of the Investor Relations Colombia (IRC) website.

**Derivatives Regulation 004 (Normativo Derivados) (31 January 2022):** the duration of the liquidity programs in the derivatives market was made more flexible.<sup>63</sup> Previously the programs were valid for one year. Now, the cycles for these programs can be less than one year. This was done to make the markets more dynamic.

#### 4.3.5 Regulations issued by *Banco de la República*

**Bulletin 57 (22 November 2021):** ERC DCIP-83 was amended with respect to foreign exchange declarations for foreign trade transactions. For specific cases, the importer listed in the information in the data for the exchange operations of imported goods will not be required to match the executing entity listed in the customs documents.

**Bulletin 60 (13 December 2021):** ERC DCIP-83 was amended to regulate the procedures in the foreign exchange regime for payments of imports, exports, and services through payment gateways (aggregator payment service providers) and a report was created to submit the information to Banrep.

**External Regulatory Circular DFV-135 (20 December 2021):** ERC DFV-135 (Electronic Trading System, SEN) was replaced in its entirety in order to incorporate the automatic entry of offers and habeas data authorized by the FSC's Resolution 1425/02 December 2021.

**Bulletin 62 (27 December 2021):** ERC DOAM-317 was amended to reestablish the maximum time for registering foreign exchange transactions subject to this obligation at fifteen minutes. This time was extended to 45 minutes from 04 May 2020 through 31 December 2021 in order to address the operational difficulties that entities subject to the registration requirement might face in the midst of pandemic-related isolation measures.

**Bulletin 17 (02 March 2022):** Changes were made to ERC DOIV-413 (procedure for the transitory expansion transaction with bank loans as collateral) in order to clarify aspects related to communications arising from repo transactions with bank loans as collateral, the transmission of information for disbursement, the procedure for the return of promissory notes, and the process for the collection of the repo transaction with bank loans as collateral and the collection of penalties.

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<sup>63</sup> Derivative liquidity provider programs allow members of the derivatives market (who meet the established requirements) to participate in such programs and imply an unequivocal commitment to quote bid and ask prices on an ongoing basis and a commitment to further the liquidity of the market in which it is a liquidity provider. The markets include TES futures, MSCI Colcap index mini-futures, exchange rate futures, etc.