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TECHNICAL ASSISTANCE REPORT— ASSESSMENT OF FINANCIAL STABILITY REPORT

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TECHNICAL ASSISTANCE REPORT

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Assessment of Financial Stability Report

December 2022

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Monetary and Capital Markets Department

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GLOSSARY

BR	Banco de la República
CCSSF	Financial Sector Coordination and Monitoring Committee (Comité de Coordinación y Seguimiento del Sistema Financiero)
DSR	Debt Service Ratio
Fogafin	Financial Institutions Guarantee Fund (Fondo de Garantías de Instituciones Financieras)
FSAP	Financial Sector Assessment Program
FSD	Financial Stability Department of the BR
FSR	Financial Stability Report
FX	Foreign Exchange
GFSR	Global Financial Stability Report
IADB	Inter-American Development Bank
MAD	Monetary Analysis Division of the BR
MHCP	Ministry of Finance (Ministerio de Hacienda y Crédito Público)
MIIS	Office of Monetary and International Investments of the BR
MPC	Monetary Policy Committee
SFC	Financial Superintendency of Colombia (Superintendencia Financiera de Colombia)
Sysmo	Systemic Stress Model
TA	Technical Assistance
URF	Financial Regulatory Unit of the MHCP (Unidad de Regulación Financiera del MHCP)
WEO	World Economic Outlook

Preface

At the request of the Banco de la República of Colombia (BR), a technical assistance (TA) mission by IMF's Monetary and Capital Market (MCM) Department took place in person on September 26 – October 7, 2022. The mission assessed the Financial Stability Report (FSR) published by the BR and made recommendations for its improvement. The mission was delivered by Sumiko Ogawa (MCM, lead) and Rhiannon Sowerbutts (Bank of England).

The mission met with Governor Leonardo Villar, Deputy Technical Governor Hernando Vargas, Andrés Murcia (Chief Officer for Monetary and International Investments), staff of the Financial Stability Department led by Daniel Osorio, the Press Office and staff of the Office for Monetary Policy and Economic Information of the BR; the Financial Superintendency of Colombia (SFC); the Financial Regulations Unit (URF) of the Ministry of Finance (MHCP); the Financial Institutions Guarantee Fund (Fogafin); commercial banks and rating agencies.

The mission would like to thank the BR staff for their excellent collaboration, productive meetings, and hospitality.

Executive Summary

The financial stability report (FSR) of the Banco de la República of Colombia (BR) provides broad coverage of macroeconomic environment and the assessment of risks in the financial system. The biannual report is considered as one of the main sources of data and information on financial stability in Colombia, and the BR makes presentation on the key messages to the public at the time of the publication. It also plays an important role in a broader framework of systemic risk monitoring—it is presented to the financial security network, which is a set of entities that share a financial stability objective. The BR, Financial superintendency of Colombia, Fogafin and the Ministry of Finance are members.

The current structure of the FSR appears to work well in covering a range of relevant risks and vulnerabilities as well as topical issues, but there is room for evolution. The stable structure, comprising macroeconomic environment, development in risks and vulnerabilities, stress tests, and changes in financial regulations, allows for consistent provision of information and assessment. At the same time, it usually contains 4-7 boxes on thematic topics, providing flexible means to cover topical and/or emerging issues. As new risks become more permanent and related data more readily available, the BR could take stock and update the structure as needed in the medium term.

The BR should continue developing data and analytical approaches. The efforts to compile granular data should be continued, particularly on the household sector indebtedness and financial conglomerates. While the data published in and with the FSR is highly valued, the time lag makes it difficult to put out timely assessment of fast changing risks in the financial system. To mitigate this challenge, the BR could consider releasing a short update in between the FSR cycles, focused on data with a brief write-up on macroeconomic outlook. Such an interim update could be based on preliminary or more aggregate data that are already available and draw heavily on other existing publications such as the monetary policy report. The BR could also consider including more up to date data in its report but making it clear that it is preliminary. Streamlining internal weekly/monthly reports could help reduce resource constraints.

Efforts to expand forward-looking analyses should continue, including stress testing and sensitivity analyses of the corporate and household sectors and on interconnectedness. Such analyses should be based on and be consistent with the assumptions in the bank stress test, providing a coherent scenario for the assessment of resilience. Given the increasing exposure of Colombian financial conglomerates in Central America, the BR should focus its attention on examining and understanding financial linkages and potential spillover channels.

The messages on key risks should be sharpened and made more forward-looking. The FSR should convey a consistent narrative throughout the report, by elaborating risk transmission channels, and linking the risks identified more explicitly to stress test scenarios that are employed throughout the report. Supplementing the newly introduced vulnerability matrix with relevant indicators extracted from the Heatmap could help substantiate the assessment and enhance the clarity of the narrative.

A layered communication approach would help adapt the key messages of the FSR to audiences with different levels of expert knowledge and interest. There is limited financial press in Colombia. Holding separating briefings on the FSR for journalists and expert audience (e.g., financial analysts) would allow the communication to be adjusted to the level of their technical understanding. In addition, enhancing the “in-reach” within the BR and to the financial regulatory community would foster greater understanding of financial stability issues and could facilitate a more structured exchange of views.

There would be clear gains in deepening the understanding of the channels and interaction between financial stability and monetary policy as the financial system continues to evolve. Enhancing knowledge sharing between staff working on financial stability and monetary policy and further improving information about the sensitivity of various vulnerabilities in the FSR would help monetary policy decision makers, which in turn may have a positive feedback effect on financial stability.

Table 1. Key Recommendations

Recommendations	Priority	Timeframe[1]
Structure of Financial Stability Report		
1. Review and update the structure of the Financial Stability Report, taking stock of recurring and relevant issues	Medium	Medium term
Data and Analysis		
2. Consider producing an 'interim' update which is focused on data rather than analysis, taking advantage of preliminary and/or less granular data available	Medium	Medium term
3. Continue developing analytical approaches, including on the household sector and financial conglomerates	High	Short term
4. Expand forward-looking analyses, including stress testing and sensitivity analyses of the corporate and household sectors	High	Medium term
5. Streamline internal reports, leveraging the forward-looking analysis in the FSR	Medium	Medium term
Messaging		
6. Enhance the clarity of the messages and make them more forward-looking by reiterating the consistent narrative and elaborating on risk transmission channels throughout the report	High	Short term
7. Link the assumptions for the stress testing scenarios more explicitly with risks discussed in the conjunctural chapters	High	Medium term
Communication		
8. Develop a layered communication approach	High	Short term
9. Introduce separate briefings for the media and the expert audience	High	Short term
10. Enhance the in-reach within the BR and at other financial sector authorities to facilitate a more structured exchange of views.	Medium	Long term
Long-term Issues		
11. Develop deeper understanding and knowledge sharing on monetary policy and financial stability interactions	High	Long term

[1] Short term: less than 12 months; Medium term: between 12 and 24 months; Long term: more than 24 months.

I. INTRODUCTION

1. **Financial stability reports (FSRs) have become one of the important tools for communicating views on the stability of and risks in the financial system.** Its use increased particularly in the mid-2000s, with the number of jurisdictions publishing FSRs increasing from less than 10 in 1990s to over 100 by mid-2010s. Notwithstanding its proliferation, central banks and financial regulators often face challenges of a delivering clear sense of the state of risks and sources of vulnerability, achieving candidness without causing unnecessary concern, and providing forward-looking analyses and assessments.

2. **The BR first launched its FSR in 2002, as a means for presenting its diagnosis of the performance of the financial system, and assessments of main risks and vulnerabilities.** The FSR is published twice a year (May and November), covering global and domestic macroeconomic environment; development of risks and vulnerabilities in the financial system; results of stress tests of credit institutions; and recent changes in financial regulations. There have been efforts to enhance communication and transparency, including publishing presentation slides since 2007 and underlying data since 2011, and posting links to press conferences on their website. An IMF working paper (Lim and others, 2017) assessed the BR's FSR as the second highest in quality among those published by the authorities in Latin America and the Caribbean.

3. **The mission assessed the BR's FSRs, identified gaps in the process, contents and analyses, and formulated recommendations.** The assessment focused on (i) identifying key stakeholders and the audience and discussing their opinions of the FSR (Box 1); (ii) reviewing the FSR production process, including the range of systemic risks that are regularly monitored and analyzed and the identification of main themes of the report; and (iii) assessing whether the FSR accurately and clearly covers the key risks and communicates the key messages and themes to the intended audience.

4. **As part of the Board of Governors' Strategic Plan, the BR plans to review and update its policy framework related to the promotion of financial stability.** The review of the FSR and the recommendations of the mission aim to contribute to the BR's objective to update and improve the FSR in 2023 as the instrument to identify financial vulnerabilities.

5. **This TA report summarizes the mission's findings and recommendations.** Section II describe the production process of the FSR and its role in the broader framework of systemic risk monitoring and macroprudential policy coordination. Section III reviews the current structure of the FSR and makes recommendations. Section IV assesses data and analyses employed in the FSR, suggests ways to make the report more forward-looking and address the challenge of data lag, as well as considerations for leveraging the FSR to maximize the use of available resources. Sections V focuses on messaging and communication, with examples of approaches adopted in FSRs issued by other central banks. Section VI concludes with discussions on long-term considerations, in particular, for enhancing the integration of financial stability and monetary policy considerations.

II. Overview of the BR's Financial Stability Report

A. Production Process

6. **The BR's FSR is published twice a year, led by the Financial Stability Department (FSD).** The production cycle lasts about 3-4 months, starting in mid-March and mid-September for the publication at end-May and November, respectively. The work involves the majority of the staff at the FSD (19 staff and 3 interns at the time of the mission), with staff typically responsible for analyses of multiple types of risk. At the onset, the team engages in dialogue with the chief risk officers of credit institutions, academics and think tanks, to gauge the prevailing views on risks and vulnerabilities. The main vulnerabilities and the features of the stress test are discussed and agreed with the Technical Deputy Governor and the Head of the Office of Monetary and International Investments (MIIS) and presented to the Board of Directors before being finalized. While the document is prepared by the BR staff, it incorporates comments from the Financial Superintendency of Colombia (SFC). In addition, the Governor signs the short summary of the main messages, and signs-off and participate in the presentation to the press. Several special reports on financial stability are published about a month after the publication of the FSR (see Section III). However, it is considered to be a staff product and views rather than those of the Board.

7. **The FSD collaborate within and outside the central bank.** Significant part of the data used for the risk monitoring and analyses are shared by the SFC, covered under a bilateral Memorandum of Understanding. Monetary Analysis Division (MAD) of the BR collaborate with the FSD on the stress test macro scenario, where the FSD use the MAD's macroeconomic forecast as an input for developing adverse scenario. There are ongoing collaborations with other agencies to enhance data and analyses (see Section IV). For example, the FSD is exploring ways to expand data coverage and improve granularity of data on household indebtedness, drawing on data from social security, tax payments and credit registry.

B. The BR's Financial Stability Risk Monitoring Framework

8. **The BR has several risk monitoring tools across different risk dimension and frequency.** Market risk and money market fund liquidity risks are monitored and reported internally on a weekly basis, and bank liquidity on a monthly basis. Views on emerging vulnerabilities across different areas are shared in a bi-monthly meeting of departments under the MIIS, which includes the FSD and the Operations and financial Markets Analysis Department, among others. In addition, the BR publishes surveys on various risks, including the survey on credit demand and supply, the survey on foreign indebtedness and credit lines (quarterly) and the survey on the perception of vulnerabilities and resilience of the financial system (semi-annually).

9. **The FSR plays an important role in a broader framework for systemic risk monitoring and macroprudential policy making in Colombia.** The BR makes a presentation on some results of the FSR at the Financial Sector Coordination and Monitoring Committee (CCSSF), a platform for information sharing and cooperation comprising the BR, the SFC, the Ministry of Finance (MHCP) and the Financial Institutions Guarantee Fund (Fogafin). The SFC and the MHCP would have a chance to see the report prior to the presentation, as they provide feedback to the draft (the SFC) and receive presentation as a member of the BR Board (the MHCP). The BR and the SFC also exchange views on their respective stress test results.[1]

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[1] The SFC conducts top-down and bottom-up stress tests on quarterly basis with a micro approach. The BR conducts top-down macro stress tests which take into account interlinkages between the banks, the

(continued...)

Box 1. Key findings of the discussion with stakeholders

Discussions with key stakeholders, both within the financial safety net and the private sector, underscored that the FSR is highly valued. While there are different uses for the FSR, the stakeholders see the report as a valuable (and sometimes only) source of information about Colombia's financial system.

- **The risks mentioned in the financial stability report are generally the risks that they are thinking about.** Audiences are usually in agreement with the focus and the risks covered in the report and are rarely surprised about its contents.
- **The boxes were highly valued as a way to learn about a specific risk.** Their feedback indicated that they would welcome seminars/special briefings on some of the boxes to facilitate more in-depth discussion and understanding. They did not feel that this had to be immediately after the report was published.
- **The data released with the FSR is highly valued but the delay in the data limits the usefulness.** All stakeholders wanted a more forward looking FSR as they found the analysis and scenarios helpful.
- **The households and corporate analysis is seen as highly valuable.** It is often unique and difficult for outside readers to recreate themselves. The FSR findings also help validate their own analysis which are based on the partial information from their own lending portfolio.
- **The stress test is perceived as an extremely valuable part of the report, and stakeholders would like more detail on it.** In particular, they wanted more information about the scenarios and how it linked to the risks mentioned in the report. Several mentioned that they would welcome more in-depth information about the model, possibly provided as a separate reference material. They felt that this would help them understand the message more; make it easier to compare with their own analyses.
- **Financial market participants would like an analyst briefing which is separate to the press briefing**. Financial market participants all commented that they had different interests and concerns to the press. They perceived that the financial press was a very different audience to themselves (the view was backed up by the BR Press Office). They felt that the combined briefing meant that they were not able to get the answers with the technical level and detail that they wanted, particularly applicable to a key part of the financial stability report – the stress test – due to the need to be cautious in front of the press who might misinterpret the nature of the exercise.
- **All stakeholders wanted more information on financial conglomerates and international risks.** Some stated that they would welcome analysis on newer risks such as climate change, fintech and cyber.

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macroeconomy and second round effects on a semi-annual basis, the results of which are discussed in the FSR; but the BR does not have access to the same data that the SFC does.

III. STRUCTURE OF THE FINANCIAL STABILITY REPORT

A. Current Structure and Recent Changes

10. **The BR's FSR maintained a consistent structure over the last several years.** It comprises four chapters, covering (i) macroeconomic environment, (ii) vulnerabilities of the financial system, (iii) stress tests, and (iv) financial regulation. The latest major changes in the structure were introduced in the September 2015 report, which combined the previous chapters on risks by sector of the economy and by nature of risks; and launched quantitative assessments of the financial system resilience (first as sensitivity analyses of the financial system and macro stress tests since 2017). In addition to discussing global and domestic environment, Chapter 1 highlights the main potential sources of risk that the FSR focused on, and how they are incorporated into the stress test scenario. The executive summary includes an expansive risk heatmap, introduced in 2017, which covers 4-10 indicators relating to each of the various sectors and sources of risks (e.g., credit cycle and risks, performance of credit institutions, and macro variables). Each underlying indicators are color-coded according to the levels of vulnerabilities assessed against their respective historical observations.[2]

11. **Some changes were introduced in 2021, to strengthen the message on financial stability risks**. First, the Governor's message was introduced, defining the mandate of the central bank and the objective of the FSR, and providing a high-level summary of the state of financial stability in Colombia. Previously, the executive summary was signed by the Governor and served as his message and as a summary. Second, a vulnerability matrix for financial stability is added to the executive summary, providing a clear summary of key sources of risks, mitigating factors, and the direction of the change.

12. **The FSR includes boxes on thematic topics.** The FSR typically includes 4-7 boxes, used to present in-depth analyses on specific issues, provide overview of methodological approaches, and discuss implications of financial regulations (Table 2). The FSD discusses and decide at the end of the year the pipeline of topics, but they could be adjusted depending on the developments and the progress of ongoing work. It also allows the flexibility to incorporate new and emerging issues.

13. **The FSR is supplemented by special reports on financial stability.** There are currently four semi-annual reports, covering the topics of (i) credit risk, (ii) market risk, (iii) market liquidity, and (iv) mortgage loans and real estate market analysis. In addition, there are three reports issued annually on (i) concentration and competition in deposit and credit markets, (ii) international indicators, and (iii) financial inclusion. They are published about a month after the FSR, and include more detailed data on recent developments, analyses focus on specific aspects, and/or results of annual surveys conducted by the central bank.

[2] See Box 1 of the September 2017 FSR for the technical detail.

Table 2. Topics Covered in Boxes in Recent Financial Stability Reports

Macro environment	Sectoral risks	Financial sector resilience	Financial regulation
• Reflections on the financial stability policy framework • Indicators of additional probability of recession • Aggregate indicator of vulnerability • Financial conditions indicator	• Negative foreign exchange mismatches of the real sector • Decomposition of the intermediation margin in Colombia and Chile • Spatial analysis of new home prices • Loan provisions by company size • Alternative indicators for measuring the historical rates of creation and destruction of corporates • Long-term considerations regarding early access to pension savings • Financial health indicators • Medium-term credit cycle • Activity indicators in the non-residential construction sector	• Key findings of the FSAP • Interest rate model for the Sysmo • Stress testing in the time of Covid-19 • Sustainable finances: climate change and financial stability	• Transition from Libor and other international reference rates • Key measures taken by some central banks to channel credit to the real sector during the pandemic • Own account and solvency ratio • Considerations on the negative history in the credit bureau

Source: the BR

B. Recommendations

14. **The current structure of the FSR is well suited for the coverage of various risks and has served the readership well.** The fixed structure and recurring contents of the report facilitate readers to find information they're looking for and allow them to easily follow the evolution of vulnerabilities and risks. Embedding the various dimensions of risks (i.e., interest rate, market and liquidity risks) into analyses by sector (i.e., financial institutions, corporates and households) may help sharpen the discussion on relevant risks, potential impact and spillover mechanisms.

15. **The BR could consider updating the structure of the report in the medium-term.** Thematic issues and analyses are currently covered in boxes, which provide sufficient flexibility to address emerging issues. As they become recurrent and related data becomes more regularly available, these themes could be covered as part of the permanent sections of the FSR (e.g., household indebtedness and financial conglomerates exposures in Central America in the near term, and climate change, fintech

and cyber as their relevance increase). While some changes could be accommodated within the current structure of the report, it may be useful to take stock of the evolution of risks in 1-2 years to see if it merits significant changes to the structure of the report.

16. **Moderate adjustments could be considered to help enhance the clarity of the key messages of the report** (see also section V). Examples include: (i) embedding discussions on different sources of risks (i.e., market, liquidity and interest rate) to the sectoral sections, to help highlight the most relevant risk; (ii) bringing the main messages more upfront by moving glossary and other background information as annexes; and (iii) turning the chapter on updates to financial regulation into a separate, stand-alone document, to delink it from the FSR production process and thereby freeing space and resources.

IV. DATA AND ANALYSIS

A. Main Focus of the Risk Analysis

17. The data and analysis released in the FSR is highly valued by the readers. The FSR is seen as a key source of information on Colombia's financial system, and in many cases the only source of data for financial market participants. While the analysis in the FSR is highly valued, market participants also make considerable use of the data released to help update their own scenarios and models.

18. **Household analysis mainly focuses on consumption credit.** In Colombia households do not take out mortgage debt to the same extent as other countries. Instead, the big growth has been in consumption credit. The focus on credit risk when it comes to households, rather than aggregate demand channels, is therefore the right focus. The analysis in the FSR is descriptive and backward looking and mainly repeats information in charts rather than looking at the drivers of what has caused indicators to move. Given the rapid growth in consumer debt and the interest in it – some kind of stress test/showing stressed levels would be helpful; for example, the chart on DSRs could show a dot to show how these indicators would look under the scenario outlined in the earlier chapters of the FSR.

19. **Conglomerates play an important role in Colombia's financial system but are very opaque, making them difficult to analyze.** Coverage and analysis of financial conglomerates has received increasing attention in recent years; this has included stress-testing financial conglomerates in the first FSR of 2022 to an exchange rate risk. This conglomerate analysis is currently in its early stages, but the BR has expanded it rapidly recently.

20. **The corporate analysis has improved considerably in recent years and is probably the benchmark for other sectors.** Before the pandemic the corporate analysis was mainly early warning signs and has moved to more in-depth forward-looking analysis, with stress tests and analysis of mitigants to stress. The analysis is somewhat hampered by the data being only on an annual basis, but this is unlikely to change in the near future. However, they are able to use quarterly data for some of the largest firms, which constitute a large part of banks' exposures. In Colombia finance is bank based and the largest corporates are not yet making major use of the corporate bond market. A planned innovation in the second FSR of 2022 is to use the same macro scenario as in the banks' stress test and use it in the FSR. This will make the FSR more coherent and easier to understand what is driving the analysis.

B. Data

21. **Continue developing improvements to data, including on the household sector and financial conglomerates.** Household data, and an understanding of how the aggregate household

financial burden, in particular, is considered extremely valuable by financial market participants. To some extent this reflects a contemporaneous issue of increasing risk from consumer debt but, more structurally, the data in the FSR is seen as the main and best source about aggregate household debt statistics. A lot of progress has been made in recent years and both market participants and BR acknowledge the shortcomings in the existing data. It is very difficult to get reliable individual data on income—due to the large informal sector. Informal sector isn't covered in the credit registry, which would have allowed for simple calculations of debt servicing metrics. The SFC have merged two different data sets—the loan data with social security data—and it would be helpful if the two institutions could share expertise and the BR also had greater access to granular data set. A survey could be a possible alternative source of information, but this is a costly option and unlikely to produce results which provide key insights into the financial stability risks from household indebtedness. In Colombia the majority of debt is owed by people working in the "formal sector" but they are less likely to respond to surveys, and so any survey is likely to be biased. While a merge with the tax data would also provide an incomplete picture it would provide insight into the most important and largest part of the debt for financial stability purposes.

22. **Financial conglomerates play an important role in Colombia's financial system but data needs to be improved.** As noted in the 2022 FSAP the financial system is dominated by large and complex financial conglomerates, with increasing cross-border exposures that make the monitoring of intragroup risks and contagion channels essential. But the data is often only at the consolidated level with insufficient detail about the foreign branches and subsidiaries. To a large extent this is out of the control of the Colombian authorities, as they rely on other authorities' data. When data exists at the entity level, it is often not able to be publicly shared due to confidentiality concerns. The authorities should explore ways in which they can communicate or share information about the risks within these constraints—for example the number of banks which would experience difficulties under certain scenarios.

23. **The BR should consider releasing a short interim update which is focused on putting out data. This could simply be key indicators for each section and a short paragraph on the macro-outlook and how it is likely to affect the key vulnerabilities and financial stability, heavily built off the monetary policy report.** Currently the FSR is released with a large lag. For an FSR released in May the data on banks' balance sheets is frequently from February or before. This means that it is over a quarter "out of date" by the time it is released. The risks that the financial system faces have changed dramatically and quickly over the last few years, which partly explains participants' desire for more frequent updates. But there is also a more structural driver in that the data released with each report has a significant lag. Market participants appear to be aware of the reasons for the lag, but would still appreciate an update, even if the data is of less granularity and/or quality, and for more timely data to be used in the report itself. One option to deal with the lagged data is to make use of existing preliminary data that are less granular, or which has not been fully validated, with caveat either in the text or by clearly differentiating on charts. The SFC publishes a monthly update on some of the data, but it does not seem to be in as usable format as the FSR. One considerable value-add from the BR is an assessment of the key vulnerabilities and the macro-outlook—rather than do a full assessment each quarter, which is extremely time intensive, there could be a short section which is be heavily built off the monetary policy report but with a key financial stability message.

C. Analysis

24. **The BR should expand forward-looking analyses, including stress testing and sensitivity analyses of the corporate and household sectors.** A more forward-looking approach to the FSR will help to overcome some of the issues about the financial system changing rapidly and make the FSR less more out of date to its readers. The analysis and scenarios run by BR are also perceived as really high quality. The BR has already made considerable headway on this with the stress test of the banks as a whole and the corporate stress tests and scenario analysis. But it would be helpful to go further with

sensitivity analysis to examine, for example, different interest rate, FX or macro shocks. Currently a lot of space is dedicated to explaining how things are, or why past movements occurred when these movements have not been particularly out of the ordinary. This could be shortened considerably especially as a lot of the text is duplicated in the graphs. This is also the case when explaining major drivers of increases—frequently this information is also clearly visible in the charts in the text. Cutting this would also make the FSR feel more forward looking.

25. **The stress test model is sophisticated with a base model and several satellite models[3] and takes a macro scenario—which is decided by examining the key vulnerabilities in the FSR—and then stress tests the banks.** The satellite models broadly map to sections of the FSR: credit risk, market risk and interest rate risk. There are second round effects for example an interest rate risk model looks at spread dynamics and then feeds that through to the macroeconomic scenario. There are key information gaps such as more detailed information about banks exposition to subsidiaries and other jurisdictions and interconnections between firms.

26. **To the extent possible, the forward-looking analysis should be all built around the scenario in the stress test.** The analysis on the corporate sector is highly valued by the readers, in particular the foreign exchange risk and the potential mitigants, together with past stress tests. For the coming FSR they plan to explicitly incorporate the macro scenario used in the bank stress test into the corporate stress test. This should be the benchmark for how the forward-looking analysis is done for other sectors. It would provide a coherent scenario through the FSR and increase transparency for the readers. It would also increase understanding over the drivers of results in the stress test—a key area where stakeholders wanted more information.

27. More information on international risks should be included but the FSD should draw on other information sources rather than doing the analysis themselves. As a regional financial center Colombia is clearly affected by global financial conditions and Colombian banks have significant presence in the rest of the region. And there is significant demand to understand more about international risks. The FSR already draws heavily on the IMF's GFSR and WEO for data and risks outside Colombia. It could also do so for the countries which majorly affect the Colombian banks, simply gathering external analysis, including from the IADB and drawing on the Monetary Policy Report, and collating it in one place.

28. **Instead, the BR should focus its attention on examining and understanding financial linkages and spillovers from global financial conditions and interlinkages and spillovers within financial conglomerates.** This is a notable analytical gap and we note the limitations of the data. Some progress has been made, for example on stress testing the valuation of different entities within the conglomerate to an exchange rate shock in the first FSR of 2022. The BR should also consider other contagion channels within the conglomerate such as capital and liquidity management might affect financial stability, and how financial instability abroad might affect these banks' ability to lend in Colombia.[4]

29. **The market risk section should focus more on the resilience of the financial system to movements and potential amplifiers of shocks.** This would make the report more forward-looking and seem less out of date following market moves; currently the section spends considerable effort in

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[3] Assessing the model itself was outside the scope of this TA.

[4] The stress test model does include FX risks as well as interbank exposures default. But it is not a full global spillovers model.

explaining past market moves and why they happened. Some substantial analysis is underway such as improving the market risk model for the stress test, and contagion analysis. This would provide considerable value for readers of the FSR and provide a valuable system-wide overlay which the BR is equipped with the perspective and the capacity to do so.

D. Leveraging the FSR

30. **The FSR could be more closely integrated into the broader work of the BR and used as a basis for analysis it might undertake.** As part of the strategic plan, the BR envisages it to be the key vehicle by which vulnerabilities are assessed. The FSR is a major undertaking by the FSD, and the report can be leveraged more by:

- **Using the FSR and the forward-looking analysis in it to be the basis of the analysis in the more frequent internal reports.** Currently the financial stability department spend a lot of their limited resources producing monthly and weekly reports. The financial stability department should consider whether they could streamline this by using their forward-looking analysis and stress tests. Ideally the analysis in the more frequent reports should have the analysis in the FSR integrated into them or used as a benchmark. A full weekly or monthly report might not be needed if the staff are able to refer to the scenarios or stress tests in the report (for example if market moves have been substantially less than in the stress test then there is very limited benefit from running a full analysis). This could free up time for the staff to produce the longer-term more analytical work which is highly valued in the financial stability report.

- **Using the FSR and the analysis within it or any special reports to be an integral input for the BR's policy decisions, including—to the extent possible— on issues related to FX and interest rate ceilings that the BR has responsibilities over.** Immediately following the FSR the financial stability department has to make recommendations on a number of issues; and this crowds out the time which the staff have had in the past to do outreach on the FSR. To the extent possible the recommendations that the BR has to make should draw on the analysis in the FSR or special reports that accompany the FSR. If the reports have very little synergy with the core work of the FSD it is worth the BR considering whether there might be a division in the BR which is more appropriate to do the analysis as there are more synergies with their existing work.

V. MESSAGING AND COMMUNICATION

A. Messaging

31. **The FSR has many elements that convey the BR's assessment of key risks and the state of the financial system, but at times can be descriptive and focused on backward-looking developments.** Chapter 1 discusses the macroeconomic environment, including global and regional economic outlook drawing on the IMF's World Economic Outlook, and domestic environment drawing on the BR's Monetary Policy Report. While the main focus of this section is adjusted depending on the conjuncture, it does not discuss explicitly how the conjuncture would affect the stability of the financial system in Colombia. The last part of the chapter offers a useful overview on how the conjuncture relates to the assessment of the financial system resilience with brief explanation on key factors considered for the stress test scenario and the results. Chapter 2 on vulnerabilities of the financial system tends to be largely backward-looking, focused on description of developments and performances of different sectors of the economy and risks since the previous FSR. There have been efforts to include forward-looking

analyses, for example, the simulation of corporate vulnerability in light of the covid shock (the May 2021 FSR).

32. **Messages on key risks should be further sharpened and made more forward-looking, by reiterating the consistent narrative and elaborating on risk transmission channels throughout the report.** While developing forward-looking analytical tools is key, in the short-term, this could be achieved by leveraging the existing elements in the FSR. For example, the report could focus on the global and domestic environment that are most relevant to the conjuncture and elaborate on how they affect the Colombian financial sector (Chapter 1). Similarly, the key sectoral and sources of risks analyzed (Chapter 2) could provide forward-looking perspective by describing in more detail the spillover channels of potential risks.

33. **The key risks assessed could be more closely linked to the assumptions for the analysis of financial sector resilience.** The report could discuss the stress testing scenarios in more detail (Chapter 3), explaining how they are calibrated in light of the key risks and channels highlighted in the earlier sections of the report. Including a simplified diagram of the BR's systemic stress model (Sysmo) could be helpful in demonstrating the feedback channels between the real and financial sectors and highlight the most relevant shocks.

34. **The recently introduced vulnerability matrix for financial stability could be supplemented with corresponding indicators in the Heatmap underpinning the assessment.** The matrix is a helpful addition to the executive summary for conveying the most relevant vulnerabilities identified in the report, their implications on the financial sector, how they are mitigated, and the trend. Extracting a few most relevant indicators from the rich set of indicators included in the heatmap on financial system risks would help indicate more directly supporting evidence for how the assessment is reached.

B. Communication

35. The BR holds a press briefing on the FSR on the day of the publication. The high level of the presenters helps raise the profile of the FSR, with the Governor opening the meeting with brief remarks on the key messages of the report, followed by a presentation by the director of the FSD and Q&A. Deputy Technical Governor and the head of the MIIS also participate in the meeting. The briefing is livestreamed to general public and attended by both journalists and expert audience. The Press Office of the BR has engaged journalists in the past to sensitize them on the central bank-related issues more broadly.

36. The BR should develop a layered communication approach, catering to different levels of technical competency of the audience (Box 2 and Annex I and II). The first layer should be a clear and high-level message, delivered in simple and non-technical language. Current introductory section of the FSR, where Governor's message is presented, could be adapted for this purpose. This could be complemented with a separate infographic. The second layer should provide succinct summary of the assessment with some technical detail, targeting expert audience such as financial industry professionals. This could be achieved by sharpening the focus of Executive Summary and presentation slides on bottom-line assessment and supporting indicators. The third layer would be the FSR and supplementary Special Reports, that provide full technical and granular detail of the BR's analyses and assessments.

37. **The layered communication approach would be supplemented by holding separate briefings on the FSR for journalists and experts.** The BR currently holds single press conference to present the key findings of the FSR. Holding separate briefings would allow the BR to adjust the degree of technicality of their presentation and Q&A to suit the level of expertise and knowledge of the audience. In addition, publishing technical papers underlying the FSR boxes and holding seminars to present the

detail could help enhance the communication and dissemination of the BR's analytical and methodological work related to financial stability.

38. **In the long-term, the BR could enhance the in-reach for staff within the central bank and at other financial sector authorities.** While close and informal exchanges of views between agencies currently exit, a more structured approach could help promote systematic coordination including on emerging topics that may merit coverage in future FSRs. Furthermore, presenting the findings of the FSR within the BR would lead to greater understanding and absorption of financial stability issues by staff across departments and offices.

VI. Long-term Considerations

39. It is key to deepen the understanding of the channels and interaction between financial stability and monetary policy as the financial system continues to evolve. Currently the FSR does not concretely explain why financial stability matters to monetary policy and the impact of financial stability on monetary policy appears underappreciated/underestimated from the monetary policy side. The FSR notes that it might "[….] serve the monetary authority as a basis for making decisions that promote financial stability in the general context of the objectives of price stability and macroeconomic stability." And notes that financial stability is a necessary condition for price stability. But the FSR does not really consider the other way round—that the vulnerabilities and imbalances that it examines can have implications for monetary policy—even in the absence of a financial crisis. Monetary policy modeling currently does not incorporate much of a role for the financial sector. To some extent this is appropriate given the long period of financial stability and currently low—by international standards—levels of household and corporate debt. But these can change rapidly. Similarly, the corporate analysis does not appear to be incorporated extensively in monetary policy consideration, despite that their exposure to interest rate and exchange rate shocks has clear implications for monetary policy.

Box 2. Examples of Layered Communication and Narrative on Risks and Implications to the Financial Systems

Riksbank

- The Riksbank's financial stability report has a layered structure, to convey the messages in different levels detail and technicality. The upfront *"In Brief"* section summarizes in plain language and succinctly the bottom-line assessment of the state of the financial sector stability and key sources of risks. The subsequent section on the stability assessment elaborates on the narrative; and the main section of the report details the analyses underpinning the overall assessment of vulnerabilities and risks.
- The report conveys candid and clear assessment of the changes in and sources of risks to the financial system. It offers forward-looking discussions, both qualitatively and quantitatively, on potential channels through which the key risks and vulnerabilities may affect various sectors of the economy. It often states the Riskbank's views and stances on policies and measures to counter risks and points out data gaps and further analyses needed.

ECB

- The ECB's financial stability report also has a layered structure, to outline the key points upfront. They provide a sort of infographic with the key issues in bullet points with key supporting facts right at the beginning but no summary chapter. Each chapter also has an infographic with key facts at the beginning.
- The ECB's FSR is very forward looking and centered around what "could" happen and what might trigger financial stability risks and cause them to propagate through the financial system. It starts with the macrofinancial environment and then, in subsequent chapters, elaborates on how this will affect financial institutions and markets. It then ends with policy responses.

Bank of England

- The Bank of England's financial stability report has a layered structure which includes nutshells aimed at the general public and a simplified version of each chapter. There is an overview chapter which covers the main messages.
- The report focuses less on interlinkages and how risks might propagate than the ECB FSR but mainly focuses on the risks to each of the key vulnerabilities for households, corporates, banks and non-banks. Each report contains a judgement on whether financial institutions are likely to be able to withstand the likely shocks that they are facing.

Federal Reserve

- The Federal Reserve's FSR does not have a layered structure but upfront they try and explain their framework for assessing vulnerabilities and shocks which makes the rest of it easier to read for an audience which may not be familiar with the framework.
- The FSR provides an overview chapter which also provides a summary table. The report contains a lot of information about vulnerabilities but is effectively a data update rather than providing analysis, and only ends with near-term risks at the end with a brief exploration of how risks might affect the system but with no attempt to estimate the effect.

40. **There would be clear gains to both monetary policy and financial stability if there was more information and knowledge sharing in both directions.** Enhancing the analyses of various risks and vulnerabilities in the FSR would inform monetary policy decision makers, and help them take into consideration financial stability implication of their decisions. To this end, over the medium to long term, the BR should:

- **Continue to clarify and analyze the channels through which why financial stability matters to the central bank, in particular between monetary policy and financial stability.** Financial stability is important for monetary policy and there are clear interlinkages beyond the fact that financial stability is necessary for price stability. At the moment the FSR report focuses on the credit risk element of these issues. As the macroeconomic spillover channels from high financial burdens on households and corporates become more important, the FSR might wish to make these more prominent. For example, corporate indebtedness and the ability to get credit has a high impact on employment and investment; and household indebtedness has a large effect on how households adjust their consumption in response to shocks.

- **Continue to consider what 'maintaining financial stability' means.** While the FSR currently defines financial stability in the financial system managing and being able to absorb risks, it could also be considered as a continued provision of financial services to facilitate the performance of the economy—particularly in the context of it being the FSR of a Central Bank. The provision of financial services by the microfinance sector is very small and it is an open question about how much it should be covered. But even though it is a small part of the financial system in terms of the volume lent, it is the major source of finance for a large number of people who take small loans, and has a prominent role in employment which is highly relevant for monetary policy. The correct place for analysis may not be in the FSR—as the readers of the main elements of the financial stability report are not microfinance's customers or investors. But the BR should note the importance of the stability of the sector for monetary policy and continue to produce analysis on the sector—one option might be to continue to produce special reports externally, as well as analysis for internal stakeholders in Monetary Analysis. The BR should also consider whether there are any important messages about the sector that would be worth communicating as part of the layered approach to the public.

Annex I. Examples of analyses and messaging in FSRs

As noted above in section V some Central Banks communicate directly with the general public as well as with journalists and more specialized analysts. These take a variety of forms and are generally pushed on social media. This annex presents several examples of layered communication and different communication tools utilized.

(1) **Simplified communication** (the Bank of England)

The FSR is posted on the BoE website with a "nutshell" message aimed at the general public. It represents main message of each chapter in a simplified manner, with plain language aimed at the general public.

Source: BoE July 2022 FSR (https://www.bankofengland.co.uk/financial-stability-report/2022/july-2022)

(2) **Use of multiple communication tools** (the European Central Bank)

The ECB chooses to do videos with each FSR release, for example:

https://twitter.com/ecb/status/1068107249833451520?lang=ca; and
https://twitter.com/ecb/status/1529373591510343680?lang=en-GB

It is still rare amongst Central banks to create a separate product to appeal directly to the general public but is increasing.

(3) **Layered communication** (the Riksbank and the ECB)

Several Central Banks create accessible summaries of their key points that can be filtered through journalists or the more financially interested members of the public. These provide a punchy summary, with key messages/soundbites, and occasionally the supporting evidence.

Both the Riksbank and the ECB provide a succinct one-page overview of the assessment of the financial stability in each report.

IN BRIEF – The Riksbank's stability assessment

Growth in Sweden and abroad was strong last year but is expected to enter a more moderate phase this year. Russia's invasion of Ukraine has contributed to further increases in energy and food prices. Lockdowns in China and the invasion have also led to renewed problems in global supply chains. This has made the already high inflation rise even further. In response to this, central banks around the world have begun to conduct a less expansionary monetary policy. Taken together, this has made yields for government bonds and other fixed-income securities rise.

The Swedish financial system is working well, but the financial stability risks have increased. The risk outlook is characterised both by the impact on economic agents and asset markets of higher interest rates and the high inflation, as well as by the geopolitical situation and its economic effects. Property companies' debt and interest-rate sensitivity have increased. The large and increasing exposures of the Swedish major banks to these companies therefore entails a risk. In addition, Swedish household debt has continued to increase more rapidly than their disposable income. Higher interest rates will have a tangible impact on highly indebted households and companies. There is also a risk of major price falls on real and financial assets in the light of higher interest rates and subdued growth prospects.

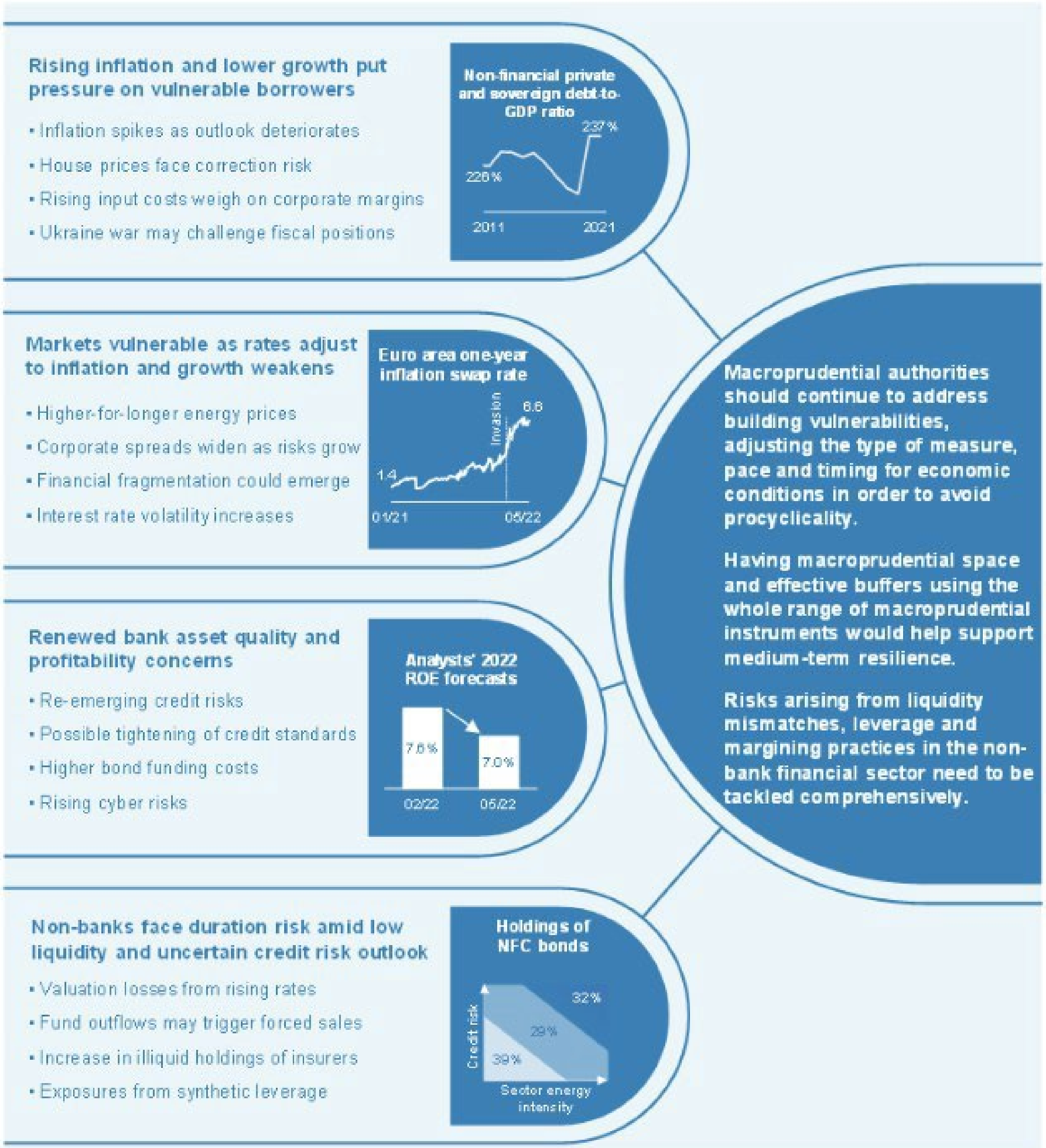
The need for reforms in housing and tax policy remains and, if these are not implemented to the extent necessary, the need for macroprudential measures increases. To improve the resilience of the banking system, the Riksbank supports FI's ambition to continue to raise the value of the countercyclical capital buffer in the near term to at least the neutral level of 2 per cent. It is also important that globally agreed standards, such as Basel III, are implemented in a full, timely, and consistent way.

To promote transparency and liquidity in the Swedish corporate bond market, larger Swedish companies should apply the new Swedish benchmark standard. In addition, the Riksbank supports FI's proposals for amendments to fund legislation with regard to, among other things, liquidity management tools and redemption frequency. The Riksbank also calls on market participants to use fully transaction-based reference rates, such as SWESTR, in financial contracts to avoid falling behind the international community in the use of such rates.

It is also important to continue international cooperation and coordination to create a common view of how the risks linked to cryptoassets are to be managed. The regulatory work being done within the EU is a step on the way. The Riksbank supports the proposals by FI and the Swedish Environmental Protection Agency for the EU to investigate a ban on 'proof of work', an energy-intensive method for mining cryptoassets, and for Sweden to counteract the widespread establishment of the mining of cryptoassets using the method.

The ability to prevent, detect and manage cyber threats needs to be strengthened, and coordination between public authorities and between public authorities and the private sector needs to be increased. That is why the work of the authorities to strengthen cyber security in the financial sector is an important initiative. The Riksbank also considers it important that financial agents incorporate climate-related risks into their risk analyses. The banks also need to report their exposures to climate risks.

Source: Riksbank FSR 2022:1 (https://www.riksbank.se/en-gb/financial-stability/financial-stability-report/2022/financial-stability-report-20221/)



Source: ECB May 2022 FSR (https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202205~f207f46ea0.en.html#toc2)

Annex II: Synergies between the executive summary and the press presentation

Currently there is a very visual presentation to the press and analysts by the BR, which covers the key messages in the FSR. While the messages are also covered in the executive summary, there is very little overlap between the two in terms of messaging and content shown. The BR could consider creating a unified product or at the very least try to make use of available synergies.

<u>Executive Summary</u>

The below is an example of what a more efficient/synergies executive summary could look like. It combines and reordering the slides from the presentation of the latest FSR and putting them in the format of the executive summary (supplementary elements and elaboration are added in English, mixed with some of the original texts in Spanish). The example attempts to make the executive summary more visual, and with the evidence and key points more obvious and save the burden of preparing two completely different products.

Key message about the macrofinancial environment and other risks (like chapter 1)

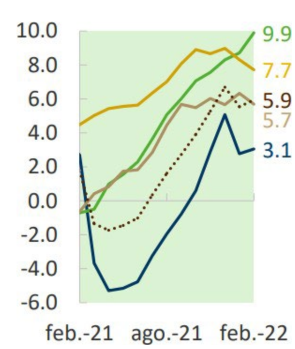
Some text which describes it a bit more, for example, as discussed in the final key message from the presentation

"Durante el último trimestre de 2021 y los primeros meses de 2022 se consolidó la recuperación de los establecimientos de crédito en Colombia.
La recuperación de la actividad crediticia y la situación de los mercados financieros están ligadas estrechamente tanto al desempeño general de la economía colombiana como a las condiciones financieras globales.
Actualmente coinciden un mayor crecimiento de la economía colombiana, la normalización de la política financiera y de la política monetaria y condiciones financieras globales más restrictivas (con múltiples fuentes de incertidumbre).
Las vulnerabilidades emergentes para la estabilidad financiera guardan relación con esas fuerzas y con el legado de la pandemia. Frente a ellas el sistema financiero y las autoridades continúan manteniendo su capacidad para evaluar, administrar y mitigar los riesgos"

Key message on credit recovering (because that's chart 1 of the presentation)

Short paragraph on growth in credit and the availability, for example, banks haven't changed their risk appetite: they are still lending with the same conditions. And our model suggests that they have not got riskier.

The credit recovery has been very strong
[Subtitle to describe the chart]



Key message on households and all their debt.

“En meses recientes se ha observado una rápida aceleración del crédito a los hogares en Colombia, tanto en la categoría de vivienda como, especialmente, en la de consumo. Aunque los indicadores de calidad de crédito y de auge de crédito para estos segmentos no se encuentran en niveles preocupantes, la tendencia de aceleración del crédito y la reducción de las exigencias para aprobar desembolsos podría eventualmente ocasionar fragilidades, teniendo en cuenta que la razón de endeudamiento a ingreso disponible de los hogares se encuentra alrededor de su máximo histórico.”

This explains and justifies is why we have X Y and Z in our stress test assumptions.

Household debt is at a high level
[Subtitle to describe the chart]

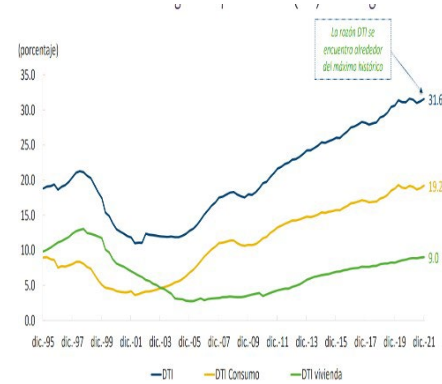


Table A
Vulnerability matrix for financial stability

vulnerabilities	Condition	Mitigants	Vulnerability address: Previous edition of the *Report*	Vulnerability address: This edition of *Report*
1. Fragility of financial institutions	•The fragility of financial institutions is not particularly relevant in the moment.	• Adequate levels of solvency and liquidity. • Profitability recovered.	→	↓
2. Exposure to sudden changes in global financial conditions.	• Twin deficits. • High uncertainty about global financial conditions. • Uncertainty about the evolution of international and local inflation. • High volume of public debt in the hands of foreign investors.	• Reduced direct exposure to the Russian invasion of Ukraine. • Stable access to international financing. • Resilience of the financial system in the face of a stress test.	↑	↑
3. Credit risk	• High growth of credit to households. • High ratio of household debt to disposable income.	• Good performance of the overdue and risky portfolio of households.	↓	→

Source: Bank of the Republic.

Press Conference Slides

At the same time the press conference slides could be adapted so that the key messages from the financial stability report are repeated, instead of being purely descriptive. This would also make it clearer to the press where the evidence for the key messages is coming from.