Financial Stability Report

July 2022

BANCO CENTRAL
DE LA REPÚBLICA ARGENTINA

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Preface

The purpose of the Central Bank of Argentina (BCRA) "is to promote monetary stability, financial stability, employment and economic development with social equity, to the extent of its powers and within the framework of the policies established by the National Government" (Article 3 of the Charter). In general terms, there are financial stability conditions when the financial system as a whole can provide services for financial intermediation, hedging and payments in an adequate, efficient and ongoing manner, even in adverse operating contexts.

For the financial system to contribute to economic development with social equity, financial stability is a priority –by providing adequate means to save, enhancing the possibilities of production and consumption and allocating resources more efficiently—, and the system must be deep and inclusive.

In its regular transactions, the financial system is exposed to different types of risks that the system needs to manage. The interaction among exogenous risk factors, vulnerability sources and elements of resilience defines a specific level of systemic financial risk. Within the context of such interaction, an eventual materialization of the risk factors will result in some impact on the financial system and on the economy at large.

The policies of the BCRA seek to limit systemic risk, preserve stability and promote higher levels of depth and inclusion in the financial system. Thus, the BCRA implements a micro and macroprudential approach tending to limit such vulnerabilities and to enhance the resilience of the system. This includes the continuous monitoring of the financial system's soundness and the exercise of its powers as regulator, supervisor and liquidity provider of last resort.

In this context, the BCRA publishes its Financial Stability Report (IEF) every six months to inform about its assessment of the stability conditions and explain the policy measures implemented to such effect. The IEF is underpinned by the assessment of the domestic and global macroeconomic conditions made in the Monetary Policy Report (IPOM). The Financial Stability Report provides information and analysis to the different agents of the financial system and is designed to be an instrument to encourage public debate on aspects related to financial stability and, especially, on the Central Bank's actions on such matter.

The next issue of the IEF will be published in December 2022.

Autonomous City of Buenos Aires, July 7, 2022.

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About the use of inclusive language in the Spanish version of this report

The Central Bank of Argentina is committed to encouraging the use of a non-discriminatory language that promotes the acceptance of all gender identities. It should be noted that all those who have contributed to this report acknowledge that language influences on ideas, feelings, ways of thinking, as well as principles and core values.

Therefore, efforts have been made to avoid sexist and binary language.

Executive Summary

During the first half of 2022, the ensemble of domestic financial institutions continued exhibiting sizable capital, liquidity and provisioning levels as well as moderate non-performing ratios in their credit portfolios, contributing positively to a framework of a high degree of resilience to face potential events of economic stress. The operating scenario for the sector was favored by the continuity of the domestic economic recovery process started in 2021, which was underpinned by the improvements observed in the health-related conditions and the stimulus policies adopted by the Federal Government and the BCRA. Against this backdrop, the Argentine financial system continued developing its intermediation activities and providing payment services to households and companies within a normal context.

By early 2022, the Argentine economy continued consolidating the abovementioned reactivation process after the effects of the COVID-19 shock. There continue to be positive perspectives for the next months, led by the recovery of the sectors hardest-hit by the pandemic, even though they are still subject to somewhat increasing risks. In turn, the international context has become less favorable since the publication of the previous Financial Stability Report (IEF) in December 2021: the armed conflict between Russia and Ukraine resulted in a shock on commodity prices, worsening the fears behind inflationary pressures in advanced nations, among other aspects. This situation led to an earlier-than-expected adoption of more restrictive monetary policies by developed countries, thus raising fears in recent months about the possibility of stagflation and lesser risk appetite scenarios.

The rises in commodity prices impacted also on domestic inflation within a context of economic activity recovery. The BCRA continued regularizing monetary policy interest rates and paving the way for an interest rate scheme to enable positive real returns for investments in pesos and to prevent pressures on the foreign exchange market, without impairing the economic recovery process in progress. This approach was accompanied by a lending policy focused on productive development, especially intended for micro, small and medium-sized enterprises (MSMEs) ("Credit Line for Productive Investment —LFIP"), as well as by measures tending to a more efficient use of international reserves, among other.

Our domestic financial markets have exhibited a mixed performance in recent months. In line with the policies to boost growth, the Treasury refinanced debt maturities while the private sector resorted to the markets to get financing within a context of increasing nominal interest rates. The upward trend in returns in the secondary markets of the Treasury bonds in pesos accelerated in June and, as a result, the BCRA had to intervene to rebuild the curve in pesos and to prevent an excessive volatility that may endanger financial stability. Within the context of the arrangement with the IMF, the current scheme of policies is expected to strengthen a framework of macroeconomic certainty, helping to limit expectations on the evolution of the exchange and inflation rates.

The Argentine financial system continues to keep adequate features of robustness, even though it faces the potential materialization of various exogenous risk factors that might eventually adversely affect its normal operation. One of the main sources of risk is the worsening of the external context in recent months, with more limited global growth perspectives and heightened uncertainty, volatility in commodity prices, drops in the prices of instruments with higher relative risk and outflows from investment funds specialized in emerging markets. The existence of various types of vulnerabilities at global level might trigger remarkably more negative evolutions with sudden changes in international markets, which would pose new challenges to emerging economies. At domestic level, several idiosyncratic factors should be also taken into account such as the effect of the drought in summer (in the Southern Hemisphere) and the potential tensions in the energy market. Despite the significant progress made, the onset of eventual negative effects of new strains of COVID-19 cannot be ruled out. Depending on the type of shock, the various scenarios may condition the evolution of the domestic economy or create volatility in the domestic financial market.

The trade-off between the financial system's sources of vulnerability and its strengths has not changed significantly since the previous Financial Stability Report (IEF) published by late 2021. A slight rise in certain exposures to risks was noticeable, even though they are still low to moderate, with relatively high hedging levels. Additionally, the system keeps structural features that help limit potential sources of systemic risk: (i) shallow lending in the economy, (ii) traditional financial intermediation with a bias towards the short-term and slightly relevant complex transactions, and (iii) low interconnectedness among financial institutions.

During the first half of the year, there was a slight increase in the balance sheet exposure of the financial system to aggregate credit risk, even though it is still standing at low levels from a historical perspective. Total lending to the private and public sectors reached 46% of the system's assets, going up slightly in recent months, particularly in the public sector. The slight increase in the exposure to the private sector (to around 30.9% of total assets) occurred within a context of gradual reduction of non-performing levels, which stood at 3.6% of the portfolio in April. The non-performing ratio is virtually no longer impacted by the regulatory changes introduced in 2020 to mitigate the financial burden of debtors within the context of the pandemic. For the next few quarters, this source of vulnerability for the system —resulting from credit exposure— would continue to be highly relevant in relative terms. To offset these potential effects (subject to the materialization of exogenous factors that may impact on the debtors' repayment capacity), the system keeps high and increasing levels of provisioning and capital within a context where the indebtedness level and the financial burden of the private sector are limited.

The performance of financial intermediation could also become a source of potential vulnerabilities for the ensemble of institutions. If compared to the previous IEF, the intermediation activity stood at moderate levels and recorded a slight rise in the stock of loans to the private sector in pesos in real terms, with a more marked momentum, in relative terms, in state-owned banks and in commercial lines. The latter was mainly driven by the "Credit Line for Productive Investment (LFIP)", a stimulus program resulting in a positive performance of loans available to SMEs. For the next months, the gradual recovery process of the economic activity is expected to continue with a positive impact on intermediation, from both the supply of, and the demand for, financing and funding from deposits. Nevertheless, if some potential scenarios of risk factors held true, the financial system might have to face new challenges. Against this backdrop, the ensemble of financial institutions has kept high and growing solvency indicators with a positive internally-generated capital.

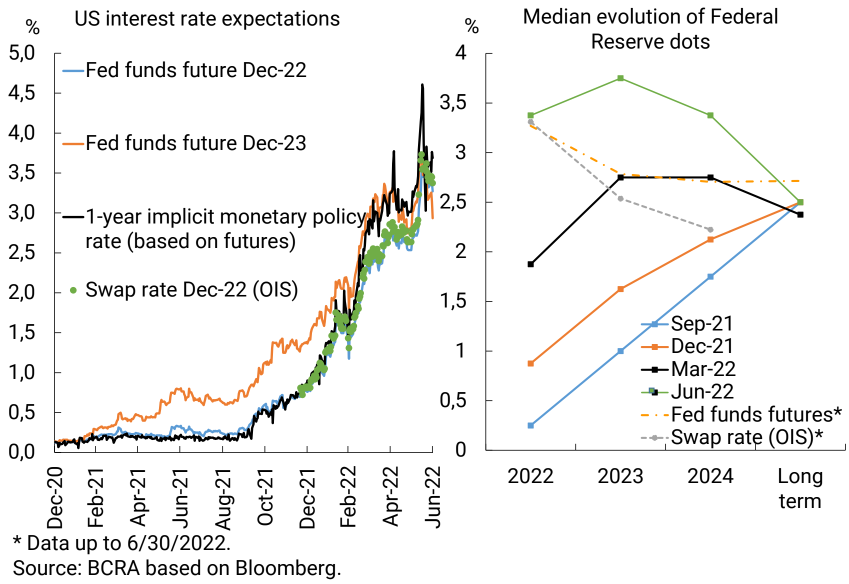
A third source of potential vulnerability for financial systems in general comes from the evolution, composition and conditions of funding. Against the previous IEF published by late 2021, the stock of deposits in pesos in real terms contracted slightly due to the evolution of sight accounts since time deposits expanded. The latter were boosted by the rises in the minimum interest rates during 2022 as well as by a higher demand for UVA-denominated time deposits, since these instruments offer positive returns in real terms. Against the previous IEF, there was a slight increase in some ratios of exposure to liquidity risk, such as in terms of the maturity of funding. In turn, the ratios measuring the concentration of depositors did not post significant changes, even though they have stood above the levels observed in the recent past. Looking forward, some changes to the system’s funding cannot be ruled out in the face of an eventual materialization of some of the risk factors mentioned above. Nevertheless, the ensemble of financial institutions still keeps a high coverage with liquid assets, which sizably exceeds the minimum regulatory requirements recommended by international standards on the matter.

For the rest of 2022, the aggregate of financial institutions would have an adequate degree of resilience with appropriate margins to overcome potential scenarios of materialization of the risks mentioned above. The current economic recovery process will continue contributing to this outlook, added to the active measures being adopted by the BCRA to favor a context of financial stability.

1. International and Local Context

Since the publication of the previous Financial Stability Report (IEF) and in line with the trends observed at that time, the sources of risk from the international context have intensified. The concern that was already observed in relation with the rise of inflationary pressures globally was compounded by the effects of the armed conflict between Russia and Ukraine (including the sanctions imposed on the Russian economy), with a special impact on commodity prices. This situation deepened the ongoing problems with the international supply chains resulting from the COVID-19 shock. Even though the conflict has not generated yet a global systemic event, it gave rise to a scenario of heightened volatility (see Exhibit 1), with a peak in early March according to the VIX Index. This growing uncertainty puts a cap on the heterogeneous recovery process of the global economy resulting from certain improvements in terms of the COVID-19 pandemic.[1] Since late April and early May, a new volatility episode has become noticeable, focused on this occasion on the concern about scenarios of stagflation in advanced economies. Both the evolution of the armed conflict and the macroeconomic fundamentals in developed economies as well as the expectations around the regularization process of their monetary policies will determine the evolution of volatility in the next few months (with a potential effect on financial stability at global level).

Chart 1 | Implicit expectations of the interst rates in derivatives markets and forecasts made by the members of the FED's Federal Open Market Committee (FOMC)

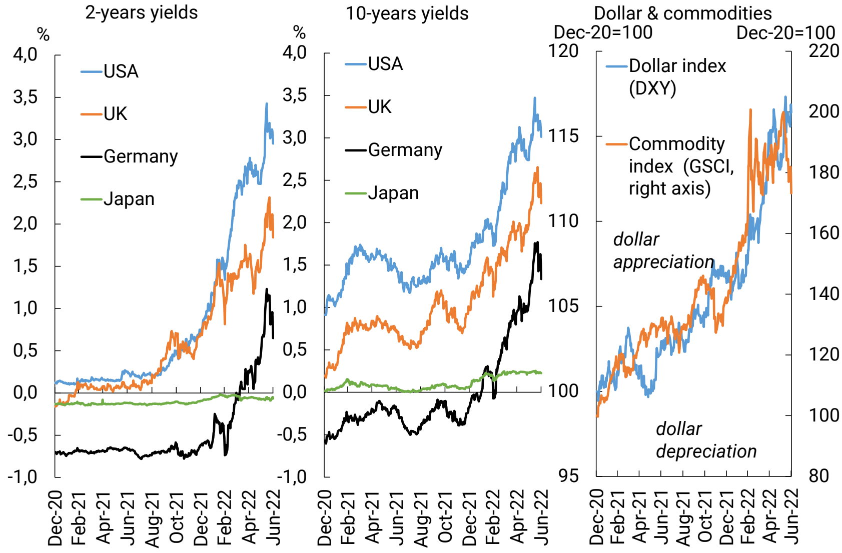


* Data up to 6/30/2022.
Source: BCRA based on Bloomberg.

1 The wave of the Omicron variant was more limited and less lethal than previous waves. Nevertheless, recent outbreaks of COVID-19 led China to impose new restrictions that have hindered trade flows. As a result, in the first quarter of 2022, a deceleration of expansion was observed in the main economies around the world (with lower growth forecasts for 2022 and 2023). For further information about the evolution of the global economy, see the publication of the latest Monetary Policy Report.

In the specific case of the United States, the Federal Reserve (FED) started in March a cycle of interest rate rises (with additional hikes in May and June), accompanied by the end of the net purchases of debt instruments.[2] Consequently, there was an increase in the yields of US Treasuries (more marked in the case of 2-year instruments, with a higher correlation with the benchmark interest rate), in line with some indicators —such as the implicit expectations in derivatives markets and the forecasts of the FED's Federal Open Market Committee (FOMC) members— that anticipated more aggressive increases for interest rates in 2022-2023 (see Chart 1).[3] With heightened volatility and expectations of increasingly higher interest rates, the US dollar continued appreciating against the remaining main currencies, thus accumulating a revaluation of 9% so far this year (see Chart 2). As regards the assets with a higher relative risk, which had already been a reason for concern due to the existence of segments with prices at historically high levels, the stock indices in the United States and Europe have accumulated drops in dollars of around 10-25% so far in 2022, while the main crypto-currencies have accumulated sharp falls of around 60-75%.

Chart 2 | Yields of developed countries' debt securities, US dollar and commodities



Source: BCRA based on Bloomberg.

These factors are contributing to create a more challenging context for emerging economies since there are still important sources of vulnerabilities at global level that may eventually contribute to intensify stress situations in the event of an external shock (see Box 1). An example of this is the growing weight of investment funds at global level with a bias towards a procyclical

2 Likewise, as from June, the FED started a Quantitative Tightening program, which implies a monthly contraction in the balance sheet of USD47.5 billion to September, when the reduction will be increased to USD95 billion.

3 There was also a rise in the yields of government's instruments in various advanced economies, in part due to the changes introduced into their monetary policies. For example, in June the European Central Bank (ECB) confirmed the end of its assets net purchases program and announced a cycle of increases to the monetary policy interest rates as from July. In turn, the Bank of England had already started an upward cycle of the rates by late 2021, with new increases in February, March and May.

performance and very sensitive to changes in the international context. Upon an external shock, the performance of these funds might amplify the impact on capital flows and significantly increase the pressures on the foreign exchange markets of emerging economies.[4]

Box 1 / Main vulnerabilities of the global economy

As already mentioned in previous issues of the Financial Stability Report (IEF), within a context of abundant liquidity and low interest rates in international markets, a series of vulnerabilities held true in recent years. This scenario is challenging for financial stability at global level since these vulnerabilities imply that, in the face of a context of higher perceived risk, sudden and negative dynamics may unleash via different markets and jurisdictions. The main vulnerabilities are:

- Over-appreciation in different segments of the market, including instruments of higher relative risk (assets, crypto-currencies or emerging markets' instruments considered as a class of assets) and more prone to sudden upward price corrections (for instance, due to abrupt changes in the portfolio flows). This situation was partially corrected (in some segments) by the drops in prices observed in recent months.

- Sustained global trend towards a growing debt burden in both the public and the private sectors. There is a higher perceived repayment risk within a context still marked by the COVID-19 shock (with a more limited fiscal leeway and more limited corporate profitability), added to a higher vulnerability in view of a context of interest rate rises. In the case of emerging economies, there are also greater fluctuations in the value of currencies due to relevant currency mismatches in many countries. Given the higher leverage observed globally (in both advanced and emerging economies), efforts are being made worldwide to closely monitor the evolution of the corporate sector.

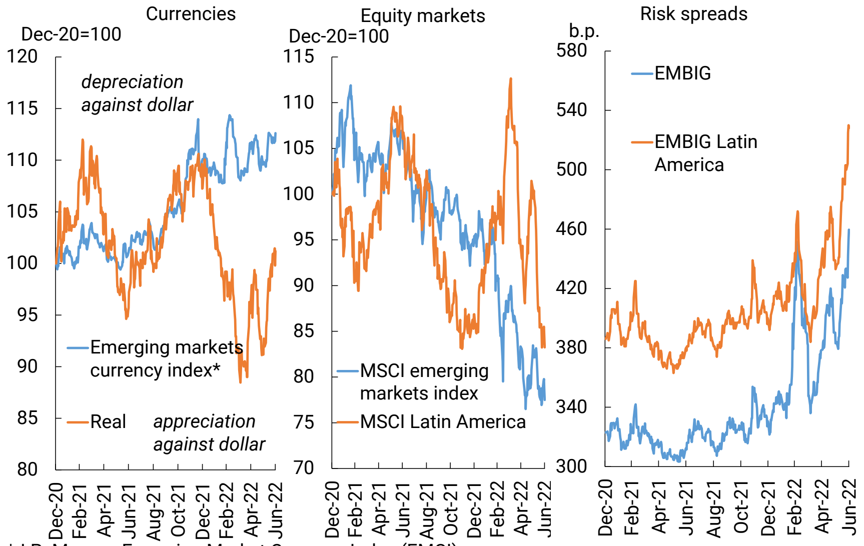
- Growth of the Non-Bank Financial Intermediation (NBFIs), led by investment funds at global level. Apart from increasing the interconnectedness among market segments and jurisdictions, the Non-Bank Financial Intermediation exhibits a procyclical performance based on the use of strategies involving passive funds, liquidity mismatching and, in the specific case of hedge funds, the presence of leverage. This implies that it may eventually intensify episodes of financial stress, impacting particularly on emerging economies, with eventual negative effects on both debt markets in dollars and foreign currency markets, as well as on markets of debt in domestic currency (especially in relatively less liquid and shallow markets). Given this issue, an analysis is currently being made at global level of the policies adopted to improve the resilience of Non-Bank Financial Intermediation (for instance, by checking the

4 The periods of sustained increases in the interest rates of developed economies are associated with portfolio outflows from emerging markets, appreciation of the US dollar (with impacts on commodity prices) and higher interest rates in local markets. These movements depend on the context in which these interest rates rises occur (as a response to the various types of shocks). They also depend on how they occur (how much they go up, how fast they increase and whether the rise is sudden or not). Another aspect impacting on these movements is the degree of development of local markets (the impact is more marked in less developed markets).

recommendations to mitigate liquidity mismatches of open investment funds) in order to move towards a risk approach of a systemic nature for this sector.[5]

In 2022, the currencies of emerging economies tended to depreciate against the US dollar on average, though there were mixed performances at individual and regional levels (on the basis of the link of each economy with commodities and the evolution of their monetary policy rates).[6] The depreciation of emerging currencies was more marked in early March, between late April and mid-May and during the second half of June (see Chart 3), mainly in line with the periods with higher outflows from investment funds specializing in emerging markets (though as from the publication of the previous IEF, this type of funds have accumulated net inflows). Within this framework, so far in 2022, the shares of emerging economies measured in dollars have accumulated a drop of 19% according the MSCI Index, even though in the case of Latin America, the drop has been much more limited (4%). As regards the sovereign debt market, yields in dollars tended to go up, hand-in-hand with the rises observed for US Treasuries. Nevertheless, the EMBI spread, which has accumulated an expansion of 75 basis points (bp) in 2022 for the aggregate of emerging economies, is still standing close to its historical average. In turn, the governments and companies of emerging economies continued issuing debt in the international markets during the first five months of the current year but for amounts almost 40% below the record-high figures seen on average for the same period in the last 5 years.

Chart 3 | Emerging economies' assets – Selected indicators



*J.P. Morgan Emerging Market Currency Index (EMCI).
Source: BCRA based on Bloomberg.

5 The work agenda defined in international forums regarding this issue also includes the promotion of better statistical data to understand the interconnectedness among jurisdictions involving NBFIs, portfolio flows differentiated by currency and the characteristics of the different types of foreign investment funds investing in each country (concentration, leverage, etc.). In this respect, see document "US Dollar Funding and Emerging Market Economy Vulnerabilities" (FSB, 2022).

6 For example, in the case of the Brazilian real, the currency accumulates a 5% appreciation so far in 2022.

At domestic level, the economic activity has continued improving since the publication of the previous IEF. The recovery process is expected to continue in the next few months (led by the sectors hardest-hit by the pandemic, such as the services sector). Nevertheless, this evolution will be conditioned in part by factors such as the impact of the drought during the summer season (in the Southern Hemisphere) and a less favorable international scenario. The arrangement with the IMF would additionally contribute to consolidate a framework of macroeconomic certainty on the basis of its potential effects on several variables including, among other, the accumulation of international reserves, the reduction of monetary aid to the Treasury in terms of GDP and the gradual impact on the primary deficit. The EMBI spread for Argentina which, before signing the abovementioned arrangement, was close to 2000 bp, went down to 1700 bp[7] in April, even though it went up again (and exceeded 2400 bp) by late June, within a context of heightened uncertainty about the possibility of stagflation in developed economies and the expectations of a more restrictive bias in their monetary policies.

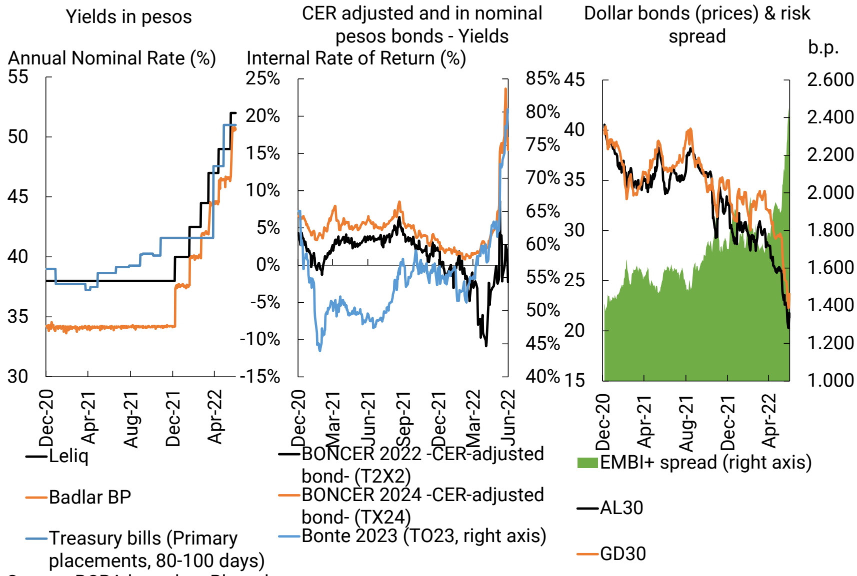
The progress made in the regularization of activities in productive sectors allowed the BCRA to strengthen its lending policy aimed at the sectors still lagging behind and at productive development (see Box 6). Within the framework of a more dynamic macroeconomic environment, inflation climbed significantly accompanied by higher international commodity prices and unfavorable climate conditions. Against this backdrop and in line with the objective of starting to leave behind the period of exceptional policies to cope with the pandemic, the BCRA has raised its monetary policy interest rate on six occasions since January 2022 in order to set a path of monetary policy interest rates ensuring positive returns in real terms on investments in domestic currency and preventing pressures on the foreign exchange market, without impairing the ongoing economic recovery (see Monetary Policy Report - June). On the other hand, the depreciation pace gradually adjusted and returned to levels more in line with the domestic inflation rate. Besides, some flexibilizations were introduced in the regulation on tradable securities transactions with settlement in foreign currency.

The Treasury managed to continue refinancing debt maturities in the domestic market (issuance / maturities ratio above 100% on average so far in 2022), apart from implementing several asset conversion transactions. In this respect, the policy to rebuild and boost the development of the domestic market is still in place.[8] Issues were mainly explained by bills —LEDES in nominal pesos and LECER adjusted by inflation— as well as CER-adjusted bonds (BONCER). Instruments with CER-adjustment were used to extend the terms of issuance. Accompanying the rise of other benchmark rates in pesos, the yields of the Treasury's debt expanded for fixed-rate instruments in the primary market. In turn, in the secondary market, yields also tended to go up for fixed-rate instruments and for CER-adjusted instruments (see Chart 4). The rises in yields were more marked in June. In order to prevent an excessive and unjustified volatility of prices that might

7 The yield curve in dollars kept its negative slope.
8 The Market Makers Program continued consolidating, with a sustained participation of these agents.

endanger financial stability, the BCRA intervened in the secondary market of sovereign bonds in order to rebuild the curve in pesos.

Chart 4 | Interest rates and fixed income instruments in Argentina



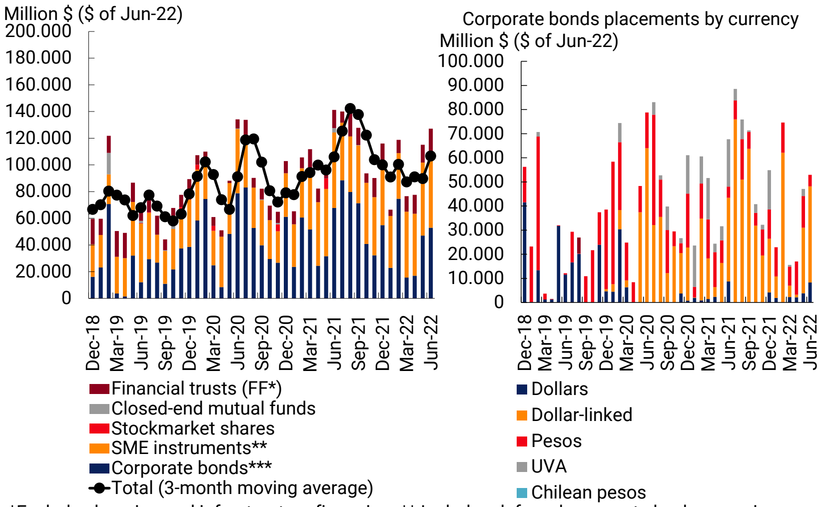
Source: BCRA based on Bloomberg.

As regards lending to the private sector through the domestic market during the first half of 2022 and considering the various instruments (corporate bonds, financial trusts, deferred payment checks, shares, promissory notes and other), total amounts virtually remained unchanged in year-on-year terms (see Chart 5).[9] The domestic market continues to be relatively limited against that of other emerging economies and this means that it has sufficient room to continue deepening its development. Among Corporate Bonds, the dollar-linked segment has continued to stand out and kept its momentum in year-on-year terms, while the instruments in pesos lost a considerable ground in the case of UVA-denominated instruments. A large part of the amounts issued in dollar-linked Corporate Bonds were made by the energy and oil & gas sectors. The terms of dollar-linked transactions are longer than those of transactions with instruments in nominal pesos.[10] In terms of cost, while the yields of issues of dollar-linked Corporate Bonds went down slightly, the yields of Corporate Bonds in pesos tended to go up, in line with the evolution of the various benchmark rates. In terms of sustainable finance, so far this year, seven companies performed nine issues within the framework of the "Guidelines for issuance of green, social and sustainable securities in Argentina" of the National Securities Commission (CNV).[11] Lastly, in recent months, there were few Corporate Bonds transactions in dollars related to restructuring processes (Communication

9 Gross financing amounts. Amounts related to swap transactions are not considered.
10 Generally speaking, the terms of dollar-linked issues were longer in recent months due to long-term issues for sizable amounts by large companies.
11 For a total equivalent to ARS22 billion (11% of total Corporate Bonds issued in the January-May period). The 85% was dollar-linked and the remaining 15% was in pesos.

"A" 7106),[12] after the momentum observed in the fourth quarter of 2020 and the first quarter of 2021. These restructurings have enabled a more efficient use of the international reserves available, thus preventing a widespread crisis in terms of non-payments.[13] The period addressed in Communication A "7106" to restructure foreign liabilities was extended to late 2022.

Chart 5 | Financing to the private sector through the domestic capital market



*Excludes housing and infrastructure financing. ** Includes deferred payment checks, promissory notes and credit notes. *** Excludes swap operations and debt restructurings. Source: BCRA based on BCBA, CNV and MAVSA.

2. Main Strengths of the Financial System Given Current Risks

Since the publication of the previous Financial Stability Report (IEF), the financial system has continued operating without disruptions, developing its intermediation activities and providing payment services, while preserving its typical aspects in terms of strength. In particular, there were moderate to low exposures to the risks faced, keeping relatively high liquidity and solvency coverage.

Additionally, the ensemble of financial institutions still keeps certain structural features that have consolidated the perception that they are coping with a moderate systemic risk: limited credit depth in the economy, largely traditional financial intermediation —with low relevance in terms of complex transactions and relative bias towards the short-term— and low interconnectedness among the financial institutions of the sector. Moreover, the financial system continues operating within a regulation and supervision scheme in line with the best practices recommended at international level, but adapting them to the reality of the domestic market.

12 Dollar transactions that are not related to swap processes have remained at limited levels (accounting for less than 10% of total issues in the domestic market) after 2019, while dollar-linked transactions gained momentum. See "Recent Trends in the Issue of Corporate Bonds" in the IEF of the second half of 2021.
13 The effect on the companies' balance sheet of having closed the access to the official exchange market would have taken them to a situation of financial loss, preventing their access to financing and exposing them to hostile takeovers. See recent Press Release on the private debt restructuring.

This section includes a description of the domestic financial system's main strengths in view of an eventual materialization of risk factors. The remaining sections will analyze these risks in detail as well as other strength factors of the sector in order to assess potential vulnerability sources from the perspective of macroprudential monitoring.

Table 1 | Main financial soundness indicators

	Financial system			State-owned banks			Domestic private banks			Foreign private banks			NBFI		
	Apr-21	Sep-21	Apr-22	Apr-21	Sep-21	Apr-22	Apr-21	Sep-21	Apr-22	Apr-21	Sep-21	Apr-22	Apr-21	Sep-21	Apr-22
Liquidity															
Liquidity Coverage Ratio (1)	2.2	2.2	2.0	2.0	2.0	1.7	2.1	2.3	2.0	2.6	2.5	2.4	-	-	-
Net Stable Funding Ratio (1)	1.9	1.9	1.9	1.9	1.7	1.7	2.0	2.1	2.1	1.9	2.0	1.9	-	-	-
Broad liquidity / Deposits (%)	66.1	68.7	68.0	57.7	59.0	61.4	71.0	75.2	72.6	73.7	75.9	72.8	41.8	41.6	49.3
In $	61.8	65.0	64.1	55.8	56.7	59.2	65.3	70.3	68.5	68.3	72.2	67.1	30.3	28.0	42.3
In US$	84.2	86.1	88.9	67.7	71.4	75.0	97.7	100.5	99.0	89.4	88.6	95.7	232.9	256.1	163.0
Solvency															
Regulatory capital / RWA (%)	25.3	26.2	27.9	22.2	23.6	25.7	29.9	30.6	31.9	24.4	25.2	26.6	19.2	19.4	21.0
Regulatory capital Tier 1 / RWA (%)	23.4	24.5	26.4	21.5	22.9	25.0	26.4	27.6	29.5	22.7	23.7	25.3	17.4	17.6	18.8
Leverage ratio (%) (1)	12.9	13.1	14.0	10.1	10.9	11.5	15.0	14.9	16.0	14.3	13.9	14.8	24.7	17.2	24.7
Capital conservation buffer (% verification)	100	100	100	100	100	100	100	100	100	100	100	100	100	91	99
Domestic systemically important banks buffers (% verification)	100	100	100	100	100	100	100	100	100	100	100	100	-	-	-
Regulatory capital / Credit to private sector net of provisions (%)	46.2	47.8	50.0	38.9	40.5	42.8	56.5	58.2	60.9	47.7	49.4	51.0	18.5	18.7	20.6
(Regulatory capital - Regulatory requirement) / Credit to private sector net of provisions (%)	31.2	33.0	35.7	24.4	26.8	30.0	40.9	42.5	45.2	31.7	33.4	35.3	10.6	10.7	12.4
Profitability															
ROE in homogeneous currency (%a.) (2)	11.2	8.5	8.2	12.1	9.0	8.8	8.9	6.4	9.0	13.7	11.3	7.9	-12.8	-15.4	-18.9
ROA in homogeneous currency (%a.) (2)	1.7	1.3	1.3	1.5	1.2	1.2	1.5	1.1	1.6	2.2	1.9	1.4	-2.3	-2.8	-3.6
Private sector credit															
Private sector exposure / Assets (%)	31.3	30.8	30.9	29.5	30.4	30.7	29.7	28.2	28.5	33.4	32.1	32.0	81.4	80.5	76.6
Non-performing loan ratio (%)	4.2	5.0	3.6	6.7	7.5	5.5	2.9	3.9	2.6	2.5	3.1	2.0	3.8	5.9	5.5
Provisions / Credit to private sector (%)	5.8	5.6	4.3	7.0	6.8	5.2	5.3	4.9	3.7	5.1	4.9	3.7	3.9	4.2	4.0
Public sector credit															
Exposure / Assets (3)	12.1	13.4	15.1	18.0	21.1	20.2	10.9	11.4	15.2	6.2	6.3	9.1	0.8	0.5	0.7
Net exposure / Assets (%) (4)	-2.2	0.4	2.4	-10.0	-4.9	-5.6	0.6	2.1	6.7	5.0	5.2	8.0	0.8	0.5	0.7
Currency risk															
(Assets - Liabilities + Net term purchases in foreign currency) / Regulatory capital (%)	9.2	10.0	11.8	28.5	26.3	26.5	1.0	3.1	6.2	0.4	1.6	2.4	19.2	28.3	28.3
Deposits in US$ / Total deposits - Private sector (%)	20.5	18.6	15.8	16.3	15.1	12.8	19.4	17.7	14.5	25.9	23.0	20.0	5.6	6.1	6.0
Loans in US$ / Total loans - Private sector (%)	14.1	12.2	8.3	14.7	12.1	8.7	10.9	9.3	6.4	15.9	14.7	9.4	21.4	15.8	12.2

(1) The Apr-22 column includes the latest available information, which corresponds to Mar-22 for these indicators. Consequently, in order to make the y.o.y. comparison, the columns for Apr-21 include data for Mar-21.
(2) 12-month accumulated.
(3) Position in government securities (excluding BCRA securities) + Loans to the public sector. (4) Position in government securities (excluding BCRA securities) + Loans to the public sector - Public sector deposits.
RWA: Risk weighted assets, IRR: irregular,
Source: BCRA

i. Relatively high liquidity levels. The financial system keeps a relatively high liquidity coverage if compared to the records of recent years as well as to the average values currently observed in other financial systems of the region (see Table 1). In April 2022, the sector's broad liquidity[14] stood at 68% of total deposits (64.1% for the segment in pesos and 88.9% for the segment in foreign currency). Although this figure was slightly lower than the record observed at the time of publication of the previous Financial Stability Report (-0.8 percentage points (p.p.)), it has exceeded that value in year-on-year terms (+1.9 p.p.) and has widely exceeded the average of the last 10 years (+17.4 p.p.).

In relation with the liquidity ratios recommended by the Basel Committee on Banking Supervision (BCBS), liquidity levels have continued to sizably exceed the minimum regulatory values required

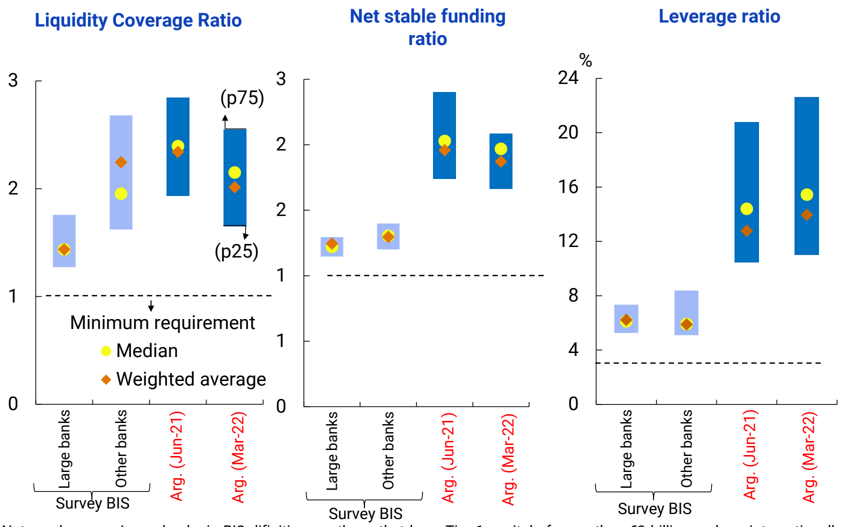
14 Considering the stock of liquid assets, the concepts included in the compliance with the minimum cash regime and other BCRA instruments, in both domestic and foreign currency.

for the ensemble of domestic institutions subject to compliance with the regulation (Group A).[15] At domestic level, the Liquidity Coverage Ratio (LCR)[16] stood in line with the records of a sample of mid-size banks from other countries[17] (and stood above the figure exhibited by large banks), whereas the domestic Net Stable Funding Ratio (NSFR) [18] continued to be relatively high if compared to the ratio observed in other economies (see Chart 6).

ii. **Relatively high solvency levels**. Regulatory capital (RC) for the aggregate financial system accounted for 27.9% of risk-weighted assets (RWAs) in April 2022, going up against the figures of the previous IEF and in year-on-year terms. The y.o.y. rise of the indicator (+2.6 p.p.) was due to both the growth of RC in real terms (+5.1% y.o.y.) and the drop of RWAs in real terms (-4.7% y.o.y.), and both effects contributed in a similar magnitude. In turn, the excess of regulatory capital (on top of the minimum regulatory requirement) of the ensemble of financial institutions expanded to 248% of the regulatory requirement. Moreover, the ensemble of domestic financial institutions has widely complied with the additional regulatory capital buffers established in the domestic regulation.

In order to supplement the minimum capital requirement, the ensemble of financial institutions must also comply with a minimum level for the leverage ratio (according to the definition of the Basel Committee). This ratio stood at 14% by early 2022, sizably exceeding the regulatory minimum threshold of 3% and standing above the ratios of other economies (see Chart 6).

Chart 6 | Basel III ratios – Local financial system in perspective



Note and source: Large banks in BIS difinition are those that have Tier 1 capital of more than €3 billion and are internationally active. The BIS information correspond to June 2021, and was obtained by voluntary and confidential data submissions from individual banks and their national supervisors (Basel III Monitoring Report - February 2022). The data for Argentina correspond to the BCRA.

15 It includes financial institutions with assets equal to or higher than 1% of total assets of the financial system. For further detail see the Consolidated Text on Financial Institutions' Authorities.

16 The Liquidity Coverage Ratio (LCR) assesses the availability of sufficiently liquid assets to face a potential outflow of funds in a short-term stress scenario. The LCR stood at 2 in the first quarter of the year (against a minimum requirement of 1, following international recommendations). For further information, see the Consolidated Text on Liquidity Coverage Ratio (LCR).

17 BIS's survey based on Basel III Monitoring Report, February 2022.

18 This indicator assesses that financial institutions' funding is aligned to the terms of the line of business (assets). The NSFR reached 1.9 for companies belonging to Group A in March 2022 (minimum requirement of 1, in line with BCBS recommendation). For further details, see the Consolidated Text on the Net Stable Funding Ratio (NSFR).

Within a context of record-high solvency levels, the BCRA implemented a series of changes to prudential standards so as to allow for the distribution of up to 20% of the distributable profits in 12 monthly installments.

iii. Low relative share of items in foreign currency in the aggregate financial system's balance sheet and limited differential between assets and liabilities in foreign currency. The financial system's total assets in foreign currency accounted for 15.2% of total assets in April 2022, going down against the figure of the previous IEF and in year-on-year terms (recording values below the average of the last ten years, 18.5%). In terms of assets, the stock of loans in foreign currency to the private sector (mainly granted to companies with income in foreign currency as well) accounted for only 8.3% of total lending to the private sector in April 2022, also going down against the previous IEF and in year-on-year terms. In turn, at the beginning of the second quarter, the stock of total liabilities in foreign currency accounted for 13.4% of total funding (liabilities and net worth), dropping against September 2021 and April 2021 (these are moderate levels if compared to the average of the last ten years, 16.3%). Regarding the components of funding, deposits in foreign currency totaled 15.8% of the private sector's deposits, below the level recorded in the previous IEF and in year-on-year terms. Considering all assets and liabilities in foreign currency, as well as forward purchase and sale transactions in foreign currency classified as off-balance, the differential in this denomination for the financial system accounted for 11.8% of the regulatory capital in April 2022, standing at limited levels over the last year within the framework of the macroprudential measures in force.

iv. Moderate exposure to the private sector, with a decrease in the non-performing ratio down to levels lower than those of the pre-pandemic period. The financial system's exposure to the private sector accounted for 30.9% of total assets in April 2022, slightly above the figure of September 2021, but 0.4 p.p. below the level recorded in April 2021. These are moderate exposure levels if compared to the domestic average of the last 10 years (42.7% for the ensemble of financial institutions) and to the median of a sample of countries of the region (63% according to the latest information available).

In this context, the non-performing ratio of loans to the private sector, gradually less impacted by the effect of the financial relief measures, stood at 3.6% in April, below the level recorded in the period before the onset of the pandemic (this ratio was standing at 6.2% in February 2020 and at 4.9% for the average of 12 months up to such moment).

Given the abovementioned strengths of the Argentine financial system, it is likely that it will continue to be resilient if any of the eventual adverse scenarios would finally held true, which would have to be highly extreme (unlikely to occur) to have an impact on the conditions of financial stability. In this respect, as part of the stability analysis, there follows a description of the main potential risk factors (exogenous to the financial system) to be considered in the next few months.

Risk of an increasing deterioration of the external context, given the existing vulnerabilities and uncertainty factors. Even though at global level there is still a context of economic activity growth and the financial systems are exhibiting relatively favorable conditions in historical terms, the outlook is increasingly uncertain and is subject to rising volatility (as observed in June). Investors continue to pay close attention to the monetary policy regularization processes in developed economies and their impact on global growth. The armed conflict between Russia and Ukraine is still in progress and it has sufficient potential to continue affecting commodity prices and contributing to the persistence of bottlenecks in supply chains. Despite the remarkable progress made in terms of regularization processes, the pandemic context is still in place and would worsen if new strains were to crop up despite the high vaccination levels. These uncertainty factors might impact more markedly on the evolution of the activity at international and regional levels (with adverse effects on world trade) or combine with the existing vulnerabilities worldwide (relatively high prices in some segments of the market, greater weight of investment funds —with a procyclical evolution—, increase in the debt burden of both governments and companies —and higher implicit risk—) to trigger new episodes of sudden reassessment of the perceived risk resulting in unexpected changes in the financial conditions and in capital flows. Thus, various types of shocks would have a greater impact on the commercial channel (with a more direct effect on the domestic activity level) or on the financial channel (with a more direct impact on the exchange rate and the interest rates), impacting as a result on the domestic context where financial intermediation activities are performed and on the credit risk faced by the financial system. Given the features of the Argentine financial system and the existence of restrictions in the foreign currency market, it is estimated that these shocks would have to be abrupt and highly intense to significantly affect the domestic financial stability.

Risk of a lower-than-expected recovery of the domestic economy or of higher volatility in the financial market. At domestic level, the economic outlook continues to be positive, due to a lesser incidence of the COVID shock (that would result in improvements in sectors that have not returned yet to their pre-pandemic level, such as services), the execution of an agreement with the IMF (which has resulted in a lower perceived risk) and the maintenance of policies focused on sustainable growth and the promotion of financial stability. However, there are still risks related to the evolution of the pandemic, added to some idiosyncratic factors such as the effect of a scenario of low rainfalls on crops and exports, and the domestic impact of the conflict in Ukraine (which might give rise to potential tensions in the energy market or an impact on the inflation dynamics). These factors might eventually put a cap on the economic activity evolution and the performance of the foreign exchange market (as it is observed in July) and of the financial markets at large, with an incidence —if shocks were sizable— on the environment where financial intermediation takes place (credit demand and supply, evolution of deposits) and/or on the credit risk faced by banking institutions.

Increasing operational risk due to a higher dependence on technology. After growing consistently during the pandemic, the use of teleworking and digital channels for financial transactions is expected to keep its momentum, while other technological innovations are simultaneously adopted. Even though there have not been events of this nature with systemic incidences so far in Argentina, the truth is that the boom of digital modalities imply, by definition, a higher exposure to operational risks, including disruptions in the transactions and also fraud and cyber-attacks. In this respect, the BCRA makes ongoing efforts in terms of information spreading, prevention and supervision (see Box 2).

Box 2 / Progress made by the BCRA in fraud risk management

The increase in the number and diversity of digital financial services resulting from the evolution of technology and innovation —a process that was accelerated by the pandemic context—, added to the new digital payment tools designed and promoted by the Central Bank (especially in transactions by transfer), brought about a wide range of benefits for users and a subsequent increase in exposure to risks.

In this respect, the document called "BIS CPMI Fast payments – Enhancing the speed and availability of retail payments"[19] points out that these new operations are presented as an alternative to the use of cash because of their focus on immediacy and interoperability, facilitating the flow of transactions between consumers/users and beneficiaries/recipients from any provider by interconnecting new and numerous participants to the payment system. However, the increase in the number of participants and their interconnection, as well as the ease of use provided by the new technologies that facilitate the implementation of new services and add benefits, also result in new risks to be considered.

As mentioned in the above-stated document, some of the risks to be taken into account are related to fraud and security. In the latter case, the document recommends the implementation of measures to deal with cyber-resilience of business and of critical services, i.e. to promote the organizations' capability to recover quickly from a cyber-attack, keeping redundancy and business continuity. In relation with fraud risk, it points out that fast payment systems pose challenges to traditional fraud prevention strategies given the number of participants involved in the transaction and the immediate and irrevocable nature of these payments. In this respect, the definition of robust dispute and error resolution processes is strongly recommended, including clear rules to allocate responsibilities between the actors involved in a transaction as well as the enhancement of monitoring capabilities, among other.

The domestic financial institutions have been performing their operations within the framework of minimum security measures that they are required to implement. In this respect, it is noteworthy to mention the relevance of the analysis of parameters taken from the systems that allow for identifying suspicious patterns in the behavior of clients that may help prevent fraud incidents, among other.

This monitoring process is part of a comprehensive security scheme to be implemented by the financial institutions for their electronic channels, consisting in five interrelated security

[19] BIS CPMI, November 2016, https://www.bis.org/cpmi/publ/d154.pdf

processes: Awareness & training, Access control, Integrity & registration, Monitoring & control of events and Incident management.

Regarding the protection of the client, a financial institution should implement the abovementioned processes in order to:
- Keep the client properly informed and trained by means of an awareness program based on content consistent with the risks of the situation.
- Require the client's identification and authentication for the use of electronic channels.
- Keep records that may allow determining the traceability of the activities performed by the client.
- Have transactional monitoring mechanisms in place to warn about suspicious situations based on the client's profile characteristics and transactional pattern, checking information with the client through alternative ways in the face of certain alarms or alerts received.
- Have sufficient capabilities to deal with the incidents detected.

For the purpose of reinforcing the measures against cyber-attacks and improving cyber-security and cyber-resilience levels, in April 2021, the BCRA issued Communication "A" 7266 on the "Guidelines on Cyber-Incident Response and Recovery". This regulation includes Financial Institutions and extends to Financial Market Infrastructures and Payment Service Providers Offering Payment Accounts.

In turn, payment systems with domestic transfer are made up by several participants: initiating payment service providers, payment service providers offering payment accounts, digital wallets, transfer scheme administrators, financial institutions and clients, among other. Given the diverse technological infrastructure behind the scheme and the sizable resulting interconnection because of the number of participants, fraud incidents may occur in any member of the abovementioned payment chain. Therefore, the BCRA considered that it was necessary to require a comprehensive fraud prevention strategy, so that all the participants of the scheme could contribute information useful to monitor both the scheme and the transactions right from the beginning and to the end.

Consequently, and in order to mitigate fraud risks related to payment transactions via transfers (3.0 Transfer initiative),[20] the BCRA issued a new regulation during the first quarter of 2022.[21] There, it defined a series of guidelines intended to reduce the potential occurrence of fraud events and/or rejections of payments and transfers —events that may occur in this type of transactions—, including the following provisions:
- The various schemes of instant transfers and the participants must implement technical and organizational measures for fraud management, as well as circuits, resolution procedures and information available to all the participants.

20 See the evolution of instant transfers in recent months in the Report on Banks. As of May 2022, these transfers increased 78% in number and 32% in amount in real terms, in year-on-year terms, driven by both transactions between accounts opened at financial institutions (via Uniform Banking Codes - CBUs), and transactions involving accounts with payment service providers (PSPs, from and/or to Uniform Virtual Codes - CVUs).
21 Communication "A" 7463.

- The claims made by the clients must be dealt with by the provider of the affected account.
- The schemes must internally define the participants, as well as their role and responsibility in fraud management, and they must also document the procedures to be followed in the event of claims.
- The schemes and the participants must define the information and infrastructure required to record the transactions and follow their traceability[22] from end to end, with data that they may deem sufficient, accurate and complete to allow the participants to analyze the circuit followed by the operation and detect where the fraud may have originated.
- The transfer schemes must exchange information about vulnerabilities and threats that may affect their processes and infrastructures, thus contributing to the prevention of the ecosystem.

This regulation was extended to Payment Service Providers (PSPs) offering digital wallet services and requires them to implement mechanisms to mitigate fraud,[23] thus covering all the participants of the payment systems by transfer and their interconnections. This will help improve the information databases required to detect fraud when there is more than one actor in a payment scheme and, consequently, focus on users' claims and deal with them more efficiently.

The BCRA continues working on measures intended to comprehensively tackle and prevent fraud risks that may adversely affect the regular operation of the financial system based on awareness campaigns for the development of a resilient financial system.

There are other factors that might be relevant in the medium and long term, added to the abovementioned risks. On the one hand, there are risks derived from the fast growth of the operations with crypto-assets at global level (even though their use is not widespread yet). These factors include, in addition to their high volatility —entailing risks for both the users and the financial system in aggregate terms—, the challenge they pose in terms of monetary and exchange policies for emerging economies characterized by less developed markets. In this respect, the BCRA determined in May that financial institutions can neither make nor allow their clients to make transactions with digital assets. Another source of risk, more intensely monitored at international level, lies in factors related to climate change (see Box 3). Lastly, and beyond the regularization of the policies implemented during the pandemic (especially with reference to developed economies' monetary policies), the real structural scope of the various changes observed in the framework of the COVID-19 shock (including the changes to business models with a dissimilar impact across sectors, countries and regions) remains to be seen in a post-pandemic scenario.

22 For further detail, see Glossary on Cybersecurity.
23 Communication "A" 7462.

Box 3 / Environmental, social and governance factors: Measures adopted by Latin American financial regulators

In the last decade, there has been a greater awareness about the fact that Environmental, Social and Governance (ESG) aspects, and especially those related to climate change, must start to be considered as emerging sources of financial risk. This is due to the fact that they have sufficient potential to eventually destabilize the rendering of financial services both for a bank and for the aggregate financial system at large.[24]

Within the framework of the Paris Agreement and the United Nations 2030 Agenda, progress was made at international level to tackle the effects of climate change and its interrelation with the financial system in order to promote a sustainable economic development at world level. Both international organizations[25] and financial regulators have started to focus their efforts on designing strategies intended to promote a better management of financial risks associated with ESG factors and to pave the way for a transition towards a low-carbon economy that may be resilient to the impacts of climate change, among other objectives.

Latin America is part of this trend and different financial regulators have started to adopt several policy measures related to these risks, within the framework of their respective national strategies aimed at sustainable development. These strategies move around three pillars: generation of information, development of green instruments and strengthening of the knowledge and capabilities related to this topic. Most Latin American banking regulators are currently at an initial stage and are informing their expectations on these risks management to the banks of their jurisdictions. The tasks of these regulators consist in: (i) analyzing the current status, (ii) improving their knowledge about the topic in order to create the capabilities required to assess and design the best feasible policy and (iii) designing plans for the future taking into consideration the best practices developed at international level as well as the public-private voluntary agreements that usually precede other actions.

A second group of regulators has already started to require their banks to include the climate change risk when dealing with large credits. Lastly, Brazil is the jurisdiction that has already adopted a comprehensive regulatory treatment of risk derived from climate change. The regulations design addresses the concept of proportionality, based on specific criteria of segmentation and materiality, subject to a gradual implementation.

The development of capabilities by the various market players, i.e. regulators, governments, investors and companies, as well as the potential providers of "green" products, is one of the items to be developed in terms of sustainable finance. In turn, the developments sustained by

[24] See, Exhibit 3 of the IEF corresponding to June 2021, and Box 1 of the IEF corresponding to December 2021, among other publications.
[25] For example, international organizations and standard-setting bodies such as the G20, the Financial Stability Board and the Basel Committee on Banking Supervision have focused on the need to have quality data to understand the effects of climate change on the financial system, to tackle the measurement and assessment of financial risks related to climate and to spread information on the matter.

other central banks / supervisors of the region are highly relevant to make progress in harmonized approaches.

The financial stability analysis will go deep in the next section in order to assess the main sources of vulnerability identified for the Argentine financial system, given its exposure to the abovementioned risk factors. These sources of vulnerability will be contrasted with the strengths of the financial system in order to assess its current condition to face any eventual materialization of the abovementioned risks.

3. Sources of Vulnerability and Specific Resilience Factors of the Financial System

3.1. Balance Sheet Exposure to Credit Risk

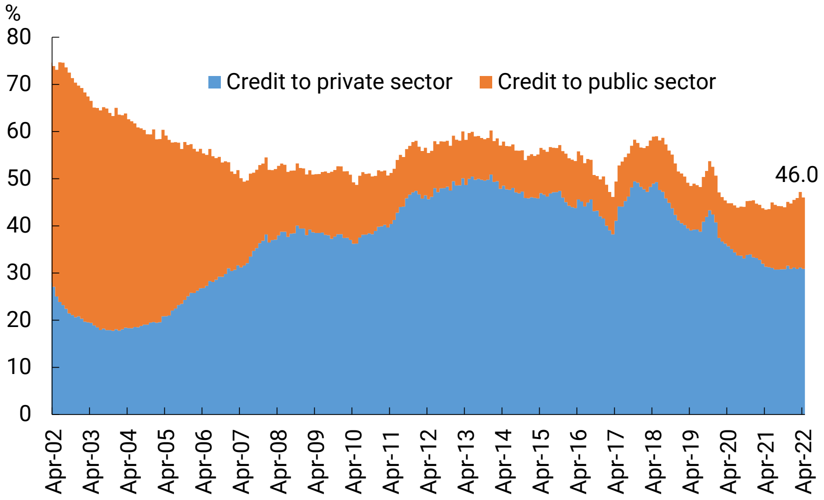
In April 2022, the financial system's gross exposure to credit, in terms of both the private and the public sector,[26] stood at moderate levels from a historical perspective, posting an increase against the figures recorded in 2021. Total financing accounted for 46% of the aggregate financial system's assets, up 1.8 p.p. and 2.6 p.p. against the level of September and April 2021, respectively (see Chart 7). However, the level of this indicator stood below the average of the last 20 years (55%).

The recent increase in the share of lending in the financial system's assets was mainly accounted for by financing to the public sector. The exposure of the ensemble of institutions to the public sector totaled 15.1% of total assets in April, up 1.8 p.p. against the figure recorded seven months ago (previous Financial Stability Report (IEF)) and up 3 p.p. y.o.y. It is noteworthy that this level of exposure is standing below the average of the last 20 years (around 18%). When considering public sector deposits, the financial system kept in April a net asset position (net financing of deposits) against this sector of around 2.4% of its total assets.

The financial system's exposure to the private sector stood at moderate levels (see Chart 8). The stock of loans to the private sector accounted for 30.9% of the aggregate financial system's total assets, standing slightly above the figure recorded in September 2021, but 0.4 p.p. below the level of April 2021 (the average of the last 20 years amounts to 37%).[27] The slight rise of the financial system's exposure to the private sector against the previous IEF was mainly driven by the segment in pesos (it accounted for 28.3 p.p. of assets, up 1.3 p.p. against September 2021).

26 In this case, financing via sovereign bonds is considered, in addition to loans.
27 Lending to the private sector net of total provisions in terms of assets increased up to 29.6% at systemic level over the period.

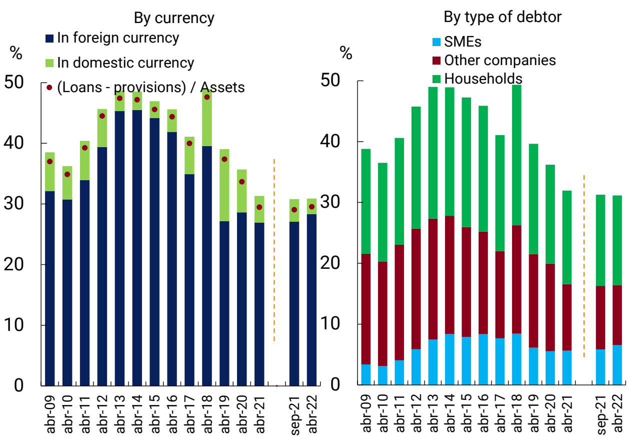
Chart 7 | Exposure of the financial system to the private and public sector
In % of assets



Source: BCRA

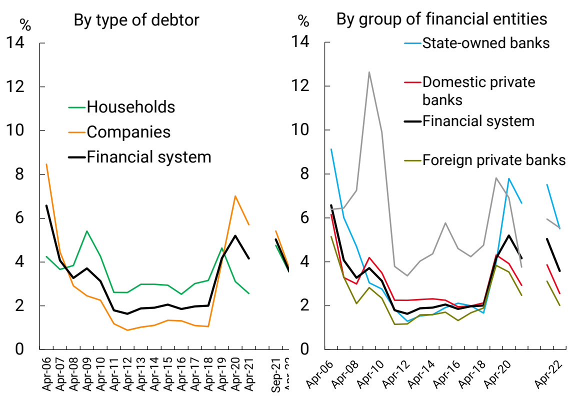
As of April 2022 and in terms of the components of the financial system's exposure to the private sector on the basis of the type of debtor, 47.4% corresponded to loans to households and 52.6% to loans to companies, with a higher momentum on the margin by lending to small and medium-sized enterprises (SMEs).

Chart 8 | Credit to the private sector in % of assets



Source: BCRA

Chart 9 | Non-performing loan ratio



NBFI: Non-Banking Financial Intitution. Source: BCRA

With reference to the credit risk materialization indicators, the non-performing ratio of loans to the private sector for institutions as a whole stood at 3.6% in April 2022, down 1.5 p.p. against the previous IEF[28] and down 0.6 p.p. against April 2021. The regulatory changes implemented in due time in the context of the pandemic, which helped mitigate the financial burden of debtors, have virtually no incidence on this indicator at present, allowing for a more accurate comparison against pre-pandemic levels. The decrease in the non-performing ratio against September 2021 was observed in both the segment of loans to households and the segment of lending to companies and was widespread across all groups of financial institutions (see Chart 9).

Balance Sheet Exposure to the Credit Risk of Households

Loans to households accounted for nearly 15% of the financial system's assets in April 2022 and stood slightly below the figure of the previous IEF (-0.2 p.p.) and in year-on-year terms (-0.6 p.p.). As of April 2022, it is estimated that 64% of the financial system's exposure to households consisted in loans whose holders had a job under a contract of employment (this ratio went up around 4 p.p. against the ratio recorded two years ago and 3.6 p.p. against the average of the last eight years).

The non-performing loans to households accounted for 3.5% of that portfolio in April, down 1.2 p.p. against the level recorded in September 2021 (+1 p.p. y.o.y.) mainly due to the performance on the margin of loans for consumption purposes (personal loans and credit cards). The current non-performing levels of lending to households are lower than the levels recorded at the beginning of the pandemic (-0.8 p.p. against the 6-month average up to February 2020). Within the segment of loans to households, there was a low dispersion in the non-performing ratio across the geographical areas of the country, even though the weighted average is slightly higher in the Central-West region (Cuyo) and slightly lower in the Central region. In turn, the decrease in the non-performing ratio of lending to households against the level recorded in September 2021 was relatively higher in the Central region (-1.4 p.p.) while it was more moderate in the North-West (NOA) region (-0.6 p.p.).

Balance Sheet Exposure to the Credit Risk of Companies

Lending to companies accounted for slightly over 16% of the financial system's assets in April 2022 and posted no significant changes against the previous IEF and in year-on-year terms. Within this segment, loans to small and medium-enterprises (SMEs) (see Chart 8 and Box 4) accounted for 6.5% of the assets of the ensemble of financial institutions, showing an expansion on the margin (+0.7 p.p. and +0.9 p.p. against September 2021 and against the value recorded

28 One part of this variation was explained by the migration of debtors classified as non-performing debtors to off-balance items (bad loans), according to the regulation in force. It is worth pointing out that these movements do not impact on the income statement of the financial system since they are fully provisioned assets. When considering the last seven months up to April 2022, it is estimated that the non-performing ratio would have fallen anyway (even though the drop percentage would have been lower (0.5 p.p.)) if the financial institutions had not migrated the non-performing balances to off-balance items ("bad loans" category) over the period. This means that the effect of the migration is estimated to be equivalent to 1 p.p. of the total stock of loans (in 7 months). It is noteworthy that, in the average of the last 15 years, the migration effect on the ratio stood at 0.8 p.p., in line with the current figures.

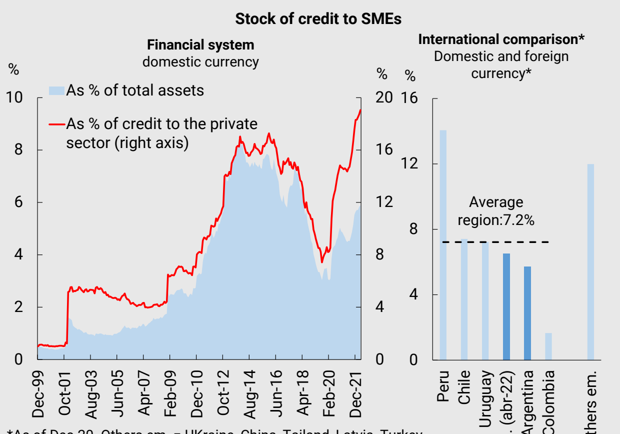
one year ago, respectively), to the detriment of other financing lines, mainly associated with large companies.

Box 4 / Bank loans to SMEs: recent increase, exposure in the financial system's balance sheet and hedging

In the framework of the credit policy promoted by the BCRA since late 2019, which contributed to focus resources on the promotion of productive development, bank loans intended for the small and medium-sized enterprises (SMEs)[29] have grown significantly in the last two years.[30] The stock of financing in domestic currency in real terms intended for this sector expanded 26.4% y.o.y. as of April 2022, and it has more than doubled when considering the performance since early 2020.[31]

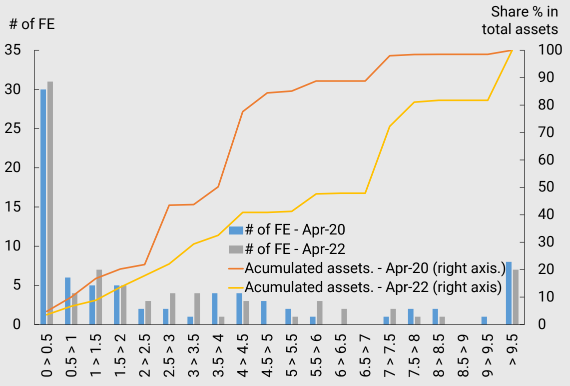
Because of this marked momentum, lending to SMEs in domestic currency accounted for 5.9% of the financial system's total assets at the beginning of the second quarter of 2022, up 1.3 p.p. and 2 p.p. against the levels recorded one and two years ago, respectively, and this increase reaches 1.9 p.p. if compared to the average of the last 20 years (see Chart B.4.1). This performance occurred in a context of gradual reduction of the aggregate financial system's exposure to the private sector, as a result of which loans in pesos to SMEs reached a share peak of around 20% in total loans to the private sector in early 2022. A comparison with other economies shows that, despite the rise observed in the last two years, the domestic financial system's exposure to this segment of debtors is standing slightly below the average of the countries of the region (see Chart B.4.1).[32]

Chart B.4.1 | Stock of credit to SMEs



*As of Dec-20. Others em. = UKraine, China, Tailand, Latvia, Turkey, Indonesia, India, Georgia, Russia, Albania. Source: IMF y BCRA

Chart B.4.2 Stock of credit to SMEs in pesos as % of assets - Distribution among financial entities



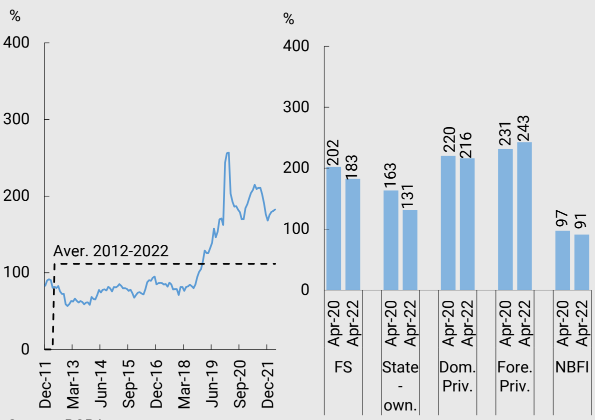
Source: BCRA

29 The BCRA has considered the universe of legal persons that are debtors classified as SMEs.
30 At present, the BCRA's credit promotion policy is mainly channeled via the "Credit Line for Productive Investment (LFIP)", even though as from the onset of the COVID-19 pandemic to late 2020, the credit policies devoted to face such critical context were more relevant (for further detail, see Exhibit 4 of IEF I-20 and Exhibit 5 of IEF II-20).
31 This positive performance is in line with the results from the Survey on Credit Conditions (ECC) in terms of approval standards for the last two years.
32 As already mentioned, the monthly available information included in this Box considers SMEs that are legal persons. An estimate of total loans in pesos granted to micro, small and medium-sized enterprises (MSMEs) (including both natural and legal persons) yields such a level that it would increase the financial system's exposure to this segment by 1.6 p.p. of total assets.

The increase in the balance sheet exposure of the financial system to SME loans in the last two years coincided with an increase in the concentration indicators of lending institutions. In the aggregate, 27 of the 50 institutions offering loans to SMEs recorded a rise in their exposure to this segment in their assets during the last two years (see Chart B. 4.2), while 23 institutions reduced their exposure. Regarding the concentration indicators of credit supply, the top 5 financial institutions accounted for 72% of the stock of loans to SMEs as of April 2022, up 11 p.p. against April 2020.[33] It is noteworthy that financing to SMEs contributes to the diversification of the banks' credit portfolio, thus mitigating to some extent their exposure to credit risk. This occurs in a context where this type of debtors would exhibit relatively lower levels of non-performance.

In order to gauge the relative size of the hedging made by the financial system in view of eventual scenarios of counterparty risk materialization in relation with this credit segment, it is useful to consider the ratio between the excess of regulatory capital and the stock of lending to SMEs. Even though this ratio has declined in the last two years, in a context of a marked momentum in lending to SMEs, it has stood within a range of high values if compared to the average of recent years: the ratio amounted to 183% in April 2022 at systemic level, up 71 p.p. against the average of the last 10 years (see Chart B.4.3).[34]

Chart B.4.3 | Excess capital compliance as % of credit to SMEs in pesos



Source: BCRA

The non-performing ratio of loans to companies totaled 3.7% over the period, down 1.7 p.p. against the level recorded in September 2021 (-2 p.p. y.o.y.). Just as it happened with households, the current figures of non-performing loans to companies are lower than the values recorded before the onset of the pandemic (-2.9 p.p. against the 6-month average up to February 2020).

Upon considering the components of financing to enterprises by sector, the group of companies involved in activities having the highest share in the economy[35] kept a stock of debt equivalent to 9.8% of the financial system's assets in April 2022, down 1.6 p.p. against the pre-pandemic situation (see Chart 10). The companies involved in primary activities have obtained financing for

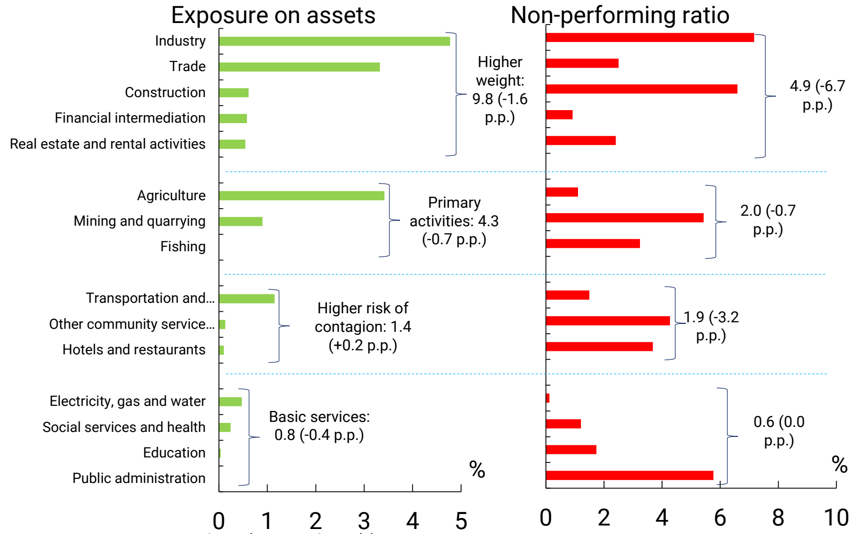
33 This occurred in a context where the largest institutions of the financial system increased their exposure to this segment of debtors. Thus, in the last two years up to April, the number of institutions with an exposure to loans granted to SMEs over 4% of their assets went down from 24 to 20 while, in terms of the assets accumulated by these institutions, the increase was significantly higher, going from 22.4% to over 59.1%.
34 Similar indicators considering total loans to the private sector are also standing at high levels. For further detail, see Section 2 of this Report.
35 The economic activities were grouped under 4 categories: (i) Highest weight and the rest (Industry, Commerce, Construction, Financial intermediation and Real estate and business activities), (ii) Primary activities (Agriculture and Livestock, Fishing and Mining), (iii) Highest risk of infection (Transport and communications, Hotels and restaurants, Other social and community services), and (iv) Basic services (Public Administration, Health, Education and Electricity, Gas and Water). For further detail about these groups, see IPOM.

an amount equivalent to 4.3% of the ensemble of institutions' assets (-0.7 p.p. against February 2020). In turn, the financial system's exposure to activities that may entail a higher risk of infection (within the context of the pandemic's effects) and to basic services stood at 1.4% of assets (slightly above the pre-pandemic level) and 0.8% (-0.4 p.p. if compared to February 2020), respectively.

As of April 2022, the non-performing ratio of loans was relatively higher in the ensemble of companies with the highest weight on the economy (4.9%) if compared to the other groups; nevertheless, it posted the highest decrease against the values recorded in the pre-pandemic period (-6.7 p.p., see Chart 10).

As mentioned above, the financial system continues to keep a limited exposure to debtors involved in activities that may entail the highest risk of infection.[36] Nevertheless, given the impact suffered by the firms belonging to these sectors in 2020 and in 2021 —added to the potential risk of new occasional and repeated pandemic shocks on their performance— exercises of sensitivity to credit risk are performed for the ensemble of financial institutions in order to assess the degree of hedging in view of a hypothetical and unlikely shock (see Box 5).

Chart 10 | Financing to companies's composition by activity and non-performing financing- April 2022



Note: variations are vs. Feb-20 (pre-pandemic).). Source: BCRA.

Box 5 / Sensitivity exercises to assess credit risk

The results of the sensitivity exercises performed with data as of April 2022 prove that the aggregate financial system keeps a remarkable degree of resilience in the face of an eventual

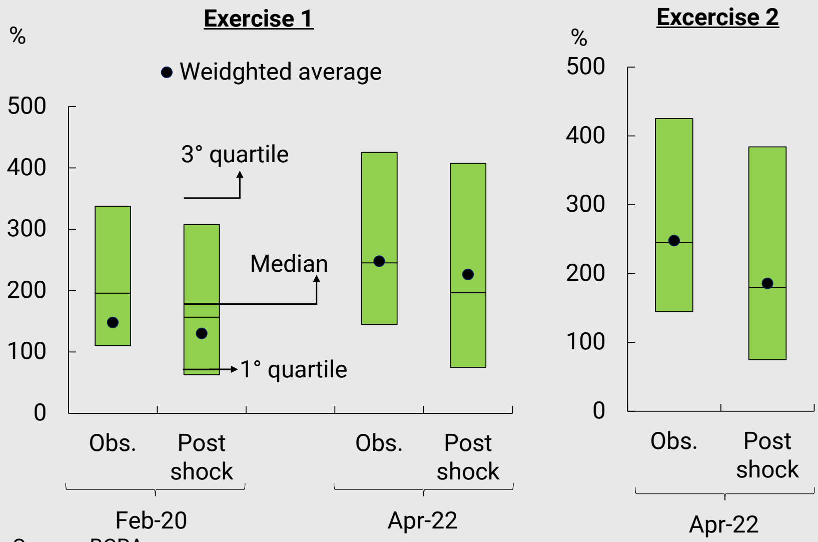
36 Even more, in the case of activities that may entail the highest risk of contagion, the financial system's exposure would amount to 3.6% if the debt of these companies' registered employees is also taken into account (it goes up 2.2 p.p. against the figure that only considers lending to companies). The delinquency rate of this group (activities entailing a higher risk, loans to companies and loans to their employees) would stand at 3.2% (+1.2 p.p.). In turn, if we compare the indicators for risk exposure and materialization of these activities against February 2020 (the month before the onset of the pandemic), they have gone down 5.3 p.p. and 0.2 p.p., respectively.

materialization of the credit risk taken.[37] These exercises serve to analyze the extent of the impact on the financial system's solvency (without assuming additional changes) in the face of a hypothetical total failure to recover a group of loans granted (an extreme assumption that is highly unlikely to occur). These exercises are part of the monitoring toolkit used by the BCRA to assess the financial system's stability conditions.

Exercise 1: it is assumed that the non-performing ratio of the loans granted by each institution to the private sector increases up to the maximum level reached at individual level in the last 15 years (April 2007-Abril 2022).[38] These assets are written off the balance sheet, net of the provisions estimated on them.[39] Then, the resulting regulatory capital position as of April 2022 (latest information available) and as of February 2020 (before the onset of the pandemic) is estimated.

In this exercise, the median of the capital position[40] of the ensemble of institutions would go down from 245% (weighted average of 248%) to 197% (226%) (see Chart B.5.1). Starting from a high aggregate capital position, it is estimated that at present (April 2022), there would be a higher excess capital after the occurrence of an eventual shock if compared to the pre-pandemic situation (February 2020).

Chart B.5.1 | Sensitivity exercise on capital position



Source: BCRA

37 For previous results, see IEF II-18. The results obtained supplement the results from the stress tests made by the BCRA on an annual basis. These stress tests are based on the analysis of macroeconomic scenarios, not only related to credit risk but also to liquidity, market and business risks (for further detail, see Exhibit 4 of IEF I-17).
38 For the financial system, the non-performing ratio of this period reached a maximum value of 6.2% before the beginning of the pandemic.
39 For each financial institution, it is assumed that the stock of provisions that would correspond to the non-performing portfolio results from the total provisions minus the theoretical provisions on the performing portfolio (according to the criteria set by the rules on regulatory minimum provisions for loan loss exposure).
40 Defined as Regulatory capital (RC) minus the regulatory minimum requirement, always in terms of such requirement.

Exercise 2: it is assumed that the companies (and their employees) that are indebted with the financial system and belong to the activity sectors with the "highest risk of infection" due to the COVID-19 pandemic context[41] cannot repay their loans.[42]

On the basis of this exercise, the estimated impact results in a 65 p.p. decrease of the capital position median of the aggregate financial institutions as of April 2022, down to 180% (the weighted average would lose 62 p.p., to 186%). In this case, the aggregate financial system would also keep a sizable capital excess.

Within the framework of the changes in credit exposures taken by the financial system (with both the private and the public sectors), and despite the recent improvement in the portfolio quality, this source of vulnerability would continue to be the most relevant in the remaining months of 2022, in relative terms, for the ensemble of financial institutions. The eventual materialization of the risk factors mentioned above (especially a less-dynamic-than-expected economic activity performance) would condition the payment capacity of debtors and, given the financial system's exposure, there might be an impact on the sector's balance sheet.

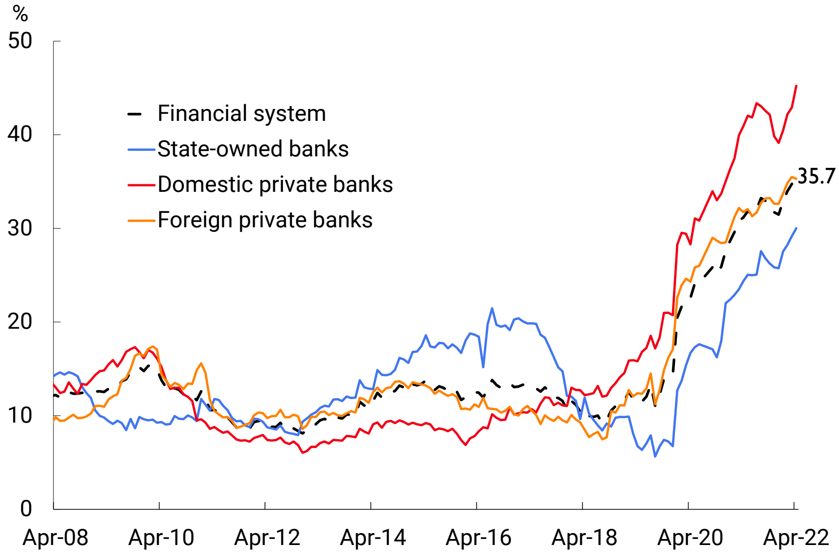
3.1.1 Elements of Resilience and Mitigating Measures:

The aggregate financial system has continued to sustain high provisioning and solvency levels. In April 2022, the accounting loan loss provisions represented for 4.3% of total financing to the private sector. These provisions continued to exceed the non-performing portfolio (118.9% of the portfolio), standing above the figure recorded in September 2021 and also above the average of the six-month period before the pandemic (95%). The excess of regulatory capital of the ensemble of financial institutions, measured in terms of the portfolio of loans net of provisions, continues to be high in a historical comparison (see Chart 11).[43] The evolution of this ratio is observed at the financial system level and across all groups of financial institutions.

The concentration of private sector debtors in the financial system continues to be low. In April, the share of the top 100 and top 50 debtors accounted for 13.2% and 10.2% of the loans to the private sector, respectively (see Chart 12). These levels were lower than those recorded in the previous IEF (1.5 p.p. and 1 p.p., respectively), and continue to stand at historically low values. Part of this performance is related to the various credit stimulus programs implemented by the BCRA, which allowed to focus the resources on the sectors still lagging behind and on the promotion of productive development, such as the "Credit Line for Productive Investment (LFIP) of Micro, Small and Medium-Sized Enterprises (MSMEs)" (for further detail, see Box 6).

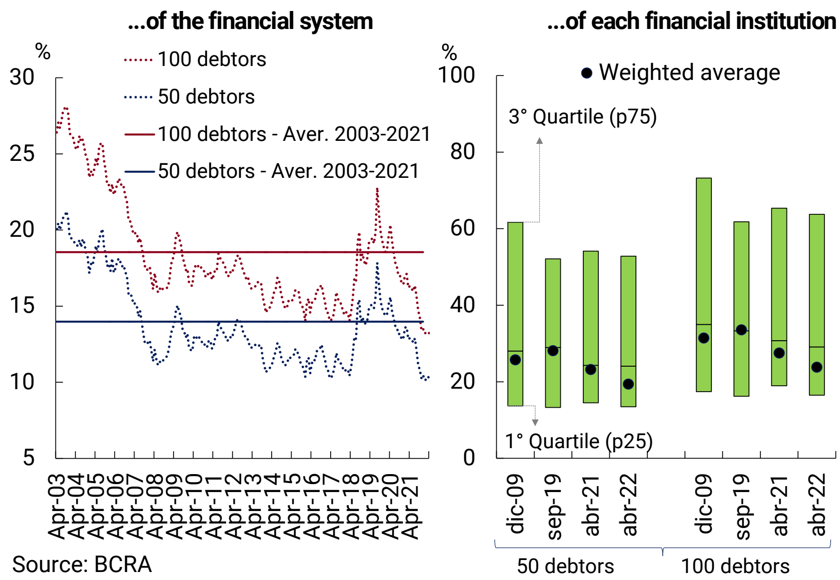
41 These sectors are: Transport and communications, Hotels and restaurants and Other social and community services. For further detail, see IPOM.
42 The impact of writing off these loans net of provisions from the balance sheet is considered.
43 Equivalent to 35.7%, largely exceeding the average of the last 10 years (13%).

Chart 11 | Regulatory capital position (RPC- requirement) in terms of the stock of credit to the private sector net of provisions



Source: BCRA

Chart 12 | Share in the credit to the private sector of the main debtor persons...



Source: BCRA

Box 6 / Credit Line for Productive Investment (LFIP)

Throughout 2021 and so far in 2022, the "Credit Line for Productive Investment (LFIP)" was the most important tool to promote lending to the productive sector, especially to micro, small and medium-sized enterprises (MSMEs).[44] In March 2022, the BCRA extended the LFIP until late September and kept the relatively favorable financial conditions for companies and the benefits for the participating banks.[45] In a context of increases in the monetary policy interest rates, the 2022 quota offers a nominal annual percentage rate of 42% for investment projects and a nominal annual percentage rate of 52.5% for the remaining financing.[46]

The stock of loans under the LFIP has amounted to ARS790.4 billion as of April 2022, equivalent to 27% of the total stock of lending to companies (+8.7 p.p. against the level of September 2021) and to 13.3% of the total stock provided to the private sector (+3.7 p.p.).[47] Around 38.5% of the total stock was used for the financing of investment projects.

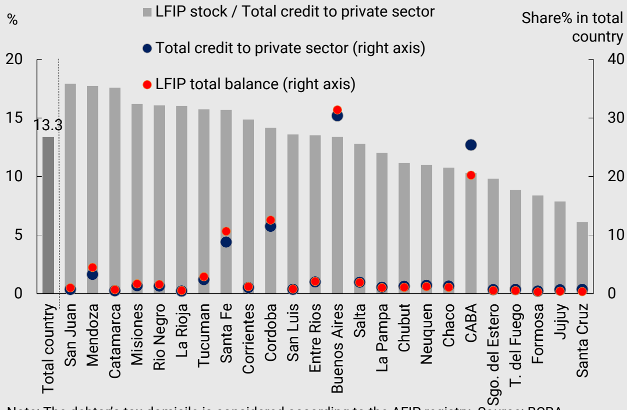
The non-performing ratio of total loans provided to companies under the LFIP stood at 0.7% as of April (-0.8 p.p. against September 2021), in a context where this ratio stands at 3.6% (-1.5 p.p.) for total lending of the financial system.

It is estimated that, since the publication of the previous IEF, around 223 companies that did not have any financing from banks[48] have managed to have access to this credit line. As from the beginning of the LFIP, around 12,151 companies would have been included in the financial system. As of April 2022, a total of nearly 93,700 firms received financing channeled via the LFIP in the entire financial system. Most of the LFIP borrowers are relatively small enterprises: 94% (87%) of such companies have a headcount below 100 (50) workers.[49] It is estimated that the number of employees hired by enterprises with lending under the LFIP accounts for 19.5% of the total wage earners working in the private sector.[50]

In terms of the distribution of LFIP resources across the various jurisdictions of the country, this tool continues to show a wide scope. Thirteen provinces show a share of loans arranged under the LFIP that exceeds the average observed countrywide in total loans provided to the private sector (see Chart B.6.1.).

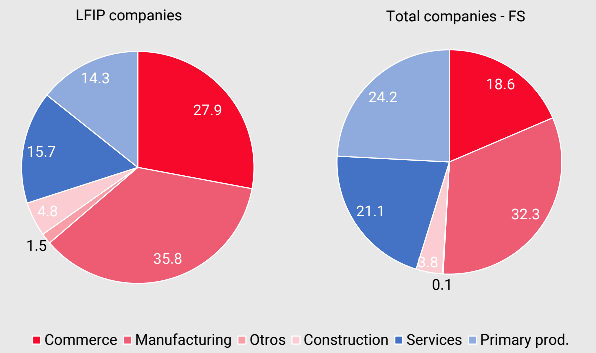
44 For further detail, see Box 3 of IEF II-21.
45 In mid-April 2022 —through Communication "A" 7491— the BCRA established that the reduction of the minimum cash requirement must stand at 34% of the loans provided for investment projects (from 30% until such date).
46 See Communication "A" 7527.
47 The effective residual stocks of loans allocated to the 2020, 2021 and 2021/2022 Quotas have been considered. Information subject to correction.
48 As of February 2020 (just before the onset of the pandemic).
49 These data include companies that had access to the LFIP and have at least one employee.
50 According to data as of March 2022 from the Ministry of Labor, Employment and Social Security.

Chart B.6.1 | Credit line for MSMEs' productive investment (LFIP) - Distribution estimation by province – Last available data



Note: The debtor's tax domicile is considered according to the AFIP registry. Source: BCRA

Chart B.6.2 | LFIP – Credit line for MSMEs' productive investment (LFIP) - Estimation by economic activity - Share % in total stock – Last available data



Source: BCRA

Regarding the activity sectors of the LFIP borrowing companies, around 36% of the stock would have been provided to the industry (see Chart B.6.2). In particular, enterprises involved in the production of food and beverages accounted for around one third of this segment's total. In turn, it is estimated that nearly 28% of the LFIP stock of loans was granted to companies involved in commercial activities (especially wholesale trade). When comparing the distribution of the LFIP stock with the distribution of total bank credit to companies, it is observed that companies related to industry, commerce and construction have made a relatively higher use of this tool than enterprises of the remaining sectors.

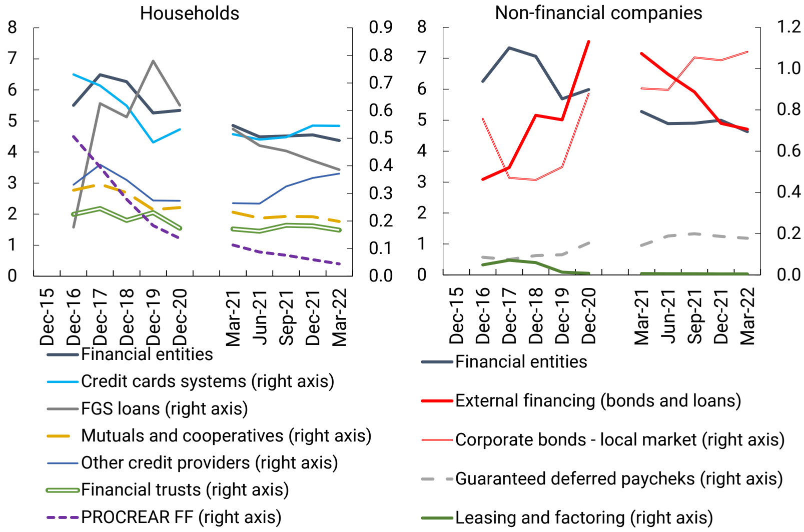
The credit origination standards posted no significant changes in the last quarters.[51] In the case of loans to households, according to the Survey on Credit Conditions (ECC), there were no relevant changes in the credit standards during the first quarter of the year. In turn, in the abovementioned survey, the credit origination standards applicable to companies remained neutral, in the case of both large companies and SMEs.

In aggregate terms and as percentage of GDP, the indebtedness levels of both households and companies continue to be limited. As of March, the credit ratio in a broad sense as percentage of GDP stood at a level of 6.1% for households and 10.6% for companies,[52] posting declines in both cases against their level of six months ago (the decrease was slighter in the case of households). The data of publicly-traded companies also show a decreasing evolution in terms of corporate leverage in the second half of 2021 (see Box 7). This six-month change occurs in a context of an increasing GDP and decreasing credit amounts (in real terms) in a broad sense for households

51 For further detail, see the results of the Survey on Credit Conditions (ECC) corresponding to the first quarter of 2022.
52 Stocks as of March as percentage of GDP and estimated as of the first quarter of 2022, seasonally-adjusted. In addition to the loans provided by the ensemble of financial institutions regulated by the BCRA, this stock includes: financing via the credit card systems, loans granted by mutuals and cooperatives (based on the National Institute of Associations and Social Economy (INAES), lending from other non-banking credit providers registered with the BCRA, financing held in the portfolio of financial trusts not related to infrastructure, loans from the Sustainability Guarantee Fund (FGS) (including the PRO.CRE.AR portfolio), corporate bonds issued by the non-financial private sector under domestic legislation, deferred payment checks, loans related to leasing and factoring, and external financing (based on INDEC) via bonds and loans (excluding credit and commercial advances).

(1% in the six-month period) and companies (10% in the six-month period). For both households and companies, the stocks as percentage of GDP are standing below the average of the last five years (close to 8% of GDP for households and 12% for companies). Considering financing to households, bank loans continue to be the main component, even though their amount dropped slightly in real terms from September 2021 to March 2022, with additional declines in the case of loans from the Sustainability Guarantee Fund (FGS) and the loans from the Bicentennial Credit for Housing Program Financial Trust (FF PRO.CRE.AR), as well as loans from mutuals and cooperatives and loans in the financial trust portfolios not related to infrastructure. Conversely, the amounts associated with other credit providers registered with the BCRA[53] and with non-banking credit cards have increased in real terms (see Chart 13). Regarding the corporate sector, the main components consist in bank loans and the stock of financial lending from abroad, which posted six-month drops in March in real terms. In turn, the domestic stock of Corporate Bonds,[54] with a lower share (6%) on the companies' total financing, grew in real terms, unlike what happened with other instruments of the domestic capital market, such as deferred payment checks (with a more marginal weight on companies' financing).

Chart 13 | Households and companies broad financing
% of GDP



Source: BCRA based on INDEC, CNV, MAE, MAV, ANSES and INAES

Box 7 / Financial situation of publicly-traded companies

One of the methods used to monitor the situation of the corporate sector consists in the analysis of the balance sheet of the non-financial private sector publicly-traded companies.[55] Measured in

53 It includes loans provided by retail chains involved in the sale of household appliances, financial companies (such as those providing personal loans) and fintechs. See the Report on Other Non-Financial Credit Providers.
54 In part due to the evolution of the exchange rate and the Consumer Price Index (CPI), given that there are dollar-linked Corporate Bonds, as well as Corporate Bonds denominated in dollars and UVA (less than 10% of the Corporate Bonds stock with domestic legislation is denominated in nominal pesos).
55 The publicly-traded companies make up a segment of the domestic corporate sector characterized by firms of a large/medium relative size (this analysis does not include companies under the Simplified Tax Regime for SMEs). For further detail about coverage

terms of their median, the financial indicators of these companies tended to improve in 2021, after the deterioration caused by the COVID-19 shock in 2020.

The final profitability in terms of net worth, in homogenous currency, showed an improvement in 2021 (see Table B.7.1), within a context of recovery of the operating income. This impacted positively on both liquidity ratios and payment capacity (interest coverage ratio with income).[56] The leverage ratio ended 2021 with a decline against 2020, which was accompanied by a lower share of short-term liabilities in total liabilities (consistent with a context of liabilities refinancing transactions). In turn, in absolute terms, the currency mismatch of companies holding Corporate Bonds in dollars ended the year standing slightly above the level observed one year ago.

Given the evolution of publicly-traded companies' financial ratios, and adopting a simple methodology,[57] it has been observed that the proportion of companies under a relatively more vulnerable situation went down by the end of 2021. The financial system exhibits a very limited exposure to these companies under a relatively more vulnerable situation (less than 1% of their total portfolio of loans to the corporate sector).

Table B.7.1 | Companies with public offering - Main indicators

	Quarter								
Main indicators (median):	**IVQ-19**	**IQ-20**	**IIQ-20**	**IIIQ-20**	**IVQ-20**	**IQ-21**	**IIQ-21**	**IIIQ-21**	**IVQ-21**
Final profitability as % of net worth - annualized	11.7	(3.4)	3.1	6.2	10.5	11.7	(6.8)	9.4	13.8
Earnings before taxes as % of net worth - annualized	14.6	(0.1)	0.7	9.2	9.5	11.8	8.4	9.3	16.6
Operative results as % of net worth - annualized	12.2	5.3	4.0	12.0	12.7	11.3	12.4	17.6	14.0
Current liquidity: Current assets / current liabilities (%)	116.9	113.3	109.7	113.8	108.6	118.6	122.1	126.6	129.9
Acid test: (current assets - inventory) / current liabilities (%)	83.0	82.7	82.8	84.7	86.3	87.6	90.2	92.3	88.8
Interest coverage: EBIT* / interests paid (times)	1.3	0.7	1.0	1.7	1.8	1.3	1.3	1.9	2.3
Leverage: Liabilities / assets (%)	57.8	57.1	57.9	57.1	57.6	56.1	59.5	57.7	56.1
Short-term debt / total debt (%)	49.4	48.3	47.3	54.4	46.8	47.7	37.3	34.3	33.9
Currency mismatch - companies that have corporate bonds in dollars: (foreign currency assets less foreign currency liabilities) / total assets** (%)	(28.1)	(23.4)	(25.7)	(23.6)	(27.8)	(27.5)	(25.5)	(25.1)	(28.8)
Number of companies observed	**126**	**126**	**131**	**130**	**126**	**124**	**125**	**124**	**122**

(*) EBIT: earnings before interest and taxes. (**) Currency mismatch (companies in the sample that have outstanding corporate bonds in dollars): foreign currency assets less foreign currency liabilities expressed in pesos using the prevailing exchange rate at each time, divided by total assets (in pesos).

Source: BCRA based on CNV/BCBA.

and methodology, see the sections on "Financial Situation of the Corporate Sector" in the IEF I-17, "Financial Situation of Publicly-Traded Companies" in the IEF I-19, and further updates in more recent issues of the IEF.

56 In 2021, there were no cases of companies with problems to face principal and interest debt service payments on their Corporate Bonds, unlike what happened in 2020 (with specific cases for insignificant amounts relative to the total stock of Corporate Bonds).

57 It is proxied in a simple way on the basis of three financial ratios that are particularly relevant to measure credit risk: interest coverage, leverage and acid-test ratios. For further detail on the methodology, see "Financial Situation of Publicly-Traded Companies" in the IEF I-19.

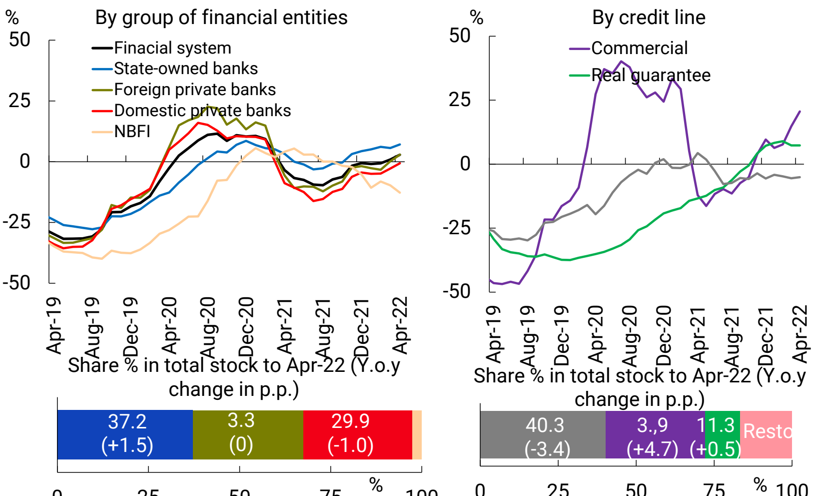
It is estimated that households have sustained a moderate burden in terms of their bank debt services, which have posted a slight increase after the minimum value reached in September 2021.[58]

Financing to the private sector in foreign currency has had a limited share in the aggregate balance sheet of the financial system, with a low currency mismatch of debtors due to the macroprudential regulations in force. For further detail, see the section on the main strengths of the financial system.

3.2. Evolution of the Financial Intermediation Activity

The financial intermediation activity has operated at moderate levels since the publication of the previous IEF, within a context of gradual recovery in the various economic sectors. Despite an international and domestic context with higher inflation levels in early 2022 against previous periods,[59] the stock of lending in pesos to the private sector in real terms went up slightly in the last seven months and also in year-on-year terms. In turn, the stock of private sector deposits in domestic currency dropped slightly over the period, but posted a slight increase if compared to the level recorded one year ago (see Section 3.3). Regarding the items in foreign currency, private sector credit and deposits continued to drop gradually if compared to data from the previous IEF.

Chart 14 | Stock of loans in pesos to the private sector
Year-on-year % changes in real terms*



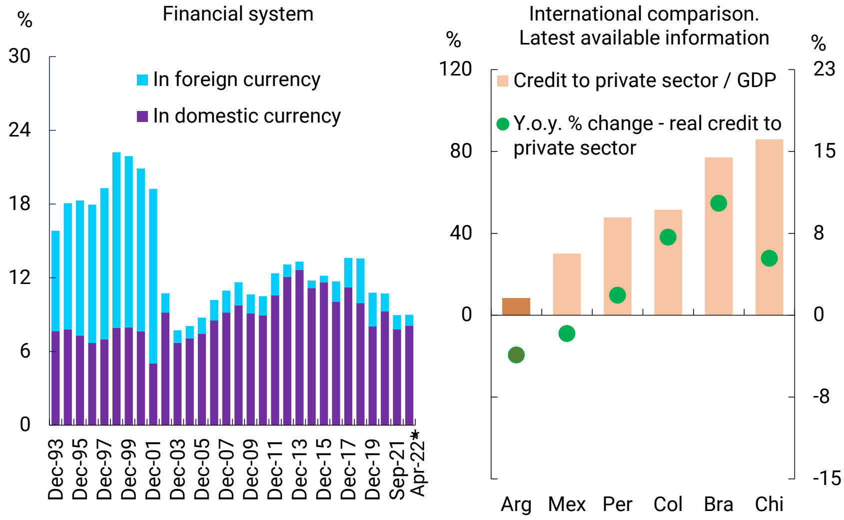
*Not seasonally adjusted. Total includes adjustments of principal and interest accrued. Commercial includes overdrafts, documents and leasing. Real guarantee: mortgages and pledge-backed. Consumption: Personal and credit cards. Source: BCRA

The stock of loans in pesos to the private sector went up 1.2% in real terms in the last seven months, and 2.8% y.o.y. in real terms, with a higher relative contribution by the group of state-owned financial institutions (see Chart 14). Commercial loans (mainly promissory notes)

58 It is estimated that, in early 2022, the burden of the bank debt services of households slightly exceeded 13% of the wage bill.
59 For further detail, see IPOM.

recorded the highest relative growth over the period and there was an increase of their share in total loans within the context of the stimulus programs implemented by the BCRA, followed by credit lines with real property collateral (mainly pledge-backed loans). Given the reduction of financing in foreign currency, the total stock of loans to the private sector (in both domestic and foreign currency) accumulated a 3% drop in real terms in the last seven months (-3.7% y.o.y. in real terms).

Chart 15 | Stock of loans to the private sector in GDP terms



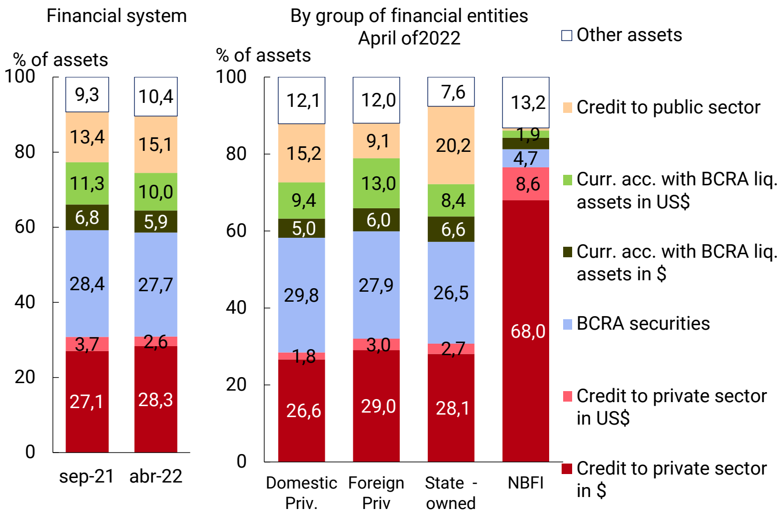
* Estimated. Note: Per: Peru; Chi: Chile; Col:Colombia; Bra:Brazil; Mex: Mexico;Arg: Argentina. Source: WEO (IMF), INDEC and BCRA

The domestic financial system continued to be shallow in terms of the economy (see Chart 15). As it has been stated in the last issues of the IEF, the ratio between GDP and bank loans to the private sector is standing at relatively low levels if compared to the domestic average of the last 30 years (13.5%) —which is in fact moderate— and to the figures recorded by other countries of the region (median of 49.7%).

The performance of financial intermediation occurred in a context of redesign of the monetary policy instruments that started in January 2022 and included the increase in the nominal interest rates of the economy. Against this backdrop, the objective was to take lending interest rates to levels consistent with the boost to loans to small and medium-sized enterprises in order to consolidate the development of tools such as the "Credit Line for Productive Investment of Micro, Small and Medium-Sized Enterprises (MSMEs)" (see Box 6). It is estimated that, during the first four months of 2022, the average nominal lending interest rates arranged for loans in pesos to natural and legal persons have increased less than the interest rates on time deposits, posting rises more in line with the average nominal borrowing rate in place —transacted for total deposits in pesos, including time deposits and sight accounts.

Within the context of the abovementioned performance of financial intermediation, the assets of the ensemble of financial institutions —measured in homogenous currency— went down slightly against the level stated in the previous IEF and also in a year-on-year comparison (-3.3% in real terms and -2.3% y.o.y., respectively), also showing some changes in terms of their composition. In particular, in the last seven months, there has been an increase in the relative share of financing to the public sector (which accounted for 15.1% of total assets) and of credit in pesos to the private sector (to 28.3% of the total), while there was a decrease in the share of the stock of current accounts held at the BCRA, of BCRA's instruments (mainly repos) and of loans in foreign currency to the private sector (see Chart 16). Over the period, there was an increase in the relative share of assets in domestic currency adjusted by CER (to 11.7% of total assets), accompanied by a decrease in the share of assets denominated in foreign currency (to 15.2% of assets) in the ensemble of financial institutions.

Chart 16 | Assets composition by main items
Year-on-year % changes in real terms*



NBFI: Non-Banking Financial Institutions. Source: BCRA

In the next few months, the gradual recovery process of the economic activity is expected to continue, and this scenario would impact positively on financial intermediation (demand and supply of loans, deposits and financial services). However, this anticipated evolution might be adversely affected by the eventual materialization of the risk factors described in the previous section, giving rise to a challenging context for the ensemble of financial institutions.

3.2.1. Elements of Resilience and Mitigating Measures:

Internally-generated funds. The aggregate financial system continued to show a positive profitability at the beginning of 2022, even though its ratios have stood at slightly lower levels than those observed in the last quarters of 2021 (see Table 2). Considering the aggregate results of the last 12 months, the year-on-year decline of the sector's profitability levels is accounted for by the rise in the expenses for interest (increase of nominal interest rates and higher share of time deposits in total funding) and for higher expenditures for exposure to monetary items (impacted by the higher inflation rate). These changes were offset in part by higher premiums from repo transactions and positive results from securities and from a reduction of loan loss provisions. In turn, administrative expenses did not show significant changes if compared to 2021, keeping a considerable relative share in the income statement of the aggregate financial system (see Box 8).

Table 2 - Financial system profitability - In homogeneous currency

Annualized (a.) - In %a. of netted assets	IQ-21	IIQ-21	IIIQ-21	IVQ-21	IQ-22	IIQ-22*	2021**	2022**
Financial margin	**11.7**	**12.0**	**11.7**	**12.4**	**13.7**	**15.6**	**11.7**	**12.8**
Interest income	8.0	7.6	7.7	8.1	8.3	8.5	7.9	8.0
CER and CVS adjustments	1.7	1.6	1.1	1.2	1.4	1.9	1.4	1.4
Foreign exchange price adjustments	0.8	0.5	0.5	0.6	0.7	0.9	0.8	0.6
Gains on securities	8.8	9.3	9.0	8.7	12.7	16.5	8.8	10.5
Returns on repo	3.3	4.2	4.9	5.2	2.3	1.0	2.4	3.9
Interest expense	-10.9	-11.3	-11.5	-11.3	-11.9	-13.2	-9.5	-11.7
Other financial income	0.1	0.1	0.0	-0.1	0.2	-0.1	-0.2	0.0
Service income margin	**1.6**	**1.9**	**1.9**	**1.9**	**1.8**	**1.9**	**1.8**	**1.9**
Loan loss provisions	**-0.9**	**-1.4**	**-0.9**	**-0.7**	**-0.8**	**-0.9**	**-1.3**	**-0.9**
Operating costs	**-6.3**	**-6.4**	**-6.4**	**-6.5**	**-6.2**	**-6.6**	**-6.5**	**-6.4**
Net Monetary Position	**-4.0**	**-3.6**	**-3.2**	**-3.4**	**-5.8**	**-7.2**	**-2.8**	**-4.3**
Tax charges	**-1.6**	**-0.9**	**-1.6**	**-2.3**	**-1.6**	**-2.1**	**-1.6**	**-1.7**
Results	**0.5**	**1.6**	**1.5**	**1.4**	**1.0**	**0.7**	**1.2**	**1.4**
Other Comprehensive Income (OCI)	**-0.3**	**-0.3**	**-0.1**	**-0.1**	**0.0**	**0.4**	**0.5**	**-0.1**
Return on assets (ROA)	**0.2**	**1.4**	**1.4**	**1.3**	**1.0**	**1.1**	**1.7**	**1.3**
Return on equity (ROE)	**1.4**	**8.8**	**8.9**	**8.3**	**6.3**	**6.8**	**11.2**	**8.2**

In accordance with Com. "A" 7211, as from 2021 the adjustments related to the effect of price changes are fully reflected in the monetary results. The aforementioned adjustments had an impact on different income statement accounts in the 2020 quarters.
Source: BCRA

Box 8 / Productivity measures and scale of the financial system: a regional comparison

If compared to the financial systems of other countries of the region, the Argentine financial system exhibits similar levels in terms of both unit labor cost of employees —expenses in personnel per employee—[60] and some indicators of employment productivity —such as, for example, on the basis of the number of holders of active accounts per employee— (see Chart B.8.1, left panel). However, the value of these indicators as well as the levels of sectoral operating efficiency —such as the proxy in terms of the ratio between personnel expenses and stock of loans to the private sector[61]— are comparatively lower for the aggregate of domestic banks.

The differences in the levels of operating efficiency observed in the Argentine financial system would be largely showcasing the effect of a low relative scale in this sector —proxied in this case by the stock of loans to the private sector per account holder— (see Chart B.8.1, right panel).[62]

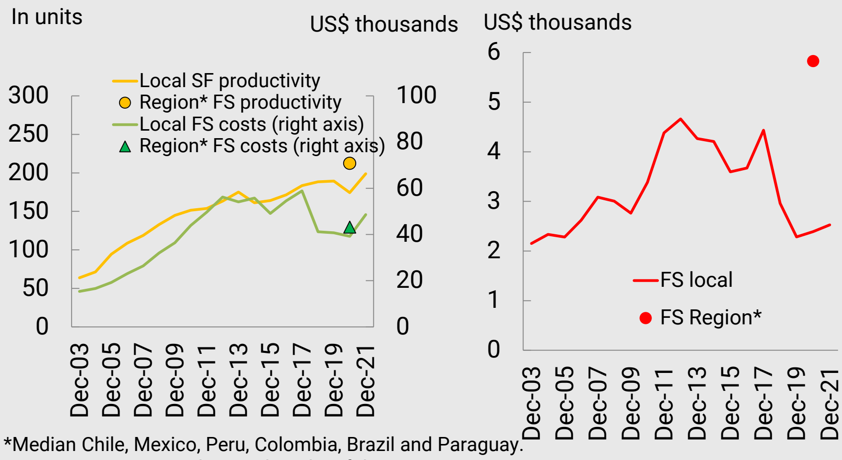
60 To make this comparison across countries, a conversion to US dollars is made using the official exchange rates of each country at current prices. If the currencies expressed as purchasing power parity are considered, the conclusions are not significantly different.
61 A similar conclusion is reached when considering total administrative expenses in terms of assets. Administrative expenses are made up by expenses in personnel (nearly 60% of the total at present, including remunerations, social security contributions and benefits) and the remaining portion (40% of the total that includes services and fees, amortization and other —electricity, stationery, rentals, etc.).
62 In this paragraph, the objective is to explain the differences of identity:

Consequently, the domestic financial system would have a considerable room to benefit from the expansion of its size, giving rise to economies of scale via credit growth (higher intensive and extensive use) that would result in potential benefits for the sector and for the economy at large. In this respect, the active credit promotion policy being developed by the BCRA in recent years (see Box 4) gains relevance, added to the gradual introduction of new technological tools and innovations in business models that would eventually help improve all sectoral indicators.

Chart B.8.1 | Indicators of scale and productivity of the financial systems
Yearly data – Domestic evolution and latest information available for the countries of the region * (2020)

Cost and productivity
Costs = Personnel expenses / employees
Productivity = Accounts / Employees

Scale
Loans / Accounts



*Median Chile, Mexico, Peru, Colombia, Brazil and Paraguay.
Source: BCRA, IMF and Central Banks of the respectives countries.

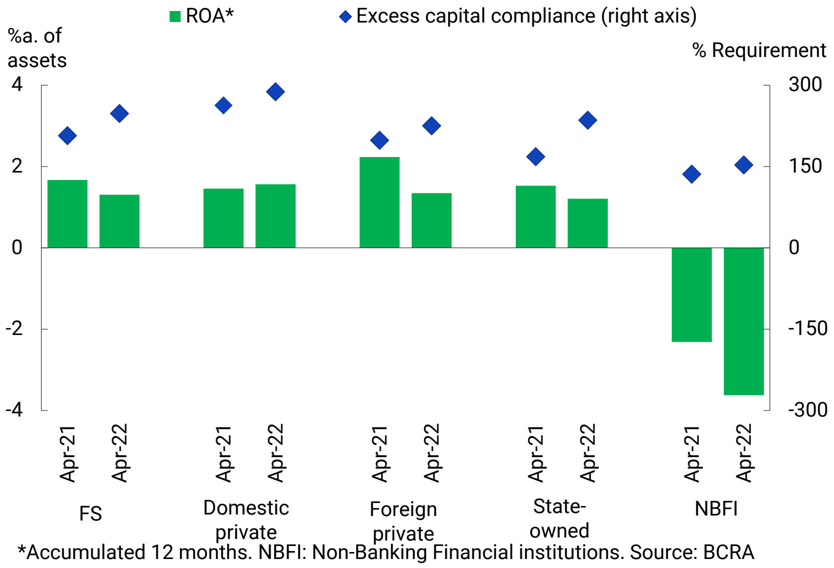
In the context of the rises of the monetary policy interest rates and of the remaining interest rates traded, it is estimated that in the first part of 2022 there were gradual increases in the nominal implicit interest rates for the segment in pesos.[63] Against 2021 year-end, the size of the changes in the implicit rates was similar in both lending rates (on loans to the private sector) and on borrowing rates (cost of funding for deposits), in such a way that the spread between such implicit rates did not post significant changes over the period. When estimating implicit interest rates in real terms (excluding the effect of inflation), the spread between both concepts narrowed over the period.

The profitability ratios continued to be somewhat dissimilar across financial institutions, even though it is worth mentioning that all these groups exhibited high (and increasing) solvency indicators (see Chart 17).

$$\frac{GP}{P} = \frac{GP/E}{C/E \times P/C}$$

Where GP = personnel expenses; E= employment; P= loans; C = accounts.
This means that operating efficiency (GP/P) depends on the unit cost of employment (GP/E), of productivity (C/E) and of the scale (P/C).
63 The nominal implicit interest rates coming from the main assets (loans to the private sector) and main liabilities (cost of funding for deposits, considering the regulations in force as to minimum cash requirement) in pesos have been considered. In turn, the accounting accrued flows of financial income and expenses have also been considered. In turn, concepts such as administrative expenses, tax expenditures, capital cost or other concepts associated with hedging for risks inherent in financial intermediation activities have been excluded. In this estimate, the implicit interest rates are built by accumulating the flows of the last two months, which are annualized.

Chart 17 | Profitability and solvency indicators
By group of financial entities



*Accumulated 12 months. NBFI: Non-Banking Financial institutions. Source: BCRA

Regulatory and supervision scheme in line with the international recommendations on this matter. In the framework of the supervision plan focused on risk, the Superintendency of Financial and Foreign Exchange Institutions (SEFyC) continues with its permanent monitoring of the financial institutions' performance. In particular, it should be noted that institutions defined as domestic systemically important banks (DSIBs) have kept high liquidity and solvency levels and limited exposure to risk over the period (see Section 4.1).

Credit policies intended for productive development. Throughout 2021 and so far in 2022, the BCRA has continued promoting several policies aimed at supporting the economic recovery process in a sustainable manner. By the end of the first quarter of 2022 and for the purpose of contributing to encourage the production of some economic sectors, the BCRA decided to extend the "Credit Line for Productive Investment of MSMEs" until late September 2022, and has kept favorable financial conditions for debtors.

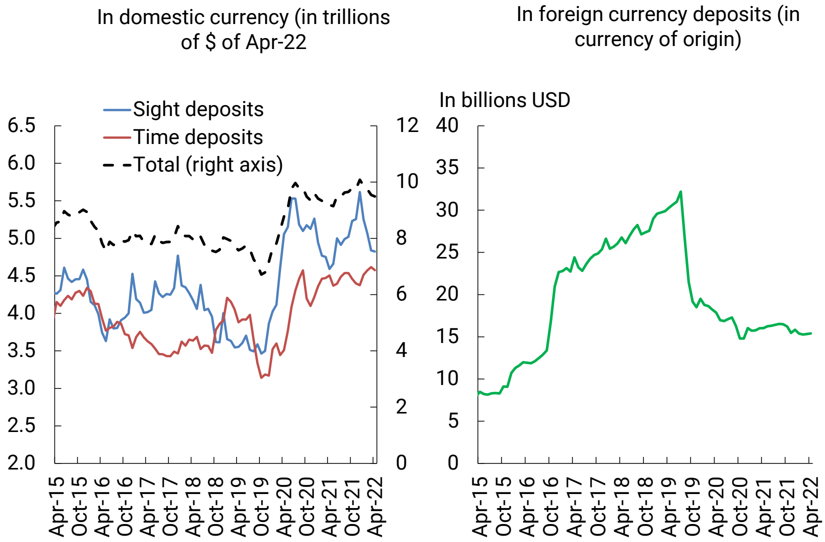
Limited foreign currency mismatch. In the context of the macroprudential regulations in force, the foreign currency mismatch faced by the aggregate financial system continued to stand at limited levels in early 2022 (see Section 2).

3.3. Financial System's Funding and Liquidity

As mentioned in the previous Section, the stock of private sector deposits in pesos in real terms went down slightly against the previous IEF (-1.7% in real terms, change explained by the evolution of sight accounts, see Chart 18). In turn, private sector time deposits in domestic currency increased over the period, mainly due to their performance so far in 2022 (see Box 9).

The improved momentum of this segment showcased the effect of the decision made by the BCRA to increase the minimum limits of the interest rates on time deposits on several occasions. In turn, private sector deposits in foreign currency went down against their level of September 2021 (in currency of origin).

Chart 18 | Private sector deposits
Financial system



Source: BCRA

Box 9 / Recent evolution of private sector time deposits denominated in UVA

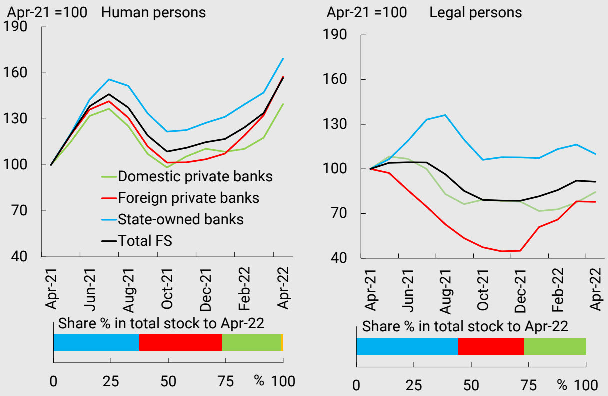
Since late 2021, there has been a remarkable growth of time deposits denominated in UVA, which offer positive returns in real terms to depositors. The stock of these deposits from the private sector increased 36.4% in real terms in the first four months of the year, standing at a level similar to that of mid-2021 and gaining share in total time deposits in pesos. In particular, the instruments with an early cancellation option[64] —accounting for 39% of the total— grew more in relative terms: increase of nearly 53% in real terms from December 2021 to April 2022 (72.4% y.o.y. in real terms). In turn, the stock of UVA-denominated traditional deposits —61% of the total—,[65] accumulated a rise of 27.6% in the last four months (14.7% y.o.y. in real terms).

The evolution of total UVA-denominated time deposits was mainly driven by natural persons, which account for nearly 72% of these deposits and explain 83% of their growth in the last four

64 UVA-denominated deposits in place since February 2020 (Communication "A" 6871) which, notwithstanding the fact that they have a 90-day minimum term, may be cancelled as from Day 30 and get a return. If the early cancellation option is exercised, the deposit accrues a nominal fixed rate for the term that has effectively elapsed. Such interest rate has been raised several times since late 2021, going from a nominal annual percentage rate of 30.5% (effective annual percentage rate of 35.2%) to a nominal annual percentage rate of 48% (effective annual percentage rate of 60.1%) by mid-June 2022, in line with the decision adopted for the minimum interest rates on traditional time deposits.
65 Deposits with a 90-day minimum term and without an early cancellation option. Upon the maturity of the deposit, the accrued interest is calculated and the capital is adjusted in terms of the UVA value in place at that moment.

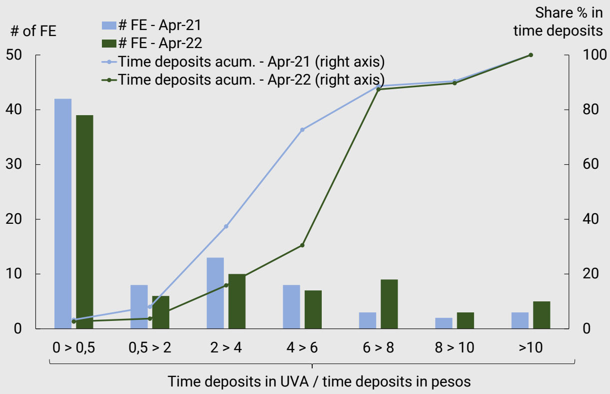
months (see Chart B.9.1).[66] Within the segment of natural persons, the deposits of this type received by state-owned financial institutions posted the highest relative momentum in recent months, followed by deposits of foreign private banks. In the case of legal persons, UVA-denominated deposits from foreign private institutions have recorded the highest relative growth since late 2021.

Chart B.9.1 | Estimate of the stock of the private sector UVA-denominated time deposits by holder
In real terms *



*Not seasonally adjusted. Includes only capital. Source: BCRA

Chart B.9.2 | UVA-denominated time deposits as % of time deposits in pesos– Distribution across financial institutions
Private sector



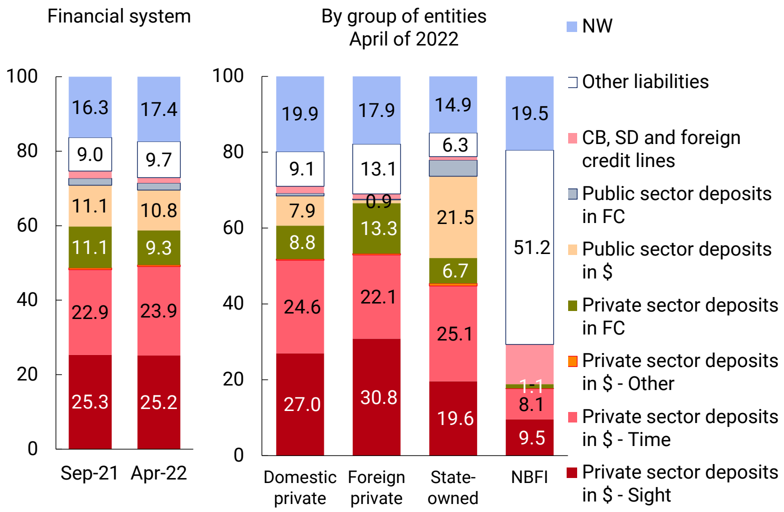
Source: BCRA

Due to their outstanding growth, UVA-denominated time deposits, in the case of both traditional instruments and deposits with early cancellation option, have accounted for nearly 6.4% of the total stock of private sector time deposits in pesos as of April, up 1.5 p.p. in year-on-year terms. This increase in their share was widespread across financial institutions (see Chart B.9.2).

Private sector deposits in domestic currency have continued to make the highest contribution to the financial system's funding (liabilities and equity), standing at 49.5% of the total. This level was slightly higher than the level observed in the previous IEF, and this momentum was driven by time deposits (23.9% of funding, +1 p.p. against September 2021, see Chart 19). In turn, the financial system's equity reached 17.4% of total funding as of April, up 1.1 p.p. against the level observed in the previous IEF. In addition, against late September 2021, there was a 1.9 p.p. decrease in the relative share of deposits in foreign currency from households and companies in total funding, to 9.3% at aggregate level.

66 Considering the amount segments, the stock of UVA-denominated deposits for ARS1million to ARS20 million posted the highest relative growth in recent months (and account for 37% of the total stock of UVA-denominated traditional time deposits as of March 2022), followed by deposits under ARS1 million (accounting for 22% of the total stock).

Chart 19 | Composition of funding
As % of total funding

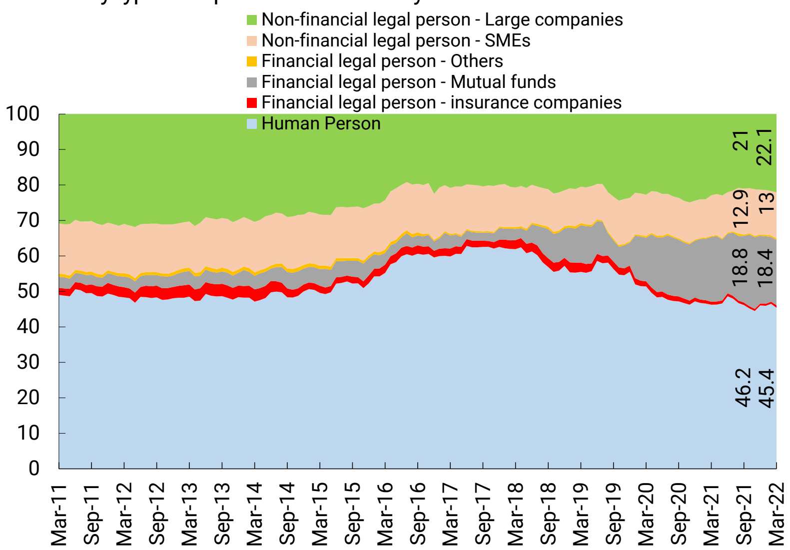


NBFI: Non-Banking Financial Institution. Source: BCRA

In order to identify any potential changes in the exposure taken by the institutions as to the liquidity risk, it is relevant to monitor some characteristics of aggregate bank funding, such as the profile of depositors and the relative maturity and degree of concentration of the main liabilities.

In the last six months, there have been no significant changes in terms of the composition of deposits by type of client (depositor's profile). In a context where most private sector deposits are associated with a retail profile (with some bias towards a better relative stability) —since the share of deposits from natural persons and SMEs stood at around 58.4%— there was a slight increase in the relative share of deposits from large companies (wholesale profile) over the period. In addition, the share of deposits arranged with institutional investors—with a wholesale

Chart 20 | Private sector deposits in domestic currency
Share % by type of depositor – Financial system

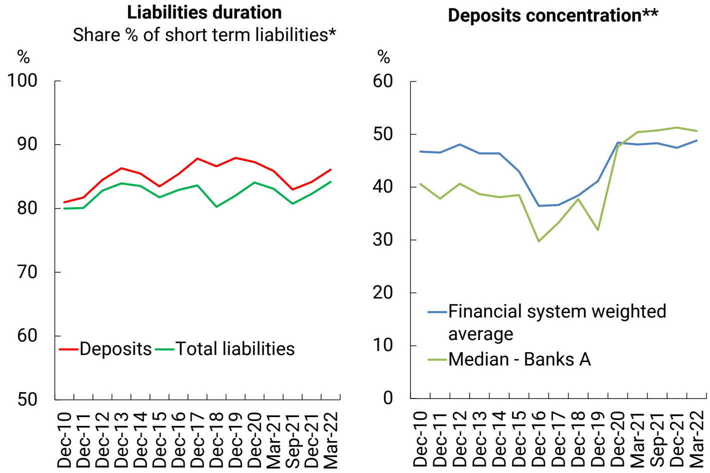


Source: BCRA

profile as well— such as Mutual Funds did not post significant changes against the previous IEF (see Chart 20), even though it stood at a higher level than the average of the last five years (18.4% vs. 10.8%). In the same respect, the relative share of the main depositors in each institution's funding (concentration of depositors at the level of each individual institution) did not post significant changes either against the previous IEF, even though it still stands at higher levels than those observed in the recent past (see Chart 21, right panel).

In terms of maturity and at aggregate level, the share of liabilities (all currencies and sectors) with a residual term shorter than one month increased slightly against the previous IEF, accounting for 86.1% and 84.2% for deposits and total funding respectively (see Chart 21, left panel), and these levels are consistent with the transactional bias of this sector. In the following months, the maturity of liabilities might change if the momentum observed in private sector time deposits in pesos were to continue.

Chart 21 | Ratios of exposure to liquidity risk
Financial System



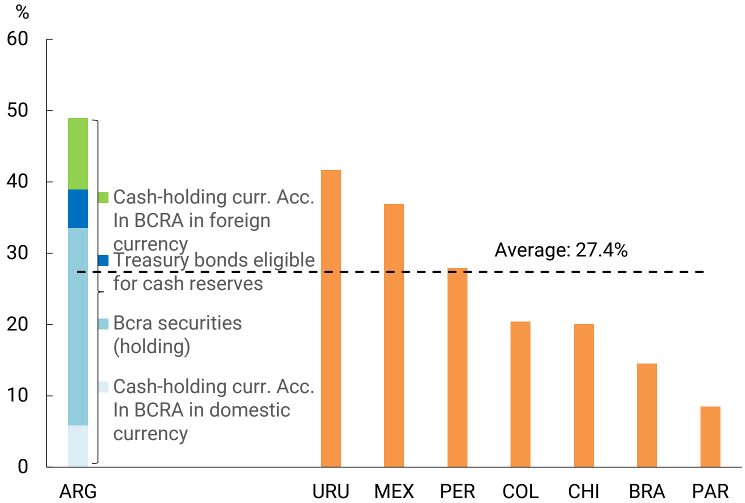
* Up to 1 month residual term. **160 principal depositors of each entity as % of total. Source: BCRA

In this context, given the recent evolution of the ratios of exposure to liquidity risk —with slight increases in some cases or levels standing above the average of recent years in other cases—, changes in the financial system's funding cannot be ruled out in a scenario of an eventual materialization of some of the risk factors described in Section 2.

3.3.1 Elements of Resilience and Mitigating Measures:

Sizable position in terms of liquidity at aggregate level. As mentioned in Section 2, the sector has kept high liquidity levels, quite above those observed in the last decade and in comparison to other financial systems of the region (see Chart 22).

Chart 22 | Liquid assets as % of total assets
International comparison – Latest infomation available *



*Argentina (Apr-22), Uruguay (Jun-21), Mexico (May-22), Peru (Sep-21), Colombia (Nov-21), Chile (Sep-21), Brazil (Sep-21), Paraguay (Sep-21). Source: IMF and BCRA

Regarding the liquidity ratios in place within the domestic regulatory framework on the basis of the standards recommended by the Basel Committee (Liquidity Coverage Ratio —LCR— and Net Stable Funding Ratio —NSFR—),[67] the ensemble of financial institutions have shown levels that virtually double the regulatory minimum values and, as detailed in Section 2, are standing at high values if compared to other economies of the region (see Chart 6). In particular, all the institutions subject to compliance with these ratios (Group A[68]) have exceeded the minimum requirement as of March 2022 (following an uninterrupted trend in recent years). [69] [70]

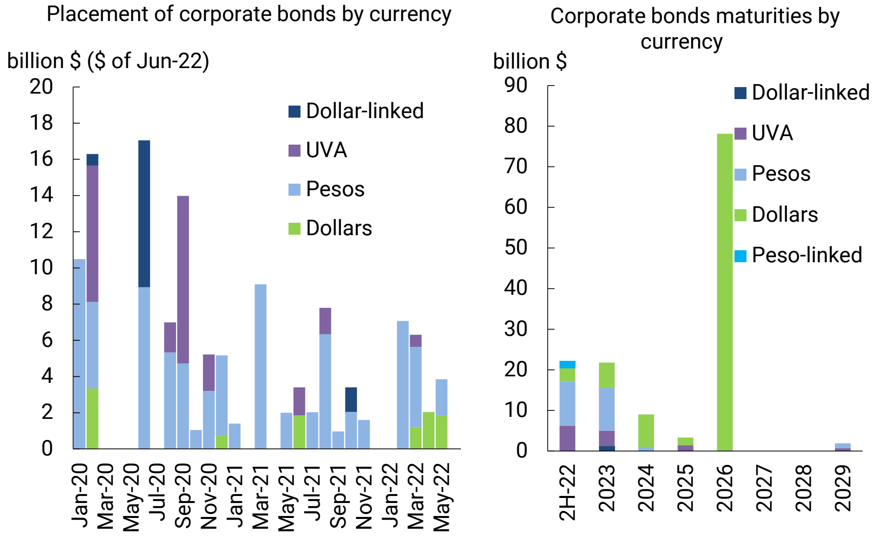
Limited changes in terms. It is estimated that the duration of assets, liabilities and their difference[71] for the aggregate financial system did not post significant changes against the previous IEF, showing the limited changes in terms for this sector. In line with deposits (sight accounts and time deposits) and their abovementioned maturity ratios, it is estimated that the duration of the total liabilities portfolio of the financial system has stood at limited levels over the

67 For further detail, see the Consolidated Text on Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR).
68 Group A consists of institutions of a larger relative size (1% or more of the sector's total assets). For further detail, see Communication "A" 7403.
69 At aggregate level, the LCR stood at a value of 2 by the end of the first quarter, down 0.2 against September and against March 2021. In real terms, the high-quality liquid assets (FALAC, numerator of the ratio) went down 6.2% in real terms against the previous IEF. In terms of the components of FALAC, there has been a higher share of national sovereign bonds to the detriment of institutions' deposits at the BCRA. In turn, the total net cash outflows (SENT, denominator of the ratio) of the sector went up 4.4% in real terms against the previous IEF. Within the SENT, and in line with the abovementioned performance in terms of depositors' profiles, the share of the unsecured wholesale funding increased slightly over the period, while deposits in foreign currency have lost share.
70 The NSFR level stood at around 1.9 for the banks belonging to Group A, similar to the value recorded 6 and 12 months ago. Regulatory capital was the stable funding available (ratio numerator) with the highest share in the last 6 months, to the detriment of sight accounts and time deposits with a residual maturity term shorter than one year. In turn, in terms of the components of the required stable funding (ratio denominator), in the last 6-month period up to March, unrestricted debt securities not under a default payment situation (which are not part of the Tier 1 assets) gained share, while unrestricted loans granted to the financial sector (with a maturity term shorter than 6 months) lost relative share over the period.
71 Estimate based on data from the Reporting Regime on minimum capitals (flows generating assets —income— and liabilities —expenses— in domestic currency resulting from financial intermediation activities, weighted according to the time frame to which they belong and which are not valued at market price).

period (a little over 2 months). In turn, the estimated duration of assets has also stood at limited values (slightly exceeding 3 months), due to the preeminence of short-term credit lines and debt instruments.[72]

Funding via the capital market continues to have a marginal weight for the financial system, with most maturities denominated in pesos for the next few months. The stock of outstanding Corporate Bonds accounted for 0.4% of the financial system's total funding as of April 2022 (1.1% for the subgroup of institutions having outstanding Corporate Bonds).[73] The maturities for the second half of 2022 (estimated as of June 2022) account for only 16% of the outstanding stock of Corporate Bonds of the financial system and they are mainly in domestic currency (77% of the payable flows are denominated in nominal pesos and in UVA), even though the stock of the financial system's Corporate Bonds is made up by a significant portion denominated in dollars (72%).[74] So far this year, nine financial institutions have issued Corporate Bonds in the domestic market, for a total amount equivalent to ARS17.5 billion (see Chart 23), in a period when there were Corporate Bonds' maturities for ARS38.8 billion (in both the domestic and the international markets).[75] In constant pesos, the amount of these issues was 21% higher than the amount observed in the same period of 2021.

Chart 23 | Corporate Bonds of the financial system



Note: includes local and international market placements. Excludes swap operations.
Source: BCRA based on CNV and BCBA.

72 Mainly, BCRA's monetary regulation instruments and national sovereign bonds.
73 For some specific institutions, this ratio shows less limited values. Out of a total of 79 institutions, only 17 had outstanding Corporate Bonds as of May 2022.
74 Including instruments issued in both domestic and international markets. The rest of the stock is mainly denominated in nominal pesos (17% of the total) or in UVA (9%).
75 So far this year, there have been no issues of Corporate Bonds from financial institutions in international markets. Likewise, there were no Corporate Bonds swaps related to financial institutions.

Lastly, **in early May 2022, the BCRA established that financial institutions can neither perform nor allow their clients to perform transactions with digital assets,**[76] including crypto-assets and assets whose yield is determined in terms of the changes they may post (see Exhibit 3). This measure is intended to mitigate the exposure to risks associated with these assets that might impact on both the users of the financial services and the financial system's funding.

4. Other Matters of the Financial System Stability

4.1 Domestic Systemically Important Banks (DSIBs)

From a macroprudential perspective and following the international guidelines on the matter, the BCRA established in due time a methodology to identify the domestic systemically important banks (DSIBs),[77] and has given these institutions a special prudential treatment that includes the requirement of an additional capital buffer (1% of risk-weighted assets —RWAs—, to be satisfied with the capital having the best capacity to absorb losses).

As of April, the weight of the group of institutions defined as domestic systemically important banks reached 50.4% in terms of assets, up 1 p.p. against the value recorded in the previous IEF. Starting from relatively high levels, there was an increase in the regular ratios of solvency for this group of institutions if compared to the ratios of last September —slightly lesser changes than those of the rest of the system. In turn, the capital conservation buffer to which all institutions are subject was fully satisfied, while the additional buffer to which systemic institutions are subject was also fully complied with. Profitability ratios for the aggregate of the last 12 months for the DSIBs group stood above the levels shown by the rest of the sector and they were higher than the ratios of the previous IEF, even though they were lower in a year-on-year comparison.

Regarding the liquidity ratios of this group of institutions and starting from relatively lower levels than the rest of the system, there was a slight increase in the broad ratio of DSIBs —in both items in domestic currency and in foreign currency— if compared to the ratio of the previous IEF (see Table 3). As of April and regarding credit risk, this group of institutions exhibited a slightly higher relative exposure to the private sector than the remaining institutions of the system (slightly above the record of the previous IEF), as well as higher delinquency levels in loans to the private sector than the remaining institutions (even though lower than the levels they had in the previous IEF) and a higher exposure to the public sector than the rest of the financial system (and if compared to the records of the previous IEF).

76 For further detail, see Press Release of May 5, 2022.
77 The criterion used to determine the systemic importance of an institution was based on its size, degree of interconnectedness, substitutability of its business and complexity. Any further detail about the methodology used may be consulted here.

Table 3 | Main ratios of DSIBs soundness

	Apr-21	Sep-21	Apr-22
Liquidity			
Broad liquidity (%)	57.9	61.4	61.6
In $	51.7	55.3	56.0
In US$	82.7	87.1	89.7
Liquidity Coverage Ratio (1)	2.1	2.2	2.0
Net Stable Funding Ratio (1)	1.8	1.8	1.7
Solvency			
Regulatory capital / RWA (%)	24.7	26.0	27.0
Regulatory capital / Loans net of provisions (%)	44.3	46.5	47.3
Excess regulatory capital / Loans net of provisions (%)	30.1	32.3	33.6
Leverage ratio (1)	13.1	13.5	14.1
Profitability			
ROE in homogeneous currency (%a.) (2)	13.7	8.1	11.6
Private sector credit			
Exposure / Assets (%)	33.7	33.3	33.7
Non-performing loan ratio (%)	4.2	5.2	4.0
Provisions / Loans to the private sector (%)	6.1	5.9	4.8
Public sector credit			
Exposure / Assets (%) (3)	16.5	17.6	19.2
Foreign currency position			
(Assets - Liabilities + Net undelivered purchases in foreign currency)	16.6	14.8	18.8

(1) The Apr-22 column includes the latest available information, which corresponds to Mar-22 for these indicators. Consequently, in order to make the y.o.y. comparison, the columns for Apr-21 include data for Mar-21. (2) 12-month accumulated. (3) Position in government securities (excluding BCRA securities) + Loans to the public sector.

RWA: Risk weighted assets, IRR: irregular

Source: BCRA

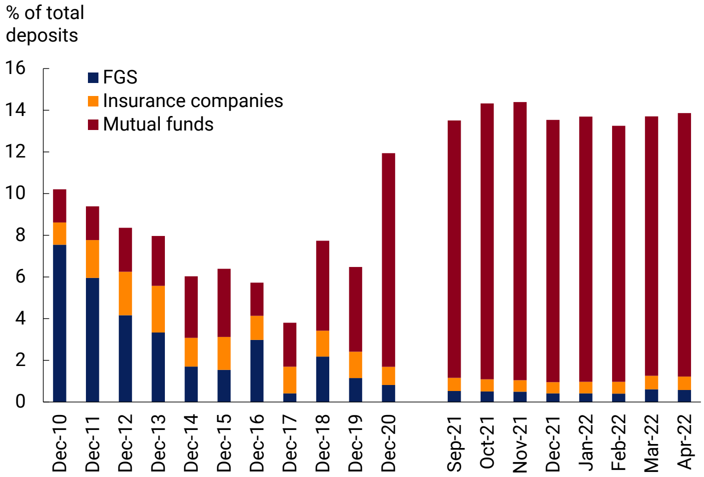
4.2 Interconnectedness in the Financial System

As to the analysis of interconnectedness of institutional investors[78] with the financial system (group of institutions regulated by the BCRA), institutional investors' deposits and term investments have continued to be the main source of direct interconnectedness. In recent months, there has been a slight increase in the share of these deposits to 13.9% of the total as of April 2022 (see Chart 24). This performance was observed in the three main institutional investors in line with a rise in the value of their managed portfolios. Keeping things in perspective, the current share of deposits from institutional investors in the financial system's total is standing nearly 6 p.p. above the average of the last 10 years, and a higher weight of Mutual Funds is currently observed, especially in the case of Money Market Mutual Funds (movement observed as from the mid-2010s).[79]

78 In terms of the volume of managed assets, the most important institutional investor at domestic level continues to be the Guarantee Sustainability Fund, followed by the industry of Mutual Funds and by insurance companies. However, it should be underscored that there are differences in terms of the valuation of some assets such as sovereign bonds, which account for the largest part of the portfolio taking the aggregate portfolio of each one of three abovementioned institutional investors.

79 See Exhibit 5 of IEF I-21.

Chart 24 | Share of deposits from institutional investors in the financial system's funding

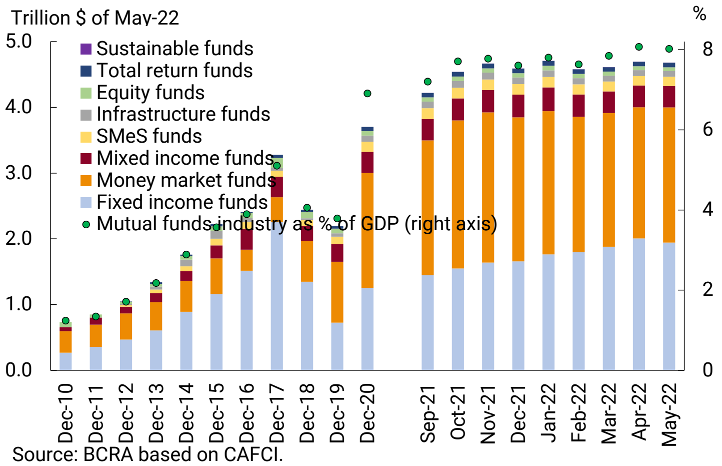


Note: for mutual funds and insurance companies, deposits data published by BCRA are used. For FGS deposit data are quarterly (they are repeated for following months). Source: BCRA and FGS.

In the specific case of Mutual Funds (*Fondos comunes de inversión —FCIs*), the increase in deposits in year-to-date terms is in line with the increase in the net worth of their managed portfolio, which went up 2% in real terms as of May. Unlike what was being observed in recent years, there was a remarkable increase in the Fixed Income Mutual Funds, up 17% in real terms, while Money Market Mutual Funds lost 6% in real terms over the same period. Fixed Income Mutual Funds (with lower interconnectedness with the financial system) currently account for 42% of the industry's total portfolio, after the Money Market Mutual Funds with a share of 44% (see Chart 25).[80] Considering the new underwritings net of redemptions until late May, which accounted for nearly 40% of the net worth change of the ensemble of Mutual Funds (while the rest results from investments), over 90% of underwritings were made in fixed income funds, while Money Market funds recorded net outflows.[81] In particular, it is worth underlining that 75% of the new flows towards Fixed Income Mutual Funds were intended to Mutual Funds investing in sovereign bonds with CER adjustment, in line with the financing strategy of the national public sector and with the demand for assets offering this hedging.[82]

80 In December 2021, these shares were standing at 36% and 48%, respectively.
81 The prices of fixed income instruments posted drops in May and showed an increasing volatility which resulted in a withdrawal of funds from this industry over the month. The same performance continued in June. Looking into the future, the BCRA will continue operating on the curve to ensure the liquidity of Treasury instruments and the maintenance of their prices (just as it did in June), and will implement a liquidity line, exclusively intended for Mutual Funds, for the Treasury debt securities.
82 Considering the Fixed Income Mutual Funds portfolio, holdings of the Federal Government's debt adjusted by CER increased to 54% of the total in May 2022 while, as reference, they amounted to 4% as of December 2019. Unlike the Money Market Mutual Funds, time transactions and liquid assets (mostly deposits in the financial system) accounted for only 5.2% of the total portfolio of Fixed Income Mutual Funds as of May 2022.

Chart 25 | Evolution of the Mutual Funds industry by type of fund



Source: BCRA based on CAFCI.

In turn, the direct interconnectedness within the financial system may be analyzed via the unsecured inter-financial loans market (call money). Even though it is a relatively small market,[83] it provides relevant information since it is used by financial institutions for liquidity management. In this respect, there has been an increase in recent months of the amounts traded per month on average (even though the amounts continue to be relatively low in historical terms), while the rates arranged were in line with the rise in the reference rates (such as the monetary policy rate and the BADLAR rate). In this context, based on the estimated ratios calculated using the network analysis methodology, a higher direct interconnectedness has been observed in general terms if compared to the previous period and also in year-on-year terms.[84] That notwithstanding, in most cases, the ratios are showing lower interconnectedness levels than the average values of the last 10 years.

5. Main Macroprudential Policy Measures

Since the publication of the previous IEF, the BCRA has continued to gauge its prudential policy in a context where the economic reactivation and growth observed in 2021 started to consolidate, largely due to the ongoing regularization of social mobility (see Section 1).

In this context, the prudential policy of the BCRA sought to:

i. Strengthen financing to households and companies —with a special focus on the development of micro, small and medium-sized enterprises (MSMEs)—, without losing sight of the increasing challenges posed by the global scenario of higher financial and geopolitical tensions (see Section

83 The average amount traded per day is equivalent to less than 1% of the private sector stock of deposits.
84 From the second half of 2021 to late May 2022, the number of nodes increased from 57 to 62 (in terms of the financial institutions participating in the market). The higher interconnectedness is observed in indicators such as the simplified average degree, diameter, shortest path and reciprocity relative to the previous period and in year-on-year terms. For the definition of these concepts and the main terminology used for the network analysis, see Exhibit 3 of IEF II-18 and Section 4 of IEF I-19.

1). Thus, as of March 2022, it launched a new edition of the “Credit Line for Productive Investment of MSMEs” (2022 Quota), with moderate adjustments on nominal interest rates because of the changes introduced to its monetary policy. On the other hand, given the still relatively-weak performance of the financial intermediation activities, the BCRA decided to widen the limit of lending available to large exporting companies, while it kept the required level of the Countercyclical Capital Buffer unchanged and at zero (0%) for the institutions.

ii. Reinvigorate time saving in pesos in the financial system by implementing adjustments to the minimum interest rates on deposits in line with the evolution of the monetary policy rates, while creating new incentives for time deposits for people involved in the agricultural activity. In addition, the BCRA ordered that neither the institutions nor their clients can make transactions with digital assets —including crypto-assets— (see Exhibit 3), for the purpose of mitigating the risks to which users may be exposed and simultaneously lessening the potential vulnerabilities that might adversely affect banks’ funding from deposits.

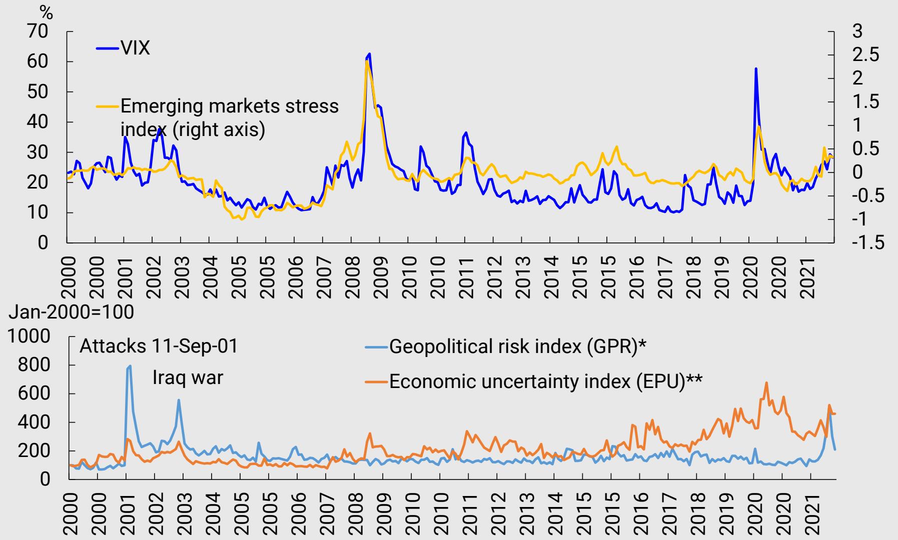
iii. Keep adequate capital levels in the financial system: the possibility of dividend distribution by financial institutions was suspended in 2020 and 2021, but this situation has tended to go back to normal gradually in early 2022. This has helped support the economic activity recovery process after the pandemic shock, without neglecting the capacity of the financial system to face potentially adverse contexts such as those described in Section 3.1, with an eventual impact on households and companies.

iv. Help mitigate the financial situation of companies, with a special focus on enterprises still suffering the impact of the shock occurred in recent years.

v. Adjust the foreign exchange regulations and the standards applicable to financial institutions so that the BCRA can make a more efficient use of international reserves, and consequently reduce the likelihood of potential temporary imbalances in the exchange market.

Exhibit 1 / Conflict between Russia and Ukraine and Challenges for the Global Financial Stability

Chart E.1.1 | Volatility in international markets



* It measures the level of risks and adverse geopolitical events based on journalistic publications. ** It measures the level of uncertainty in economic policy based on journalistic publications.

From a strictly financial standpoint, the escalation of the Russia-Ukraine armed conflict not only directly affected the prices related to these two economies (and the assets in the region),[85] but also resulted in a higher volatility context globally. Added to an increased geopolitical risk and higher economic uncertainty,[86] there was also a rise in the expected volatility (see Chart E.1.1). The VIX market volatility index (volatility expected for US shares) went from an average below 20% in 2021 up to levels above 30% in the first two weeks of March.[87] A similar performance was observed in the financial stress index of emerging markets prepared by the US Department of the Treasury.[88]

The volatile behavior was specifically remarkable across commodity prices. Products such as oil and gas exhibited relative peaks in their prices in March and a subsequent partial correction, by incorporating factors which could be interpreted as expectations of a relatively short conflict. A similar trend was observed for some food (grains) and for some metals (such as nickel, copper and aluminum). However, later on, commodity prices resumed their upward trend, as the conflict was taking longer (with new sanctions imposed on Russia). The increasing commodity prices

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85 In currency markets, the Russian ruble went from a value close to RUB76 = USD1 in the first fortnight of February up to a value close to RUB140= USD1 in early March, even though it later recovered the value lost, by virtue of the different measures adopted by Russia. In the case of the Ukrainian currency, the central bank of that country established a fixed parity against the US dollar as from the onset of the armed conflict. The EMBI spreads for the Russian and Ukrainian debt jumped to levels, on average, close to 3500-3700 basis points (bp) in March (the liquidity of these instruments would be much more limited). For further information on the impact of the conflict on the real economy, see the latest issues of the Monetary Policy Report.

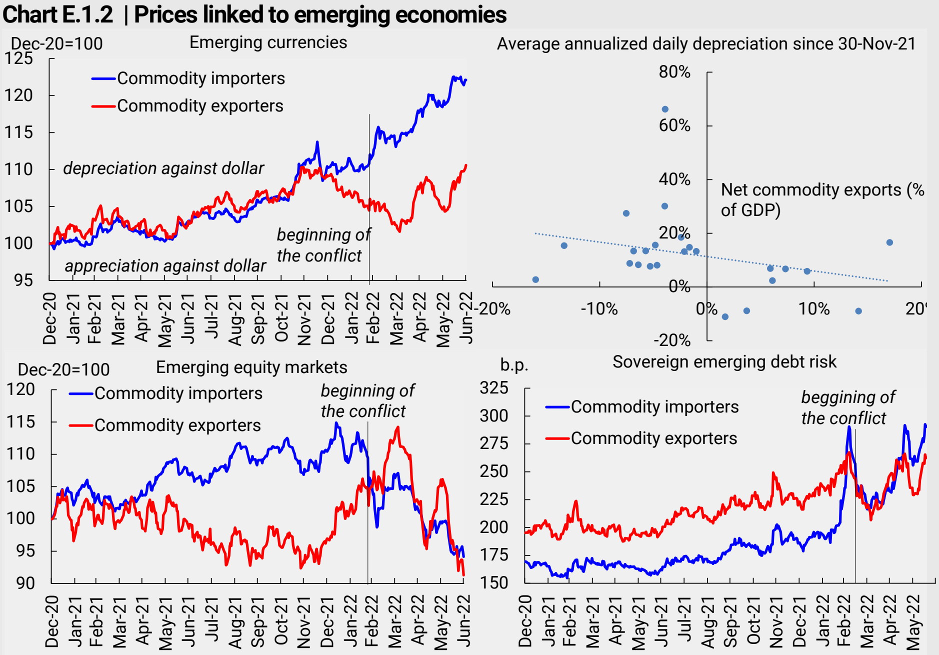
86 The Geopolitical Risk (GPR) index prepared by the US Federal Reserve in March-April jumped to values not observed since the Iraq War (2003) and the September 11 Attack (2001). The Economic Policy Uncertainly (EPU) index grew markedly in March 2022, even though it is still standing at levels below the values recorded upon the COVID shock.

87 Levels not recorded since early 2021(episode related to actions by retail traders grouped in Reddit forums), but well below the levels observed in March 2020 (initial reaction upon the pandemic shock).

88 Index built on the basis of 6 variables: EMBI Global spread, CEMBI spread, emerging currencies implied volatilities, price-to-book value ratio of the MSCI emerging markets index, oil implied volatility and gold price.

intensified the previous concerns about inflationary pressures globally, which accelerated the upward trend of monetary policy interest rates —and confirmed the expectations about more restrictive measures— in both advanced and emerging economies. These developments (impacting on the economic activity) are behind the impairment of financial markets worldwide which has been recently observed (May-June). The markets of derivatives linked to commodities started to be more closely followed, since the increasingly unpredictable behavior of prices triggered the risk of spillover effects because of the evolution of margin requirements or due to losses related to speculative positions. For the time being, these markets have been operating mostly on an orderly basis.

Chart E.1.2 | Prices linked to emerging economies



Source: BCRA based on Bloomberg and UN.

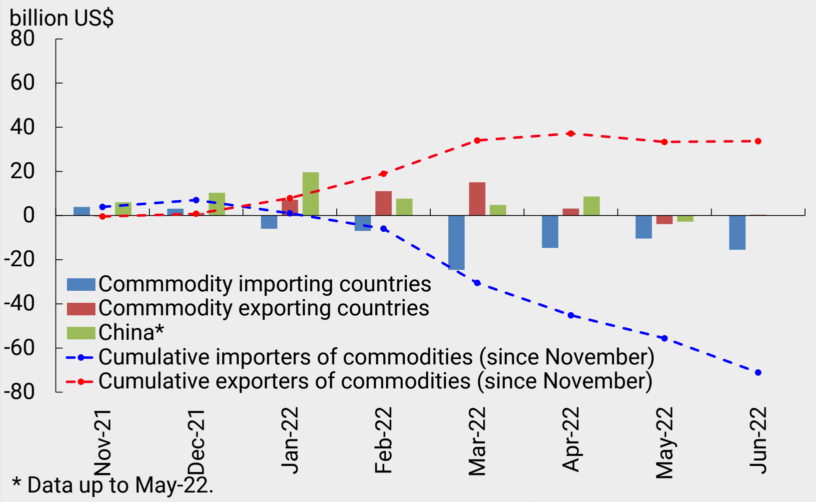
The context of higher volatility, remarkable rises in the prices of some commodities and increasing interest rates reinforced the trend which was already being observed towards an appreciation of the US dollar against the other currencies of developed economies and towards a rise in yields of US Treasuries.[89] So far, no evidence has been observed either of a search for widespread and global liquidity for precautionary purposes —as it was seen in early 2020 upon the COVID-19 outbreak— or of any disruptive activity among investors. In turn, a decrease has been observed in the demand for higher relative risk assets (though not necessarily as a direct effect of the conflict in Ukraine), with some differences in the performance by region (such as the clearer impairment among European stock exchanges last March).

89 The United Kingdom and Germany also recorded rises in the yields of short- and long-term sovereign bonds, added to the rises in monetary policy interest rates (Bank of England) or expectations of the commencement of an upward cycle (ECB) in the very short run.

In the case of emerging markets' assets, the currencies and stock exchanges were affected by downward pressures until mid-March in the context of the armed conflict and then, since April, by a context focused on stagflation expectations in developed economies. In turn, debt spreads widened and added up to the increases in the yields of US Treasuries. A significantly dissimilar behavior was observed across countries. For example, the shares and currencies of commodity-exporting economies[90] posted a better performance in March than that of commodity-importing economies (see Chart E.1.2).[91] In the case of flows to funds specializing in emerging markets, a dissimilar performance was also recorded between commodity-exporting and commodity-importing countries (see Chart E.1.3).

The armed conflict between Russia and Ukraine is an event still in progress which continues to be a source of uncertainty. It is not possible to rule out the possibility that this conflict may suddenly trigger a challenging scenario in international markets, given the existence of several vulnerabilities at global level that might end up interacting one against the other to intensify any episodes of tension.

Chart E.1.3 | Flows to funds specializing in equities of EMEs



* Data up to May-22.
Source: BCRA based on J.P. Morgan (based on EPFR).

Against this backdrop, the conflict as well as its impact on financial markets and any potential transmission channels continue to be closely followed up. A more severe confrontation, the expectations of a more aggressive restrictive bias in monetary policies of developed economies or disorderly activity in the markets of commodity derivatives (impacting on the demand for liquidity), might significantly affect risk appetite among investors, thus affecting the assets of emerging economies. In turn, given the sanctions imposed on Russia, there could be difficulties for the repayment of liabilities either directly or indirectly related to such country, with a possible direct impact among highly-exposed agents, an assessment of the counterparty risk of other

90 In this Exhibit, a commodity-exporting /commodity-importing country refers to countries which, based on statistics published by the United Nations, are net exporters / importers of this type of products.
91 While the currencies of commodity-importing countries depreciated up to 4%, on average, following the onset of the conflict, the currencies of exporting countries appreciated up to 3%.

related economies and even more widespread effects on the emerging markets debt.[92] Other factors worth mentioning are the impact of higher volatility in the crypto-assets market or the risk of more extended cyber-attacks affecting the regular operation of markets.

92 Given the sanctions in force, in June, Russia failed to make the payment of matured bonds in US dollars. In late March, the Russian sovereign and corporate debt was excluded from indexes prepared by J.P. Morgan (EMBI+, CEMBI), whereas the MSCI index excluded Russia from the "emerging" category (placing such country in the "standalone" category). So far, these changes have not resulted in disruptive situations due to the portfolio rebalancing. In a context of low liquidity, the unwinding of positions would take place gradually.

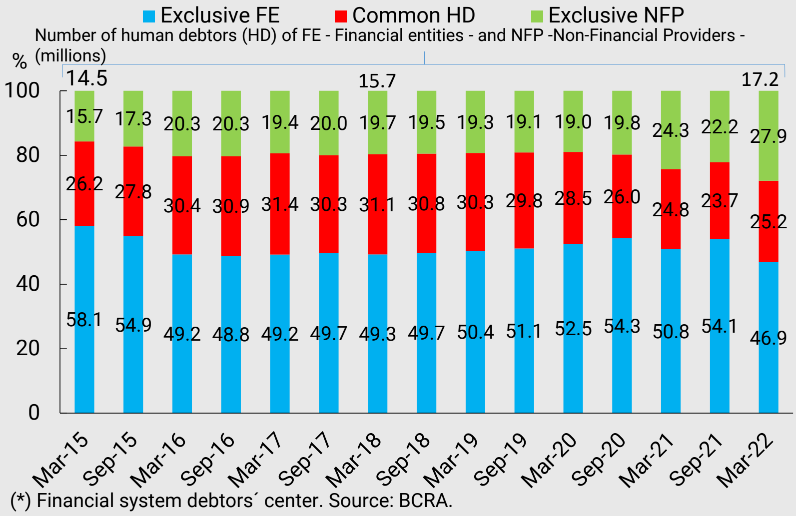
Exhibit 2 / Credit Risk Assumed by Financial Institutions due to their Exposure to Natural Person Debtors in Common with Non-Financial Credit Providers[93]

As stated in Exhibit 4 of the Financial Stability Report of the first half of 2021 (IEF I-2021), from the perspective of macroprudential monitoring, in particular from the standpoint of the analysis of vulnerability sources for the ensemble of financial institutions (EFs), it is relevant to analyze the interconnectedness channels between those institutions and other groups of economic agents, such as the non-financial credit providers (PNFs). In recent years, a decrease has been observed in the exposure of EFs to credit risk via the interconnectedness between "natural person debtors in common (PHDCs)" with PNFs. The stock of credit in real terms per natural person debtor of the PHDCs group (in EFs and in PNFs) has gone down in recent years, and this performance is similar to the one recorded by the rest of natural person debtors in EFs (exclusively). Nevertheless, the stock of debt per natural person debtor of the PHDCs is substantially higher than the stock of natural person debtors that are exclusive debtors of the EFs. This occurs in a context where the non-performance of the former is relatively higher, added to the fact that the share of debt taken with PNFs has gradually increased. Based on a sensitivity analysis (hypothetical, extreme and rather unlikely exercise) assuming an eventual credit impairment of PHDCs in EFs that would increase the level of delinquency up to the level recorded with PNFs, no significant impact would be generated on the solvency of the financial system as a whole, thus proving a relatively high degree of resilience.[94]

Upon the end of the first quarter of 2022, the ensemble of financial institutions (EFs) and the non-financial credit providers (PNFs) as a whole granted credits to more than 17 million natural person debtors —PHDs—, a number which has been growing in recent years (see Chart E.2.1), with some changes in its composition. While natural person debtors in common (PHDCs) accounted for around 25.2% of the total as of March 2022 (4.3 million) and the other 74.8% (12.9 million) were exclusive debtors of EFs or of PNFs —PHDEs—, four years ago natural person debtors in common accounted for 31.1% of the total, 5.9 additional percentage points. Moreover, the credit exposure of the EFs to the PHDCs was equal to 33.8% of the stock of lending to natural persons (PHs) as of March 2022,[95] 2.1 p.p. above the record in March 2021 and 5 p.p. below the record of March 2018.[96] Thus, in recent years, the interconnectedness between EFs and PNFs through this channel has gone down, and this is an indication of a lesser gross exposure of EFs to the potential vulnerability associated with PHDCs.

93 For the definition, see the Consolidated Text on Non-Financial Credit Providers and the Report on Other Credit Providers.
94 For further information, see the Report on Other Non-Financial Credit Providers, December 2021.
95 It is worth considering that there is certain dispersion in terms of this indicator for EFs. Specifically, when ordering EFs according to such indicator as of March 2022, the first and third quartiles of the distribution stood at 32.1% and 60.6%, respectively.
96 Consequently, the share of exclusive debtors went up in this period.

Chart E.2.1 | Natural person debtors (PHDs) in CENDEU (*) – In % of the total



(*) Financial system debtors´ center. Source: BCRA.

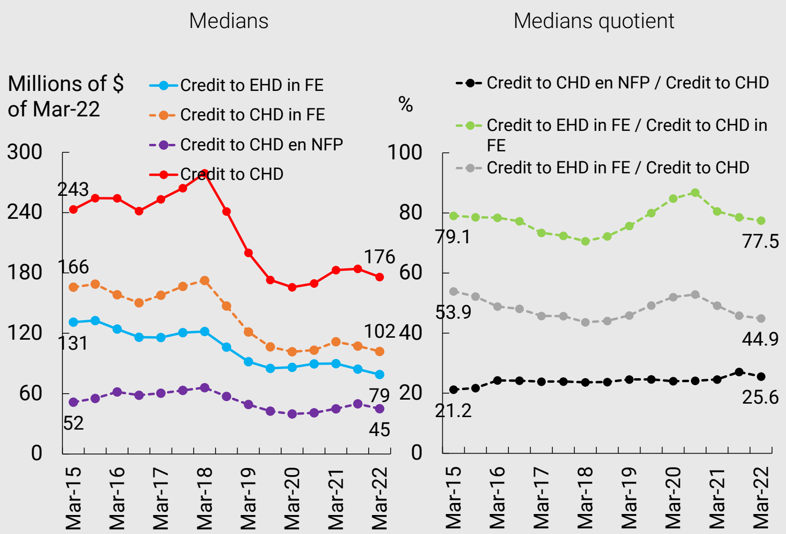
To supplement the oversight of the number of PHDCs and of the financial system's exposure, it is relevant to follow up the stock of debt per capita of PHDCs to check if there are any excess levels of indebtedness that might be related to a search for additional sources of financing. Hence, in recent years, it was observed that the stock of debt per capita of PHDCs in financial institutions was much higher than the stock of debt of those who are exclusive debtors of EFs —even though both stocks contracted in real terms at a similar rate—, in a context in which the relative share of PHDCs' debt in PNFs has increased. As of March 2022, the median of the stock of debt per capita of PHDCs was ARS176,000 (in EFs and in PNFs), whereas this value was ARS79,000 for natural persons that are exclusive debtors of EFs. The current ratio between these medians is standing at a level similar to that recorded four years ago, since both stocks of debt per capita have contracted more than 30% in real terms in this period. In turn, specifically in the case of natural person debtors in common, there was some increase in the quotient between the median of credit per capita in PNFs relative to the median of the total stock per capita to PHDCs (25.6% in March, see Chart E.2.2). This means that PHDCs are gradually taking a greater portion of their financing with PNFs.[97]

When considering the risk materialization indicators in the ensemble of financial institutions (EFs), it is observed that the non-performing ratio of the natural person debtors in common (PHDCs) in EFs (5.9%) is higher than the ratio of credit to natural person exclusive debtors (PHDEs) of EFs (2.6%) (see Chart E.2.3). The relative difference between these two ratios (2.3 times) is currently standing at levels similar to those observed prior to the pandemic (2.1 times in March 2018), even though it expanded against the level recorded seven years ago (1.4 times). In addition, it is verified that the non-performing ratio of PHDCs in PNFs (10.4%) is higher than the

97 It is worth stating this does not mean that PHDCs take 25.6% of their financing with non-financial credit providers (PNFs). The calculation with medians is appropriate to account for what is found when breaking down figures of the populations not influenced by significant extreme values (values with a higher impact in the case of averages). If we consider averages, PHDCs take 25.1% of their financing with PNFs, up 3 p.p. against the value recorded four years ago. Finally, it should be stated that the information available at the Debtors' Database of the BCRA does not necessarily reflect the full universe of PNFs. This situation depends upon reporting requirements present in the regulations currently in force.

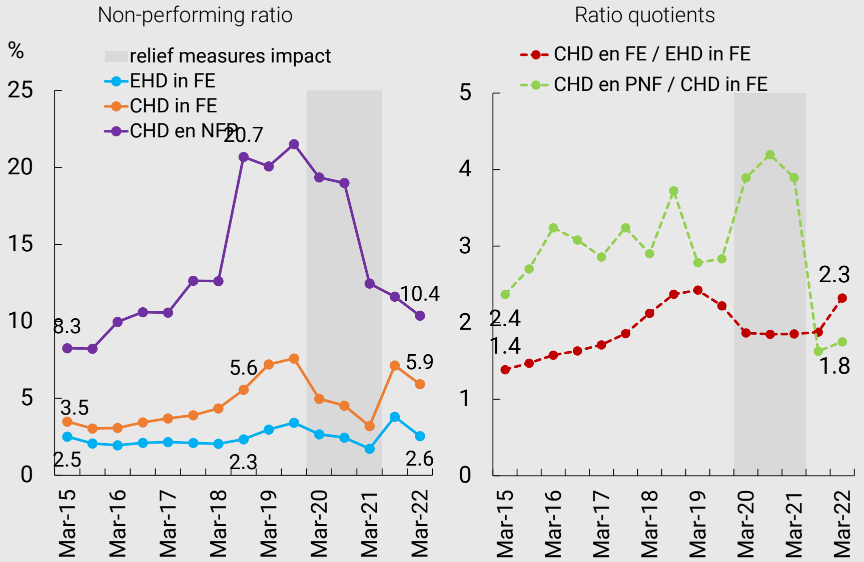
ratio for this ensemble of debtors in EFs (5.9%), even though the relative difference between both ratios contracted in the past year (it is 1.8 times at present, whereas it was 2.9 times four years ago).

Chart E.2.2 | Medians of the stock of credit per capita to natural person debtors



FE: financial entities. NCP: non-financial credit providers. EHD: exclusive human debtors. CHD: common human debtors. Fuente: BCRA.

Chart E.2.3 | Non-performing ratios of credit to natural person debtors (PHDs) and ratio quotients



Source: BCRA.

From the preceding analysis of exposure (moderate and decreasing) of the ensemble of financial institutions (EFs) to natural person debtors in common (PHDCs), of the credit per capita (also decreasing, with a certain indication of increase in the share of PHDCs' indebtedness in non-financial credit providers (PNFs)), of materialization of credit risk of PHDCs in EFs (with slightly increasing levels and relatively higher non-performance vis-à-vis natural person exclusive debtors (PHDEs)), jointly with the hedges created by the sector and their recent evolution (see Chapter 2 of the IEF), we may derive that the financial system keeps its typical resilience upon this type of potential vulnerability. To illustrate and supplement this last concept, a sensitivity test may be run (hypothetical, extreme and rather unlikely) intended to measure the magnitude of any eventual shocks on PHDCs and to assess the relative share of hedges available to the EFs. For example, if: (i) we assume the migration to non-payment of the stock of credit of PHDCs performing with EFs, but non-performing with other EFs and/or with PNFs;[98] and (ii) we consider that the provisioning for this portion of the portfolio is at present only 1% in the relevant EFs (because of the "performing" condition with EFs); then the impact would only be 4% of the aggregate regulatory capital.

In the framework of macroprudential monitoring, the BCRA will continue analyzing these and other groups of debtors (as well as the sources for interconnectedness between economic and financial agents) as long as it may consider that the analysis may contribute to a better assessment of vulnerability sources for the financial system.

98 This condition is satisfied by 12% of PHDCs, with a performing stock of loans with EFs equal to 11% of the aggregate of PHDCs with EFs.

Exhibit 3 / Crypto-assets: Some Recent Developments and Main Implications

Technological advances jointly with the change in users' preferences have led the participants of the financial sector to operate in a dynamic environment. The most relevant recent developments include crypto-assets, which entail potential benefits and risks.[99] Facing this scenario, regulators have tended to focus their efforts on strengthening the oversight tools, as well as to warn the public about the risks involved in operating with them. Crypto-asset markets have quickly evolved in the recent past in terms of their level of capitalization (see Chart E.3.1, panel A). However, according to the latest assessment of risks by the Financial Stability Board (FSB),[100] in spite of their recent evolution, crypto-assets still account for a small portion of total assets of the global financial system (approximately 1%). In addition, direct connectedness between crypto-assets and financial institutions are still limited —even though they are growing—, and volatility episodes have not expanded to traditional financial infrastructures and markets. The use of crypto-assets is not widespread for critical financial services, including payments.[101] Some recent stress episodes seem to reinforce these key messages.[102]

Nowadays, there is no universally accepted classification of crypto-assets. Nevertheless, an increasing consensus is observed at the level of certain jurisdictions and standard-setting bodies (SSBs) as to the application of a functional approach, considering crypto-assets as instruments that may be used for payment purposes, for investment purposes or for an exclusive access to a digital service or platform. Recent development suggest a supplementary classification which differentiates first-generation crypto-assets, i.e. instruments without an intrinsic value or a centralized institution backing their issue and circulation (known as "un-backed crypto-assets", for example, bitcoin), from crypto-assets which, even without intrinsic value, count on some explicit stabilization mechanism aimed at keeping their value vis-à-vis other assets, usually known as "stablecoins".[103] As a result, a crypto-asset is usually characterized as a digital representation of value that is private in nature,[104] and this value depends upon the market demand and supply. On the supply side, its value is associated with the use of cryptography and Distributed Ledger Technology (DLT) and, on the demand side, its value is associated with the holders' beliefs that such crypto-assets are to perform traditional financial functions in the future.[105]

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99 For further detail on the Distributed Ledger Technology (DLT) associated with crypto-assets, see, for example, Exhibit 1 "Cryptoassets: Technological Innovation and Financial Stability" of the IEF II-18.
100 FSB (2022a), "Assessment of Risks to Financial Stability from Crypto-assets".
101 However, there is a sizable difficulty to assess the turning points given the fast evolution of these markets and the existing data gaps, which make it hard to assess the scope of use of crypto-assets in the financial system, thus limiting the assessment of risks by the authorities.
102 The prices of crypto-assets contracted dramatically during May 2022, causing the global size of the ecosystem to stand at a level similar to that of February 2021. The mass sale was related to events observed upon breaking down the ecosystem, in particular, the collapse of TerraUSD/Luna, the largest stablecoin based on algorithms. For further detail on the structural vulnerabilities of the crypto-asset ecosystem, see, for example, BIS (2022), "Annual Economic Report 2022".
103 In view of the recent tensions, the stabilization mechanisms applicable to these instruments have revealed severe limitations. For further information on stablecoins, see BCRA (2019), "Financial Stability Report", Second Half.
104 Crypto-assets should not be confused with the central banks' digital money. In this respect, see Katz (2022), "*¿Qué es el Dinero Digital de Bancos Centrales (CBDC)? Una introducción a sus principales características, oportunidades y riesgos potenciales*".
105 In the case of crypto-assets for payment purposes, the belief should be associated with the possibility that crypto-assets may serve as means of payment and reserve value. For a reference on the value of crypto-assets and associated beliefs, see, for example, Garrat & Wallace (2016), "Bitcoin 1, Bitcoin 2, ... : An experiment in privately issued outside monies".

Risks originating in crypto-assets which are of interest for financial stability are all risks that, by means of any transmission channel, may end up becoming sources of systemic financial risk. Below, several vulnerabilities will be assessed which are associated with risks at the level of individual institutions. Then, a description will be provided of the potential transmission channels associated with risks at aggregate level (FSB 2018[106]).[107]

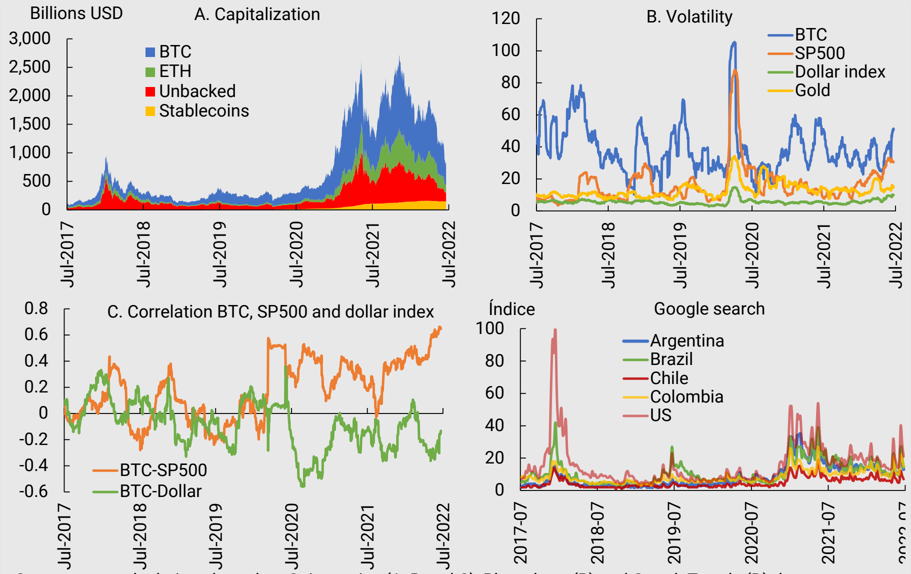
The liquidity risk may be materialized in a scenario of high adoption rate with substitution of bank deposits. This situation would reduce the financial system's capacity to get funding. The market risk may be materialized in the event that an institution assumed an exposure to crypto-assets in its balance sheet and, then, their price went down in domestic currency. The credit risk may be observed in case the holders of crypto-assets could not fulfill their credit obligations by virtue of the high volatility of these instruments (see Chart E.3.1, panel B), thus affecting financial institutions with exposures in their balance sheets. Other relevant risks, from the standpoint of financial stability, derive from the underlying technological infrastructure, such as the possibility of financial losses caused by operational disruptions and/or cyber-attacks. In relation to these aspects, many activities in DLT environments (for instance, "mining" of crypto-assets) involve a relatively small number of agents, and this situation might have implications for market integrity.

In turn, the materialization of financial, operational and/or cyber risks in the ecosystem of crypto-assets may result in an impairment of the public's confidence (FSB 2018). Confidence is a key aspect in the context of crypto-assets, given the fact that their prevalence as payment instrument depends on the fact that individuals participating in the system trust in their usability. Finally, risks originating in these markets might spread to the financial system in the context of increasing interconnectedness with regulated institutions. The recent evolution in the correlation between bitcoin yields and the SP500 suggests a context of growing interconnectedness (see Chart E.3.1, panel C).

The abovementioned risks may potentially affect financial stability if they become a source of systemic risk in a context with a high adoption rate. For example, in case of a remarkable increase in the level of adoption of crypto-assets as reserve value, especially first-generation crypto-assets, any significant price change might affect their holders (wealth effect). In addition, there might be a substitution process between crypto-assets and reserve currency which may affect the level and volatility of the exchange rate.[108] This potential increase in the adoption rate for the purposes of reserve value may be significant in emerging economies.[109]

106 FSB (2018), "Crypto-asset markets: Potential channels for future financial stability implications".
107 Practically all literature associated with crypto-assets and financial stability uses advanced economies as reference. Except for IMF papers on transnational payments and monetary substitution (IMF 2020, 2021, FSB 2020, He et al 2022).
108 See, for example, Giupponi, E. (2022). *Activos digitales y estabilidad financiera. Riesgos de un incremento en la demanda de bitcoin sobre la volatilidad del tipo de cambio en Argentina*, UCEMA.
109 FSB (2020), "Regulation, Supervision and Oversight of "Global Stablecoin" Arrangements"; see, also, IMF (2021), "Global Financial Stability Report October 2021".

Chart E.3.1 | Capitalization of the crypto-asset market



Source: own calculations based on Coinmetrics (A, B and C), Bloomberg (B) and GoogleTrends (D) data

Risks might intensify in the event of an increase in the adoption rate, in the long term, for payments and compensations. The payment function is associated with stablecoins, whereas the compensation role may be related to first-generation crypto-assets, taking into account the advantages offered by DLT technology in terms of operational resilience. This increase in the adoption rate might result in a substitution process among crypto-assets, central bank money and bank deposits. This might lead to a reduction in cash held by the public and in deposits in domestic currency, thus weakening the role of banks in the process of financial intermediation. This would tend to reduce the monetary authority's control over the liquidity of the economy, thus weakening the effectiveness of the monetary policy since the transmission channels would be adversely affected. In addition, this substitution process might impair the exchange rate management.

In the context of monitoring activities, a tool to have a first indication of the public's degree of interest is to gather information on the evolution of Internet searches for words related to the ecosystem.[110] Preliminarily, at both global and domestic level, it is estimated that the relative interest in crypto-assets increased by late 2020 and early 2021 and then decreased during 2022 (see Chart E.3.1, panel D). These estimates make it possible to assume a certain degree of association between the level of global and domestic interest that goes beyond the idiosyncratic context of each economy.[111]

110 Data are obtained from the Google Trends platform. The information corresponds to a rate of the number of searches for a key word (Choi and Varian 2009, 2011) and not specifically to volumes of searches. For a detail on the methodology, see "Herramientas de Big Data: ¿Podemos aprovechar Google Trends para pronosticar algunas variables macro relevantes?", Blanco, 2014, XLIX Annual Meeting - AAEP.
111 To obtain an alternative estimate of the evolution of the crypto-asset market at local level see, for example, Coindance. To make an estimate by domestic operator, see the data published by means of Application Programming Interfaces (APIs) of local operators. It is important to note that these sources of data are not representative relative to the universe of data.

In the recent past, as regards regulatory developments, we may observe some intensity in forums and standard-setting bodies (SSBs) in terms of the assessment and approach of possible benefits and risks of crypto-asset markets for global financial stability.112 Against this backdrop, the Financial Stability Board (FSB) is progressing in its monitoring activities113 and in addressing the regulatory and oversight implications of stablecoins, as well as of the first- generation crypto-assets and the DeFi (Decentralized Finance) segment.114 Among SSBs, progress stands out in the prudential treatment of exposures in crypto-assets by banks,115 the analysis of challenges for the implementation of standards on Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT)116 and the understanding of the DeFi segment.117 At the level of individual jurisdictions, regulatory attention has been quite dissimilar, partly mirroring the challenges involved in addressing the regulatory and oversight aspects related to crypto-assets. In turn, the BCRA is currently conducting monitoring activities in order to make progress in understanding the cases of crypto-asset use at domestic level. Against this backdrop, jointly with the National Securities Commission (CNV), in May 2021, a warning was published118 highlighting, among other elements, the high volatility of these instruments, the risks associated with operational disruptions and cyber-attacks, Money Laundering/Financing of Terrorism (ML/FT) risks, as well as the potential non-compliance with exchange regulations and the absence of safeguards provided for by the regulations in force. The BCRA has recently decided that financial institutions subject to its regulations may not take part (either directly or indirectly) in offering crypto-assets,119 and this measure seeks to mitigate the risks posed by activities with these instruments for both users and the financial system as a whole.

112 G20 (2022), "Communiqué FMCBG Meeting February 2022".
113 FSB (2022a).
114.FSB (2022b), "FSB Work Programme for 2022". DeFi makes reference to the so called "decentralised finance", which is an emerging segment consisting in a number of alternative financial markets and products which operate through the so-called "smart contracts", built on the basis of DLT.
115 BCBS (2022), "Prudential treatment of cryptoasset exposures - second consultation".
116 FATF (2021), "Second 12-Month Review of Revised FATF Standards - Virtual Assets and VASPs".
117 IOSCO (2022), "IOSCO DeFi Report".
118 BCRA, CNV (2021), "*Alerta del BCRA y la CNV sobre los riesgos e implicancias de los criptoactivos*".
119 BCRA (2022), "*El BCRA desalienta la oferta de criptoactivos a través del sistema financiero*".

Abreviations and Acronyms

€: Euro
a.: Annualized.
AEIRR: Annual Effective Internal Rate of Return.
AFIP: *Administración Federal de Ingresos Públicos*. Argentina's Federal Tax Authority.
ANSES: *Administración Nacional de Seguridad Social*. Social Security Administration.
APR: Annual Percentage Rate.
ATM: Automated teller machine.
b.p.: basics points.
BADLAR: Interest rate for time deposits over one million pesos between 30 and 35 days for the average of financial institutions.
BCBA: *Bolsa de Comercio de Buenos Aires*. Buenos Aires Stock Exchange.
BCBS: Basel Committee on Banking Supervision.
BCRA: *Banco Central de la República Argentina*. Central Bank of Argentina.
BIS: Bank of International Settlements.
BoE: Bank of England.
Bonar: *Bonos de la Nación Argentina*. Argentine National Bonds.
CABA: *Ciudad Autónoma de Buenos Aires*. Autonomous city of Buenos Aires.
CCP: Central counterparty.
CDS: Credit Default Swaps.
CEMBI: Corporate Emerging Markets Bond Index
CER: Coeficiente de Estabilización de Referencia. Reference Stabilization Coefficient.
CNV: *Comisión Nacional de Valores*. National Securities Commission.
CPI: Consumer Price Index.
CVS: *Coeficiente de Variación Salarial*. Wage variation coefficient.
D-SIBs: Domestic systemically important banks.
DEBIN: *Débito Inmediato*. Immediate Debit.
ECAI: External Credit Assessment Institution.
ECB: European Central Bank.
ECC: *Encuesta de Condiciones Crediticias*. Lending standards survey.
EMBI: Emerging Markets Bond Index.
EPH: *Encuesta Permanente de Hogares*. Permanent Household Survey.
EU: European Union.
Fed: Federal Reserve of US.
FGS: *Fondo de Garantía de Sustentabilidad*. Sustainability Guaranty Fund.
FSB: Financial Stability Board.
GDP: Gross Domestic Product.
IADB: Inter-American Development Bank.
IAMC: *Instituto Argentino de Mercado de Capitales*. Argentine Capital Markets Institute.
IBIF: *Inversión Bruta Interna Fija*. Gross domestic fixed investment.
IMF: International Monetary Fund.
INDEC: *Instituto Nacional de Estadísticas y Censos*. National Institute of Statistics and Censuses.
IPMP: *Índice de Precios de las Materias Primas*. Central Bank Commodities Price Index.
IPOM: *Informe de Política Monetaria*. Monetary Policy Report.
IRR: Internal Rate of Return.
LCR: Liquidity Coverage Ratio.
Lebac: *Letras del Banco Central de la República Argentina*. BCRA Bills.
LETES: *Letras del Tesoro en dólares estadounidenses*. US$ Treasury Bills.
LIBOR: London Interbank Offered Rate.
LR: Leverage Ratio.
MAE: *Mercado Abierto Electrónico*. Electronic over-the-counter market.
MEP: *Medio Electrónico de Pagos*. Electronic Means of Payment.
MERCOSUR: *Mercado Común del Sur*. Southern Common Market.
MERVAL: *Mercado de Valores de Buenos Aires*. Executes, settles and guarantees security trades at the BCBA.
MF: Mutual Funds.
MoT: Ministry of Treasury.
MSCI: Morgan Stanley Capital International.
MULC: *Mercado Único y Libre de Cambios*. Single free exchange market.
NBFI: Non-Bank Financial.
NPD: National public debt.
NFPS: Non-financial national public sector's.
NW: Net worth.
OB: *Obligaciones Negociables*. Corporate bonds.
OECD: Organization for Economic Cooperation and Development.
OPEP: Organization of the Petroleum Exporting Countries.
PEN: *Poder Ejecutivo Nacional*. Executive Branch.
PGNME: *Posición Global Neta de Moneda Extranjera*. Net Global Position in Foreign Currency.
p.p.: Percentage point.
PPM: *Plataforma de Pagos Móviles*. Mobile Payment Platform.
REM: *Relevamiento de Expectativas de Mercado*. BCRA Market expectation survey.
ROA: Return on Assets.
ROE: Return on Equity.
Rofex: Rosario Futures Exchange.
RC: Regulatory capital
RWAs: Risk Weighted Assets.
S&P: Standard and Poors.
s.a.: Seasonally adjusted.
SEFyC: Superintendence of Financial and Exchange Institutions.
SME: Small and Medium Enterprises.
TCR: *Tipo de cambio real*. Real Exchange rate.
TN: *Tesoro Nacional*. National Treasury.
US$: United States dollar.
US: United States of America.
UTDT: *Universidad Torcuato Di Tella*. Torcuato Di Tella University.
UVA: *Unidad de Valor Adquisitivo*. Acquisition Value Unit.
UVI: *Unidad de Vivienda*. Dwellings Unit.
VAT: Value Added Tax.
WB: World Bank.
WPI: Wholesale Price Index.y.o.y.: year-on-year.