

Financial Stability  
Report  
November 2019



BANCO CENTRAL  
DE LA REPÚBLICA ARGENTINA

# Financial Stability Report

November 2019

## Foreword

*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 monetary 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 May 2020.*

*Autonomous City of Buenos Aires, November 14, 2019.*

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## Executive summary

Faced with a challenging context, the Argentine financial system proved to have a significant level of resilience in recent months, and continued to operate in the provision of intermediation services and means of payment without any disruption. At the same time, under a prudential regulatory framework in line with international standards, the financial system maintained sizable prudential margins of liquidity and solvency. The ensemble of financial institutions operated in a more uncertain context –inherent in the recent electoral process–, which was characterized by an increasingly volatile exchange rate, withdrawal of deposits in foreign currency and rising pressures on the prices of sovereign bonds.

The Ministry of Treasury and the Central Bank of Argentina (BCRA) implemented a series of measures to mitigate the impact of volatility on the evolution of prices and on the economic activity. Due to the limited access to the debt market, by late August, the repayment terms of the Treasury Bills were rescheduled (reprofiling), and the intention to make progress in a voluntary extension of the terms of some sovereign bonds was announced. In addition, the BCRA limited the purchases of foreign assets for no specific use and adjusted the settlement terms of export collections, keeping full freedom to withdraw resources from bank accounts and preserving the normal operation of foreign trade. These regulations had to necessarily take into account their impact on the exchange rate market and on international reserves as well as on the confidence of depositors in the Argentine financial system. The BCRA continued implementing a contractionary monetary policy together with interventions in the exchange market.

Despite the pressures on funding conditions and composition –which included the reduction of around 40% of the private sector stock of deposits in foreign currency from mid-August to late October–, the financial system's liquidity levels were in line with the historical peaks, without exhibiting significant changes against the Financial Stability Report (IEF) corresponding to the First Half of 2019. It is worth pointing out that, on the basis of the macroprudential regulations in force, deposits in foreign currency mainly have as a counterpart the loans in foreign currency provided to export companies as well as the liquid assets in such denomination. In turn, the solvency ratios of the financial system went up against last March, standing above the minimum prudential requirements –with leverage levels well below the levels recommended internationally– and exhibiting an adequate verification of additional capital buffers.

Within a weak economic context, the financial intermediation activity contracted against the previous IEF. With a declining level of financing to the private sector, the delinquency ratio of the credit portfolio continued going up –particularly, in the case of loans to companies– but its rise moderated against the evolution seen in the first half of 2019. Given the limited gross exposure of the ensemble of banks to credit risk and the high provisioning levels, only a reduced proportion of the financial system capital might be affected against the default of the non-performing portfolio.

At structural level, the financial system's intrinsic sources of vulnerability continue to be limited. The aggregate of banks exhibits very low levels of credit depth –associated with low-leveraged debtors–, and the intermediation activity consists mainly of traditional transactions with a limited maturity transformation, within a context of low direct interconnectedness among institutions. All of the above adds up to the positive effects of the abovementioned Argentine macroprudential regulatory framework which, among other aspects, contributes to ensure that the financial intermediation process in pesos is decoupled from the financial intermediation process in foreign currency and helps keep the exposure of banks to public sector credit risk at low levels.

Given the recent evolution of the main financial variables and the real sector of the economy, the financial system is likely to face a challenging operating scenario in late 2019 and early 2020. In terms of exogenous risks, the domestic uncertainty factors may lead to new episodes of tension in the financial markets and the aggregate activity level, with a potential effect on the financial system intermediation process. Nevertheless, given the relative strength factors currently exhibited by the Argentine financial system, the truth is that only potentially extreme risk events might impact significantly on the domestic financial stability.

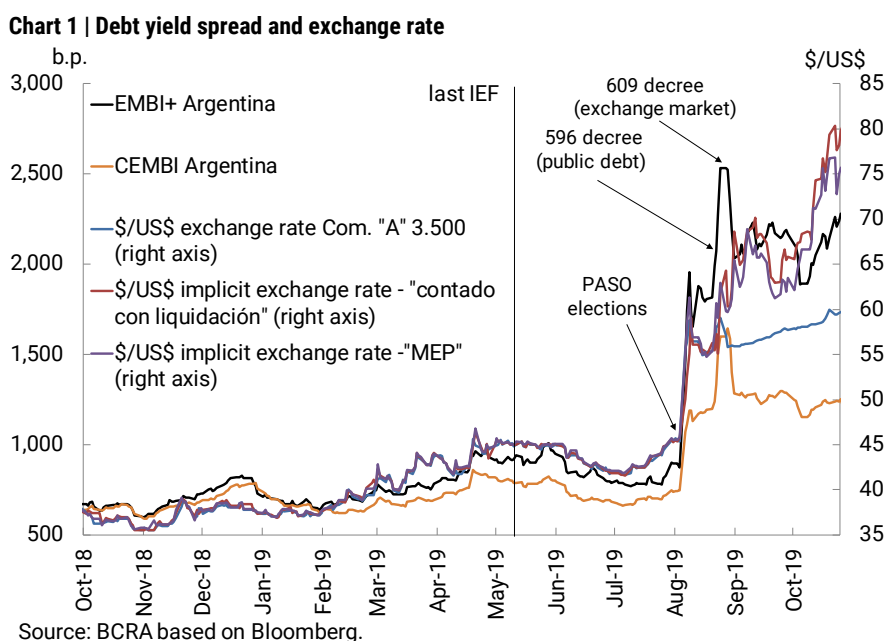
The BCRA will continue implementing its macroprudential policy approach, and will reinforce the financial system monitoring process in order to detect at an early stage any source of risk and vulnerability that might eventually have an adverse impact on the economy as a whole.

# Financial System Stability Analysis

## 1. Context

The uncertainty inherent in the electoral process resulted in a deterioration of the financial market conditions in recent months (see Chart 1). In particular, after the Open, Simultaneous and Mandatory Primary Elections (PASO), there was a significant increase in the volatility of the Argentine asset prices and of the exchange rate, added to a drop in foreign currency deposits. As it will be analyzed in depth in the following sections, the ensemble of financial institutions exhibited a significant level of resilience to face this adverse context, and the financial stability conditions were preserved.

Given the increasingly restrictive access to short-term financing for the Treasury, the pressures exerted on the exchange rate and the drop of foreign currency deposits, several measures were implemented to preserve the nominal and financial stability (for the purpose of mitigating the effects of financial volatility on the real economy).<sup>1</sup> By the end of August, the repayment of Treasury Bills was reprofiled<sup>2</sup>, accompanied by the announcement of an intention to seek a voluntary extension of the terms of medium- and long-term sovereign bonds.<sup>3</sup> In early September,<sup>4</sup> these measures were supplemented by regulatory changes to the foreign exchange market, by establishing controls that were finally deepened by late October.



Likewise, the Central Bank of Argentina (BCRA) continued implementing a contractionary monetary policy based on compliance with the monetary targets and the consolidation of positive real interest rates, added to foreign exchange interventions intended to lessening nominal volatility.<sup>5</sup> In addition, on August 30, the BCRA decided

1 For further detail, see [Monetary Policy Report \(IPOM\)](#).

2 [Executive Order 596/19](#).

3 In the second week of September, a [Bill](#) was sent to Congress to introduce Collective Action Clauses for sovereign bonds under local laws.

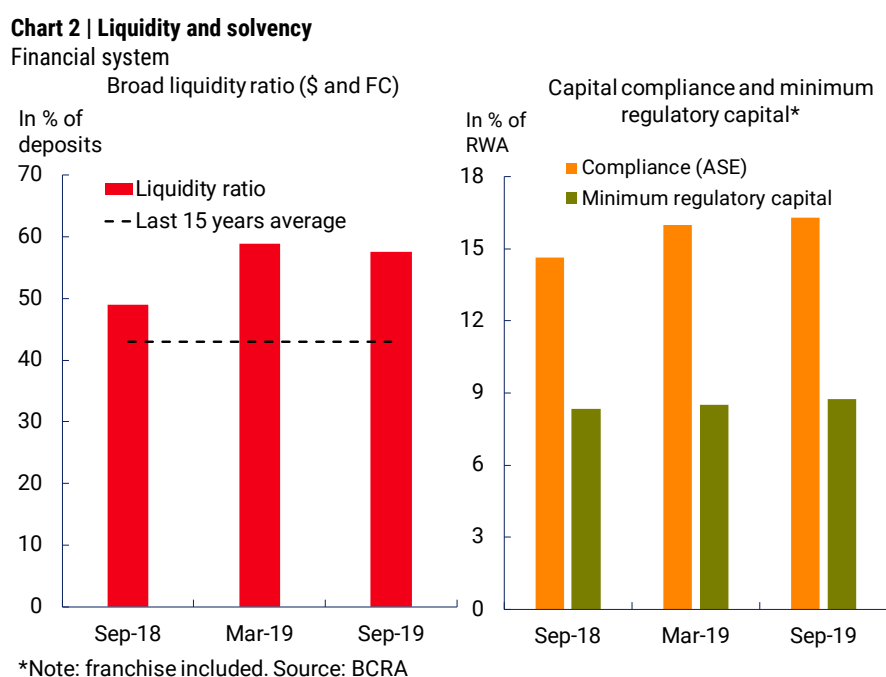
4 [Executive Order 609/19](#) and related regulations from the BCRA and the National Securities Commission (CNV). See [Monetary Policy Report \(IPOM\)](#) and the [Regulatory Annex](#) of this IEF.

5 After the Primary Elections, the absorption of pesos intensified (which resulted in an increase of the LELIQ interest rates) and there were interventions in the exchange market consisting in the sale of dollars (unsterilized sales). Upon an acceleration of inflation, in the second fortnight of September, the

to conduct temporary auctions of repos and to make purchases of Treasury Bills held by Mutual Funds in their portfolios (out of these two instruments, only the latter was used so far), thus contributing to stabilize this market.<sup>6</sup>

## 2. Main Strengths Exhibited by the Financial System to Face Risks

Even though the developments of recent months have proven that some of the risk factors considered in the previous Financial Stability Report (IEF, May 2019) have finally materialized, the financial system has continued performing its functions with a high level of soundness, acting within a regulatory framework in line with international standards. On the one hand, the financial system’s exposure to risks inherent in its activities continues to be limited. In this respect, the depth of bank loans to the private sector is reduced and tending to decrease, the exposure to the public sector is relatively low, traditional and unsophisticated banking transactions still prevail, the transformation of terms in banks’ balance sheets is limited, the degree of direct interconnectedness among financial institutions is low and financial intermediation in pesos is virtually decoupled from intermediation in foreign currency. On the other, the financial system continues to have sizable prudential margins in terms of solvency and liquidity. These aspects, which convey an adequate level of resilience to the aggregate financial system, are dealt with in general as follows, and in detail in the other sections of this report.



**i. High liquidity and sizable aggregate solvency.** By the end of the third quarter of the year, the broad liquidity of the financial system in terms of its deposits was in line with its historical peak values, standing at around 58% (see Chart 2). If compared to the previous IEF, there were no significant changes in the liquidity ratios in pesos or in foreign currency (see Table 1). It is worth mentioning that there was a high coverage in foreign currency despite

Monetary Policy Committee (COPOM) announced new monetary base targets and increased the floor for the LELIQ interest rates (see [Monthly Monetary Report](#)). The LELIQ rate reached an annual peak of 86% on September 10 and then started to go down gradually (to 68% by the end of October). In turn, by late October, the COPOM decided to change the floor of the LELIQ rate (and to reduce it to a level of 63%).

<sup>6</sup> The redemptions of Mutual Funds increased as a result of the deteriorated prices of public debt instruments and the reschedule of Bills (see Exhibit "BCRA's Response to the Impact of Financial Volatility on Mutual Funds" in the last issue of the [Monetary Policy Report](#)).



the withdrawal of private sector deposits in such currency for over 40% from mid-August to late October (see Exhibit 4). In addition, the domestic liquidity indicators, consistent with international recommendations on the matter, stood at high levels and exceeded the minimum regulatory amounts.

The financial system's solvency ratios continued to stand sizably above the minimum prudential requirements. The Adjusted Stockholders' Equity (ASE) totaled 16.3% of risk-weighted assets (RWA) in September. In addition, the ensemble of financial institutions exhibited a nearly full verification of the additional capital buffers. Moreover, the sector's level of leverage is moderate and the financial system verified adequately the minimum value admitted by the domestic regulatory standards, in line with international recommendations on the matter (for further detail, see Section 3.3.1).

**ii. Moderate direct balance sheet exposure to nominal exchange rate volatility.** The financial system's balance sheet exposure to foreign currency items stood at limited levels by the end of the third quarter, with 30% of loans and 33% of deposits from the private sector in such currency, within a context of higher volatility of the nominal exchange rate as from mid-August 2019 (see Chart 1). Foreign currency mismatches in the domestic banks' balance sheets remained at low levels due to the effect of the current macroprudential regulations (see Exhibit 4).

**iii. Limited exposure of the financial system to the public sector.** Banks' exposure to the public sector is low, mainly due to the set of prudential regulations implemented in due time to limit this source of credit risk (see Exhibit 1). In addition, and considering all governmental jurisdictions, the public sector stock of deposits exceeds the financing obtained (loans and position in bonds). The aggregate public sector keeps its position of net creditor vis-à-vis the financial system.

**iv. High provisioning for the non-performing portfolio added to a low gross exposure to credit risk.** In the last six months, the delinquency ratio of bank loans continued to be on the rise, even though at a slower pace than in the previous six-month period. Thus, by the end of September, the stock of the private sector non-performing loans reached 4.8% of total financing. This occurs within a context of moderate gross exposure of the ensemble of banks to credit risk: financing to the private sector stood at 41.9% of total assets in the third quarter of the year (down 4.3 p.p. against the average of 2018).<sup>7</sup> In addition, provisioning levels are sizable and it is estimated that the system capital, which would be truly affected if the non-performing loans turned into default, would account for only 3.7% of total capital.<sup>8</sup>

**v. Regulatory framework in line with international standards.** The current microprudential and macroprudential standards regulating the Argentine financial system focus on the special characteristics of the domestic context, without losing sight of the best international practices. In particular, the Basel Committee, within the framework of its Regulatory Consistency Assessment Programme (RCAP) and reinforcing the positive opinion it had issued in 2016,<sup>9</sup> assessed the Argentine regulatory standards on Large Exposures (LEX) and the Net Stable Funding Ratio (NSFR) in 2019. In both cases, Argentina received the best possible grade ("Compliant"),

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7 As a result, the stock of non-performing loans to the private sector accounted for only 2.1% of total assets.

8 The ratio used corresponds to the private sector non-performing portfolio net of total loan loss provisions (minus the estimate of the minimum regulatory provisions for the performing portfolio), in terms of the net worth.

9 Within the framework of RCAP, Argentina obtained the best possible grade in terms of application of capital standards and the Liquidity Coverage Ratio of Basel III in 2016 (see [IEF Second Half 2016](#)).

in terms of compliance with international recommendations related to the diversification of debtors (see Exhibit 5) and the composition of medium-term and long-term bank funding.<sup>10</sup>

**Table 1 | Financial system main soundness ratios**

	Financial system			State-owned banks			Domestic private banks			Foreign banks		
	Sep-18	Mar-19	Sep-19	Sep-18	Mar-19	Sep-19	Sep-18	Mar-19	Sep-19	Sep-18	Mar-19	Sep-19
<b>Liquidity</b>												
Liquidity Coverage Ratio	2.0	2.2	2.1	1.6	1.7	1.9	2.1	2.4	2.7	2.3	2.6	2.5
Net Stable Funding Ratio (1)	1.6	1.7	1.8	1.5	1.5	1.5	1.8	2.0	2.1	1.6	1.8	1.9
Broad liquidity / Deposits (%)	49.0	58.9	57.6	41.8	48.6	46.2	55.0	68.2	68.0	54.7	64.3	63.9
In \$	47.1	59.7	57.9	40.7	43.9	47.9	52.0	74.4	67.1	56.6	72.6	66.8
In US\$	52.8	57.3	56.9	45.8	61.0	40.7	60.2	55.5	69.9	52.6	55.1	59.7
<b>Solvency</b>												
Capital compliance / RWA (%)	14.6	16.0	16.3	14.0	14.0	13.6	17.0	19.0	19.8	13.2	15.5	15.8
Tier 1 capital compliance / RWA (%)	12.6	14.0	14.1	13.0	13.1	12.7	13.6	15.5	16.0	11.4	13.7	13.9
Leverage ratio (%)	8.5	8.6	9.1	7.5	7.6	7.6	9.5	9.3	10.5	8.6	9.0	9.2
Capital conservation buffer (% verification)	89	89	90	73	71	73	99	100	99	98	100	99
DSIBs buffer (% verification)	88	100	100	100	100	99	100	100	100	62	100	100
<b>Profitability</b>												
ROE (quarterly %a.)	48.6	41.9	43.8	60.2	20.9	29.7	36.2	50.1	63.6	49.7	60.7	37.7
ROA (quarterly %a.)	5.2	4.6	5.0	6.1	2.1	2.9	4.2	5.7	7.9	5.3	6.9	4.6
<b>Credit to private sector</b>												
Gross exposure / Assets (%)	44.9	39.5	41.9	37.8	34.7	38.2	49.4	40.8	42.1	47.6	41.7	44.2
Non-performing financing ratio (%)	2.3	4.0	4.8	2.0	3.8	5.2	2.5	4.1	4.6	2.2	3.8	4.2
Adjusted provisions / Non-performing loans (%)	79	74	77	97	74	67	69	80	96	78	71	77
(Non-performing loans - Adjusted provisions) / NW (%)	2.0	3.9	3.7	0.2	3.6	6.6	3.2	2.8	0.5	2.2	4.1	3.3
<b>Credit to public sector</b>												
Gross exposure / Assets (%) (2)	11.1	9.7	9.7	21.6	19.9	18.7	4.6	4.0	4.1	3.4	3.2	4.6
Net exposure / Assets (%) (3)	-6.5	-3.7	-1.7	-16.0	-9.1	-5.4	-2.4	-3.0	-2.3	2.3	2.2	3.5
<b>Foreign currency position</b>												
(Assets - Liabilities + Foreign currency term purchases) / ASE (%)	17.5	7.4	13.8	36.3	33.6	35.3	2.1	2.1	6.7	12.2	-11.8	2.3
Foreign currency deposits / Total deposits - Private sector (%)	39	37	33	28	27	25	39	35	34	48	48	41
Foreign currency loans / Total loans - Private sector (%)	29	30	30	24	22	26	30	32	29	35	38	37

(1) Last available data to Jun-19. (2) Position in government securities (without BCRA securities) + Loans to the public sector.

(3) Position in government securities (without BCRA securities) + Loans to the public sector - Deposits from the public sector.

RWA: Risk Weighted Assets; ASE: Adjusted Stockholders' Equity

Adjusted provisions: provisions net of the estimated minimum provisions on the performing portfolio

Source BCRA

The level of resilience exhibited by the ensemble of banks to face a context of higher exchange and financial volatility in recent months also reflected the impact of the above-mentioned measures adopted by both the BCRA and the Ministry of Economy. In this context, the Central Bank of Argentina continued implementing a restrictive monetary policy combined with interventions in the foreign exchange market in order to mitigate nominal volatility.

The abovementioned aspects should allow the financial system to face with relative strength the challenging context ahead in the next few months. In this respect, and following a macroprudential approach, the main risk factors (exogenous to the system) for the short- and medium-term are the following:

**i. Likelihood of new volatility episodes in the fixed income market and the exchange market.** The measures implemented so far have succeeded in mitigating financial and exchange volatility<sup>11</sup>. However, the possibility of new volatility episodes in the domestic financial markets cannot be disregarded. A greater tension in the sovereign debt market would have a direct but limited impact on banks' balance sheets, given their low exposure to the public

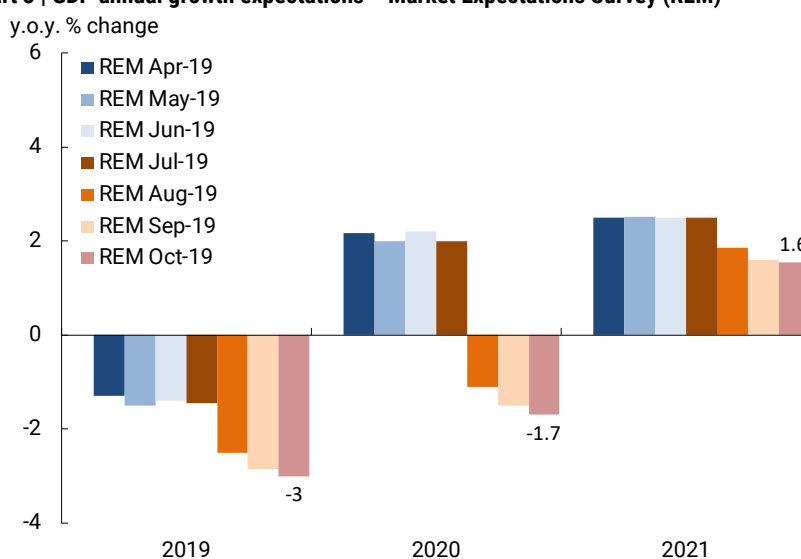
<sup>10</sup> For further detail on the results of RCAP, see [HERE](#).

<sup>11</sup> In addition to the exchange market volatility after the Primary Elections (PASO), there was a marked increase in the yield spreads required in the secondary market for the sovereign debt (the spread of the Argentine EMBI went from a range of 900-1,000 bp in May to an average above 2,000 bp after the primary elections, while the slope of the yield curve became more negative). Simultaneously, there was a reduction in the amounts traded in the fixed income market, accompanied by a drop in market financing to the private sector (in a context of a rise in funding rates).

sector (see Exhibit 1). There might also be new tensions in the exchange market, even though they would be limited due to the existence of the restrictions on the foreign exchange market. These tensions might affect the agents' portfolio decisions. Even though the ensemble of banks have liquidity ratios similar to those observed before the Primary Elections (PASO) and they do not have significant mismatches in foreign currency, this risk factor might exert pressures on the conditions and channels inherent in financial intermediation, especially in relation with the sector's funding sources.

ii. **Potentially higher-than-expected deterioration of the economic activity.** Even though by July there were signs of an exit from the recession started in the last months of 2017<sup>12</sup>, this trend came to a halt as from August, within a context of greater volatility in the financial variables. According to the Market Expectations Survey (REM), the expectations about economic evolution were revised downwards in the measurements made as from August, with an impact on the expectations for 2019-2020 (see Chart 3). REM's analysts estimate that a recovery process will start in 2020, even though at a slower pace than anticipated before. Against this backdrop, a macroeconomic context characterized by potentially higher pressures in terms of private sector credit risk, impacting on the banks' portfolio quality, cannot be disregarded.<sup>13</sup> In turn, a lesser momentum in the supply and demand of credit to the private sector cannot be disregarded either. As it will be analyzed in detail in this report, the financial system keeps sizable relative levels of capital and provisions that would serve to mitigate the impact of an eventual materialization of this risk factor.

**Chart 3 | GDP annual growth expectations – Market Expectations Survey (REM)**



Note: Median  
Source: REM - BCRA

iii. **A potentially more adverse international context.** At global level, there are still several sources of risk<sup>14</sup> that might give rise to tensions through the financial channel (higher risk aversion and portfolio adjustments,

12 For example, in relation to the Monthly Economic Activity Indicator (EMAE) and the Leading Indicator of Economic Activity (ILA-BCRA).

13 A weak economic evolution would impact more markedly on the highly-leveraged companies, exerting pressures on their repayment capacity and/or their level of investment and employment (and might lead to second-round effects that would feedback a recessive context).

14 As from the publication of IEF First Half 2019, the external context has become more adverse in aggregate terms. The concern about the conflict between the United States and China has intensified, the possibility of a disorderly Brexit is now more likely to occur, and the conflicts in the Middle East, among other geopolitical factors, have intensified as well, impacting adversely on global growth expectations. The trend towards more expansionary monetary policies in advanced economies has held true. Against this backdrop, there is still much concern about the high valuations of risk assets,

impacting on the emerging economies' asset prices, including their currencies and interest rates) and/or through the trade channel (exerting pressures on the emerging economies' activity levels). In turn, these tensions –with a different impact on interest rates, exchange rate and economic activity, depending on their nature– might affect the performance of the financial system, mainly because of their eventual influence in the evolution of the financial intermediation domestic process and the credit risk taken by banks.

**iv. Potential impact of financial innovations on the global financial system in the medium term.** Financial innovations (fintech, techfin/bigtech) are closely monitored in terms of the potential risk factors they might entail. On the one hand, they give rise to greater competition for banks, with eventual pressures on their profitability sources. On the other, these innovations imply a higher weight of specific risks related to the use of new technologies, such as those linked to cyberattacks (see Exhibit 2). More recently, at international level, a monitoring process has been implemented to see the potential implications that a scenario of quick expansion in the use of digital currencies by the private sector –especially, the so-called stablecoins– might entail for the traditional financial system and also for the global conditions of financial stability (see Exhibit 3).

The following section includes an assessment of the main vulnerability sources for the financial system (in terms of their exposures to intrinsic risks), by identifying the special strengths of the sector in order to face eventual materializations of adverse scenarios. Further on, other topics related to financial stability are dealt with and, finally, the macroprudential policy measures that have been recently adopted are analyzed in detail.

### **3. Financial System Vulnerabilities and Specific Factors of Resilience**

#### **3.1 Bank Funding**

The materialization of some risk factors stated in the previous IEF put challenges in funding conditions and structure of the ensemble of banks. Against this backdrop and given the current macroprudential framework, the sector's specific elements of resilience acted as expected. Nevertheless, the chance of new episodes of tension in terms of funding cannot be disregarded in the short term.

Within a context of weak economic activity, depreciation of the exchange rate and withdrawal of deposits in foreign currency after the Primary Elections (PASO), the size of the financial system's balance sheet shrank if compared to its size six months ago and also in a year-on-year comparison. Funding sources (liabilities plus net worth) of the ensemble of banks went down 14.6% in real terms in the last six months, mainly due to the withdrawal of private sector deposits in foreign currency and, to a lesser extent, to the evolution of deposits in domestic currency of both the public and the private sectors.

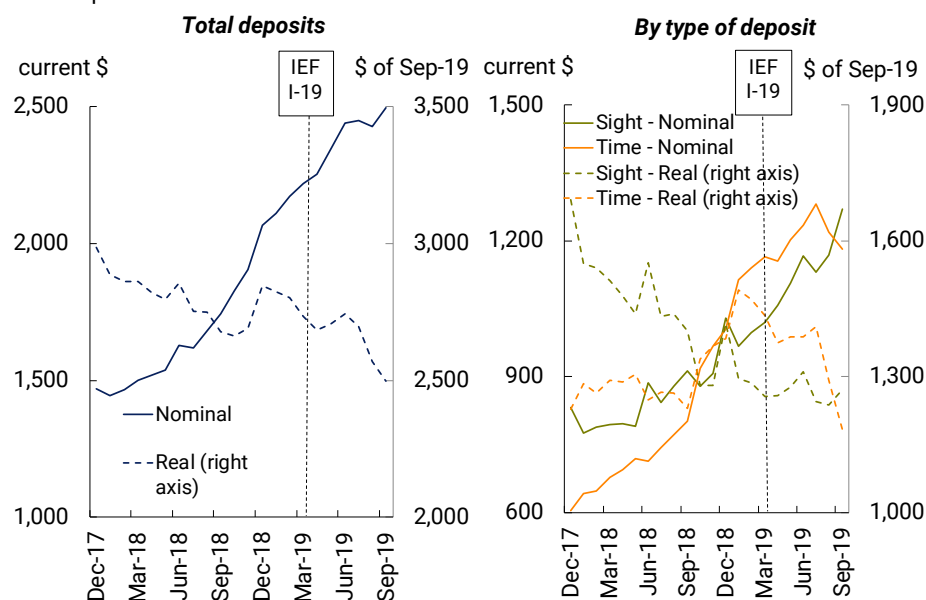
The drop of private sector deposits in foreign currency began by mid-August –after the Primary Elections held on August 12 (see Exhibit 4). The stock of deposits arranged by households and companies in foreign currency accumulated a drop of around one third of the total stock from the period before the Primary Elections (PASO) to

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subject to price corrections –and portfolio adjustments– if there were a change in risk appetite, after several years of interest rates standing at historically low levels. A significant change in risk appetite (with an impact in terms of flows and rates) would also affect the public and corporate sectors of several economies, given the significant increase of indebtedness in recent years. Regarding the regional situation, Brazil's growth expectations for 2019 were revised upwards in recent months and the activity is expected to continue improving in 2020-2021.

late September,<sup>15</sup> after increasing 11% in the first 7 months of the year –both values in currency of origin. In turn, in nominal terms, the stock of the private sector deposits in domestic currency went up 12.5% in the last six months (-8.7% in real terms) (see Chart 4), mainly due to the evolution of sight deposits.

**Chart 4 | Private sector deposits in pesos**  
Stock expressed in billions



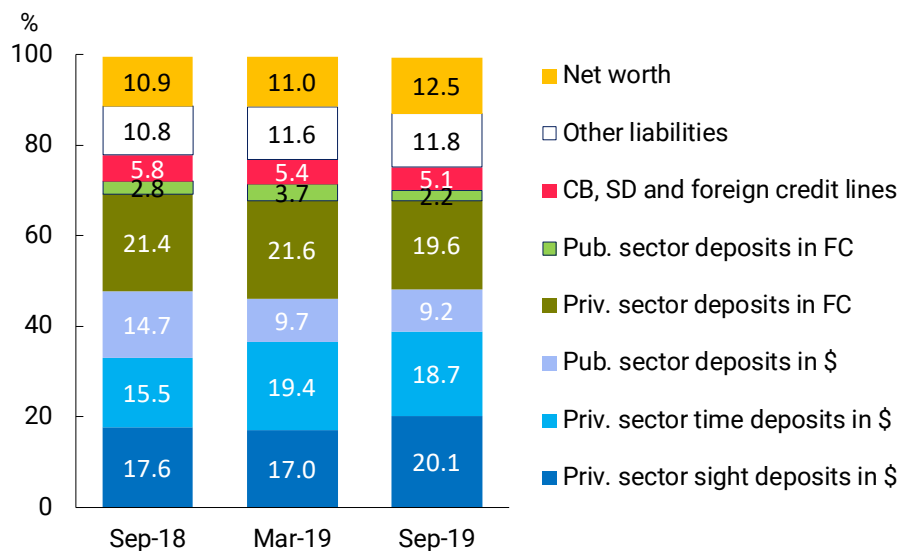
Source: BCRA

The changes detailed above in the banks' main sources of funds altered part of their funding structure, even though the most traditional instruments such as deposits and own capital still prevail in such structure (see Chart 5). Against the IEF First Half 2019, foreign currency deposits lost weight in total funding (-2 p.p. in private sector deposits, and -1.5 p.p. in public sector deposits). Conversely, as of September 2019, the share of private sector sight deposits in domestic currency as well as the net worth went up in total funding against March 2019, growing 3.1 p.p. and 1.4 p.p., respectively.

<sup>15</sup> This drop amounts to slightly over 40% in the aggregate from mid-August to late October.

**Chart 5 | Bank funding composition**

Financial system



FC: Foreign Currency. Source: BCRA

### 3.1.1 Specific Elements of Resilience

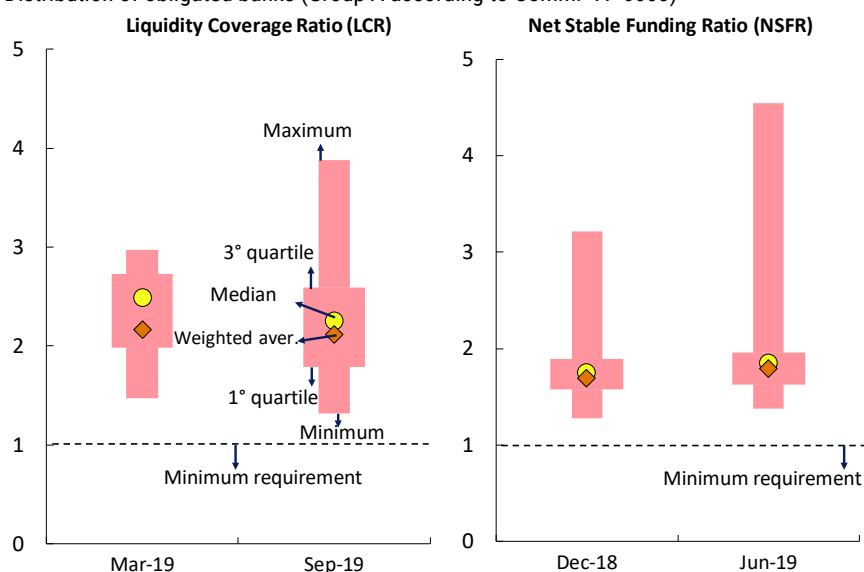
**Historically high liquidity levels.** As detailed at the beginning of this Chapter, bank liquidity stood at historically high levels. In a broad sense, liquid assets in domestic currency stood at 57.9% of deposits in the same currency as of September, widely exceeding the average of the last 15 years (38.3%), and only 1.8 p.p. below the level of the first quarter of 2019. The liquidity ratio reached 56.9% of deposits in foreign currency, similar to the level stated in the IEF First Half 2019. The broad liquidity ratios of all groups of banks went up in year-on-year terms (considering both domestic and foreign currency), and stood at 46.2% in state-owned institutions, at 68% in domestic private banks and at 63.9% in foreign private entities.

The liquidity ratios derived from the Basel Committee’s recommendations widely exceed the regulatory minimum values in force. The Liquidity Coverage Ratio (LCR), which assesses the liquidity available to face a potential outflow of funds in an eventual stress scenario, totaled 2.1 at aggregate level in September, well above the regulatory minimum established (equal to 1 as from 2019) (see Chart 6). This ratio remained unchanged against the value recorded last March. The figures of all financial institutions subject to compliance with this requirement (belonging to Group A)<sup>16</sup> stood above the regulatory minimum. Likewise, by mid-year, the Net Stable Funding Ratio (NSFR) of the ensemble of banks –used to confirm that financial institutions have a funding structure in line with the business they operate in– stood above the domestic regulatory minimum (equivalent to 1 as from its implementation in 2018), and also above the value recorded by the end of 2018. The NSFR for the aggregate of domestic banks is standing at one of the highest values if compared to other emerging economies and also to developed economies (see Chart 7).

<sup>16</sup> For the Liquidity Coverage Ratio and the Net Stable Funding Ratio, a minimum is required for larger banks classified as Group A (which account for 89% of the financial system’s total assets), according to the Consolidated Text of the BCRA on “[Authorities of Financial Institutions](#)”.

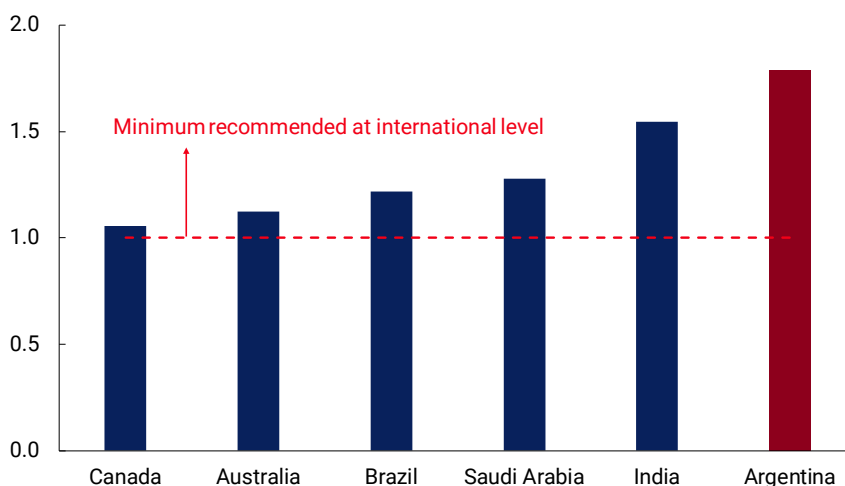
### Chart 6 | Basel liquidity ratios

Distribution of obligated banks (Group A according to Comm. "A" 6608)



Source: BCRA

### Chart 7 | Net Stable Funding Ratio – International comparison



Data to 2018, except Saudi Arabia to 2017 and Argentina to 2019.

Source: Regulatory Consistency Assessment Programme (RCAP)- Assessment of Basel NSFR regulations (BIS), Financial Stability Report (Brazil, Apr-19) and BCRA

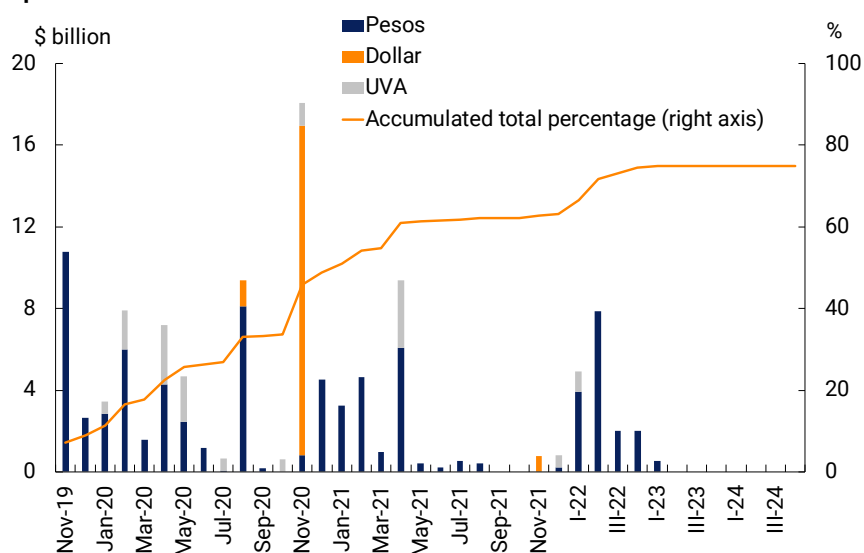
**Segmentation of transactions in domestic currency and foreign currency.** There is a framework of macroprudential policies effective since 2002 which, on the one hand, establishes that the funds obtained in foreign currency can only be used for applications in foreign currency to debtors with income coming from foreign trade transactions and related activities. On the other, it establishes that if there were excess of resources in foreign currency, these resources must remain liquid. These regulations help the financial system to manage the risks related to episodes of tension, including high exchange volatility, more adequately (see Exhibit 4).

**Limited exposure to the risk of maturity mismatch.** The financial system continues to have a reduced maturity transformation, and basically focuses on transactional activities. In a context of a declining financial intermediation with the private sector, it is estimated that in the first half of 2019 –latest information available as of June– the average maturity of the assets portfolio in domestic currency of the ensemble of banks shortened

by around 2.5 months to slightly over 8 months, while the length of liabilities in the same currency without market value shortened from 4.3 months to 3.6 months.

**Low risk of funding refinancing through Corporate Bonds (ON).** The repayments scheduled for Corporate Bonds during the next few months represent moderate amounts for the aggregate financial system. Between November 2019 and March 2020, there are payments of principal scheduled for \$26.4 billion corresponding to these instruments denominated in pesos of the bank funding, accounting for nearly 18% of the sector’s total stock of Corporate Bonds by the end of October, equivalent to only 0.6% of total deposits as of the same date (see Chart 8). The outstanding balance of these payments, as from the second quarter of 2020, is also denominated mainly in domestic currency (55% of the total). Among the outstanding obligations in foreign currency, the repayments corresponding to late 2020 stands out. It is worth pointing out that as from the publication of the previous IEF, the banks have repurchased Corporate Bonds in the markets for a total amount of \$7.3 billion. In fact, 82% of this amount was purchased after the Primary Elections within a context of increasing volatility, declining prices of instruments and more expensive future payments subject to the conditions of issue.

**Chart 8 | Schedule of payment of principal corresponding to financial institutions’ corporate bonds**



(\*) UVA and dollar quotes at 9/30/2019.  
Source: BCRA based on CNV and BCBA.

**Bank safety net.** For more than two decades, the financial system has counted on a deposit insurance coverage,<sup>17</sup> a tool seeking to protect the private sector’s savings in the financial system. The ceiling of this guarantee is \$1 million, and only the deposits that do not meet some specific conditions in terms of the interest rates arranged are excluded.<sup>18</sup> Banks allocate 0.015% of the monthly average of these deposits daily stock to the Deposit Guarantee Funds (FGD). As a result, as of September 2019, the FGD’s available stock of resources amounted to 3.6% of total deposits, i.e. three times higher than in 2010. In addition, the BCRA is the lender of last resort in domestic currency –windows for liquidity provision–, but it has not been necessary to resort to this tool in recent years.

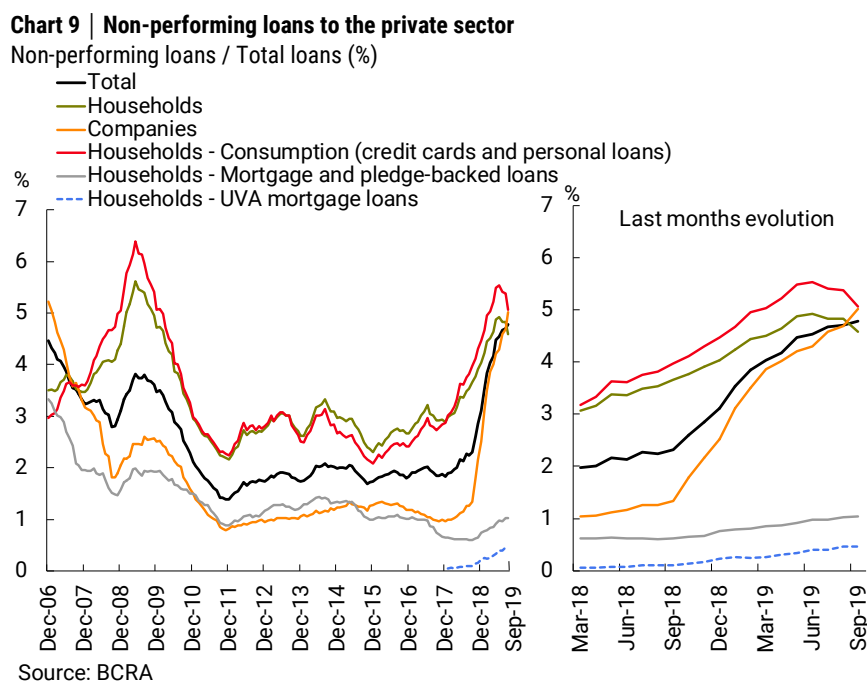
<sup>17</sup> Law 24485 and Regulatory Decree 540/1995.

<sup>18</sup> For further detail, see IEF First Half 2018 (Box 3) and consolidated text of “Application of the Deposits Guarantee Insurance System”.



### 3.2 Loan Portfolio Performance

By the third quarter of 2019, the materialization of credit risk had a limited impact on the financial system solvency; in turn, the aggregate levels of coverage were preserved with provisions that contributed to give additional systemic resilience. In recent months, the increasing pace of the non-performance ratio of total loans to the private sector moderated (see Chart 9), standing at 4.8% as of September. This evolution occurred within a weak economic activity context (and some acceleration of inflation figures in August and September), characterized by a drop in the stock of loans to the private sector and an increase of the non-performing stock of loans, in real terms in both cases.



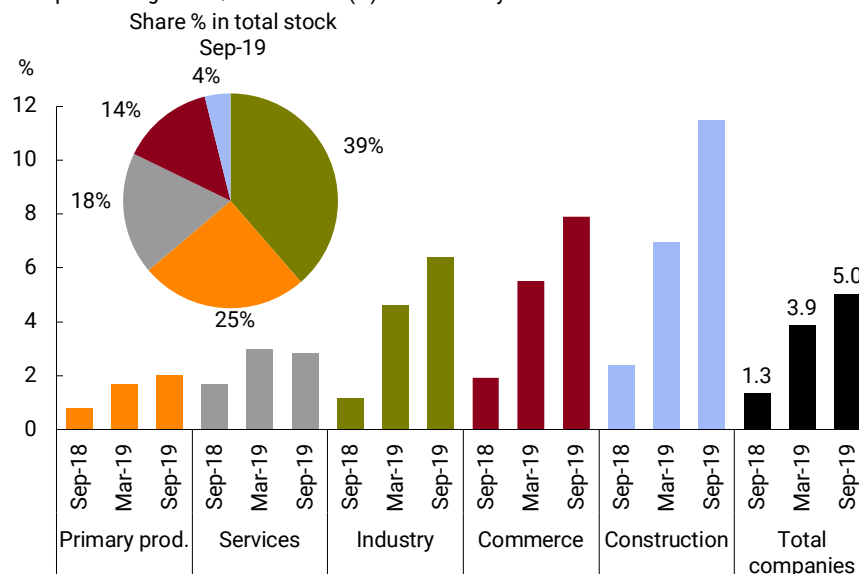
The rise of the non-performance ratio was mainly due to the behavior observed in the segment of financing to companies, especially in the construction business and the commercial sector, even though these are segments with a relatively low share in total stock (see Chart 10). In turn, the increase of the delinquency ratio of loans to households was more moderate and even exhibited a slight reduction in the last three months. Within this set of credits, mortgage loans continue to have a lower delinquency ratio (0.46% for UVA lines and 0.83% for other lines as of September 2019).

In turn, the indicators designed to capture the size of an eventual transition of debtors to worse credit situations continued to stand at high levels even though they were lower than those recorded during the previous IEF. In particular, the ratio designed to estimate credit holders' default probability in the private sector exceeded, by the end of the quarter, the average recorded in recent years, even though it shrank if compared to the situation in place six months ago, in the case of both companies and households (see Chart 11).<sup>19</sup>

<sup>19</sup> The Estimated Default Probability (PDE) is taken into consideration. It is defined as the proportion of credits initially with a credit rating of 1 and 2 (performing) that turn into a credit rating of 3, 4, 5 and 6 (non-performing) at the end of the period under analysis (in this case, a three-month comparison basis is taken). Estimates prepared on the basis of microdata from the Debtors' Database (BCRA).

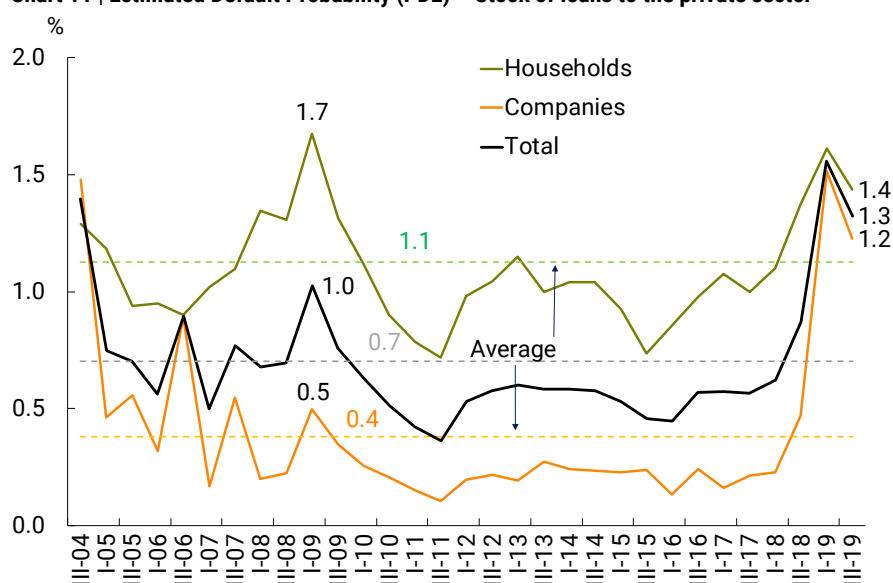
**Chart 10 | Non-performing loans to companies by activity**

Non-performing loans / Total loans (%) - Financial system



Source: BCRA

**Chart 11 | Estimated Default Probability (PDE) – Stock of loans to the private sector**

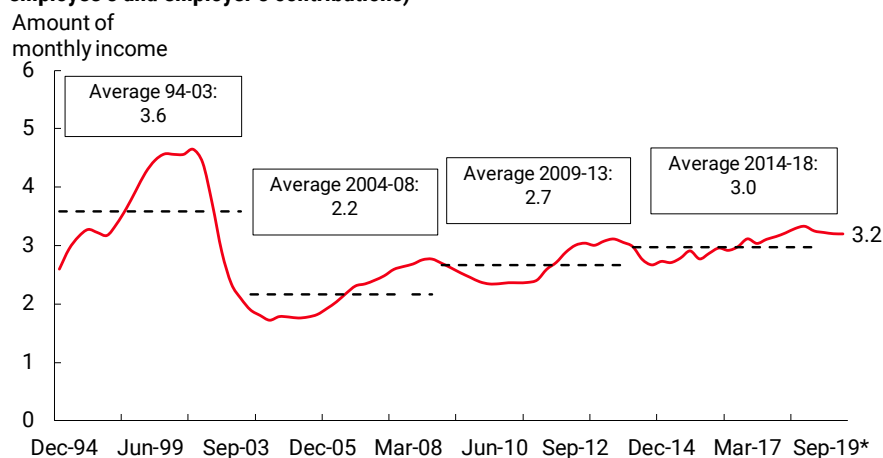


Source: BCRA

It is worth mentioning that the financial system's credit portfolio performance coincides with a context of limited indebtedness and financial burden levels in the private sector. It is estimated that households' debt accounted for approximately three monthly incomes of such sector as of September 2019, while a reduction was observed in the last quarters (see Chart 12). This value was in line with the average of the previous five years (2014-2018). From an international perspective, households also kept a low level of indebtedness, standing at 6.6% of GDP in

the third quarter of 2019, quite below the average of the region (21%) and of developed economies (81%).<sup>20</sup> At aggregate level, households' debt financial burden continues moderate in an international comparison.<sup>21</sup>

**Chart 12 | Debt of households – In terms of monthly income amount (Wage bill net of employee's and employer's contributions)**



\*estimated

Note: Loans to families include financial system financing, financial trusts with consumer credits (credit cards and personal loans) as underlying assets, and real guarantee credits (pledge-backed and mortgages), and the stock of non-bank credit card. Wage bill data is estimated and subject to future modification. Moving annual averages are considered.

Source: BCRA, INDEC and CNV

Regarding the corporate sector, the aggregate debt burden is relatively low in terms of the GDP. Even though among publicly-traded companies there was an increase in the proportion of enterprises showing some signs of vulnerability<sup>22</sup> by the second quarter of 2019<sup>23</sup>, the interconnectedness between this segment of the corporate sector and banks is limited. Bank loans to companies considered to be more relatively vulnerable –within publicly-traded firms–accounted for less than 2% of total bank loans to companies by mid-year. In terms of the evolution of the exchange rate and the interest rates so far in this second half of the year, some deterioration might be expected in the financial indicators for this sample of companies, which would eventually exert pressures on their payment capacity. However, by the end of the third quarter, banks keep a high level of provisioning for their total non-performing portfolios, combined with a moderate gross exposure to credit risk.

20 If an estimate of the loans granted by other providers were also considered (providers such as the Sustainability Guarantee Fund, mutuals and cooperatives, etc.), then lending to the private sector would increase by around 1.7 p.p. of GDP. This definition of "broad" credit to the private sector in terms of GDP went down slightly against the estimate of late 2018.

21 It is estimated that the financial burden (principal and interest) of households' debt accounts for less than 3% of GDP (while the median for a sample of 8 countries stood at 6%, according to the latest information available for each case in the IMF).

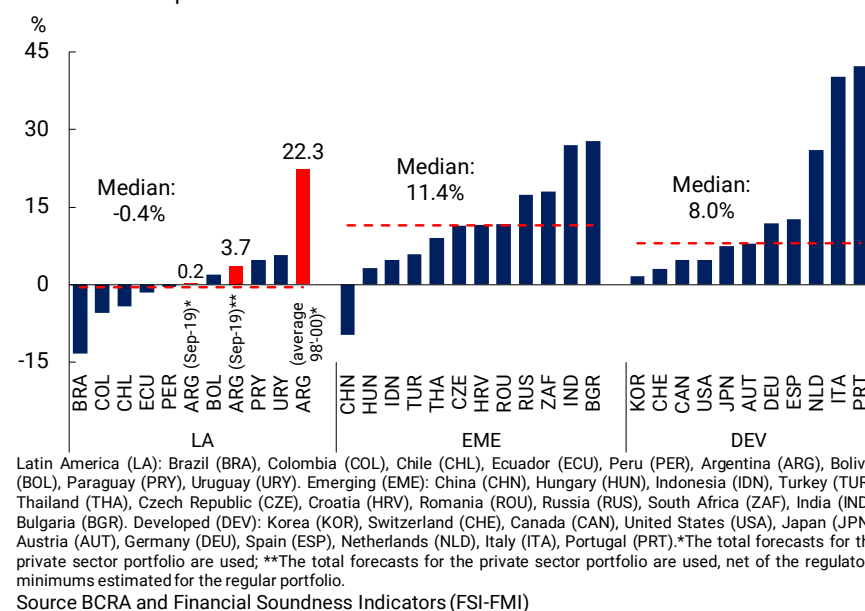
22 See the methodology in [Exhibit 1 of IEF First Half 2019](#). From a financial perspective, a company is considered to be vulnerable if at least two out of the three most relevant financial ratios (interest coverage with operating results, leverage and liquidity) exceed predetermined thresholds.

23 Even though the evolution of this subset of companies –publicly-traded companies– may be considered one of the guiding references to know the situation of all domestic firms, the issue must be handled with caution since this sample is biased towards companies of a relatively large size. By the second half of 2019 (latest available data), publicly-traded companies showed some deterioration in terms of their liquidity levels and cash mismatches, as well as leverage increases and a higher burden of debt interest relative to their income.

### 3.2.1 Specific Elements of Resilience

**Moderate balance sheet exposure to private sector credit risk.** The financial system’s gross credit exposure to the private sector continued to stand at moderate levels by the end of the third quarter (see the Section about the main strengths of the financial system). In addition, total provisioning continued to be high and accounted for 99% of the non-performing portfolio in September. This level reaches 77% if the estimate of the minimum provisions made for the performing portfolio is excluded, thus widely exceeding the minimum regulatory requirement (49%).<sup>24</sup> Given the Argentine financial system’s capital levels detailed above, the balance sheet exposure to private sector credit risk –non-performing portfolio net of provisions in terms of capital– was limited for the ensemble of banks, with ratios in line with those of the region and below the ratios of other emerging economies and developed economies as well (see Chart 13).

**Chart 13 | Non-performing portfolio net of provisions in terms of capital**  
International comparison



**Diversification of financial institutions’ portfolio of debtors.** The concentration of the aggregate financial system’s portfolio of debtors is limited and similar to the one recorded 10 years ago, even though there has been a slight increase in recent months. In this respect, the Argentine regulatory framework is based on a series of regulations seeking to favor the diversification of the financial institutions’ portfolio of debtors, added to the fact that the BCRA periodically monitors the concentration level of debtors from a systemic perspective (see Exhibit 5).

During the last phase with the highest expansion of credit (from 2017 to mid-2018), the standards for credit origination were conservative.<sup>25</sup> Financial institutions have kept a precautionary bias during the last period of lending growth, by implementing the BCRA’s prudential regulations and their own good banking practices.

<sup>24</sup> According to the estimate performed by weighting the different types of portfolios and the credit situation of such portfolios.

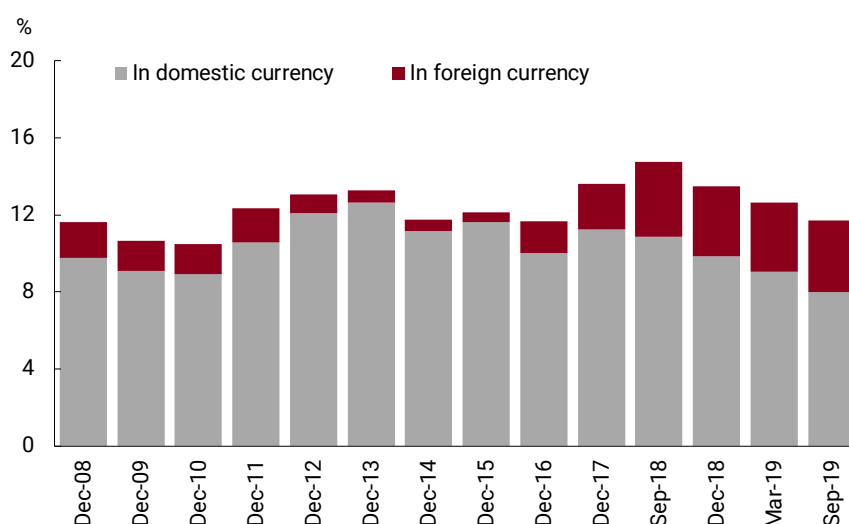
<sup>25</sup> See, for example, the results of the [Survey on Credit Conditions](#) of the BCRA for the abovementioned periods.

**Low exposure of the financial system to the public sector and limited foreign currency mismatches of banks and their debtors.** The current macroprudential regulation related to these aspects has contributed to the resilience of the ensemble of banks to face a challenging domestic context (see Exhibits 1 and 4).

### 3.3 Financial Intermediation

Banks' financial intermediation with the private sector shrank as from the publication of IEF First Half 2019, in line with the domestic context characterized by a weak economic activity which, according to REM's analysts, would start to recover next year (even though at a slower pace than previously expected). In this context, the nominal profitability of the aggregate of banks stood at positive values<sup>26</sup>, keeping a limited leverage and sizable levels of solvency.

**Chart 14 | Lending to the private sector in terms of GDP**  
Financial system – Quarterly averages



Note: Quarterly averages are considered. Third quarter of estimated GDP.  
Source: BCRA and INDEC

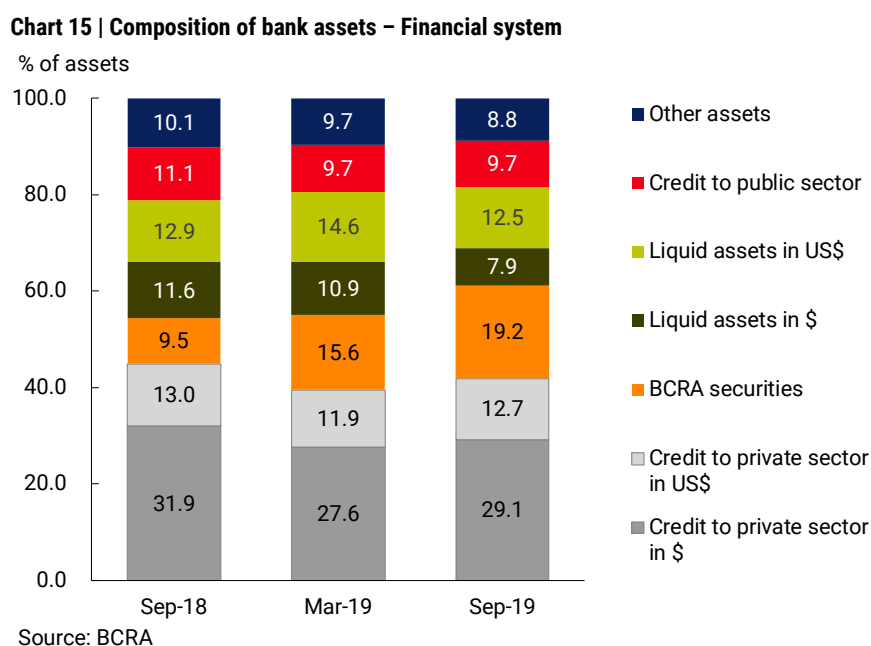
The stock of loans in domestic currency granted to companies and households went down in real terms as from the publication of the IEF First Half 2019 (-9.8% from late March to September 2019, and -27.7% y.o.y.). In turn, the stock of loans in foreign currency to the private sector also contracted, mainly after the Primary Elections (PASO) (-17.6% in the last two months and -15.1% y.o.y. –in currency of origin). As a result, total financing to the private sector –in both domestic and foreign currency– went down to 11.7% of GDP by the end of September 2019 (-0.9 p.p. against the level recorded in the first quarter of the year), mainly due to the performance observed in the segment in pesos (see Chart 14).

Against this backdrop of drop of lending to the private sector in real terms, the financial system's total assets shrank even more during the last six months (-14.3% in real terms).<sup>27</sup> As a result, the weight of loans to the private sector in total assets increased slightly relative to the previous IEF. In turn, the relative share of liquid assets (cash disposal and current account with the BCRA) in foreign currency went down in total assets (see

<sup>26</sup> According to the provisions of Communication "A" 6651, as from January 2020, financial institutions and foreign exchange firms subject to the control of the BCRA shall apply the inflation accounting adjustment method to their balance sheets.

<sup>27</sup> This resulted mainly from the drop in foreign currency liquidity (related to the withdrawal of deposits in foreign currency after the Primary Elections).

Chart 15). Regarding liquid assets in pesos, the weight of institutions' current accounts with the BCRA and other liquid assets was lower, but this evolution was offset by the increase in holdings of monetary regulation instruments. This evolution mirrored, in part, the effect of the regulatory changes introduced by the BCRA to the regulations on Minimum Cash (see [Regulatory Annex](#)). Lending to the public sector relative to the ensemble of banks' assets stood at low levels, and recorded no significant changes against the first quarter of the year (see Exhibit 1).



The financial system's nominal profitability stood at positive values as from the publication of the previous IEF (see Table 2). In particular, in the third quarter of 2019, the nominal income of the ensemble of banks stood at 5% annualized (a.) of assets or 43.8%a. of net worth, slightly above the levels of the first quarters of the year. This evolution was especially evident in domestic private banks and state-owned banks while, in foreign private banks, nominal profitability contracted against the first quarters of the year.

When comparing the nominal profitability of the third quarter against that of the first two quarters of 2019, it is observed that there was a higher income from securities (mainly due to the flows accrued on the portfolio in domestic currency, within a context of LELIQ interest rate rise) and also an increase of profits from exchange rate differences (because of the effect of the peso-dollar exchange rate increase on the aggregate positive differential between assets and liabilities in foreign currency), while income from interest did not post significant changes (in a context of an increase in implicit interest rates and drop in the share of loans in total assets). These changes were partially offset by an increase in expenses for interest, mainly related to the rising cost of funding in the segment in pesos,<sup>28</sup> and by a reduction in the income from services within a context of reduced activity. In addition, the drop in financial assets' prices –impacted by the turbulences of recent months– was mainly evidenced by the accrual of losses in Other Comprehensive Income –ORI– on the portfolio booked at market price.

<sup>28</sup> Against the previous IEF, it is estimated that the increase in the nominal cost of funding was similar to that of the implicit lending interest rates. In a year-on-year comparison, the estimated cost of funding exceeded that of the implicit lending interest rates.

**Table 2 | Financial system profitability**

Annualized (a.) - In %a. of netted assets	12-month accumulated to September of...					Quarterly				
	2015	2016	2017	2018	2019	IIIQ-18	IVQ-18	IQ-19	IIQ-19	IIIQ-19
<b>Financial margin</b>	<b>11.1</b>	<b>12.0</b>	<b>10.4</b>	<b>10.6</b>	<b>12.5</b>	<b>11.4</b>	<b>10.6</b>	<b>11.5</b>	<b>13.0</b>	<b>14.3</b>
Interest income	12.5	13.0	10.5	10.9	11.2	11.1	11.9	11.0	10.8	11.3
CER and CVS adjustments	0.2	0.4	0.2	1.0	1.9	1.4	2.3	1.5	2.1	1.7
Foreign exchange price adjustments	0.4	1.1	0.8	0.9	1.1	0.7	1.0	0.7	0.6	1.9
Results on securities	5.2	5.9	4.1	5.3	12.8	7.3	10.8	11.7	13.9	14.4
Returns on repo	0.1	0.2	0.6	0.3	0.2	0.1	0.1	0.1	0.1	0.5
Interest expense	-7.1	-8.4	-5.7	-7.7	-14.6	-9.9	-14.9	-13.4	-14.5	-15.5
Other financial income	-0.3	-0.1	-0.1	0.0	-0.1	0.6	-0.5	0.0	0.1	0.0
<b>Service income margin</b>	<b>3.7</b>	<b>3.4</b>	<b>2.9</b>	<b>2.3</b>	<b>2.1</b>	<b>2.2</b>	<b>2.2</b>	<b>2.1</b>	<b>2.0</b>	<b>2.0</b>
<b>Loan loss provisions</b>	<b>-0.9</b>	<b>-0.9</b>	<b>-1.0</b>	<b>-1.2</b>	<b>-1.7</b>	<b>-1.3</b>	<b>-1.6</b>	<b>-2.0</b>	<b>-1.6</b>	<b>-1.6</b>
<b>Operating costs</b>	<b>-7.6</b>	<b>-7.7</b>	<b>-7.2</b>	<b>-6.5</b>	<b>-6.5</b>	<b>-6.0</b>	<b>-6.3</b>	<b>-6.1</b>	<b>-6.7</b>	<b>-6.9</b>
<b>Tax charges and other</b>	<b>-2.7</b>	<b>-2.6</b>	<b>-2.1</b>	<b>-2.0</b>	<b>-1.8</b>	<b>-2.4</b>	<b>-2.2</b>	<b>-1.5</b>	<b>-2.0</b>	<b>-1.4</b>
<b>Results</b>	<b>3.6</b>	<b>4.2</b>	<b>3.0</b>	<b>3.1</b>	<b>4.5</b>	<b>3.9</b>	<b>2.7</b>	<b>4.1</b>	<b>4.7</b>	<b>6.3</b>
<b>Other Comprehensive Income (OCI)</b>				<b>0.6</b>	<b>-0.1</b>	<b>1.4</b>	<b>0.9</b>	<b>0.5</b>	<b>-0.3</b>	<b>-1.3</b>
Revaluation of Properties, plants, equipment and intangible assets				0.1	0.4	0.4	1.5	0.2	0.1	0.0
Exchange differences on translation of financial statements				0.5	0.2	0.9	-0.4	0.3	0.0	0.7
Results on securities (marked to market)				0.0	-0.7	0.0	-0.1	0.0	-0.3	-2.1
<b>Total results (ROA)</b>	<b>3.6</b>	<b>4.2</b>	<b>3.0</b>	<b>3.8</b>	<b>4.4</b>	<b>5.2</b>	<b>3.6</b>	<b>4.6</b>	<b>4.3</b>	<b>5.0</b>
<b>Total results / Net worth (ROE) - In %</b>	<b>28.5</b>	<b>33.1</b>	<b>26.2</b>	<b>32.5</b>	<b>40.2</b>	<b>48.6</b>	<b>33.5</b>	<b>41.9</b>	<b>40.2</b>	<b>43.8</b>

Source: BCRA

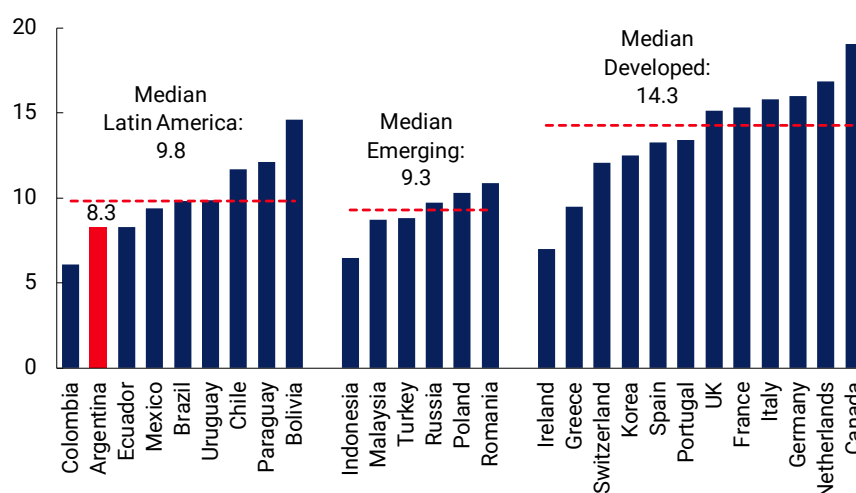
Loan loss provisions contracted slightly relative to the peak recorded in the first quarter of the year, even though they stood at high levels against previous years. In turn, administrative expenses went up over the period, mainly due to expenses not related to staffing.<sup>29</sup>

### 3.3.1 Specific Elements of Resilience

**Limited leverage level and sizable solvency levels in the ensemble of banks.** The domestic financial system exhibits a reduced (and decreasing) level of leverage –total assets relative to net worth–, which stands below that of other countries of the region, other emerging economies and also advanced economies (see Chart 16). This ratio stood at 8.3 in September, 1 and 1.2 times lower than in March 2019 and September 2018, respectively. In terms of the international standards recommended by the Basel Committee, the Leverage Ratio (capital with greater loss-absorbing capacity in terms of total exposure measure) reached 9.1% as of September, sizably exceeding the domestic regulatory minimum of 3% (requirement in line with international recommendations). These ratios prove not only the sector’s soundness but also its capacity to resume the process devoted to financing investment and consumption, vis-à-vis an eventual reversal of the business cycle and adjustment of expectations.

<sup>29</sup> Administrative expenses accumulated in the last 12 months up to September accounted for 16.1% of loans to the private sector; this level stood relatively high if compared to the level of other financial systems (for example, in a regional comparison, the average for Chile, Peru and Colombia reached 4.5%), in line with a lesser scale of operations at domestic level, among other factors.

**Chart 16 | Financial system leverage**  
International comparison – Assets / Net Worth



Note: Data to 2019; except Ecuador, Russia, Switzerland, United Kingdom (UK), France and Italy to 2018; Uruguay and Korea to 2017.  
Source: BCRA and IMF

The ensemble of financial institutions kept a high level of solvency and exhibited broad conservation capital buffers and the additional buffer for systemically important banks.<sup>30</sup> The financial system's Adjusted Stockholders' Equity (ASE) stood at 16.3% of risk-weighted assets (RWA) in September, posting a slight increase against the level recorded in March (+0.3 p.p.),<sup>31</sup> and with a nominal increase of the ASE that exceeded the nominal rise of APRs.<sup>32</sup> In terms of the prudential minimum capital requirement, the Adjusted Stockholders' Equity accounted for 184% for the financial system in September. Tier 1 capital, which reflects a better capacity to absorb losses, accounted for 88% of the total ASE. The aggregate amount of Tier 1 capital that each institution allocated to cover the conservation capital buffer accounted for 90% of the level required.

## 4. Other Topics of the Financial System Stability

### 4.1 Domestic Systemically Important Banks (D-SIBs)

The macroprudential risk monitoring approach focuses on the special follow-up of some domestic institutions with systemic characteristics, taking into account their size, degree of interconnectedness, complexity and degree of substitutability of activities.<sup>33</sup> If any of these institutions were in trouble to perform its duties, this could give rise to a systemically important impact for the economy at large.

<sup>30</sup> Conservation capital buffer of 2.5% of RWAs, which is increased by 1% of RWAs in the case of banks defined as systemically important.

<sup>31</sup> This evolution was mainly explained by private banks.

<sup>32</sup> For further detail about the recent evolution of solvency ratios, see the [Report on Banks](#). The increase of the Adjusted Stockholders' Equity over the period was mainly explained by nominal profits. In addition, in the last six months, some financial institutions made capital contributions for around \$15.5 billion. In turn, a group of banks distributed dividends for an amount close to \$32.8 billion from April to September (around 90% was distributed between April and May, as a result of the Shareholders' Meetings held by institutions).

<sup>33</sup> The definition of domestic systemically important banks (D-SIBs) may be consulted [HERE](#).



**Table 3 | Main soundness indicators for institutions classified as D-SIBs**

	Sep-18	Mar-19	Sep-19
<b>Liquidity</b>			
Broad liquidity (%)	45.5	52.5	49.1
In \$	43.1	49.2	46.4
In US\$	50.1	57.5	54.7
<b>Solvency</b>			
Capital compliance / RWA (%)	15.8	15.9	16.2
<b>Profitability</b>			
ROE (quarterly %a.)	61.3	40.4	43.4
<b>Credit to private sector</b>			
Gross exposure / Assets (%)	41.8	38.3	42.0
Non-performing financing ratio (%)	1.8	3.2	3.9
(Non-performing portfolio - Adjusted provisions) / NW (%)	0.0	2.2	3.0
<b>Credit to public sector</b>			
Gross exposure / Assets (%) (1)	15.4	13.8	14.2
<b>Foreign currency position</b>			
(Assets - Liabilities + Foreign currency term purchases) / ASE (%)	19.9	17.2	23.2

(1) Position in government securities (without BCRA securities) + Loans to the public sector.

RWA: Risk Weighted Assets

Adjusted provisions: provisions net of the estimated minimum provisions on the performing portfolio.

Source: BCRA

As of September, the group of institutions classified as D-SIBs accounted for slightly over one half of the domestic financial sector's assets. They complied in full with the additional capital conservation buffer specifically defined for them since 2016<sup>34</sup>, while their soundness indicators were in line with the aggregate indicators of the financial system. In particular, capital compliance relative to risk-weighted assets (RWAs) of this group of banks was similar to that of the financial system, while their liquidity levels were also high. Both the non-performance ratio and the balance sheet exposure to credit risk went up against the figures of the previous IEF, even though these ratios are lower than those recorded by the aggregate financial system (see Table 3).

## 4.2 Interconnectedness of the Financial System

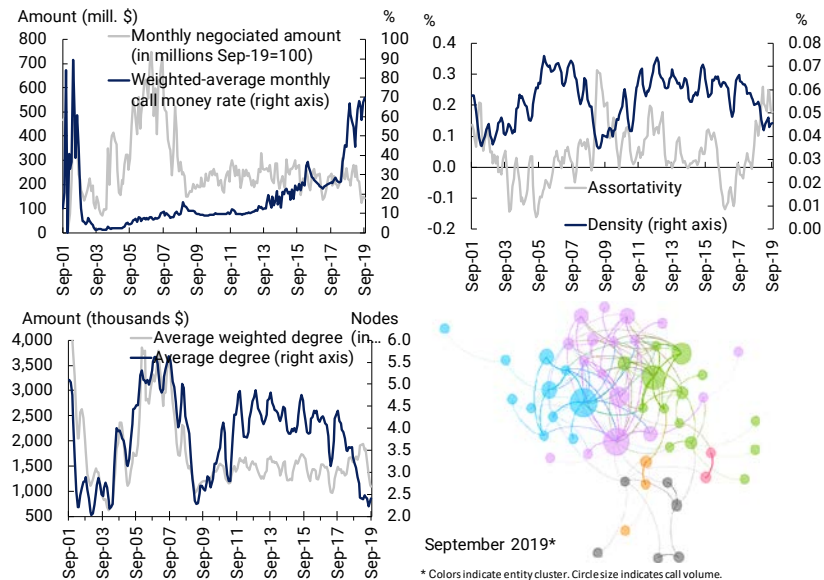
Within the recent context of financial volatility, there was an increase of the interest rates in the call market, a widening of the spread relative to the LELIQ interest rate and a reduction of the amounts traded in this market (in real terms).

The analysis of a large set of network metrics suggests that, in the last six months, the degree of interconnectedness through the call market has lost ground.<sup>35</sup> From a systemic risk perspective, upon an eventual materialization of risks, a lesser interconnectedness among financial institutions might give rise to a relatively slower and more limited propagation of the shock.

<sup>34</sup> See footnote 30.

<sup>35</sup> In the Argentine financial system, the call money market is small (the average daily stock reaches 0.5% of the private sector stock of deposits) but it is one of the main sources of direct interconnectedness among financial institutions. Despite its relative low volume, banks resort to this market to manage their liquidity, and the signal provided by its prices (rates) is considered to be important since these are unsecured transactions.

**Chart 17 | Metrics of the network analysis and network graph for the call market**



Source: BCRA

In particular, for the call network, both the density and the average degree contracted against the situation observed in the IEF First Half 2019 (see Chart 17).<sup>36</sup> In this same line, the assortativity<sup>37</sup> of the network stood at positive and higher values than six months ago, and this suggests that institutions tend to be connected with others of a similar degree. A comparison with other episodes of volatility shows that until September 2019 the reduction of interconnectedness was more moderate (for example, if compared to the period related to the 2008-2009 financial crisis).

## 5. Main Measures of the Macroprudential Policy

As detailed in IEF First Half 2019, a large set of tools for the macroprudential policy was introduced in recent years to prevent different systemic risk sources that may impact adversely on the Argentine financial system. In recent months, some changes were introduced to the existing macroprudential regulations while new regulations were added.

On the one hand, it was established that, as from 2020, the banks classified under Group “A” where the controlling company is a “holding” (not a financial entity) must comply with the regulations on “Minimum capital of financial institutions”, “Large exposures regime”, “Liquidity coverage ratio” (LCR) and “Net stable funding ratio” (NSFR) under a consolidated basis (including the holding company and all subsidiaries performing financial activities, except for insurance companies).<sup>38</sup>

On the other, in order to keep stability and protect the savers, the National Executive Branch (PEN) and the BCRA have recently adopted a series of measures. A limit was set to the spot position of banks in foreign currency (the

<sup>36</sup> For a definition of the metrics, see Exhibit 3 of IEF Second Half 2018. A dense network is defined as such where the number of actual links is close to the maximum number of all possible linkages. A high average degree for a network implies a relatively high connectedness of nodes among one another.

<sup>37</sup> Assortativity is defined as the correlation ratio between the degrees of nodes linked to one another. The network is assortative for positive values and disassortative for negative values.

<sup>38</sup> The specific references to BCRA’s communications are detailed in the [Regulatory Annex](#).

higher of 4% of the Adjusted Stockholders' Equity corresponding to the previous month or the sum of US\$2.5 million). In addition, changes were introduced to the regulations of the foreign exchange market, by setting a group of parameters for the inflows and outflows of this market, but keeping full freedom to withdraw dollars from bank accounts and preserving the normal operation of foreign trade. Likewise, the terms to settle collections on the exports of goods were changed and legal persons residing in the country were authorized to purchase foreign currency without any restriction for imports or for the payment of debts at maturity and, with the previous approval by the BCRA, to make purchases of foreign assets, to transfer earnings and dividends abroad and to make transfers abroad. In turn, natural persons were authorized to purchase, without any limitation, up to US\$10,000 per month through a debit from a bank account, even though this ceiling was reduced to US\$200 per month by the end of October.

In line with the foregoing, and on the basis of the evaluation explained in the previous issue of the IEF, the BCRA decided to keep unchanged the level required for the Countercyclical Capital Buffer<sup>39</sup> (at present, the ratio is 0%). The main considerations behind this decision include the continuity of the current contraction period of lending to the private sector (with a path standing below its long-term trend) within a context of a weak economic activity level, low structural levels of companies' and households' indebtedness, evolution of the terms and conditions used by financial institutions to create new financing in recent periods, and the low exposure to credit risk and high solvency levels of the financial system.

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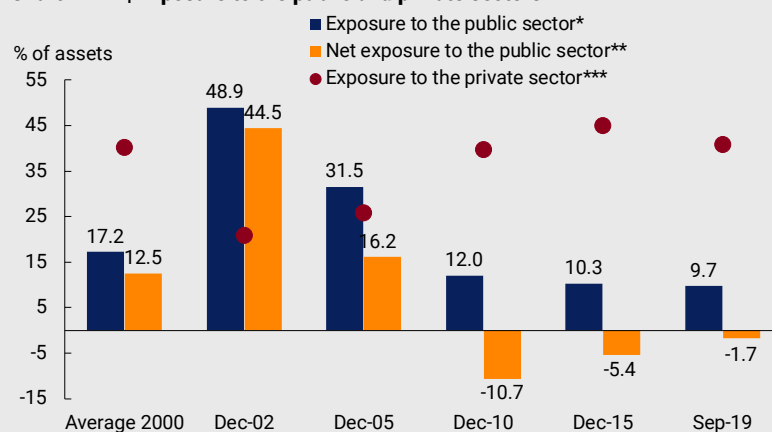
<sup>39</sup> See Consolidated Text on [Distribution of Profits](#). The Countercyclical Capital Buffer is a macroprudential policy tool available to the BCRA, the main purpose of which is to protect financial institutions from a buildup of systemic risk resulting from an excessive growth of credit at aggregate level.

## Exhibit 1 / Low Exposure of the Financial System to the Public Sector Risk

The exposure of the ensemble of financial institutions to the public sector –at all its levels– has remained at historically low levels for over ten years. This characteristic of the aggregate balance sheet of the financial system is a relative strength factor for the sector. The limited exposure to the public sector partly results from a set of macroprudential regulations adopted in 2002, especially those that seek to mitigate the vulnerabilities faced by the institutions as a result of a concentrated exposure to one specific sector of the economy.<sup>40</sup> In this context, the recent liquidity tensions faced by the National Public Sector, which led the National Executive Branch to reschedule the repayment terms of the Treasury Bills did not significantly impact on the liquidity and solvency levels of the ensemble of domestic banks.

Until the beginning of the last decade, the domestic banking regulatory framework did not have maximum limits in terms of financing to the public sector.<sup>41</sup> Even though this situation was in line with the international recommendations on the matter, the typical characteristics and challenges usually faced by developing economies were left aside. In the case of Argentina, the exposure of the financial system to the public sector started to increase steadily, due in part to the impact of an adverse international scenario during the second half of the 1990s. As a result, by the early 2000s and partly due to the measures adopted after the exit from the convertibility regime<sup>42</sup>, almost half of bank assets consisted in securities and loans to the public sector (see Chart A.1.1.), nearly three-folding the share of financing granted to companies and households.

**Chart A.1.1 | Exposure to the public and private sectors**



\* (Position in government securities (does not include BCRA instruments) + Loans to the public sector) / Total assets. \*\* (Position in government securities (does not include BCRA instruments) + Loans to the public sector - Public sector deposits) / Total assets. Public sector includes all jurisdictions (national, provincial and municipal). \*\*\* Total financings to the private sector / Total assets. Source BCRA

For the purpose of reactivating the saving intermediation process of the economy and focusing it on the financing of production and household consumption, while simultaneously seeking to prevent new episodes of excessive balance sheet exposure to a specific type of debtor, as from 2003, the BCRA set limits to the exposure

40 For instance, the domestic regulation on "[Large Exposures Regime](#)" analyzes this problem of private debtors' concentration (see Exhibit 5).

41 Even more, sovereign bond holdings of the National Public Sector had a "0" (zero) risk weight for the calculation of the Minimum Capital Requirements to hedge credit risk of the institutions

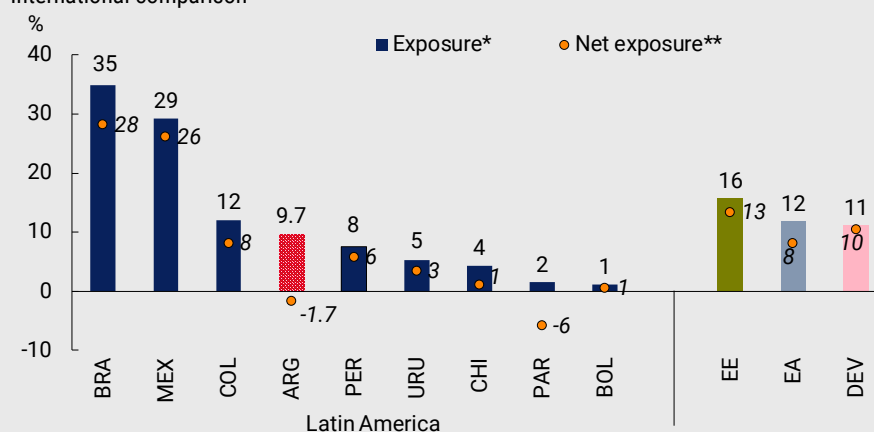
42 For further details see [Monetary and Financial Bulletin](#) - 2002 Annual Edition.

of financial institutions to the public sector. In this sense, the BCRA required the explicit authorization by the monetary authority for some types of financing. The abovementioned limits considered both the aggregate financing to the public sector in terms of assets and capital of financial institutions, and its composition as per governmental jurisdiction level.<sup>43</sup>

As a result, by mid-2000s, the financial system started a process aimed at reducing its exposure to the public sector, which included all groups of banks (domestic private banks, foreign private banks and state-owned banks). Consequently, as a result of its macroprudential regulation, the Argentine financial system has managed to attain a low dependence on the public sector, standing at a level below that of other emerging economies and also developed countries (see Chart A.1.2.).<sup>44</sup>

**Chart A.1.2 | Exposure to the public sector**

International comparison



\*Exposure: (Position in government securities (does not include BCRA instruments) + Loans to the public sector) / Total assets \*\*Net exposure: (Position in government securities (does not include BCRA instruments) + Loans to the public sector - Public sector deposits) / Total assets. Countries: Brazil (BRA), Mexico (MEX), Colombia (COL), Argentina (ARG), Peru (PER), Uruguay (URU), Chile (CHI), Paraguay (PAR), Bolivia (BOL). Emerging Europe (EE): Turkey, Russia, Romania, Bulgaria and Hungary. Emerging Asia (EA): Thailand and Indonesia. Developed (DEV): Spain, USA, France, Japan, Italy, Australia and Germany.  
Source: BCRA and IMF (International Financial Statistic)

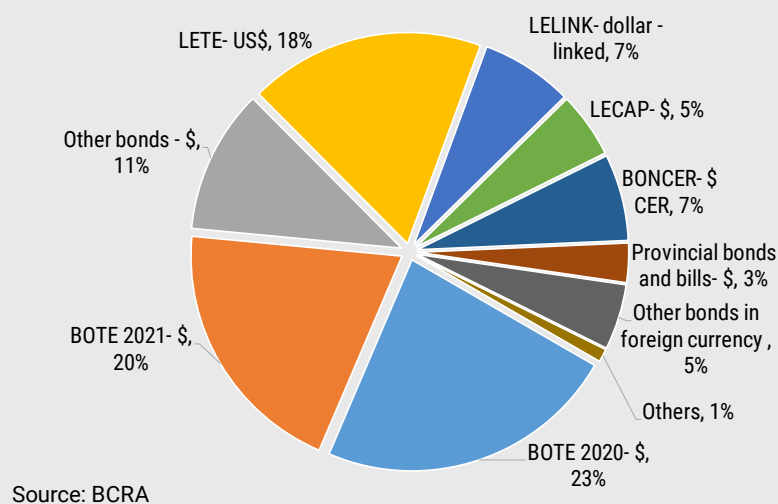
An analysis of the aggregate financial system exposure to the public sector shows that slightly over 90% is made up by the sovereign bonds portfolio whereas the rest consists of loans granted to different governmental jurisdictions. It is worth mentioning that over two-thirds of the bonds portfolio –at book value– consists of instruments in domestic currency (see Chart A.1.3). Among bonds in pesos, the bonds payable within the next three years stand out, with a special share of the National Treasury Bond due November 2020 (commonly known as BOTE 2020), an instrument that financial institutions can use to comply with the Minimum Cash

43 The financing limit to the aggregate public sector was introduced by Communication "A" 3911 of 2003, effective as from 2006. Currently, this limit in terms of assets is 35% (Communication "A" 4546, effective as from 2007). Additionally, limits were also set on the basis of the institutions' net worth: a. 50% of each entity's net worth for financing to the national public sector; b. 10% of net worth for financing to each provincial jurisdiction or the Autonomous City of Buenos Aires; and c. 3% of net worth for financing to each municipal jurisdiction. The total financing granted according to c. shall not exceed 15% of the bank's net worth. Total aggregate financing (addition of items a., b. and c.) cannot stand above 75% of the institution's net worth. See Consolidated Text on "Financing to the Non-Financial Public Sector". The macroprudential regulatory scheme consolidated in 2017 when the BCRA included new parameters to authorize banks to take on debt of provincial and municipal governments, setting more stringent limits to this exposure in terms of the "debt service-to-income" ratio for a provincial/municipal government to get the approval of the BCRA (down from 40% to 20%) (Communication "A" 6270). Before this Communication, this ratio only considered the collateralized debt with the financial system while, as from this Communication onwards, the ratio also considers the debt acquired abroad as well as any debt with the financial system that is not collateralized.

44 Considering the latest information available (as of September 2019), the exposure of state-owned banks to the public sector reached 18.7% of assets, while domestic private banks' exposure stood at 4.1% and foreign private banks' exposure stood at 4.6%.

Requirements.<sup>45</sup> The Treasury Bills –both in dollars and pesos–, the payment profiles of which were rescheduled by late August to extend their payment term along the first three quarters of 2020 ([Executive Order 596/19](#)) –illustrated in Chart A.1.3 as LETE for instruments in dollars, LELINK for dollar-linked instruments in pesos, and LECAP for instruments to be Capitalized in pesos–, account for around 30% of the book value of the total bond portfolio of all banks (equivalent to 2.6% of netted assets).<sup>46</sup> Given the characteristics of the bonds and bills of the portfolio, before the abovementioned reschedule, almost 25% of the total portfolio value (residual value) was to be repaid in the last four months of 2019, while one third would be repaid in both 2020 and 2021. After the rescheduling, some 2019 payments were redistributed to 2020 and, as a result, the repayments for the last months of 2019 have been reduced to 10% of the total and increased to 50% in 2020, thus changing to a lesser extent the relatively sizable liquidity position of financial institutions<sup>47</sup> (see the Section on main strengths of the financial system.)

**Chart A.1.3 | Composition of the sovereign bonds portfolio of the financial system**  
Book value at August 2019



In perspective, the sound macroprudential policies implemented by the BCRA in terms of the financial system lending to the public sector over the last seventeen years have helped institutions to keep relatively appropriate diversification patterns in their credit portfolios, contributing to reduce potential sources of systemic risk and to improve their level of resilience vis-à-vis a more challenging domestic context.

<sup>45</sup> Consolidated Text on [Minimum Cash](#).

<sup>46</sup> This value stands at 23% in the case of state-owned banks (3.6% of their assets) and at 47% for private banks (2.1% of their assets).

<sup>47</sup> The reduction in collection of repayments during the last four months of 2019, considering both nominal flows in pesos and in foreign currency for the financial system –taking the peso/dollar exchange rate of late August 2019, without any additional adjustments– would account for approximately 3% of broad liquid assets of the sector by late August 2019.

## Exhibit 2 / Second Cyber Exercise Performed in the Financial System

Digital transformation promotes the use and adoption of new financial services and products which, from the perspective of the users, have provided a positive experience. Nevertheless, these services may entail new security risks that, under certain circumstances, might give rise to incidents impacting, suddenly and unexpectedly, on the stability conditions of the financial system and adversely affecting the real sector of economy as well.

As detailed in the [IEF Second Half 2018 \(Exhibit 4\)](#), there were many digital incidents in recent years which have caused both direct and indirect economic damages to financial institutions. In this context, international organizations started to promote, on the one hand, the adoption of good practices in terms of prevention, detection and monitoring of security problems, and have encouraged the early detection of cybersecurity incidents. But, on the other hand, and due to the increasing likelihood of having incidents of this nature and origin, progress has been made as well in the implementation of measures to prepare financial regulators and supervisors to provide a quick response to any eventual incident in the future and to make available to them the most appropriate recovery mechanisms.

Within the framework of these measures, one of the most recommended activities at international level consists in the execution of tests or trials, also known as cyber exercises, intended to analyze these processes and check their level of readiness and their current capacity of response and recovery upon a cybersecurity incident. The findings detected in these exercises are useful lessons to promote the updating and improvement of the existing procedures so as to increase the maturity level of the incident management processes and adjust them to the current risks.

In this respect, and as part of the awareness and continuous improvement strategy for cybersecurity processes, by late 2018, the Central Bank of Argentina (BCRA) carried out the first voluntary cyber exercise in the country in order to have an overview of the domestic cybersecurity situation in the financial system. This exercise was a first approach towards the capacities in place in terms of communication, coordination and response to a cybersecurity crisis of domestic banks. In this scenario, it should be mentioned that cybersecurity problems are not only limited to technological issues but include the processes carried out by organizations and even governments. During 2019, some regulations contributing to the protection of the financial system have been implemented, such as [Resolution 1523 of the Government Secretariat of Modernization](#), which identifies the financial sector as critical Infrastructure. The National Cybersecurity Strategy, published under [Resolution 829](#), states that one of its key objectives is the protection of critical infrastructures that enable the provision of essential services for society and economy.

In line with the awareness and continuous improvement plan, in September 2019, the BCRA carried out a second cyber exercise and simulated a crisis scenario generated by a cybersecurity incident in one of the digital services provided by the system. The purpose of this scenario was to make a preliminary diagnosis of the financial system's existing level of readiness, communication and coordination upon an eventual cybersecurity incident with sufficient potential to affect the domestic conditions of financial stability.

A group of financial institutions was selected for this second cyber exercise on the basis of their systemic importance from the viewpoint of the domestic financial market. A team of technicians represented each bank –from different internal areas– who had to emulate the actions that would occur if they had to face a real incident. In part, the idea was to create awareness in the participants about the fact that this topic was not exclusively related to IT aspects but included several other areas of the institutions as well. On this occasion, members of the National Cybersecurity Committee were invited to participate in the exercise as observers.

The design of the exercise allowed participants to share their insights after each step and to self-assess their own response and recovery processes upon the incident. Likewise, the event enabled the regulator to identify concrete needs for improvement in terms of the coordination and communication circuit upon an incident, pointing to effectiveness and efficiency. In this sense, the exercise has been truly useful to identify and propose a definition of the formal processes aimed at providing timely attention and taking preventive measures vis-a-vis cybersecurity incidents.

The BCRA's strategy seeks to continue organizing activities that may contribute to create awareness, and identify and make progress in cybersecurity risks that may entail a risk for the domestic financial stability conditions.



## Exhibit 3 / Stablecoins. Progress and Implications for Financial Stability

The fast development and adoption of new technologies, added to changes in consumers' preferences, are a real challenge for the providers of financial services and traditional means of payment. The most recent technological advances include digital assets, a type of instrument that both Central Banks and the private sector are developing. Particularly, the most recent developments of the private sector include stable crypto-assets or stablecoins.

Even though there is no widely-accepted definition of stablecoin, it is commonly described as a type of crypto-asset<sup>48</sup> of private origin designed to have a stable value against another asset, normally a fiat currency, goods (such as commodities) or a basket of assets.<sup>49,50</sup> The issue of a stablecoin would be managed by centralized private players. Thus, it would be similar to a deposit in a commercial bank (secondary money makers) but it would be different from the first generation of crypto-assets (such as Bitcoins and Ethers) and from a Central Bank Digital Currency (also known as CBDC), the issue of which is decentralized in the former and made by central banks, in the latter.

Under certain circumstances, these stablecoins could reach a global scale (GSCs).<sup>51</sup> The expansion of stablecoins give rise to several questions about its impact on the traditional monetary-financial system, for example, how will traditional means of payment evolve, compete against, and coordinate with, these new instruments? What are the potential implications from the viewpoint of financial stability? The purpose of this Exhibit is to outline some considerations with respect to this last question.<sup>52</sup>

International forums have started to monitor the implications and risks of crypto-currencies in general and of stablecoins in particular. In general, these organizations agree that even though stablecoins are not yet a source of financial risk at the global level, they could become one in the relatively near future.<sup>53</sup> Since some stablecoin initiatives are being developed by technological companies with a massive global reach (BigTech),<sup>54</sup> it is very likely that they could escalate rapidly around the world and, consequently, these initiatives would require a timely and appropriate monitoring.<sup>55</sup> Recently, Finance Ministers and Central Bank Governors of the G20

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48 For further detail on crypto-assets, see, for example, Exhibit 1 of [IEF – Second Half of 2018](#).

49 In some cases, the stability of their value could be associated with the use of algorithms. To know the characteristics of the different types of stablecoins, see, for instance, ECB (2019), [In search for stability in crypto-assets: are stablecoins the solution?](#)

50 In this sense, their economic operation would be similar to that of a currency board (Eichengreen, 2019).

51 The expression "global stablecoins" refers to stablecoins that would be able to achieve a global reach because they have, in principle, the technical capacity for a quick escalation in terms of users/holders of crypto-assets. This phrase is descriptive and does not necessarily indicate a legal or regulatory classification. See FSB (2019a), [Regulatory Issues of Stablecoins](#).

52 There are important aspects related to digital assets that go beyond the scope of this Exhibit, such as the potential implications in terms of consumer's and investor's protection, privacy and data protection, prevention of money-laundering and the financing of terrorism, tax evasion and tax avoidance, fair competition and antitrust policies, integrity of the market, sound and efficient governance, cybernetic security, operational aspects and an appropriate legal basis, among other dimensions.

53 FSB (2019b), [Chair's letter to G20 Finance Ministers and Central Bank Governors: October 2019](#).

54 Big technological companies that expand their activities towards the direct provision of financial services or the development of products similar to traditional financial instruments. See, for instance, BIS (2019), [Big tech in finance: opportunities and risks](#).

55 The most relevant initiative of this class of stablecoins is Libra Project, announced for June 2020. Other initiatives announced include JPM Coin (JP Morgan) and USC (Fidelity). See G7 (2019), [Investigating the impact of global stablecoins](#).

requested the IMF and other international organizations to continue working on the monitoring and assessment of the potential risks posed by stablecoins at global level.<sup>56</sup>

The current discussion on stablecoins identifies several dimensions, the definition of which is still in progress. Their design might nature of backed, the method for validating transactions, the degree of anonymity, the type and reach of access for users, and other relevant aspects.

In terms of the backing, the initiatives of stablecoins might have to explicitly state if the issue will be partially or fully covered. If they are not fully backed, they would be similar to bank deposits under a fractional reserve scheme. In terms of validation of transactions, stablecoins would allow for peer-to-peer transfers as it happens with cash or CBDCs<sup>57</sup>. It is not clear how the transaction validation scheme would be centralized or decentralized. If, Distributed Ledger Technologies (DLT) might be used, similar to the first generation of digital assets. In this case, direct intervention of a clearinghouse would not be required. If the validation is centralized, it would be similar to the traditional process used by banks or payment processors, for example, in transactions where debit or credit cards are used. In terms of the type of access for users, a stablecoin might be available for both domestic and cross-border transactions. This characteristic becomes especially relevant for projecting the potential scale of these instruments. Stablecoins could be anonymous or traceable, and that have implications on the type of transactions performed.

The potential demand for a stablecoin is currently unknown. The main determining factors of stablecoins are: the value of the services provided in terms of speed and easiness (usability) of making payments and/or to transfer money; the level of acceptance for the purchase of goods and services and for tax payments; the opportunity of preserving anonymity in the transactions; the net economic cost-effectiveness of the transaction (if holdings were remunerated) and the instrument's risk perception, which will depend on the structure of its supply.

The final characteristic in stablecoins will affect the demand for it as a means of payment and, consequently, affect financial and monetary conditions of both emerging and developed economies. Under certain supply characteristics, an increase in the relative demand for stablecoins might reduce the demand for traditional means of payment such as cash or bank deposits. Moreover, any potential loss of confidence in a specific stablecoin, when its backup in fiat money or assets would not apply to the total amount issued, may lead to sudden withdrawals of deposits of these stable assets. This situation may give rise to tensions similar to those of deposit withdrawals from banks.

Stablecoins may also entail additional financial risks, especially for emerging economies. Under certain macro-financial contexts in a developing economy, the existence of a stablecoin linked to a foreign currency might lead to a relatively more volatile demand for assets denominated in domestic currency, particularly banknotes and bank deposits. This situation might have some impact on the monetary and financial stability of the country.

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<sup>56</sup> G20 (2019), [Press Release on Global Stablecoins](#).

<sup>57</sup> An instrument that is also under analysis and development in several advanced and emerging economies. See, for instance, BIS (2019), [Proceeding with caution - a survey on central bank digital currency](#).

<sup>58</sup> Certain vulnerabilities may worsen when there are episodes of nominal and foreign accounts tension, providing an additional channel for capital outflows.

In October 2019, global leaders agreed on the fact that the challenges and risks of global stablecoin initiatives need to be assessed and addressed appropriately before they are implemented. In this respect, it is critical to make progress towards the analysis of appropriate systemic designs as well as towards the assessment and eventual implementation of a clear regulation, commensurate with the risks associated with stablecoins. Consequently, the regulatory response is expected to consider cross-border issues taking into account the perspective of emerging and developing economies (G7, 2019; G20, 2019).<sup>59</sup>

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<sup>58</sup> Besides, the global nature of a stablecoin with these characteristics might give rise to sovereignty problems regarding the users' data control ([Banc de France 2019](#)).

<sup>59</sup> See footnotes 56 and 57.

## Exhibit 4 / Macroprudential Regulations in Argentina Encouraging Resilience of the Financial System upon Uncertainty Conditions

Since 2002, Argentine authorities made progress in modifying the regulatory framework applicable to the financial system, seeking to promote a modality of intermediation of resources whereby exchange fluctuations may have the lowest possible adverse effect on the participants' net worth (depositors, debtors and banks) and on the economy as a whole. The spirit of the regulatory changes was based on the separation of foreign currency transactions from domestic currency transactions. This has helped the system appropriately face the recent events of high uncertainty.

In order to deal with potential vulnerabilities associated with tension in the exchange market, from mid- 2002, the monetary authority established that foreign currency deposits may only be used by banks to finance debtors with income from foreign trade transactions and related activities.<sup>60</sup> This macroprudential measure was intended to limit the exposure of banks to the credit risk component related to the impact of potential exchange rate fluctuations on the debtor's balance sheet.

Even though the domestic prudential regulations already provided for minimum reserve requirements on deposits, other measures were implemented to strengthen the liquidity risk coverage taking into account the experience of the 2001 crisis. Specifically, the BCRA established the obligation for banks to keep available (liquid) all and any funds from foreign currency deposits not applied to loans also in foreign currency.<sup>61</sup>

In addition to reducing the exposure of the financial system to mismatches in the debtor's balance sheet and consolidating liquidity in foreign currency, domestic rules and regulations also helped limiting mismatches in banks' balance sheets. The prudential regulation on the Net Global Position in Foreign Currency implemented in May 2003 is a simple measure of net exposure in the banks' balance sheets, on which both minimum and maximum limits were imposed (in terms of level of capital).<sup>62</sup>

On a supplementary basis, the BCRA included the risk of exchange rate fluctuations in regulations on minimum capitals for financial institutions as one of the Market Risk categories.<sup>63</sup> Thus, risk is addressed by positions in foreign currency in the banking business as a whole, not only in trading operations, and it is required to hedge with capital any possible losses due to exchange rate changes according to the Value at Risk methodology, with high levels of confidence.

This combination of measures helped the financial system face, with adequate resilience, periods with a significant decrease of foreign currency deposits. In particular, in the context of exchange rate hike after the primary elections (August 11, 2019) and of higher financial volatility, there was a reduction in the stock of private sector deposits in foreign currency (see Chart A.4.1). Even though this episode turned out to be one of the most

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60 According to original text of [Article 23 of Executive Order 905/02](#), replaced by [Article 63 of Law 26546](#). Later on, this was regulated by the BCRA through standards on [Credit Policy](#).

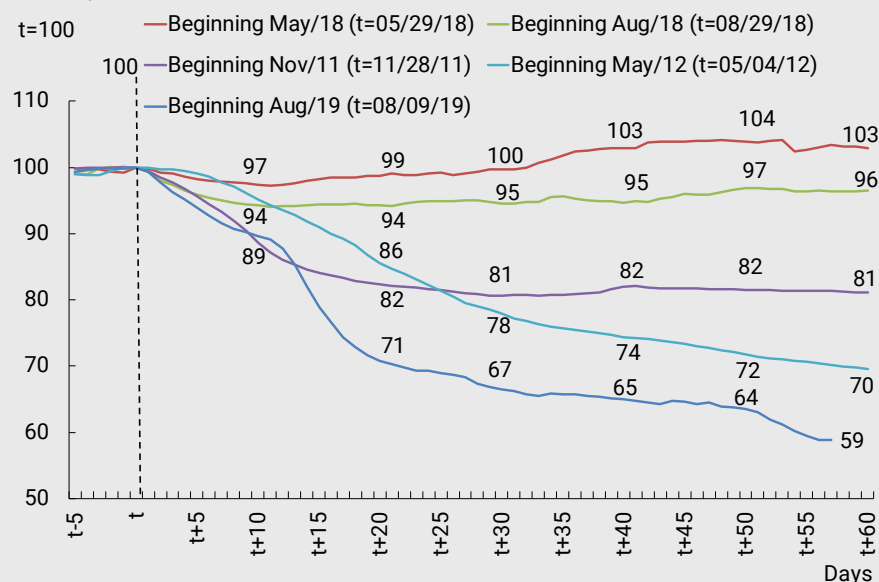
61 See Consolidated Text on [Credit Policy](#) and Consolidated Text on [Minimum Cash Requirements](#).

62 See Consolidated Text on [Net Global Position in Foreign Currency](#).

63 See Consolidated Text on [Minimum Capitals of Financial Institutions](#).

severe vis-à-vis the experience in prior years, the current stock of private sector deposits in foreign currency still stands at relatively high levels if compared to the experience of the last 15 years (see Chart A.4.2).

**Chart A.4.1 | Episodes of declining stock of private sector deposits in foreign currency – Currency of origin**



Source: BCRA

**Chart A.4.2 | Stock of private sector deposits in foreign currency**

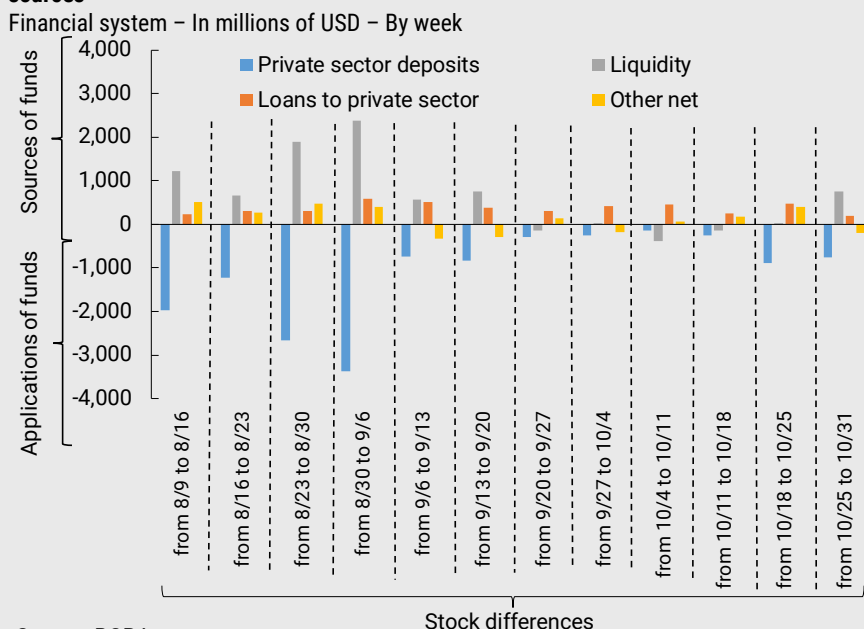


Source: BCRA

The above-stated drop of private sector deposits in foreign currency gradually decelerated as weeks went by, within the framework of the measures adopted by the Ministry of Economy and the BCRA. From the standpoint of cash flow for the financial system, during the first four weeks, the withdrawal of funds was covered, mainly, with liquidity (funds in banks' current accounts with the BCRA and cash) whereas, as days went by, funds from

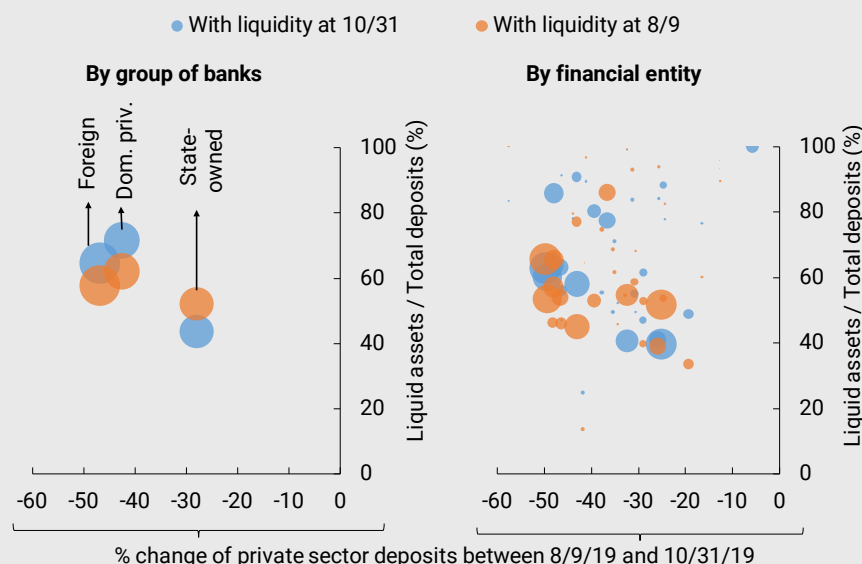
collection of some loans in US dollars granted to the private sector –mainly exporters– became more relevant (see Chart A.4.3).<sup>64</sup>

**Chart A.4.3 | Drop of public sector deposits in foreign currency and calculation of funding sources**



Source: BCRA

**Chart A.4.4 | Foreign currency deposits and liquidity coverage**



Source: BCRA

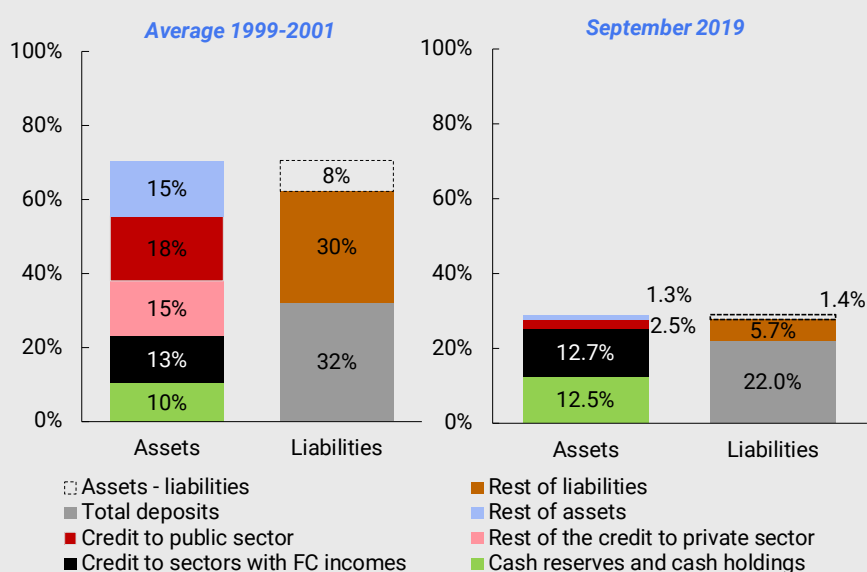
Even though the ensemble of banks (both domestic and foreign banks) faced a more marked relative fall of private sector deposits in foreign currency since the primary elections, this group managed to keep a high level of liquidity coverage (higher than the weighted average of the financial system, and slightly higher than the level recorded on the day before the elections, see Chart A.4.4). This mirrors the performance of private banks of a larger relative size.

<sup>64</sup> The average term of loans in foreign currency stood at 255 days between March and August 2019.

To sum up, the current macroprudential framework for the financial system takes into account the risk of exchange fluctuations among its core aspects. This was observed in the transformation of the banks' balance sheets, showing a significant contrast between the situation prior to 2002 and the current situation. At present, 71% of banks' total assets is denominated in domestic currency, while this value only reached 30% in 2001 (see Chart A.4.5), whereas credit in foreign currency is granted to sectors with income in such currency. Besides, as of September 2019, funding in foreign currency had come mainly from deposits, within a framework where funds not applied to credit must be kept liquid. In turn, the spread between foreign currency assets and liabilities is relatively low. These characteristics have helped the financial system to be better prepared to face episodes of exchange tension.

**Chart A.4.5 | Foreign currency items of the financial system's balance sheet**

In % of assets



FC: Foreign currency. Source: BCRA

## Exhibit 5 / Evolution of Debtor Concentration in the Domestic Banking Market

For almost three decades already, the Argentine regulatory framework counts on a set of rules and regulations seeking to encourage the diversification of the debtors' portfolio of financial institutions. Such rules and regulations are intended to prevent situations where a bank is excessively exposed to individual clients –taking into account both households and companies–, which may markedly increase the levels of credit risk taken and, potentially, impact adversely on its capital. In this context, the maximum limits applicable to lending to clients were established in terms of the banks' regulatory capital, and at the same time, maximum limits were established for the aggregate of the most representative debtors in the net worth of each institution.<sup>65</sup> These maximum limits are part of a broader set of regulations implemented by the BCRA which encourage banks to perform a healthy management of the credit risk they face.<sup>66</sup>

Most recently, and by virtue of the Basel Committee's international recommendations on this matter, by the end of 2018, the BCRA made several changes to regulations on debtor diversification.<sup>67</sup> The new international recommendations focus on protecting the capital of financial institutions upon any potential losses due to exposures to large debtors, a factor already considered by Argentina in its own regulations. In addition, some specific aspects were added that improved domestic regulations, among which the following stand out: i. the limits to individual clients start to be measured in terms of the financial institutions' Tier 1 capital (rather than total capital), with a greater capability to absorb any possible losses; and ii. new definitions were included in relation to groups of connected counterparties, whenever between two or more natural persons or legal persons the criterion of a relationship of control or economic interdependence is met.<sup>68</sup> To monitor the appropriate compliance with this regulation by individual financial institutions, in 2019, the BCRA implemented a specific Reporting Regime on Large Exposures to Credit Risk.<sup>69</sup>

Supplementary to the above-stated microprudential supervision, the BCRA conducts a macroprudential monitoring of the exposure to such risk. In this respect, an analysis is made on the relative evolution of the financial system's exposure, in the aggregate, to the credit risk taken with respect to a group of large debtors (an aspect related to the level of credit risk concentration). For such purpose, a set of indicators is periodically prepared, which is based on micro data available at the Debtors' Database, which provide a historical perspective given the size of this information source. On the one hand, a calculation is made of the share of the main debtors in the portfolio of each financial institution in the last 15 years, taking into account the total stock of individual financing at each point in time.<sup>70</sup> With this information at the level of individual institutions, distributions are calculated and prepared for the financial system as a whole.

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65 Regulations on "Credit Risk Diversification".

66 Among other regulations, the domestic rules and regulations on [Credit Calibration](#) applied maximum limits on bank loans to be granted to debtors, taking into account the debtors' net worth. As a general rule, total loans granted to clients may not exceed 100% of their adjusted stockholders' equity (the limit may be extended if approved by the institution's board of directors).

67 Communication "A" [6599](#) provided for the coming into effect of the Consolidated Text on the "[Large Exposures Regime](#)" (as from January 2019), and repealed the regulations on "Credit risk diversification", except for the provisions related to the non-financial public sector that were included in the regulations on "[Financing to non-financial public sector](#)" (see Exhibit 1).

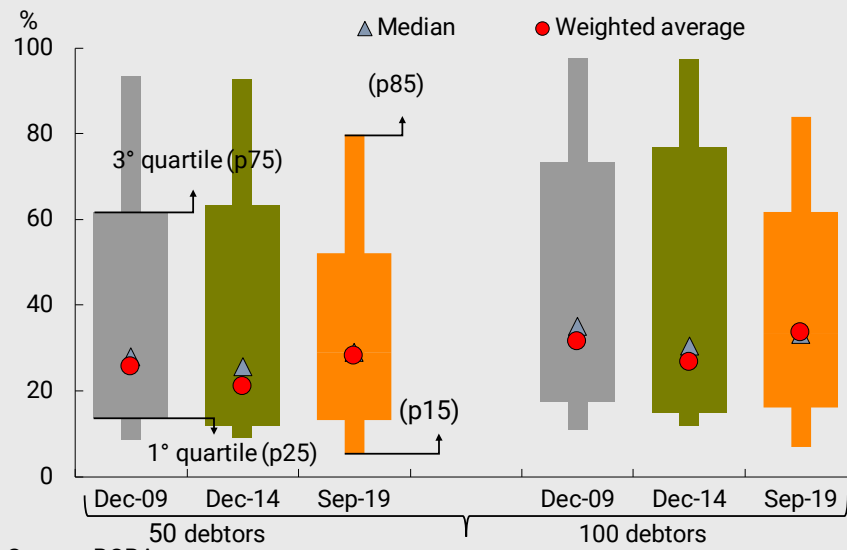
68 In terms of economic interdependence it is assumed that, if one of the counterparties would sustain financial problems –specifically, difficulty to obtain financing or to repay any liabilities–, the other counterparties are likely to experience difficulties as well.

69 Monthly Accounting Reporting Regime on [Large exposures to Credit Risk](#).

70 This information does not contemplate interconnectedness between debtors, but it is contemplated by the Reporting Regime implemented in 2019.



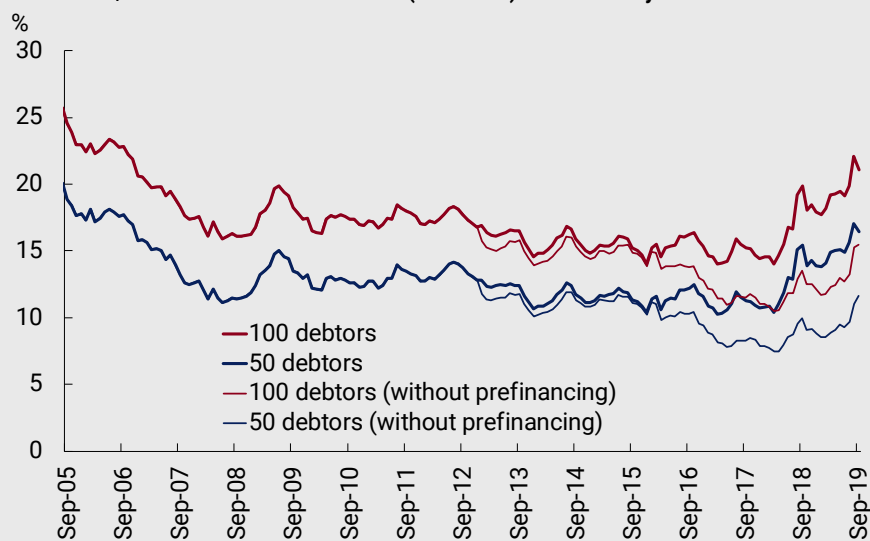
**Chart A.5.1 | Share of the main debtors' stock (% on total) – Financial institutions**



Source: BCRA

As shown in Chart A.5.1, in September 2019, the distribution by institutions of the main 50 debtors exhibited a median of 29% of the portfolio and a weighted average of 28%.<sup>71</sup> These indicators grew against the values recorded by the end of 2014 (+3 p.p. and +7 p.p., respectively), even though they are in line with the values observed 10 years ago (28% and 26% in December 2009). Moreover, in September this year, 75% of financial institutions active in the system presented concentration levels of their main 50 debtors below 52% of the portfolio, an indicator which implied a decrease in recent years. Upon analyzing the case of the main 100 debtors by institution, it is observed that concentration indicators are only slightly above the indicators observed for the first 50 debtors, and this means that the relative weight of additional debtors in the portfolio of all institutions drops markedly.

**Chart A.5.2 | Share of main debtors' stock (% on total) – Financial system**



Source: BCRA

<sup>71</sup> The loan portfolio to the private sector of each institution is weighted in the aggregate of the system.

From a systemic standpoint, the BCRA also monitors the potential sources of vulnerability that, for the aggregate of banks, may result from the exposure to a relatively small group of debtors. Thus, the relative weight is assessed of the lending granted to the main debtors in the whole financial system, vis-à-vis the loan portfolio of the aggregate of the sector. Chart A.5.2 shows the evolution over time of the private sector's first 50 and 100 debtors share, from a systemic point of view. Even though these indicators post an increase since the last quarter of 2018, partly due to the impact of the evolution of the nominal exchange rate on the loans taken in foreign currency (for example, pre-financing, credit lines to fund foreign trade activities),<sup>72</sup> the current concentration levels stand at similar values as those recorded 10 years ago. Specifically, as of September 2019, the share of the main 50 and 100 debtors stood at around 16.4% and 21.1% of the portfolio, and this accounts for 7% and 9% of total assets of the system, respectively.<sup>73</sup>

An additional exercise in the analysis of credit risk concentration –assuming an extreme event of relationship in terms of repayment capacity– consists in taking into consideration, on a jointly basis, both the amounts of bank debt of companies and the loans taken by the staff under an employment contract of such companies. In this exercise, the above-mentioned concentration indicators grew only on the margin, to 17.1% for the main 50 debtors of the system, and 22% if taking into account the first 100 debtors.

It is also appropriate to analyze the level of debtor concentration taking into account the segments of clients with similar characteristics, such as belonging to the same economic activity. Thus, the debtors of the main production segments are taken into consideration (primary production of goods, industry, services, commerce and construction), and the level of diversification/concentration of debtors existing in each one of such segments is assessed. Chart A.5.3 shows the calculation of the Herfindahl-Hirschman Index<sup>74</sup> (HHI) for such groups of debtors, at the level of each financial institution. As may be seen, the portfolios of loans meant to primary production of goods and construction exhibit the indicators with the highest concentration at debtor levels as of September 2019<sup>75</sup> (with medians of 1,020 and 960 in their respective HHIs, with a drop in both cases in recent years), followed by industry and services (medians of 780 and 660, similar to the values of previous periods).<sup>76</sup> The portfolio of loans to debtors of the commerce segment would show the lowest concentration at financial institutions level, with a median of 480 in the HHI calculation.<sup>77</sup> For the aggregate of companies' debtors, the HHI median recorded is 200, and it jumps to 720 upon weighting it by the loan portfolio<sup>78</sup> (posting a drop in recent years).

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72 In each period, the main debtors may vary. Besides, they do not necessarily match those presented by each institution in Chart A.5.1.

73 These values turn out to be moderate if compared to certain international experiences. For instance, in Colombia ([Concentration and Competition in deposit and credit markets, Second Half of 2018](#)) the main 50 debtors of the bank system account for almost 21% of the portfolio, and in the case of Ecuador ([Financial Stability Report as of June 2018](#)) between 22% and 24% with respect to the main 100 debtors. Meanwhile, using the information from the International Monetary Fund ([International Financial Statistics](#)), the percentage on assets would be, in both cases, close to 16%.

74 In the case presented, the Herfindahl-Hirschman Index (HHI) is calculated by squaring the share of each debtor in the loan portfolio of the above-mentioned productive segments (using the debtor's main activity to make groups by business segments). The calculation is performed at individual financial institution level. The HHI can range from 0 to 10,000, where the higher the value obtained from the calculation, the higher the market concentration.

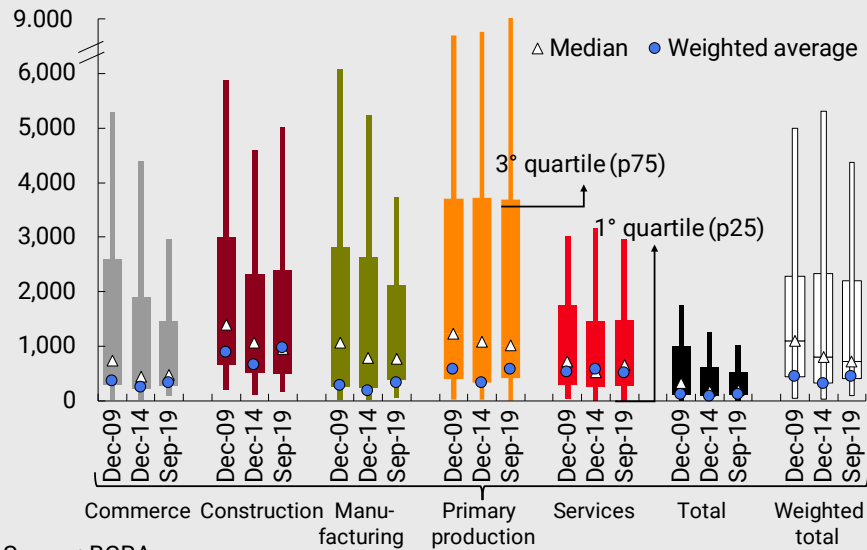
75 At financial system level, the primary production of goods accounts for around 25% of bank loans to companies, whereas construction only reaches a weight of 4%.

76 The industry accounts for around 39% of bank lending to companies, whereas services amount to 18% of total lending.

77 Totalling 14% of bank loans to companies.

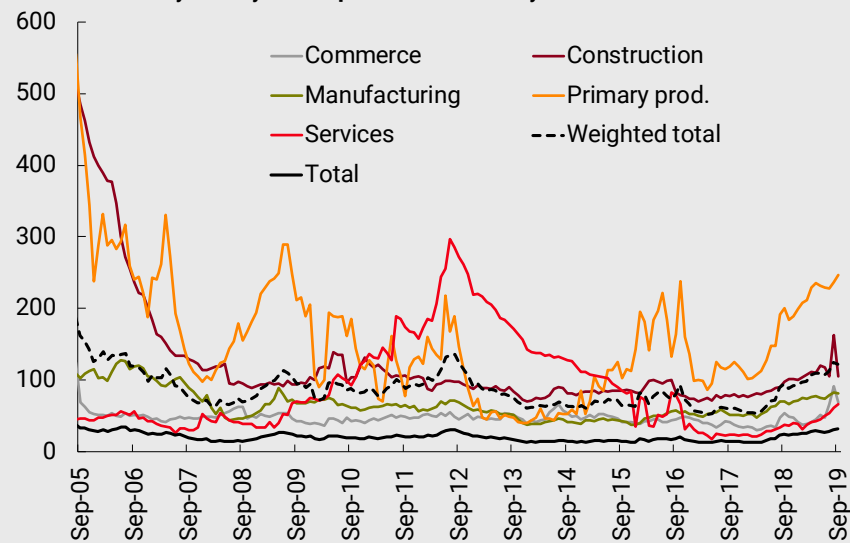
78 The weighting of the index is performed at institution level, according to the relative weight of each activity. Then, the statistical distribution is built.

**Chart A.5.3 | HHI by activity on companies – Financial institutions**



When analyzing the concentration of debtors by sectors from a systemic perspective –rather than by individual financial institutions–, it is also observed that the aggregate portfolios of loans to debtors whose main activities are both primary production –with a certain growth on the margin– and construction, show the highest concentration within the different productive activities (see Chart A.5.4). Upon including all the companies receiving bank lending –regardless of the sector they belong to–, the HHI goes down significantly, totaling just above 30, a value in line with those of recent years. When taking an HHI and weighting the different sectors mentioned above (by virtue of the share of each productive segment in the portfolio of bank lending to companies), the concentration indicator would be close to 125, standing at values similar to those recorded 10 years ago.

**Chart A.5.4 | HHI by activity on companies – Financial system**



In general, from a historical point of view, moderate bank debtor concentration levels are observed in the Argentine financial system.

## Abbreviations 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.

**RPC**: *Responsabilidad Patrimonial Computable*. Adjusted stockholder's equity, calculated towards meeting capital regulations.

**RWAs**: Risk Weighted Assets.

**S&P**: Standard and Poors.

**s.a.**: Seasonally adjusted.

**SEFyC**: Superintendencia 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.