



Financial Stability Report

First Half 2018



BANCO CENTRAL
DE LA REPÚBLICA ARGENTINA

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Foreword

As stated in its Charter, the Central Bank of the Republic of Argentina (BCRA) “has as its purpose the promotion of 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.” In general terms, financial stability exists when the financial system can provide services for funds intermediation, hedging and payments in an adequate manner, efficiently and continuously, even in stress situations.

For the financial system to contribute to economic development with social equity it is essential for there to be financial stability, as well as for the system to be deep and inclusive. These objectives guide the policies implemented by the Central Bank. If families are to entrust their funds to the financial system, it must ensure it protects the value of their savings by providing a positive real return, at the same time as the intermediation process remains sound and macroeconomic risks are adequately managed. A deep financial system allows producers and employers to obtain credit to invest, produce and hire, and families to purchase their home, a car, or finance other projects. By doing so, the financial system operates as a mechanism for promoting the welfare of economic agents and encouraging equity, providing opportunities for those with sound projects who lack the means to undertake them.

To promote the deepening of the financial system and protect its stability, the Central Bank exercises its powers as a regulator, supervisor and liquidity provider of last resort. In addition, it monitors the main developments taking place in the financial and payment systems, assessing potential risks, vulnerability factors and the strength of the sector in the face of potentially adverse scenarios.

In this context, the Financial Stability Report (FSR) is a six-monthly publication in which the Central Bank informs on its view of the state of the financial system, the initiatives adopted for its development, and assesses its stability. In the FSR the Central Bank places special emphasis on the identification and analysis of potential systemic risks and explanations of the actions taken to prevent or mitigate them. This publication is intended to assist agents in the economy to take decisions on the basis of more and better information, facilitating the appropriate management of their activity. The FSR is designed to be an instrument to stimulate debate on matters of financial stability, and in particular, on the Central Bank’s actions in that field.

The next issue of the FSR will be published in November 2018.

Autonomous City of Buenos Aires, May 16, 2018

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Executive Summary

Since the publication of the previous Financial Stability Report (November 2017) and with the economy keeping its growth pace, the financial system continued to make progress in terms of a greater depth, inclusion and modernization, and has shown liquidity and solvency levels that have contributed to sustaining a remarkable degree of resilience in the sector. Also evident is a higher level of competition in the system, within the framework of the measures adopted to this effect. With a 25% real year-on-year (y.o.y.) expansion, in March, lending to the private sector reached a level equivalent to 14.3% of GDP (+2.5 percentage points —p.p.— in the last 12 months). This depth indicator, which still has much room to grow in terms of its own history and the regional comparison, recorded the highest value of the last 15 years. Mortgage loans have played a significant role in the expansion of intermediation (mainly due to UVA-denominated instruments), reaching a stock that grew 200% y.o.y. up to March (to nearly \$93 billion). UVA-denominated mortgage loans, which have facilitated access to housing, have resulted in almost 84,000 new debtors in this line of credit since early 2017.

Within the framework of the measures adopted to modernize and provide the payment system with more security and capacity for inclusion, the trend towards greater availability and use of electronic means of payment continued in this period. Altogether, the amounts involved in immediate transfers, direct debits and use of credit and debit cards recorded a year-on-year increase of nearly 3.9 p.p. in terms of GDP in the first quarter of 2018 (real y.o.y. change of 15.9%) to 32.4%. Despite this expansion, the objective of the Central Bank of Argentina (BCRA) is to move forward towards a greater integration in the use of these means of payment, which are an alternative to cash.

As it was expected, the current expansionary phase of the financial cycle has translated into a gradual increase in risk exposure (mainly related to credit and interest rate) for the ensemble of financial institutions. The indicators available show that the exposure to systemic risk factors would remain low to moderate, without significant changes relative to the description given in the previous Financial Stability Report (IEF). In this respect, on the basis of limited exposures to risk, currency and interest rate, and relatively high levels of coverage at the present time (liquidity, provisions, capital), the financial system continues to show a remarkable degree of resilience to potential adverse changes in the context. This information is based on the result of the stress tests (analysis of scenarios and sensitivity) which are regularly performed by the BCRA. The result of this evaluation is similar to the one made in the previous IEF.

With the disinflation process in progress (after the temporary inflation increases of recent months were left behind) and the effects of a context characterized by greater competition, the financial system still faces the challenge of sorting out downward pressures on profitability in order to sustain the growth process of intermediation with adequate solvency levels. After stabilizing during the first half of 2017, the financial system profitability went down once again in the last two quarters. In terms of development and stability of this sector, it is highly positive to see that the relative weight of administration expenditures continues to go down, resulting from a larger scale of operations and the improvements achieved in terms of efficiency.

Even though external liquidity conditions deteriorated slightly in recent months, the medium-term general context continues to be favorable for the deepening of financial intermediation in Argentina.

In line with the assessment anticipated in the previous IEF, and given the increase in volatility in the international markets during the first half of 2018, it is estimated that one of the main sources of risk for the stability of the sector is still a potential sudden change (sustained over time) in risk appetite in the international markets operating through the financial channel. *Vis-à-vis* this transmission channel, it is worth mentioning that the vulnerabilities of the domestic economy related, for example, to the leverage levels, debt burden and sectoral currency mismatches would still stand at relatively limited levels. Likewise, the BCRA is using all the tools available to mitigate the effects of the current situation on the pursuit of the inflation target set for the current year. Regarding the sources of risk that may be originated in the local context, on the basis of a medium term macroeconomic scenario that continues to be positive, and considering as well the abovementioned degree of resilience of the sector, there might only be tension in the financial stability conditions if extreme negative deviations (from what it is expected for the fundamental variables) would finally hold true.

Looking forward, the economy is expected to continue its expansion phase, keeping the disinflation process and making achievements in terms of the reordering of the macroeconomic variables (including the improvement of the fiscal situation already committed). With this baseline scenario and after the enactment of the Productive Financing Act, the conditions required for the growth process of the traditional financial intermediation would be reinforced. In this sense, the expansion of bank credit is estimated to continue in the medium term, and there might be eventually higher risk exposures, leverage and lower liquidity margins in the sector. With a regulatory framework in line with the internationally recommended standards, the financial system is currently sound. The BCRA must adequately monitor the sources of risk and the buildup of vulnerabilities related to the deepening process of the financial system. The monetary authority has many macroprudential policy instruments at its disposal to use, as appropriate, for the sake of ensuring an orderly progress and the sustainability of this process.

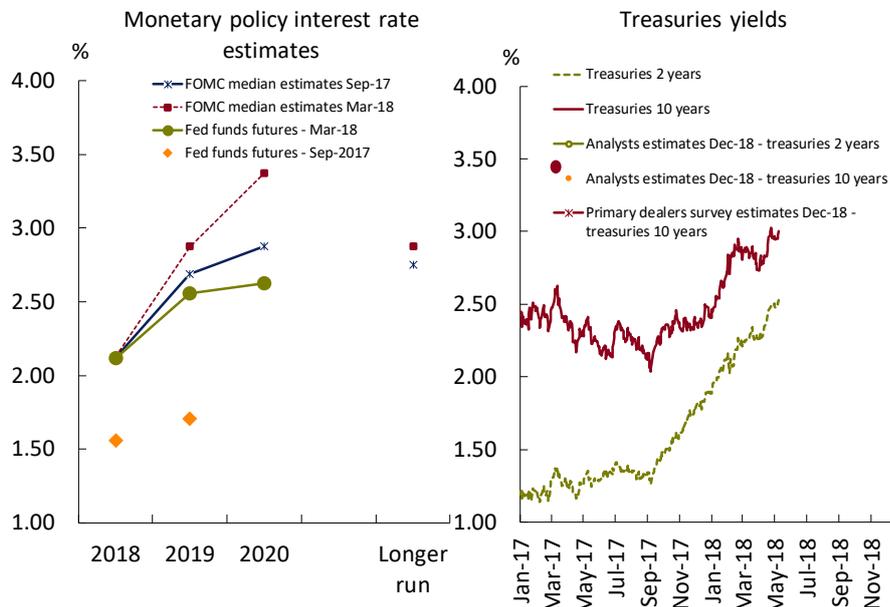
1. Context

The recent economic context raised new concerns about a potential deterioration of international financial markets (for instance, because of changes in the expectations about the US monetary policy) or a trade war between major economies. If an adverse external context holds true for a long period, the gradual improvement process may be affected, impacting on the macroeconomic fundamentals of Argentina and on the progress made towards an agenda of structural reforms (for instance, due to tightened financial alternatives). *Vis-à-vis* this context, conversations have been held with the IMF to obtain a Precautionary Credit Line. Given the soundness of sectoral balance sheets and, in particular, the high degree of resilience estimated for the financial system (see Chapter 3), the deterioration of foreign conditions should be quite sharp to disturb the current financial stability conditions. As regards the base macroeconomic scenario at domestic level, the economy is expected to continue expanding, to maintain its disinflation process (once the temporary inflation increases of recent months are left behind) and to improve the fiscal situation. With this baseline scenario and after the enactment of the Productive Financing Act, the conditions would be reinforced to deepen capital markets, thus boosting the growth process of traditional financial intermediation, for instance, by expanding the issue of corporate bonds and encouraging the growth of UVA-denominated instruments.

1.1 International context

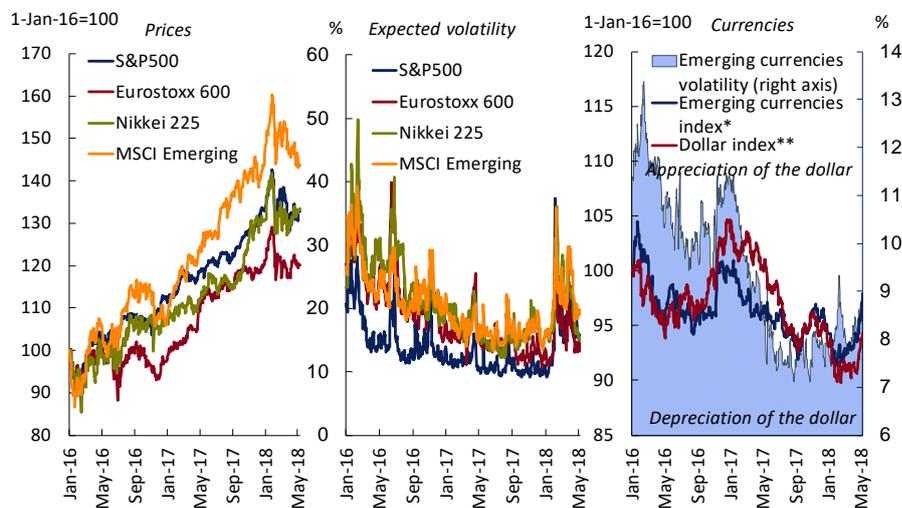
Recent evolution and potential risks

Chart I.1 | Expectations related to Interest Rates and Yields – United States



Source: Federal Reserve and Bloomberg

Since the publication of the previous IEF, improvements became evident in terms of global growth (in spite of a temporary deceleration on the margin), positive evolution in the trading activity of Brazil (Argentina’s main trading partner) and –as of late April– the still favorable conditions for emerging countries in international financial markets in historical terms (for example, in terms of liquidity and access to financing). Nevertheless, more recently, the largely positive perspectives were, to some extent, endangered by a series of risks that had already been mentioned in previous editions of the IEF.

Chart 1.2 | Stock Markets and Currencies

(*) EMCI index, elaborated by J.P. Morgan (**) Weighted average of dollar exchange rate with US main commercial partners (euro, pound, yen, canadian dollar, swedish krona and swiss franc). Source: BCRA based on Bloomberg.

The increasing volatility observed in international markets in February and, more recently, in late April and early May, has brought under the spotlight the tensions generated by a change in risk appetite globally. For instance, the expectations about the situation of the US economy affect the expected gradual path of unwinding in monetary stimulus policies. In fact, given the upward inflation expectations, better soundness of the labor market and prospects of a more expansionary fiscal policy (which were accompanied by rises in the yields of the US Treasury long-term debt), the market anticipated last February that the US Federal Reserve (FED) may accelerate the gradual pace of interest rate rises (see Chart 1.1)¹. This led to a marked increase in volatility² and to a sharp fall in the US Stock Indexes (which had been showing considerable rises and valuation indicators at high levels). Consequently, this evolution generated a (short) episode of deterioration across the board in international financial markets (see Chart 1.2).

Pressure was also evident on the assets of emerging economies, with stock indexes that moderated the gains they had been accumulating. In turn, debt and currency markets as well as flows towards funds specialized in emerging markets have also been adversely impacted. Nevertheless, a recomposition was observed until April. Within a context where the US 10-year Treasury debt yields exceeded the 3% level and the US dollar appreciated worldwide, in April, emerging markets were again subject to pressure. In the case of emerging countries, this deterioration was even more marked in the currency market.

Another risk in place in recent months, even though less weighted and more related to the trade channel, has been the possibility of a tariff war that may affect international trade and growth worldwide. In fact, the protectionist approach of the United States' foreign trade policy and the reaction of major economies (such as China) have heightened the concerns, which contributed to an increasing volatility in the markets in March 2018.

Another source of risk results from potentially higher geopolitical tensions (conflicts in the Middle East, for instance), with an eventual impact on the prices of commodities or on risk appetite at global level. As

¹ The future markets started to anticipate three rises of the Fed Funds rates in 2018, in line with the forecasts of the members of the Federal Open Market Committee (FOMC). In the meeting held in March, the FOMC decided to increase the Fed Funds rate by 25 basis points (bp) and raised the forecasts for the 2019 and 2020 rates (for that period, the market keeps expectations that are below the path expected by the members of the Federal Reserve). Besides, more concrete signals indicate that the Central Banks of Europe and Japan would moderate their asset purchase policies.

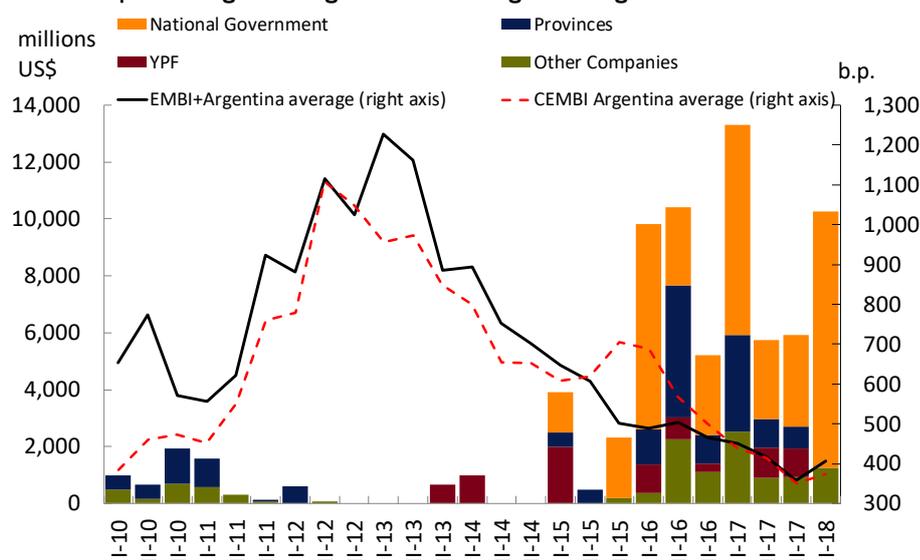
² The VIX Index (expected volatility for the US stock market) had been showing very low levels on a sustained basis. The hike observed in this index would have been partly explained by technical reasons (for instance, investment funds hedging transactions).

regards Latin America, the electoral processes ahead in 2018 should be especially highlighted; some of them are particularly important for Argentina, such as the case of Brazil.

Vulnerabilities for financial stability

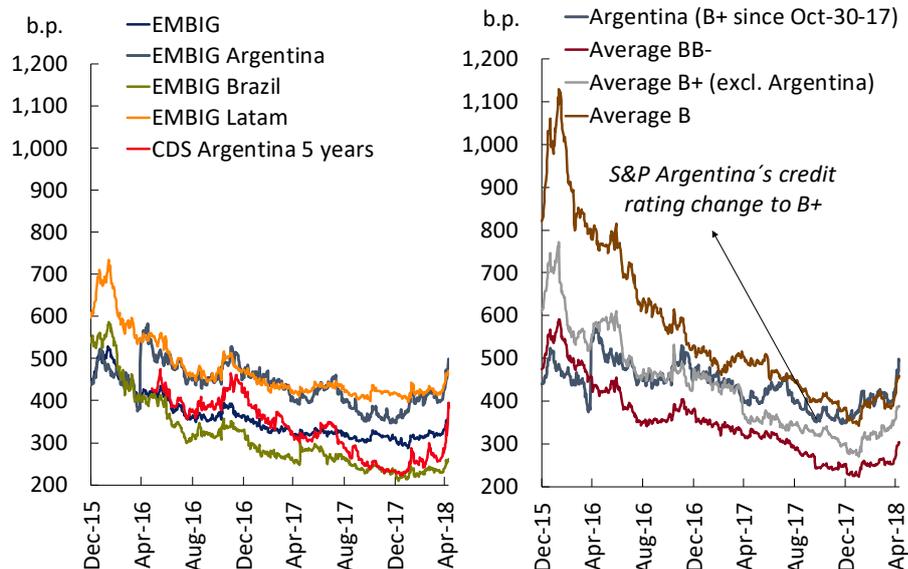
This more challenging context affects Argentina since the gradual improvement process in the macroeconomic fundamentals entails financing needs for the public sector (decreasing over time) that up to now have been channeled, in part, through foreign markets. In this sense, at the beginning of 2018, the aim was to anticipate the 2018 coverage of financial needs with sizable transactions in international markets (see Chart 1.3), as it had been done in 2017³. However, later on, there was a rise in the yield spreads between the Argentine debt and that of the US Treasury so far this year, far away from the average observed for other countries with a rating similar to that of Argentina (see Chart 1.4). This evolution was one of the factors that led to commencing, in early May, the negotiations with the IMF to access a credit line as a precautionary measure.

Chart 1.3 | Financing in Foreign Markets of Argentine Agents - Bonds



Note: 4-month periods. excludes operations through debt swaps and refinancing of liabilities.
 Source: BCRA based on BCBA, CNV, IAMC, MF and Bloomberg

³ On this occasion, US\$ 9 billion were received in 5, 10 and 30-year dollar-denominated instruments with a reduction in the cost of issue of 100 bp against the interest rates of similar bonds issued in January 2017. Besides, repo transactions were performed with banks abroad for around US\$ 2 billion.

Chart 1.4 | Risk Perception in Emerging Economies and Argentina

Source: BCRA based on Bloomberg

On the other hand, the deterioration of the international context translated into an increasing pressure on the foreign exchange market. The BCRA allowed the Argentine peso to depreciate, and resorted to foreign exchange transactions to prevent disruptive movements in the foreign exchange market. Moreover, the monetary authority raised the monetary policy interest rate to 40% to protect the disinflation process (see the following section). In this context, despite the fact that debt issue transactions abroad in the corporate sector have contracted, so far in 2018 currency mismatches in the balance sheets are still being monitored (see Exhibit 1). Nevertheless, it should be noted that (as it happens with the public sector) the debt burden in general (and the external debt in particular) is limited if compared to the situation of other emerging economies, with a low leverage level of companies in aggregate terms.

1.2 Local context

In line with comments made in previous IEF, during the first months of the year the estimated baseline scenario for the local economy continued to be positive, based on the continuity of growth perspectives for the next two years, the gradual disinflationary process (despite the temporary rise of inflation in the first months of 2018 due to the earlier implementation of increases in regulated prices), the fiscal consolidation and structural improvements. Within this framework, financial intermediation maintained its momentum without affecting the stability of the system (see Chapters 2 and 3). Even though the recent economic context has presented challenges, the domestic financial sector shows sound indicators and its situation would not be adversely affected in the current scenario.

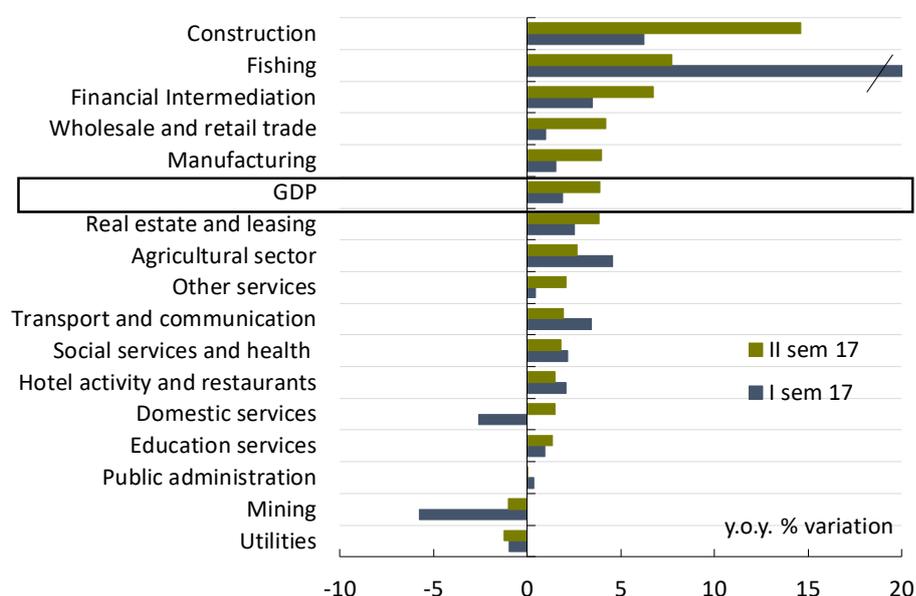
As it was anticipated in the previous IEF, the Argentine economy consolidated its expansion pace, growing at a 4% annualized quarter-on-quarter (q.o.q.) rate throughout 2017, and in early 2018⁴. In turn, income of the main debtors of the financial system recovered. Households, a sector receiving 46% of total lending to the private sector by the financial system, face a more dynamic labor market due to the sustained recovery of the economic activity and of real salaries, posting a rise in the formal private sector of 3.2% on average in 2017. In terms of employment, including the public sector, wage-earners, workers under the simplified tax regime (*monotributistas*) and self-employed workers, formal employment (excluding the low-income simplified tax regime –*monotributo social*–) went up 0.8% seasonally-adjusted (1.6% annualized) in the

⁴ According to the BCRA's last GDP Contemporary Forecast (PCP-BCRA), GDP went up 0.7% seasonally-adjusted in the first quarter of 2018, thus completing seven consecutive quarters of growth.

last half of the year⁵. The gradual creation of jobs and the increase of the real wage, within a context of low indebtedness levels with more attractive financing conditions (UVA-denominated loans) and an unsatisfied demand for housing, allowed to reinvigorate lending (see Chapter 2).

For the rest of 2018, growth perspectives have slightly deteriorated due to a temporary adverse factor (drought), the effects of which would concentrate in the second quarter of the year. The Market Expectations Survey (REM) estimates an average GDP rise of 2.5% for 2018, and it would then grow 3.2% in 2019 and 3.0% in 2020, thus sustaining the expansion of investment⁶ and a higher estimated external demand (particularly from Brazil) within a context of inflation reduction and consolidation of fiscal accounts. On the other hand, growth in 2018 would continue across the board in most sectors of the economy⁷ (see Chart 1.5). Within this framework and from the perspective of the financial stability analysis, it is worth pointing out that corporate indebtedness remained at relatively moderate levels and, consequently, it is not likely that the financial system may have to face a significant increase in credit risk.

Chart 1.5 | Economic Activity Evolution Broken Down by Productive Sector



Source: INDEC

In terms of the fiscal accounts consolidation process, by late 2017 the National Government started to exhibit a real year-on-year reduction of primary spending while real revenue started to record increases⁸. With this evolution of revenue and expenditures, the primary deficit stood at around 3.8% of GDP, having met in excess the target defined (4.2% of GDP for 2017). Vis-à-vis a scenario that may be more adverse than expected and in order to reduce the financing needs of the national public sector, the government announced recently a more stringent target for the reduction of primary deficit of the non-financial national public sector for 2018, from 3.2% of GDP down to 2.7%. By the end of 2017, various important regulatory changes were introduced in terms of public accounts. Firstly, a fiscal consensus was reached and signed

⁵ From July 2017 to January 2018 (latest information available), the registered wage-earning jobs of the private sector went up 0.6% seasonally-adjusted (1.2% annualized), thus continuing the recovery process initiated in June 2016.

⁶ Investment was the component of demand that impacted the most on the growth pace of the second half of 2017, expanding by 16.8% y.o.y. (9.3% seasonally-adjusted against the first quarter) with a strong rise of imported durable production equipment and a sound boost of public works. The investment rate stood at 21.8% in the fourth quarter of 2017, close to the maximum of 2011 (22.1%), and with a larger share of spending in durable equipment, which reached a historical peak (13.9% of GDP). Investment momentum is mainly due to the rebound of the market value of the assets invested against its “real” replacement cost (“Q ratio”), a positive trend that continued in early 2018.

⁷ Growth was more widespread in the second half of 2017 and mainly led by a rise in the construction business (14.6% y.o.y.), financial intermediation (6.7% y.o.y.), industry (4% y.o.y.) and real estate activity (3.8% y.o.y.).

⁸ Not including extraordinary resources. From late 2016 to early 2017, inflows were recorded corresponding to the tax amnesty scheme and, in March 2018, there were inflows from earnings of Banco de la Nación Argentina for ARS 15 billion.

between the Nation and the provinces, which allowed for passing a new “Fiscal Responsibility” Act that would put a ceiling to the increase of public spending and its composition, among other conditions⁹. Secondly, in December 2017, a tax reform was enacted and it included, among other elements, a gradual reduction of taxes, as well as a tax on the financial income of natural persons and the modification of some internal taxes. Finally, a new Act that changes the Social Security Mobility formula was enacted.

As regards the price level, as from December 2017, there was a temporary increase in the inflation rate mainly due to the direct and indirect impact of public utility rate rises, particularly between December 2017 and April 2018, and also to the depreciation of the Argentine peso (see Chart 1.6). Nevertheless, several factors signal a marked contraction of inflation as from May, since the pressure created by the increase in regulated services would be lower (considering that the highest adjustments occurred mainly between December 2017 and May 2018). In turn, in order to reinforce the disinflation process, the BCRA intervened more actively in the foreign exchange market in recent months and raised the monetary policy rate to 40%. Likewise, the negotiation of wage guidelines evolved in line with the inflation target. In this respect, the analysts estimates, captured in the Market Expectations Survey (REM), project a contraction of inflation as from May, thus keeping expectations about the disinflation process for the mid-term, even though at a slower pace than that sought for by the BCRA¹⁰. Even though a potential increase of domestic prices due to the depreciation of the peso against the US dollar cannot be disregarded, it should be considered that many trading partners of Argentina have also depreciated their currencies against the US dollar (moderating the final impact).

Chart 1.6 | Expectations and Inflation Targets



Source: INDEC and REM- BCRA (Apr-18)

The progress made in the disinflation process is important for financial intermediation given its impact on the nominal interest rates and, in particular, on the real interest rates (impacting on the level of savings)¹¹. In terms of the performance of interest rates in the domestic market in recent months, after the reduction of the monetary policy rate by 150 bp to 27.25 in January¹² and up to the moment of the increase in international volatility by late April, the remaining rates followed a downward trend (see Chart 1.7). Within

⁹ Federal Fiscal Responsibility System and good government practices (Law No. 27428). Fiscal Consensus (Law No. 27429).

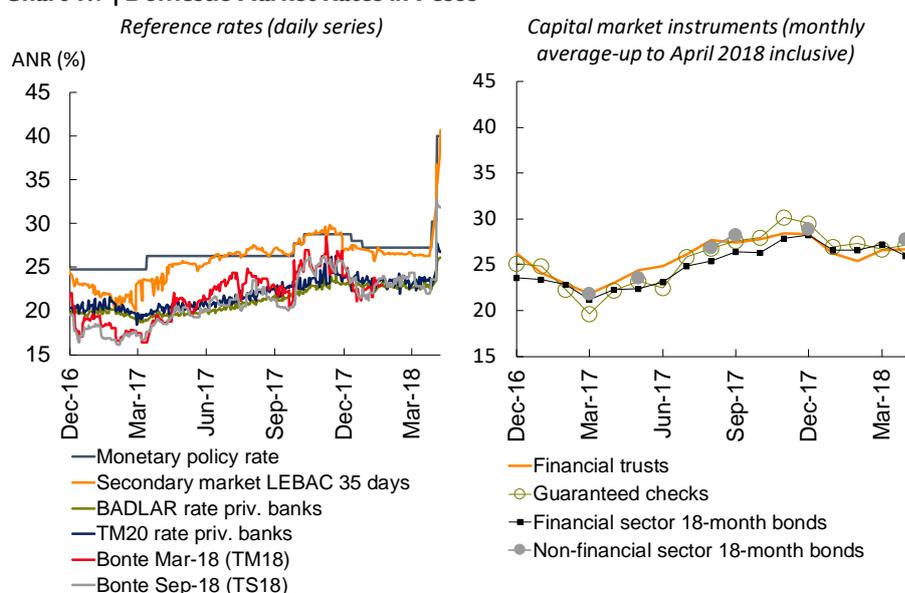
¹⁰ Even though in recent months the market has moderated its expectations about a monetary policy easing, it still anticipates a less contractionary bias than that estimated by the monetary authority for the next few months. See [Press Releases](#) for the BCRA's latest monetary policy decisions.

¹¹ A lower inflation rate favors intermediation but it also creates challenges for banks in terms of profitability and solvency (due to a lower inflation tax). See Chapter 2 of this IEF and of the IEF published in November 2017.

¹² The slower-than-expected disinflation process led the BCRA to adjust the inflation targets by late 2017.

this context, a narrower gap between different interest rates in pesos was noticeable until April¹³. For example, vis-à-vis a context in which lending exhibited a more marked momentum than the traditional funding of banks (see Exhibit 3 and Chapter 2), the Private Bank BADLAR rate went down less than the LEBAC rate during that period. In turn, the rates of the different instruments of the capital markets contracted sizably in January and then kept a largely downward trend (even though less marked) until late April, with a spread reduction on the Private Bank BADLAR between 200 and 400 bp among the different instruments. The drop in nominal interest rates together with the (temporary) rise of inflation expectations translated into a reduction of the real expected rates until the increase of the monetary policy rate by late April, when some sort of rebound became noticeable (see Chart 1.8). For the next few months, the evolution of the rates would be conditioned by the length of the disruptive performances in the foreign exchange market, which have translated into increases of the reference interest rates as from April. If the instability of markets moderates, the Central Bank will normalize its operational scheme, returning to a narrower repo corridor that will allow to automatically transfer the monetary policy rate to the remaining interest rates. Anyway, in terms of the reference interest rate, the Central Bank considers that since inflation is standing above the projections so far in 2018 and emerging markets are facing a more unstable scenario, a real interest rates level significantly higher than the one observed before the latest changes is required in the near future.

Chart 1.7 | Domestic Market Rates in Pesos



Source: BCRA, MAE, Bloomberg, CNV and BCBA

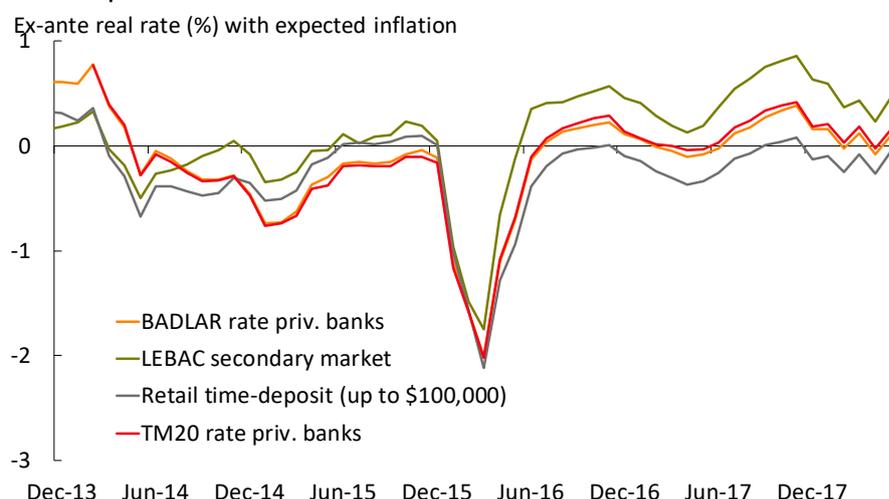
In terms of the financing through the capital markets, the issuance for both the public sector and the private sector have gone up in recent months. This evolution would be underpinned by the enactment of the Productive Financing Act (see Exhibit 2). The rise in the issuance in the domestic market took place within a context of continuing increases in the institutional investor portfolios. The evolution of Mutual Funds should be highlighted (the total portfolio went up 17% in real terms during the first four months of 2018, following a 35% increase in real terms in 2017), with these results mainly explained by the momentum observed in fixed income mutual funds¹⁴. In turn, the data available about the exchange balance evidenced

¹³ In terms of the rates in dollars, in the domestic market, the sovereign bonds curve showed by the end of the second week of May a steepening against the levels when the previous IEF was published (decreasing yield of shorter-term bonds –the most liquid instruments in the local market– and those of the long section). On the other hand, the yields of the issue of dollar-denominated 1-year Treasury Bills of the National Government went up 60 bp from December to April.

¹⁴ In turn, on the basis of the latest information available, in 2017 the FGS portfolio –the main institutional investor in the domestic market– went up 10% in real terms and this performance was led by sovereign bonds and, to a lesser extent, by shares of stock. In the case of insurance companies, portfolios went up 7% in real terms in 2017; 41% of this change results from the holding of sovereign bonds, 23% by Mutual Funds, and 14% by Corporate Bonds (ON).

a continuity of positive (even though fewer) flows from nonresident portfolio investments up to March. A reversal was observed in April, when the flows started to be negative.

Chart 1.8 | Evolution of Real Interest Rates



Note: calculations using beginning-of-month rates, no annualization applied, for 30-day placements, 3-month moving average. Expected inflation based on Consensus (CPI GBA since Nov-13), then REM (national CPI since Jun-16).

Source: BCRA, Consensus and MAE

As from the publication of the previous IEF, the National Government increased the use of financing in the domestic market (particularly in pesos), diversifying its instruments. In the case of bonds, the issue of two 5 and 7-year CER-adjusted instruments, two issues of hybrid instruments (paying the higher of a capitalized nominal rate and CER-adjustment plus a differential) and, by mid-May, the reopening of two bonds in pesos at fixed rate with a maturity of 5 and 8 years were especially relevant¹⁵. Last December, bills in domestic currency started to be issued¹⁶. In terms of stocks, the national public debt accounted for around 57.1% of GDP in 2017 (out of which 29.6 p.p. corresponded to debt with private, multilateral and bilateral creditors), up 4.6 p.p. during the second half of 2017 (mainly as from the issue of bonds in pesos at a variable rate, bills of the National Treasury and transactions involving the sale of bonds and future repurchase –REPOs– within a context of higher depreciation of the currency during the last days of 2017). In turn, the floating debt of the National Treasury contracted, in year-on-year terms, 0.3 p.p. of GDP by late 2017.

As regards the private sector, the evolution of Corporate Bonds issues by banks was especially remarkable (see Chart 1.9) and this situation enabled to maintain the lending growth path within a context where deposits showed a less dynamic performance. As from early November 2017 (publication of the previous IEF), banks issued over \$ 61 billion in Corporate Bonds (while the amortization of preexisting Corporate Bonds amounted to around \$4 billion). As a result, the monthly average financing volume through Corporate Bonds from November 2017 to April 2018 stood at around \$ 10 billion, against \$3.2 billion per month between January and October 2017. Out of the total amount issued as from November, close to 94% was in nominal pesos, a segment in which issuance did not show significant changes for the average weighted term of issuance (30 months, even though there were transactions up to 60 months)¹⁷. The remaining amount was mainly explained by UVA-denominated transactions, a segment that, even though

¹⁵ There were also repo transactions with financial institutions.

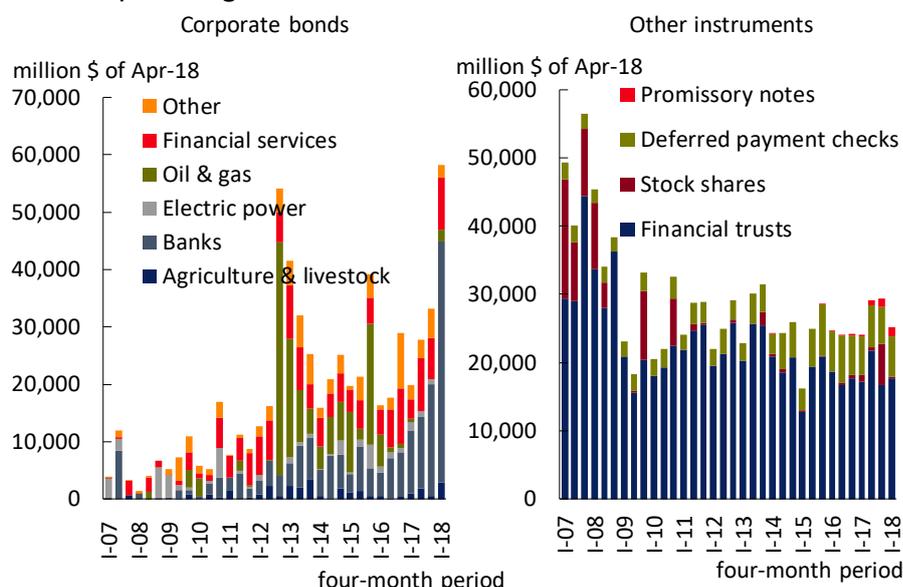
¹⁶ There were 4 transactions. The first two transactions took place in December with instruments at discount and terms of 3- to-9 months approximately. More recently, bills were issued at 180 days with a capitalized coupon.

¹⁷ For transactions in nominal pesos, the average amount per transaction was almost \$ 1.4 billion (against less than \$ 500 million in the first half of 2017). If issuance is broken down by type, in general there were transactions at fixed rate for shorter terms and at variable rates (following BADLAR or TM 20 rates) for longer terms. As regards the funding cost, 18-month Corporate Bonds of the different banks shrank by over 200 bp during the first four months of 2018 while the funding cost with time deposits (Private Bank BADLAR) contracted 44 bp between ends of months.

it is still incipient¹⁸, allows for funding at longer terms (with an average term close to 36 months) and for reducing UVA mismatches of banks.

The remaining funding through debt instruments via the capital markets (including Corporate Bonds of the non-financial private sector, financial trusts and instruments with shorter terms such as deferred payment checks and marketable promissory notes) has not experienced significant changes in terms of amounts since the publication of the previous IEF. In this segment, related to the growth of housing financing by the banking sector, especially remarkable was the issue of the first trust of UVA-denominated mortgage loans (the first securitization of mortgage loans made in 7 years). This type of transactions (that may be additionally boosted by the Productive Financing Act) will allow for keeping the momentum of longer-term loans granted by banks, thus facilitating risk management, such as liquidity and credit risks.

Chart 1.9 | Financing to the Private Sector – Domestic Markets



Source: BCRA based on BCBA, IAMC and CNV

Since the publication of the previous IEF, share prices experienced higher volatility, with rises up to mid-January and reductions in prices (and valuation ratios) since then; such reductions have deepened in the last few days¹⁹. In the case of instruments, both the initial increases and the subsequent fall were more marked than those of the Merval. As a result, by mid-May, bank instruments had accumulated a slight increase since the publication of the previous IEF. After the reductions observed in recent months, the valuation ratios for bank shares returned to levels similar to those recorded a year ago. Within this framework, during the last months, no new share subscriptions were recorded; these transactions had been used by banks in 2017 to deal with the expansion of credit granting and the growth expectations for the sector.

¹⁸ With the 5 transactions recorded as from the issue of the previous IEF, 7 transactions have accumulated since the creation of the instrument (including a transaction by a non-banking financial institution).

¹⁹ In the last few days, several companies (from various sectors) announced their intention to repurchase shares in the market.

Exhibit 1 / Publicly-Traded Companies and Currency Mismatch

The monitoring of the corporate sector's balance sheets is one of the components of the financial stability analysis. After the return of Argentina to international markets, the evolution of bonds issuance in external markets led to the intensification of this sector's follow-up, starting from a situation of low burden of the corporate debt if compared to other emerging markets²⁰. This type of analysis is increasingly relevant given the current economic conditions. Emerging countries are concerned about the potential deepening of a more challenging external context that may entail the unwinding of positions of financial instruments in their economies, thus impacting on their domestic prices and on the exchange rate (as a result of the potential effect on companies in general and a foreign exchange mismatch in particular)²¹. Vis-à-vis a potential stress situation in international markets, the negative effect on the corporate sector may damage the financial system through different channels. Since the corporate sector is debtor of the domestic financial system, a deterioration of its situation may adversely affect the quality of the lending portfolio and the solvency of banks. On the other hand, if the financial condition of the corporate sector worsened, the deposits of the banking sector might be affected. Likewise, financial problems in the corporate sector might put a cap on the evolution of the economic activity (impacting, for instance, on the labor market), thus generating second round effects on the quality of banks' portfolio.

With the purpose of understanding the situation of Argentine companies belonging to the non-financial private sector in terms of currency mismatch, this Exhibit will analyze publicly-traded companies (with quoted shares or bonds) since they publish their balance sheets differentiating stocks in domestic and foreign currency²². In these companies, the aggregate currency mismatch (short position) in terms of the balance sheet stock (liabilities minus assets in foreign currency) reached around US\$ 22.5 billion by late 2017, a low level in terms of GDP (3.7% of GDP²³). A considerable part of this mismatch, measured in this way, resulted from companies that had issued bonds in international markets²⁴. For this group of companies, the currency mismatch amounted to around US\$ 19 billion by late 2017, accounting for 25% of their total assets for the median of the group. However, the companies under analysis evidenced a considerable heterogeneity²⁵. Even though this mismatch tended to go up in absolute terms in recent years, if it is measured in terms of total assets, it exhibited a drop in 2017 (on the basis of the rise observed in these companies' assets).

It should be considered that this measurement of currency mismatch has some limitations entailing an overestimate of their size. Consequently, for this sample of companies, the currency mismatch would be even lower than the one mentioned. For example, due to limited data, this measurement focuses on the stocks without considering the generation of income in dollars (or related to the exchange rate evolution) that would act as a sort of natural hedge in case of oscillations in the exchange rate. Although balance sheets do not include information about the Income Statement broken down by currency, over 2/3 of the companies with international bonds in foreign currency describe in the notes to the financial statements

²⁰ See Exhibit "Financial situation of the corporate sector" published in the [Financial Stability Report – First Half 2017](#) and "Leverage and debt burden of companies with access to bank credit" published in the [Financial Stability Report – Second Half 2017](#).

²¹ This concern among emerging countries should be understood in a context of several years of an increasing trend in the leverage of the companies in these countries. This evolution mirrors, in part, a boom of debt issuance in international markets, which is mainly related to improvements in the conditions of emerging markets as well as to the international context (broad liquidity, low interest rates and greater risk appetite for financial instruments of emerging economies). See, for instance, "[Corporate Funding Structures and Incentives](#)" (FSB, 2015).

²² The analysis considers a sample of companies whose assets account for over 95% of total assets of publicly-traded companies by late 2017. (This sample includes all publicly-traded companies with bonds issued in foreign markets.) Other sources of information about the corporate sector usually monitored do not show data broken down by currencies.

²³ This ratio (measured by late 2017) would reach 4.8% if calculated with the exchange rate at closing on May 14 and the latest GDP information published (by late 2017). This level is consistent with the low ratio of debt burden of the corporate sector relative to GDP in Argentina, in aggregate terms and also considering exclusively the foreign debt of the private sector.

²⁴ These companies account for 92% of corporate bonds stock in foreign currency of Argentine companies. In turn, for these companies the liabilities in foreign currency (mainly explained by the stock of bonds) account for almost two thirds of total liabilities.

²⁵ This ratio in terms of the assets represents an average of around 30% for the group under analysis and, even though there are cases in which the ratio presents levels above this value, for 75% of the companies, the mismatch does not exceed 45% of total assets.

(with qualitative information) that they have income related to the evolution of the exchange rate which tends to reduce the foreign exchange risk. This situation is consistent with the fact that several of these companies belong to the tradable sector²⁶. Another limitation of this measurement is that it does not include the effect of hedge transactions made with derivatives, even though in the case of Argentina their use would be marginal²⁷.

On the other hand, the analysis of the financial ratios of publicly-traded companies, in general terms, shows that even though companies with bonds issued abroad in foreign currency (Group 1) have less sound indicators than the remaining companies (Group 2), some improvement was observed on the margin (see Table A.1.1.). For example, for Group 1 firms, the leverage median²⁸ exhibited a slight upward trend up to 2016 and then recorded a slight drop in 2017, even though standing slightly above the value observed for Group 2 companies²⁹. In recent years, Group 1 firms evidenced liquidity ratios that have stood consistently below those of the remaining companies but, by late 2017, this indicator showed a similar level for both groups. The difference between these two groups is more marked when indebtedness is analyzed in terms of income flows: the level of Group 1 companies more than doubles the level of the other companies. Nevertheless, it should be noted that, in the case of Group 1 companies, the payment of interest and principal of the debt in foreign currency for the next 12 months accounts for less than one third of the operating income estimated for these companies³⁰. Likewise, considering the complete payment schedule associated with the debt issued abroad, the flows for the coming years are relatively low, basically due to liabilities management transactions (issuance of debt to repurchase preexisting bonds, debt swaps) that took place after the favorable resolution of the sovereign debt default in 2016.

In short, even though the currency debt mismatches of the corporate sector at aggregate level would be limited (though with an important heterogeneity among companies), the monitoring of the potential risks associated with this sector will be maintained. To improve the analysis carried out, one of the goals will be to widen the base of companies monitored and to streamline follow-up indicators (for example, to take into account the existing hedge through net income in foreign currency, including more information or performing estimates based on existing data).

Table A.1.1 | Financial Indicators of Publicly-Traded Companies

		2012	2013	2014	2015	2016	2017	
Group 1	Companies with international foreign currency bonds to 2017	Leverage: Total liabilities/Total Assets	0.57	0.68	0.68	0.74	0.74	0.68
		Liquidity: Current assets/Current liabilities	0.79	0.74	0.74	0.94	0.83	1.28
		Indebtedness: Total liabilities/ Operating income	2.18	2.45	1.95	3.48	2.11	4.12
		Debt burden: Financial costs/ Operating income	0.39	0.64	0.54	0.63	0.54	0.53
Group 2	Other companies with public offering to 2017	Leverage: Total liabilities/Total assets	0.59	0.58	0.56	0.62	0.63	0.64
		Liquidity: Current assets/Current liabilities	1.13	1.17	1.22	1.13	1.19	1.27
		Indebtedness: Total liabilities/ Operating income	2.56	1.52	1.57	1.08	1.62	1.81
		Debt burden: Financial costs/ Operating income	0.34	0.36	0.38	0.28	0.28	0.27

Note: values for the median of the companies in each group.

²⁶ In some cases, the existence of diversification among different business lines makes it difficult to classify companies as producers of tradable or non-tradable goods.

²⁷ In this case, even though the companies' balance sheets state they have the alternative of executing exchange rate derivative contracts (and in some cases it is mentioned that derivatives were used as hedge at some time during the fiscal year), by late 2017 these tools were used in few specific cases and for small amounts if compared to the aggregate mismatch.

²⁸ Data reported as median data, even though these trends in general are also observed in other percentiles of the distribution for almost all the indicators mentioned in this paragraph (except for liquidity). Nevertheless, it should be borne in mind that data show a considerable heterogeneity among companies.

²⁹ It is worth stating that the levels of leverage observed are slightly above the values recorded for other publicly-traded companies of Latin America. The leverage ratio median per country is within a range of 0.45-0.65 for Brazil, Chile, Colombia, Mexico and Peru.

³⁰ Information not included in the table. The income for the next 12 months is projected on the basis of the values observed in the last fiscal year, adjusted by the inflation expected for this year according to the REM.

Exhibit 2 / Productive Financing Act, Development of Capital Markets and Financial Stability

Law No. 27440, the Productive Financing Act (LFP), was enacted in May and, among other objectives, it aims at contributing to the development of capital markets through the adjustment and modernization of its regulatory framework including a systemic risk mitigation approach for the National Securities Commission (CNV) and reforms to boost mortgage lending and saving. Below there is a brief description of the main changes introduced by the law.

In terms of the modifications tending to revitalize the transactions made through different preexisting instruments and agents, the following changes are included:

- **Assets Securitization:** The credit granting mechanism has been speeded up through the use of mortgage bills so as to facilitate the securitization process and boost the growth observed in the mortgage market³¹. Additionally, publicly-traded trusts are exempted from income tax and, as a result, they only pay tax on the income distributed among investors.
- **Insurance Companies:** The offering of credit risk hedge is allowed provided it is related to mortgage-backed loans³².
- **Corporate Bonds (ONs):** More flexibility has been given to the issue of instruments (for example, the decision may be made by the management body if considered in the by-laws of a company, even though the decision of being a publicly-traded company must be made at a meeting). Changes are introduced in terms of the collateral (guarantees) with which ONs can be issued, while the issue of recourse bonds with a limited and exclusive right to collect on certain assets of the issuer³³ is now allowed. Law No. 23576 is amended to indicate that issuance in foreign currency can be underwritten in domestic or foreign currency or in other instruments.
- **Derivatives:** A regulatory framework is defined to include provisions related to the execution of this type of contracts following international standards. In case of insolvency or bankruptcy of one of the counterparties, the early termination, the netting of positions and automatic and extrajudicial execution of guarantees are allowed. Bilateral transactions with derivatives (outside authorized markets) shall be recorded (creation of entities for the registration of derivative transactions).
- **Mutual Funds:** New types are introduced, such as the Exchange-Traded Funds (to create open-end mutual funds, the use of assets that replicate financial indexes or asset baskets is allowed)³⁴ or (open-end or closed-end) funds to invest voluntary savings meant for the retirement of unit holders (which may be used to channel savings and increase the demand for long-term instruments). More specifications about the legal entity of closed-end investment funds³⁵ are included. The CNV now has the legal authority to define certain values for the assets diversification guidelines (which were previously set by the law). The creation of mutual funds exclusively for qualified investors with less restrictive investment limits is allowed. In turn, the LFP allows management companies to manage investments³⁶.
- **Promissory Notes / Marketable Promissory Notes:** Law No. 27264 is amended to encourage promissory notes trading. It is established that promissory notes may be publicly traded and may be traded in markets registered with the CNV provided they meet all the requirements set for by this institution.

³¹ Besides, the LFP includes an exemption to the maximum term (30 years) that publicly-traded financial trusts may use to securitize mortgage-backed loans.

³² The CER adjustment is allowed for life and retirement insurance.

³³ Not for all the issuer's net worth. In case of default by the issuer, creditors may claim exclusively on such assets. This change would facilitate project finance transactions.

³⁴ The acceptance of other financial assets, not explicitly mentioned in Law 24083, by the CNV is possible.

³⁵ Closed-end mutual funds may be created with the same assets held by an open-end mutual fund, in addition to personal or real property, non-publicly-traded securities, credit rights and other assets authorized by the CNV. The assets in which closed-end mutual funds can invest must be located in the country. On the other hand, to boost the development of real estate and infrastructure projects, tax benefits are granted to closed-end mutual funds and to financial trusts that meet certain guidelines.

³⁶ In addition to updating certain aspects related to the operation of the management company and the depository company.

- **Tradable Securities Central Depository Agent:** It replaces the Collective Depository Agent. In addition to receiving collective tradable securities deposits, these agents may render escrow services as well as the receipt and settlement of claims and payment of tradable securities in deposit, among other services. These agents are authorized to open accounts abroad to carry out their functions and render services as escrow agents.

On the other hand, the LFP operates under new instruments and legal entities. For example:

- **Electronic Credit Invoice for MiPyMEs (micro, small and medium-sized companies)** (mandatory for trading transactions where one MiPyME shall issue an invoice or receipt to big-size companies) with a record under the sphere of Argentina's National Tax Authority (AFIP). These securities may be traded in authorized markets or through IT systems that enable the trading of invoices, in which financial institutions and non-financial suppliers of credit participate.
- **Collateral Agent for Collective Financing:** In financing contracts with two or more lenders (in general associated with project financing), the parties may agree on the creation of guarantees in favor of this type of agents, who will act for the benefit of the lenders.
- **Collective Financing System:** The CNV has the power to regulate, for these agents, trading methods that are different from the ones mentioned in Law No. 27349/2017.
- **Electronic Check:** The National Executive Branch shall take the necessary measures to implement a system for these instruments not later than 90 days calculated as from the enforcement of the LFP.
- **Public Works Certificates:** They shall be traded in the markets when authorized by the CNV in agreement with the regulation to be defined by that institution.

Besides, the law considers reforms in terms of public offering of shares (particularly on the preemptive right), private offering of assets and public takeover bid (PTB). On the other hand, it addresses transparency and financial inclusion matters.

Other changes are related to the **role of the CNV**. Particularly relevant in terms of financial stability is its function related to the introduction of an assessment process and the drafting of regulations to mitigate systemic risk situations. On the other hand,

- The possibility of requiring markets and clearing houses to perform supervision, inspection and oversight functions over their participating members is included once again but the abovementioned does not imply the transfer of its powers³⁷;
- To avoid conflict of interests, fines are eliminated as one of the resources of the CNV³⁸;
- Some discretionary powers are eliminated, such as the possibility of acting without prior summary proceedings as regards the function to declare the irregular and ineffective nature of acts submitted to its supervision whenever they are contrary to the law³⁹. Among other correlative powers, both the power to appoint overseers with a veto power in management bodies and the power to separate management bodies in entities where irregular actions are detected were also eliminated;
- The CNV is given the power to create new categories of registered agents and to modify or eliminate existing categories (thus generating greater momentum); in addition, the regulator is given the authority to establish maximum fees that may be collected by different market agents;
- The CNV becomes the exclusive authority regarding public offering (the possibility is eliminated for the BCRA, by virtue of its powers, to limit the public offering of new issues).

To sum up, this new law addressing several matters related to capital markets (including various practical aspects to be determined in the regulations of such law) will facilitate progress towards a deeper financial sector. Indeed, this would result in greater momentum of the capital markets, supplementing banking activity, for example in relation to boosting mortgage loans. In addition, as from the enactment of this law, the evolution of capital markets will be monitored by a regulatory entity explicitly incorporating a financial stability approach.

³⁷ On a supplementary basis, the functions of markets and clearing houses are modified. Other changes are introduced in relation to these agents (for example, related to the legal status of markets and to guarantee funds).

³⁸ Any proceeds from fines imposed by the CNV shall be transferred to the National Treasury. Several changes are made relative to the CNV's administrative and decision-making matters.

³⁹ This action introduces again the possibility that the CNV may bring summary proceedings.

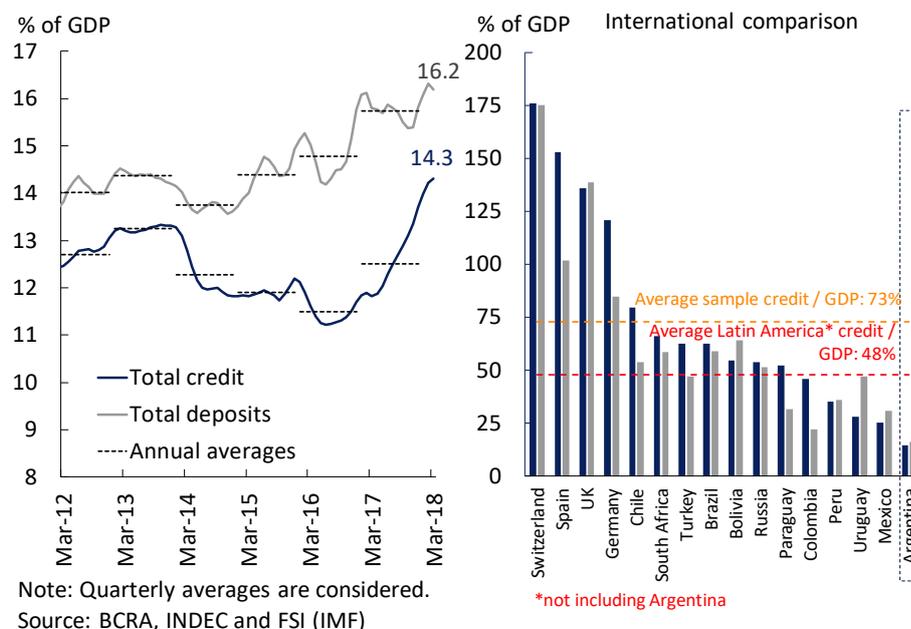
2. Situation of the Financial System

The expansion process of the banks' intermediation activity consolidated in recent months. In particular, lending to the private sector went up 25% y.o.y. in real terms in March, to 14.3% of GDP (up 2.5 p.p. in the last 12 months), maximum value on record of the last 15 years. However, the depth of the system is still low according to international parameters; consequently, the potential for growth is highly significant moving forward. Private sector deposits went up relatively less than credits, and there is an addition funding through corporate bonds. The mortgage loans segment was especially dynamic, with almost 58,600 new debtors in 2017 and 25,500 in the first quarter of 2018, and the UVA segment played a remarkably outstanding role. Within a regulatory framework in line with the internationally recommended standards, the financial system keeps high solvency levels. There is evidence of a greater degree of competition in the sector, consistent with the measures implemented to this effect in the last two years. Considering this development and the additional pressure on profitability resulting from the disinflation process, the decrease in the relative weight of administration expenditures is highly positive. This cost reduction, essential for the development and stability of the sector, is due to a larger scale and to efficiency improvements.

Lending expansion to the private sector consolidates

In line with a context of economic growth (see Chapter 1), the financial intermediation of the ensemble of banks continued to expand in the last months of 2017 and in early 2018. During the period, the growth pace of lending to the private sector —especially mortgage loan lines—consolidated, while the sector's funding continued to show a more moderate evolution. It is estimated that funding to companies and households stood in March 2018 at 14.3% of GDP, up 1.4 p.p. against the level of September 2017 —previous IEF edition— and up 2.5 p.p. against the value recorded one year ago (see Chart 2.1). Private sector deposits accounted for 16.2% of GDP⁴⁰, up 0.7 p.p. against the end of the third quarter of 2017. As a result of the change in the macroeconomic context of the last two years, there is an increasing synchronicity between the financial cycle and the business cycle.

Chart 2.1 | Intermediation with the Private Sector – As % of GDP



⁴⁰ If LEBACs held by the non-financial private sector are included, this ratio would amount to 20.7% of GDP as of March 2018, up 1.5 p.p. against the level recorded one year ago.

Following the recommendations of international organizations and in line with the process adopted by other countries for bank accounting to reflect the economic reality, the financial institutions started in early 2018 to submit their balance sheets according to the International Financial Reporting Standards (IFRS)⁴¹. In practice, the initial application of the IFRS by domestic banks translated into an increase of the financial system's net worth of 14.8% against the values posted by the end of 2017⁴², mainly due to a revaluation of real estate⁴³.

Table 2.1 | Balance Sheet – Financial System

	As % of netted assets					Real y.o.y. variation of stock Mar-18
	Mar-17	Sep-17	Mar-18	Variation in p.p.		
				Mar-18 vs. Sep-17	Mar-18 vs. Mar-17	
Netted assets						8.3
Liquid assets	25	20	17	-2.5	-7.3	-23.9
In pesos	9	9	9	-0.3	-0.1	7.5
In foreign currency*	16	11	8	-2.2	-7.3	-44.4
BCRA instruments**	16	12	14	2.6	-1.1	0.9
Total credit to public sector	14	10	11	0.2	-3.2	-16.6
Total credit to private sector	42	50	49	-1.5	6.6	25.3
In \$	36	41	40	-1.3	3.9	20.1
In foreign currency*	6	9	9	-0.3	2.7	49.0
Other assets	4	8	9	1.3	5.0	139.0
Netted liabilities						6.9
Public sector deposits	21	15	18	2.6	-3.0	-7.5
Private sector deposits	55	59	55	-4.2	-0.8	6.7
In \$	43	44	40	-3.8	-2.2	2.7
Sight deposits	22	24	21	-2.5	-0.3	6.5
Term deposits	20	19	18	-1.0	-1.7	-0.8
In foreign currency*	13	15	14	-0.5	1.4	14.7
CB, SD and foreign credit lines	3	4	5	0.9	1.7	62.9
Other liabilities	9	9	10	0.9	1.1	21.2
Net worth	12	13	13	-0.1	1.1	18.5

*Variation in currency of origin ** It includes holding and repo with the BCRA.

Source: BCRA

If compared to the previous IEF, the relative weight of the monetary regulation instruments (LEBACs and LELIQs) went up in the headings making up the financial system's assets (up 2.6 p.p.), while the rest of liquid assets went down (-2.5 p.p.), mainly in foreign currency (see Table 2.1)⁴⁴. With reference to funding, the share of public sector deposits and alternative funding sources, such as corporate bonds, went up in the period under analysis (see Exhibit 3). Conversely, the share of private sector deposits went down (-4.2 p.p.)—mainly in domestic currency—in the total funding of the sector.

⁴¹ In 2014, the BCRA established a roadmap for the convergence towards the IFRS standards (Communication "A" 5541). With a view to stabilizing the accounting entries resulting from the application of the IFRS, at the beginning of the year the monetary authority prepared a [Supplementary Guide to the Chart of Accounts – Convergence to IFRS](#). For further detail about the IFRS, see [IEF 1-17](#).

⁴² Net worth went up 21.2% in state-owned banks and 11.6% in private banks.

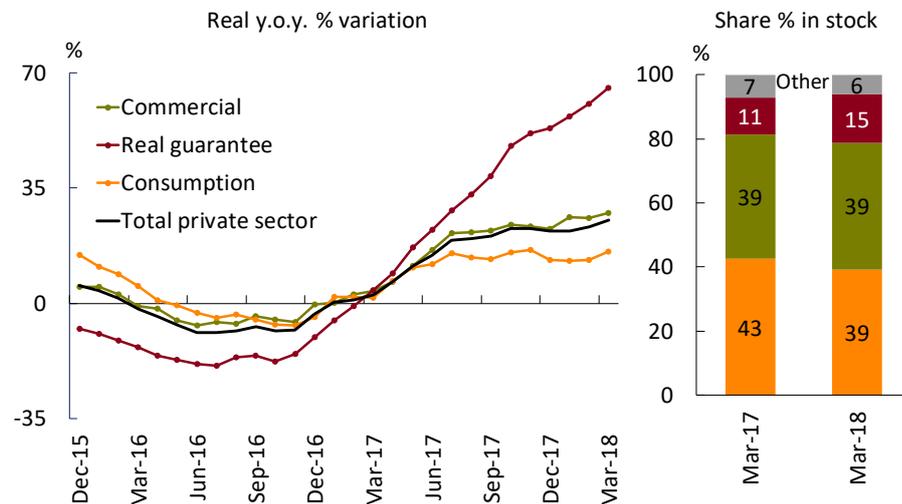
⁴³ So far, real property was taken at its historical values but, as from the implementation of the IFRS, it is taken at values in line with market prices. Regarding the additional reporting changes introduced by the application of the IFRS, it is worth stating that the operations entailing a double accounting record—such as repos, both forward and spot transactions to be settled—, they were already taken into account in previous IEF editions by refining assets and liabilities using the netted concept. In particular, assets and liabilities were netted from accounting double entries resulting from swap transactions, both forward and spot to be settled.

⁴⁴ See Chapter 3 for further detail on the evolution of the financial system liquidity.

Total bank lending to companies and households continued to expand, going up 25.3% y.o.y. in real terms in March (see Chart 2.2), resulting in a year-on-year increase of 6.6 p.p. in the total assets of the system (even though it decreases slightly by 1.5 p.p. against September 2017). The performance of loans to the private sector was widespread among all groups of financial institutions, even though there was a higher relative change in state-owned banks. If broken down by lines, collateralized loans exhibited a year-on-year stronger relative momentum, and their share increased in the total stock.

As it has been observed since mid-2016, the regularization of the foreign exchange market and the greater openness of the economy, added to the effects of the Tax Amnesty Regime and the economic growth context, reinvigorated lending in foreign currency to the private sector. As of March 2018, loans in foreign currency rose by 49% y.o.y. —in original currency—, mainly driven by financing to exports. It is worth mentioning that the BCRA adopted a broad set of measures to strengthen the use of funding in foreign currency for productive purposes, without neglecting its macroprudential goal of preventing excessive currency mismatches, both direct (banks' balance sheets) and indirect (debtors' balance sheets) in the system (see Box 1).

Chart 2.2 | Stock of Total Credit to the Private Sector (Domestic and Foreign Currency)



Note: Commercial includes: overdraft, promissory notes, financial leasing and pre-financing to export. Real guarantee: mortgage and pledge-backed loans. Consumption: credit cards and personal loans.

Source: BCRA

Box 1. Mitigating the currency mismatch of bank debtors is one of the pillars of the BCRA's macroprudential policy

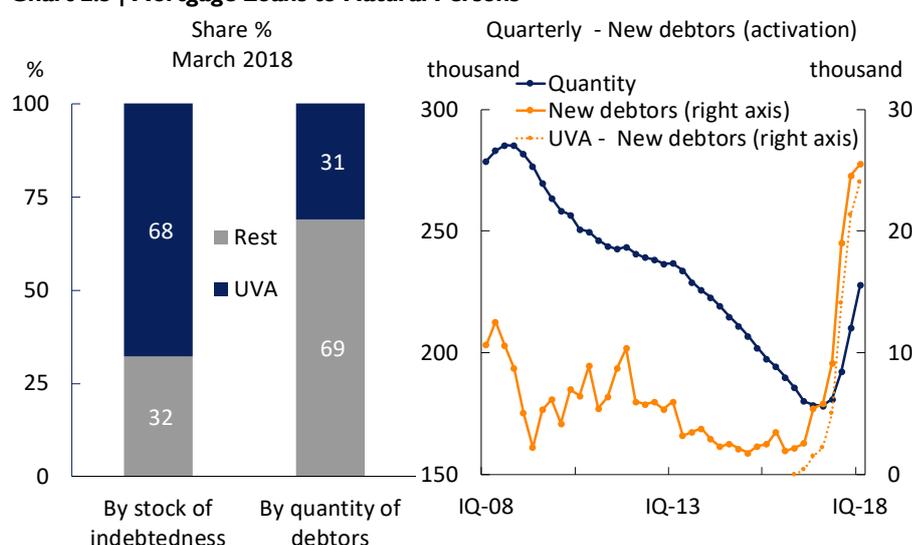
The 2001-2002 local financial crisis has given a series of lessons that were taken into account when adjusting the regulatory framework of the financial system, especially the need for adopting regulations to manage the risks related to an excessive exposure to the public sector—at all levels—and to currency mismatching. The BCRA has focused part of its macroprudential policy on these risks. With approximately 70% of banks' assets in dollars in 2001, the collapse of the currency peg regime at the beginning of 2002 translated into sizable tensions on the payment capacity of debtors in foreign currency, especially debtors of the non-tradable sector. *Vis-à-vis* the depreciation of the domestic currency at the beginning of 2002, the Government decided to pesify credits and deposits with a view to controlling systemic risks.

Bearing in mind this experience, in May 2002, the Executive Branch established that deposits in foreign currency can only be used by banks to finance debtors whose regular income comes, directly or indirectly,

from foreign trade transactions and related activities⁴⁵. In due time, the BCRA regulated this restriction in its regulatory framework⁴⁶. Since early 2016, the monetary authority extended the alternatives for the use of these resources in foreign currency available to banks⁴⁷. As a result, the current prudential framework allows banks to finance economic and infrastructure activities—for example under the framework of the Public-Private Partnership Contracts (see Box 2)—, while it seeks to mitigate its balance sheet exposure to the risk of currency mismatching of the debtor which has proven to have significant negative effects on the economic history of the country.

In turn, financing lines in pesos channeled to the private sector accumulated a 20.1% growth in real terms in the last 12 months, and especially relevant among them are mortgage loans. In this context, nearly 82% of loans to the private sector are denominated in domestic currency (with and without the Reference Stabilization Coefficient—CER— adjustment).

Chart 2.3 | Mortgage Loans to Natural Persons



Note: New debtors (activation) are calculated considering the CUILs of human persons that are included in the central of debtors of each month (t) and who were not present in the previous month (t-1). Source: BCRA

Mortgage loans to households have accumulated a real year-on-year increase of 199% up to March. This evolution was largely explained by loans in Acquisition Value Units (UVAs), which invigorated the credit market for the purchase of housing units. By early 2018, 68% of the total stock of mortgage lending to households—\$133.6 billion— corresponded to UVA-denominated loans (see Chart 2.3), and state-owned banks have been the most dynamic in the granting of these credits. In terms of new mortgage debtors (activations), while almost 58,600 debtors (73% of them were financed with UVAs) entered the domestic financial system in 2017, there were 25,500 new debtors (94% in UVAs) only in the first quarter of 2018. In this respect, the growth observed in the stock of mortgage loans since the end of 2015 has been accounted for, almost in full, by new debtors receiving this type of assistance. Despite this special performance of mortgage loans, it is observed that, in terms of the total portfolio of credits to the private sector, the share of the new debtors (for the system) in the increase of the total stock, from late 2015 to the present, is

⁴⁵ Executive Order 905/02, text according to Art. 63 of Law NO. 26546.

⁴⁶ See “Credit Policy”.

⁴⁷ Entities were allowed to channel them to suppliers of exporting companies, to investment projects intended to increase the production of the energy sector, to finance investment projects for bovine cattle raising and to finance importers of products or services exported by Argentine companies, among others. Even more, it was established that provided there is a guarantee from a foreign private bank (having investment grade rating) all types of projects, whether related or not to export activities, may be financed. To access a detailed description of all the regulatory changes introduced in this respect in the last two years, see the Chapters and Exhibits of IEFs 2016 and 2017.

relatively limited (20%) and it is similar to the weight observed between the end of 2013 and December 2015⁴⁸.

Box 2. Public-Private Partnership Contracts: a new mechanism to develop infrastructure projects

The “Public-Private Partnership (PPP) Contracts” Act⁴⁹, enacted by the end of 2016, created a new framework to promote projects related to infrastructure, housing units, activities and services, investments for productive purposes, applied research and technological innovation. By the end of May 2018, the award and signing of contracts corresponding to the first bid via PPP will take place, on this occasion for the initial stage of road corridors. In addition, some other works have been projected for the short term, related to the improvement of energy transmission, extension of railroad networks, development of irrigation works, sanitation works, water works, housing units, hospitals, penitentiary complexes and additional tranches of roads⁵⁰.

The domestic financial system is perfectly fit to participate in the channeling of resources to potential contractors⁵¹. In addition to the deposits in pesos available to be lent, the ensemble of banks manages private sector deposits in foreign currency for around US\$ 26 billion. Even though a large part of these resources is already channeled to productive activities, a portion could be allocated to finance PPP projects. In addition, this volume of deposits could expand if returns to depositors were raised, since they are currently standing at an annual percentage rate of 0.5% for time deposits⁵².

In this way, part of the PPP projects might be financed with resources coming from the domestic financial system, in both pesos and foreign currency. Financing in foreign currency might be channeled, according to the regulatory framework in force⁵³, to energy sector works or to projects related to services used in the export process of goods, as is the case of the cargo railroad system or irrigation works in the agricultural sector, among others. To the extent that the contractor’s transaction is guaranteed by a Letter of Credit from a bank abroad or from multilateral development banks having an investment grade international rating, the regulations adopted by the BCRA⁵⁴ allow for the financing of all types of projects, whether related or not to export activities. Thus, under this type of guarantee, all PPP projects might be eligible for local banks.

Also with a view to promoting PPP financing, the Central Bank implemented Communication “A” [6449](#), whereby a pledge or collateral assignment by contractors of the abovementioned debt instruments are considered preferred guarantee “B”. Thus, when PPP contractors take secured financing, they will have an increase in the existing limits to credit facilities⁵⁵, from 15% to 25% of the institution’s regulatory capital⁵⁶.

⁴⁸ This estimate was calculated bearing in mind the debtors that, in the periods considered, are not present in the initial month (in any credit line) but they are present in the final month (in a credit line).

⁴⁹ [Law No. 27328](#). With the use of this tool, the local and international private sector, in its role as contractor, carries out projects under a bidding process by the public sector, and the private sector is responsible for getting the financing required. (For a detailed description of the PPP regulatory framework, see [Law No. 27328](#) as well as executive orders and other regulatory provisions available to the public at the [Under-Secretariat of Public-Private Partnership of the National Ministry of Finance](#).)

⁵⁰ According to the National Ministry of Finance, there is an estimated total of 15 bidding programs with 60 individual projects, for an estimated amount of US\$26 billion.

⁵¹ If the private contractor required bank loans without sovereign guarantees, this financing is considered an exposure to the private sector from the standpoint of BCRA regulations.

⁵² For example, by the end of 2015, the abovementioned return was close to an annual percentage rate of 3%.

⁵³ For further detail, see Section 2 of the Consolidated Text of the BCRA on “[Credit Policy](#)”, pursuant to the provisions of Article 23 of [Executive Order 905/02](#) (text according to Article 63 of [Law No. 26546](#)).

⁵⁴ Communication “A” [6245](#).

⁵⁵ BCRA Consolidated Text “[Spreading of Credit Risk](#)”.

⁵⁶ It was also established that, in the case of contractors selling instruments to banks, it will not be necessary for the latter to comply with the regular process of previous authorization before the Central Bank – BCRA Consolidated Text “[Financing to the non –financial public sector](#)”, thus facilitating investment in infrastructure projects launched through PPP.

In this context of increasing momentum in terms of lending, in the second half of 2017 and in early 2018, there was an increase in the number of debtors using different credit lines (see Table 2.2), and the performance was remarkable not only in mortgage loans but also in cards and personal loans.

Table 2.2 | Number of Debtors in the Financial System. Natural Persons

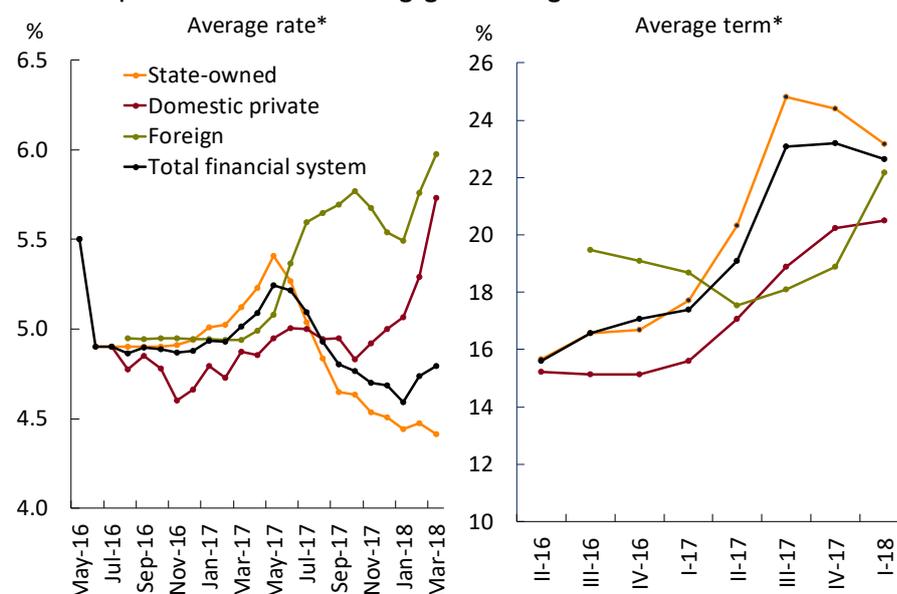
In units

Type of loans	Dec-15	Mar-16	Dec-16	Mar-17	Dec-17	Mar-18	Var. mar-18 / dic-15
Mortgage	194,063	189,571	178,094	177,787	210,122	227,706	33,643
Pledge-backed	430,285	412,530	414,083	436,709	501,327	534,577	104,292
Personal	4,944,323	4,987,847	5,186,233	5,340,376	5,531,678	5,681,464	737,141
Credit cards	9,436,838	9,502,494	9,935,390	9,978,288	10,365,074	10,459,567	1,022,729
Financial system	11,350,342	11,453,107	11,914,962	12,062,250	12,425,361	12,593,924	1,243,582

Notes: The information is consolidated at the individual debtor level, both in the same financial institution (in case the same debtor has several financing lines) and between entities (eg if the individual is debtor in different entities at the same time). The information is constructed from the "Debtors Regime", which contains a threshold from which entities are obliged to inform. It was at \$500 until Jun-17 and then it went to \$1,000. To set a homogeneous threshold, debtors who exceeded, in each period, \$1,000 of Mar-18 were considered. The financial entities regulated and supervised by the BCRA are considered (excluding non-financial credit providers and financial trusts). Source: BCRA

So far this year, the average nominal lending interest rate arranged in pesos with the private sector⁵⁷ did not show significant changes (and stood at around 33%). In turn, average interest rates arranged in UVAs tended to increase in recent months in all credit lines. In particular, the average interest rates of UVA-adjusted mortgage loans stood at 4.8% in March, above the value they had in December, reflecting the performance of private banks in the first quarter of the year (see Chart 2.4).

Chart 2.4 | UVA-denominated Mortgage Financing

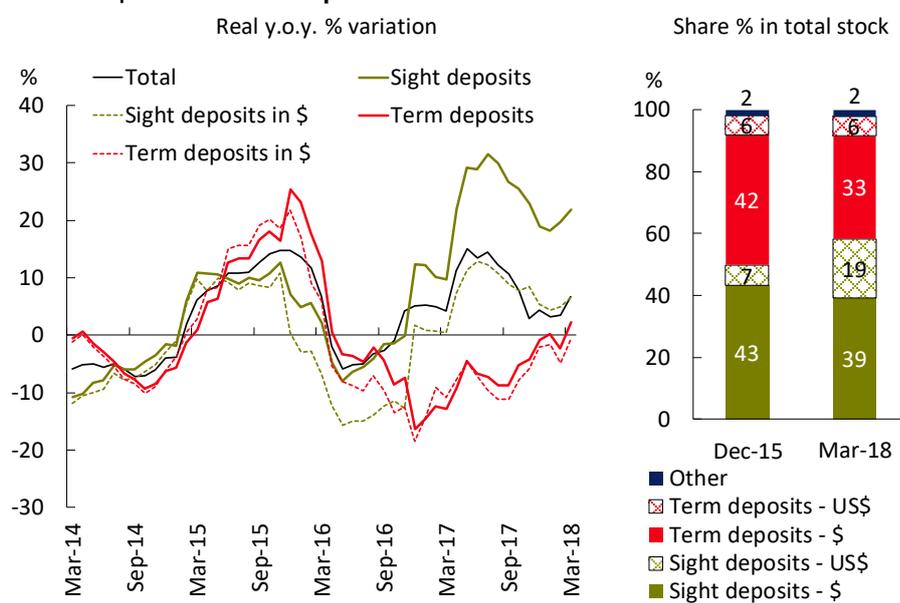


*Weighted average by granted amount. Source: BCRA

⁵⁷ It includes fixed and renegotiable interest rate.

Private sector deposits continued to show a moderate performance by the end of 2017 and in early 2018 (see Chart 2.5), within a context where liquidity continues to stand at relatively high levels, with the additional influence of the abovementioned extra funding from the issue of Corporate Bonds. In March, private sector deposits accumulated a growth rate of 6.7% y.o.y. as adjusted by inflation, down 3.9 p.p. against the change observed in September 2017. The slowdown in the growth pace of these deposits was mainly due to the performance of sight accounts. Despite this evolution, these deposits continue to be the most dynamic on the margin in relative terms. In turn, time deposits of households and companies exhibited a slight improvement in the last six months. In this sense, some effort was observed up to April 2018 by banks to take in deposits, as it had been already evidenced by the reduction of the gap between deposit rates (especially the Private Banks BADLAR) and the LEBAC rate (see Chapter 1). The BCRA continues to work on measures to foster a context of deposit expansion; these measures include, for example, the readjustment of the regulatory ceilings of the deposit insurance interest rate in order to promote competition in funds taking (see Box 3), and the shortening of the minimum term for UVA-denominated time deposits (from 180 down to 90 days).

Chart 2.5 | Total Stock of Deposits of the Private Sector



Towards the future, bank lending to the private sector is expected to continue expanding at a pace faster than that of the economic activity growth. This behavior is particularly supported by the favorable macroeconomic configuration, with investment (especially, in the construction business) that has resumed its traditional role in terms of boosting the economic activity, a disinflation process that will surely deepen, while sectorial indebtedness levels continue to be relatively low. In this respect, in terms of the funds for financing, it is estimated that, in the short term, a general context of lower relative growth of private sector deposits against lending will prevail. The latter would be mainly supported by the use of liquidity excess and by the performance of other funding sources⁵⁸. The expected evolution of both credit and funding sources will be restricted by the persistence of the current highly volatile context, which led to take action on monetary policy rates to prevent a disruptive evolution in the foreign exchange market and to continue advancing in the reduction of inflation levels (see Chapter 1).

⁵⁸ In line with Box 5 of [IEF II-17](#), the exercise seeking to assess the role of current surplus liquidity in sustaining the expected growth of credit was updated, with a view to identifying the liquidity exhaustion moment and the resulting need of the system for reinforcing the existing funding sources. In this respect, a projection of the financial system's balance sheet for the next three years was performed, using a baseline scenario for the sector regularly prepared by the BCRA. In addition, projections were also made with alternative assumptions about the real growth of loans and deposits.

Box 3. Recent changes introduced into the deposit insurance

As from its implementation in Argentina in 1995⁵⁹, the deposit insurance has become one of the components of the security network to protect the savings that households and companies channel into the banks. The design of the insurance included a broad set of characteristics, such as the exclusion of deposits with interest rates above a certain margin (2 annual percentage points) against the market reference rate⁶⁰. The purpose was to limit potentially risky strategies by banks for managing liquidity and business in general.

Given the new context of micro and macroprudential policies, the BCRA assessed the efficiency of the abovementioned limitation and decided to readjust it in early 2018⁶¹. In this sense, it was established that there would be no coverage only in the following cases: i. time deposits and investments exceeding the higher of 1.3 times the reference rate or the abovementioned rate plus 5 p.p., and ii. sight deposits exceeding the reference rate. In both cases, the reference rate is the same (there were several before, depending on the type of deposit⁶²), standing in early April at 20.82% for deposits in pesos, 0.58% for deposits in dollars and 2.96% for UVA-denominated deposits⁶³. The BCRA seeks to encourage competition in the banking sector without neglecting its prudential objective⁶⁴, impacting on a potential improvement in the return on savings, as well as on the volume of resources available for intermediation purposes.

In terms of financial inclusion, in late 2017 and early 2018 progress continued to be made in this respect, with a larger coverage in terms of access points (PDA) (see Exhibit 4). In addition, as from the previous IEF, the BCRA continued to adopt measures tending to simplify the access by the public to financial services (see Regulatory Annex).

Profitability levels are declining once again

As stated in Chapter 1, the disinflation process is expected to resume gradually. In line with the evolution mentioned in the latest IEF editions, the expected disinflation continues to be a challenge for the institutions in terms of its potential effect on their profitability, especially because it implies that taking sight deposits and then channeling loans at a higher nominal return would result in lower benefits for the institutions. This context, added to a higher level of competition, requires banks to make progress in efficiency gains and in the reconfiguration of their business in the short and medium term.

After certain stabilization in the nominal profitability level of the ensemble of institutions during the first quarters of 2017, the financial system resumed the path of gradual decrease of profits by the end of that year⁶⁵. Thus, the accumulated profitability for the sector during 2017 totaled 2.7% of assets —ROA— (\$77.7 billion along the year, up 4.3% against 2016), down 0.9 p.p. and 1.3 p.p. against 2016 and 2015, respectively (see Table 2.3)⁶⁶. The group of state-owned banks and the group of private banks followed similar paths even though, among the latter, national private banks recorded a slight increase in their ROA from 2016 to 2017.

⁵⁹ [Law No. 24485](#) and Regulatory Decree [540/1995](#).

⁶⁰ According to calculations by the BCRA based on daily averages.

⁶¹ By means of Executive Order [30/2018](#) and its further regulation through BCRA Communications “A” [6435](#) and [6460](#).

⁶² For example, by the end of 2017, reference rates were 2.25% for sight deposits in pesos, 22.50% for 60-days deposits in pesos and 22.75% for terms longer than 60 days, also in pesos. In all cases, the calculation includes the two additional percentage points effective according to the regulation in force up to such time.

⁶³ [Communication “B” 11685](#).

⁶⁴ In fact, the deposit coverage ratio with the Deposit Guarantee Fund (FGD) was standing, by the end of 2017, at around 2.5%, the highest value of recent years.

⁶⁵ This decrease in profits is also observed when considering the profitability in terms of the net worth, adjusting it according to the evolution of the CPI. This evolution is evident both at system level and in private banks.

⁶⁶ Profitability in terms of net worth stood at 23.4% in 2017, down 6.3 p.p. and 9 p.p. against 2016 and 2015.

In the first quarter of 2018, the financial system's ROA stood at 2.9% annualized (a.), after closing the last quarter of 2017 at 1.8%a., and these periods were particularly impacted by the performance of state-owned banks. In fact, the profitability of private banks remained relatively unchanged in terms of assets since the first quarter of 2017 onwards.

Table 2.3 | Financial System Profitability

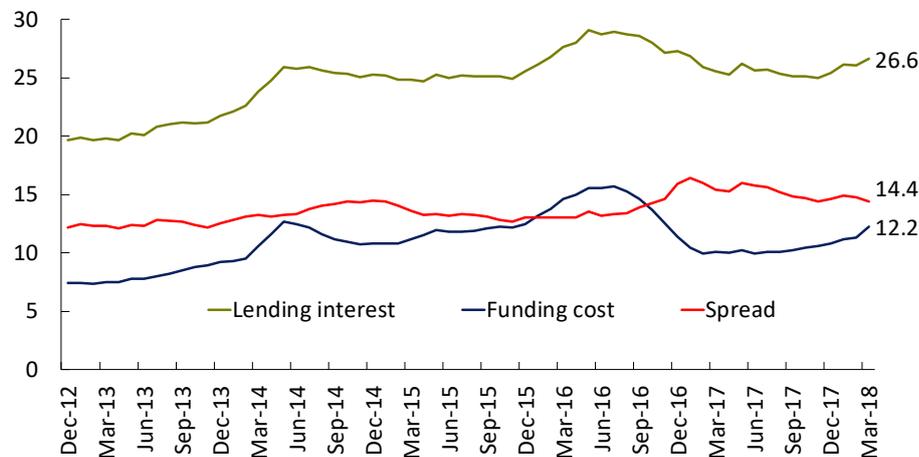
Annualized (a.) - In %a. of netted assets	Annual			Quarterly									
	2015	2016	2017	IVQ-15	IQ-16	IIQ-16	IIIQ-16	IVQ-16	IQ-17	IIQ-17	IIIQ-17	IVQ-17	IQ-18
Financial margin	11.8	11.4	10.1	12.8	12.1	12.0	11.2	10.6	9.5	11.0	10.5	9.4	10.7
Interest income	12.6	12.5	10.5	12.8	12.8	13.4	12.8	11.2	9.9	10.4	10.6	11.1	10.5
CER and CVS adjustments	0.2	0.3	0.3	0.2	0.4	0.4	0.4	0.2	0.1	0.3	0.2	0.5	0.8
Foreign exchange price adjustments	0.8	0.9	0.8	1.5	1.4	0.7	0.7	0.9	0.4	1.0	0.9	0.9	0.8
Gain on securities	5.6	5.5	3.8	5.6	6.0	6.5	5.4	4.4	3.7	4.0	4.3	3.2	4.8
Returns on repo	0.1	0.2	0.5	0.2	0.1	0.3	0.2	0.1	0.9	0.9	0.2	0.2	0.5
Interest expense	-7.3	-7.9	-5.7	-7.6	-8.4	-9.1	-8.3	-6.2	-5.4	-5.6	-5.6	-6.0	-6.8
Other financial income	-0.2	-0.1	-0.2	0.1	-0.2	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.5	0.2
By term operation of foreign currency	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.1	0.1
Rest	-0.3	-0.1	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.5	0.1
Service income margin	3.7	3.3	2.8	3.6	3.1	3.4	3.4	3.2	3.0	2.9	2.7	2.8	2.2
Loan loss provisions	-0.9	-0.8	-1.0	-1.1	-0.7	-0.8	-0.9	-0.9	-0.9	-1.1	-1.0	-1.1	-1.1
Operating costs	-7.7	-7.7	-7.2	-7.8	-7.4	-8.0	-7.7	-7.6	-7.0	-7.3	-6.9	-7.4	-6.5
Tax and other	-2.8	-2.5	-2.0	-2.7	-2.8	-2.7	-2.3	-2.5	-1.6	-2.4	-2.0	-1.9	-2.2
Income tax	-2.0	-1.7	-1.5	-2.0	-2.0	-1.9	-1.6	-1.4	-1.5	-1.5	-1.3	-1.6	-1.2
Other comprehensive results (OCI)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
Total result (ROA)	4.1	3.6	2.7	4.8	4.3	3.9	3.7	2.8	3.0	3.0	3.3	1.8	2.9
Total result / Net worth (ROE) - In %	32.4	29.6	23.4	38.5	35.4	30.8	29.0	24.5	27.1	26.0	26.8	15.0	23.3

Source: BCRA

Chart 2.6 | Estimation of Implicit Interest Rate* and Implicit Funding Cost by Deposits* - Items in Domestic Currency – Financial System

Three-month moving accumulated

%a. / p.p.



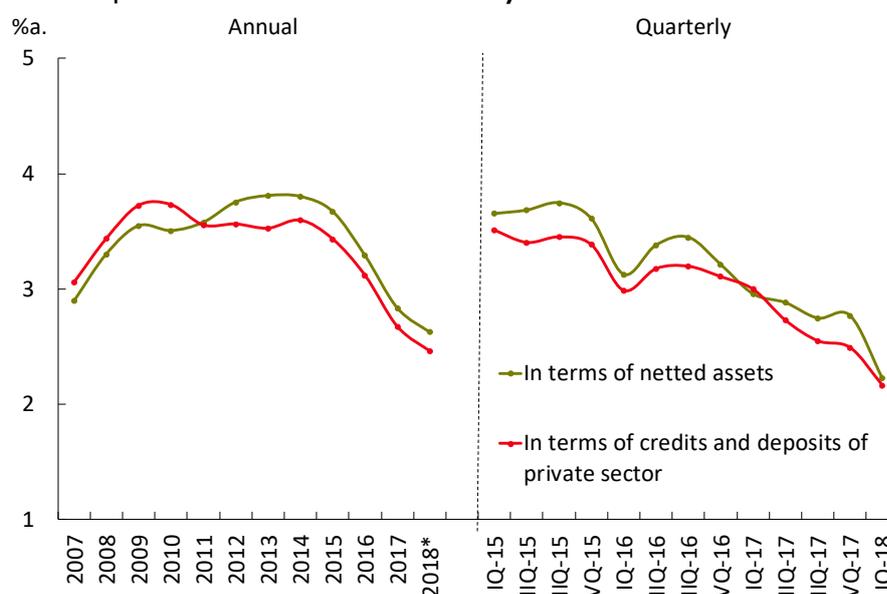
Lending interest rate: (Income flows from loans + Adjustment flows from loans with CER) / Average regular stock. Funding cost: (Flows of expenses for deposits + Flows of adjustments for deposits with CER + Flows of expenses destined to SEDESA) / Average of deposits net of reserve requirements. Source: BCRA

In the last two quarters, end of 2017 and beginning of 2018, the financial margin of the financial system recorded some gradual changes. On the one hand, income from interest and CER adjustment is gradually increasing. Even though income from interest remained relatively stable against previous quarters, the share of CER is starting to grow from a low level because of an increasing intermediation in UVAs. In turn, expenses for interest went up, driven in part by a shift in public sector deposits from sight deposits to time deposits (especially in state-owned banks) and also by a slight reduction of the nominal interest rates paid on deposits (see Chapter 1). The results in terms of securities continue to have an important share in the banks' financial

margin (especially, state-owned banks), accounting for 4.8%a. at the beginning of 2018 and showing some volatility.

The estimate of the implicit differential between lending interest rates and the funding cost for deposits, both in domestic currency, went down in the last six months to a level around 14.4% (see Chart 2.6)⁶⁷. From September 2017 —latest data published in the previous IEF— to early 2018, the implicit lending interest rate and the cost of funding for deposits posted increases and they are more significant because of the changes in the composition of funding, from sight deposits to time deposits, especially in the case of public institutions. It is worth considering that the value of this differential stands below the values observed by the end of 2016 and the beginning of 2017.

Chart 2.7 | Income from Services – Financial System



*12-month accumulated to March. Source: BCRA

The downward trend of income from services obtained by banks continued in the last quarters, totaling 2.2%a. in the first quarter of 2018 (see Chart 2.7), or 2.6% in the aggregate of the last 12 months (lowest value in recent years)⁶⁸. Here it is worth mentioning that the downward path of this item of the income statement is consistent with a series of policies implemented by the BCRA that, in more general terms, have sought to encourage an environment of better competition in the financial system (see Exhibit 5)⁶⁹. This should be evident in benefits for clients and in a readjustment of the sources of income for banks. In terms of competition in the provision of financial services in general (including banks and non-banks), the Fintech companies are gradually gaining more relevance, even though from reduced levels (see Box 4).

⁶⁷ As mentioned in the previous IEF, it is interesting to explore the evolution of this rate differential in order to interpret more accurately the results from the traditional financial intermediation process. The implicit lending rate is defined as the quotient between the annualized quarterly flow of accrued interest and the average stock of loans corresponding to the period. The implicit funding cost for deposits is defined as the quotient between the annualized quarterly flow of accrued interest and the average stock of deposits adjusted by the minimum reserve requirement. Implicit interest rates (ex post) are related to flows coming from transactions arranged in the past and include information unknown at the time of making the transaction such as the debtors' level of compliance or potential cancellation of credits, among other factors. In turn, the interest rates traded (ex-ante) reflect more efficiently the conditions of the environment at the time of the transaction, such as market competition, changes in macroeconomic variables, expectations, etc.

⁶⁸ As from this publication onwards, a regrouping of entries is performed between the items income from services and tax burdens, leading to a readjustment of historical series. Even though this regrouping modifies the levels of income from services, the direction of the changes observed on the margin is maintained.

⁶⁹ Recently, for example, el BCRA allowed clients to cancel their financial products both through electronic means or personally at any bank branch and no longer, necessarily, at the branch where the products were originally purchased.

Box 4 – Developments in the Domestic Fintech Ecosystem

In the previous IEF, an initial analysis was performed on the innovations being offered by financial technology, or Fintech, companies in the provision of financial services, a situation that improves competition and favors financial inclusion. Delving into this ecosystem⁷⁰, we can see:

- *A significant growth in the sector, from 60 companies in 2016 to 135 in 2018⁷¹. The segments with the fastest growth pace have been Loans, Payments and Remittances, and Enterprise Technology for Financial Institutions;*
- *Employment expanded at an annualized pace of 18% from 2015 to 2017⁷². In December 2015, job positions amounted to 850, while by the end of 2016 they had reached 1,000 and in December 2017, 1,180;*
- *Bank financing to Fintech firms continued to grow, even though it is still relatively low. From early 2015 to late 2017, a total of 68 Fintech companies have got financing from the financial system and their stock of debt amounted to \$5 million on average in 2015, \$28 million by the end of 2016 and \$128 million by the end of 2017⁷³;*
- *In late 2017, the first interrelations between Fintech companies and the capital market were noticeable. Some of them have securitized part of their loan portfolios or are about to do it. Programs reached a total of around \$210 million, and now they have funds available to create new loans and expand their share in the market;*
- *The profitability of Loan companies funded with own capital exceeded that of Crowdlending firms. This might be due to the lack of maturity of the market to operate in innovative platforms and to their direct dependence on a large number of savers⁷⁴.*
- *The profitability of Fintech companies is lower than the profitability of banks. There may be several reasons behind this phenomenon, such as lower leverage, relatively high expenses in advertising and technology relative to every peso granted in loans, and a general portfolio of clients with a lower credit rating on average (in some cases, the delinquency ratio stands at nearly 16% of the portfolio).*

Within a context with higher intermediation levels, the administration expenditures of the financial system continued to go down in 2017 and in early 2018 (see Chart 2.8). These expenditures stood at 6.5%a. in the first quarter of 2018. Even though they exceed the figures of other emerging economies and of developed economies, it represents the lowest value at local level in the last 6 years. This evolution has been observed in both public and private banks. It is worth noting that the BCRA gives support to the institutions in this process of operating cost reduction, encouraging the use of new technologies resulting in efficiency improvements in the financial intermediation process, among other initiatives⁷⁵.

The recent drop in administration expenditures of this sector was accompanied by some improvement in terms of productivity and better use of the banking infrastructure. Driven by higher levels of financial intermediation, the ratio between the set of loans and deposits of this sector (at constant prices) and the number of bank employees went up during 2017⁷⁶ (see Chart 2.9), and this performance was widespread among all groups of financial institutions. The value attained by the end of last year was the highest in the last 16 years. This positive evolution boosts the increase of productivity per employee of the aggregate

⁷⁰ In order not to distort data analysis on employment and funding with the financial system, some companies whose main activity is not related to the Fintech segment, such as e-commerce platforms which, in addition, provide payment or credit services have not been included; the same applies to non-banking collection companies providing payment services through e-wallets.

⁷¹ According to data provided by Finnovista (2016 and 2018), a Fintech firm operating as startups accelerator in the region, and to our own surveys.

⁷² Prepared on the basis of the payroll of 59 Fintech companies. The source is the Monthly Accounting Reporting Regime - Payment of Salaries Through Banks (BCRA).

⁷³ Source: Financial System Debtors Reporting Regime (BCRA).

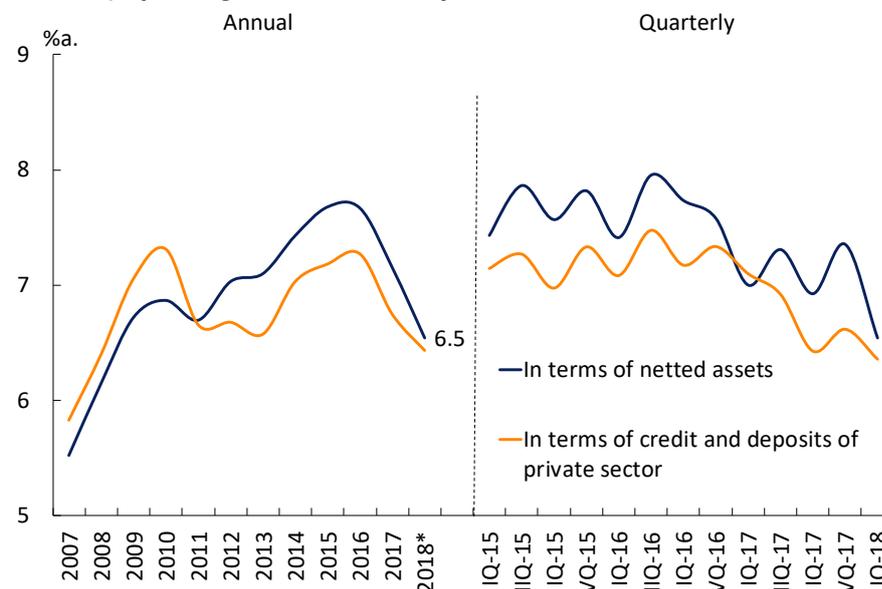
⁷⁴ Information prepared on the basis of accounting balance sheets, risk ratings and supplementary prospectuses of financial trusts available at the website of the National Securities Commission and the Electronic Over-the-Counter Market.

⁷⁵ For further detail, see the Regulatory Annex, and Chapter 4, Payment System.

⁷⁶ These results have been accompanied, in recent years, by a context of growth in the number of credit facilities relative to the total number of employees of the financial system.

financial system of the Argentine economy; in fact, this sector has experienced one of the highest expansions among all sectors of the economic activity⁷⁷.

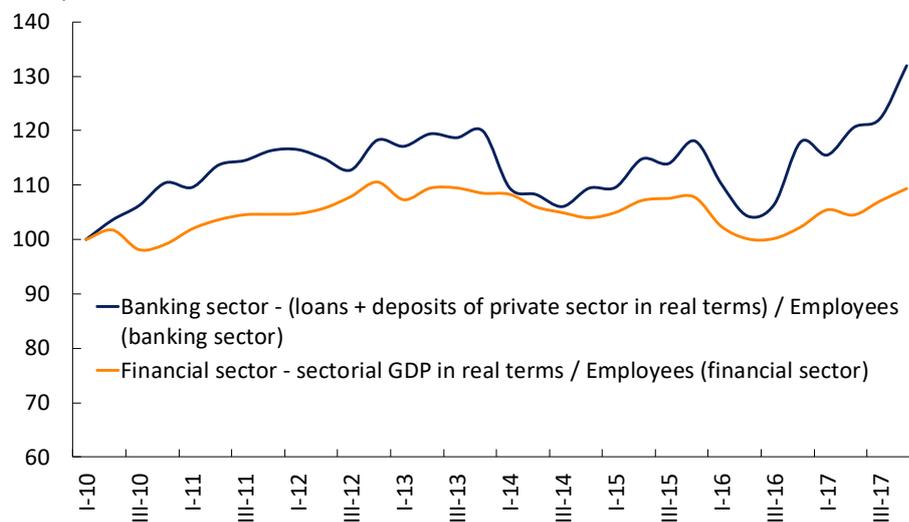
Chart 2.8 | Operating Costs – Financial System



*to March. Source: BCRA

Chart 2.9 | Productivity

index base 100 =
1st quarter 2010



Source: BCRA and INDEC

The financial sector continues to have high solvency levels

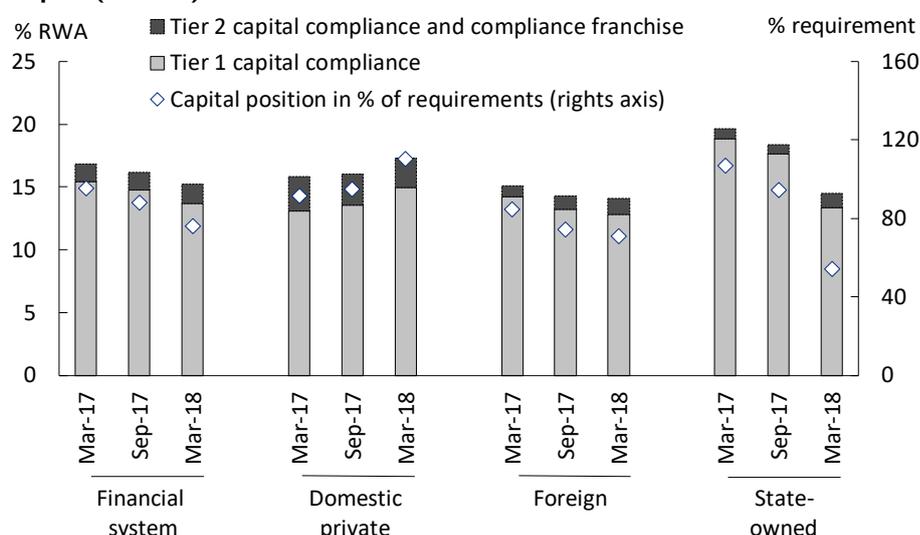
In the last months of 2017 and so far in 2018, the solvency ratios of the aggregate financial system have stood at high levels. As a result, there is a significant level of resilience in this sector against potentially extreme credit risk events (see Chapter 3). The regulatory capital compliance of the institutions accounted

⁷⁷ For further detail, see Chapter 3 of the [Monetary Policy Report, April 2018](#).

for 15.3% of risk-weighted assets (RWAs) in March, standing slightly below the figure recorded 6 months ago (-0.9 p.p. against September) and also below the value recorded one year ago (-1.6 p.p.) (see Chart 2.10). This was mainly due to the growth of RWAs in the system because of the performance of lending to the private sector and also to the capital reduction of a large public institution⁷⁸ which, at least in part, resulted in a decrease in capital compliance of the ensemble of state-owned banks.

In this period, Tier 1 Capital⁷⁹ of the financial system accounted for 90% of total capital, standing at values similar to those of the previous IEF and quite above other emerging and developed economies⁸⁰. Within the framework of the prudential regulations in force, compliance in excess of the regulatory capital relative to the regulatory compliance stood at nearly 76% for the financial system, an indicator that is also sizable upon analyzing the different groups of financial institutions⁸¹.

Chart 2.10 | Capital Compliance and Compliance in Excess of the Regulatory Capital (Position)



Capital tier 1: Basic net worth
 Capital tier 2: Complementary net worth
 Source: BCRA

Taking into account the current buffers or regulatory capital margins⁸², the financial system aggregate evidences an excess in the Tier 1 core capital compliance⁸³, equivalent to 3.6% of RWAs as of March, slightly below the level recorded in the previous IEF and also below the level in place one year ago. In particular, ten (10) out of the 77⁸⁴ financial entities currently operating did not fully cover all the margins by the end of the first quarter of 2018 (see Chart 2.11) —i.e. seven (7) institutions less than by the end of the third quarter of 2017—, equivalent to 15% of the system's total assets —down 18 p.p. against last September.

⁷⁸ Law No. 27431.

⁷⁹ Tier 1 Capital defined as the basic net worth (ordinary and additional capital, net of deductible accounts). Com. "A" 5369.

⁸⁰ See Chapter 2, IEF II-17.

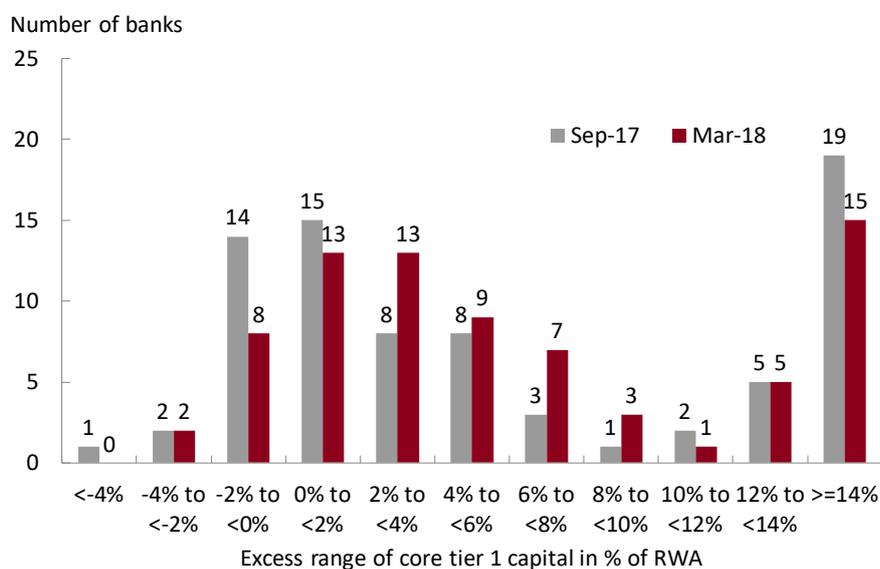
⁸¹ In recent months, there was a series of capitalizations of both private and state-owned banks. For further detail on the change of capitalization strategies of institutions in recent years, see Box 9, IEF II-17.

⁸² Capital conservation buffer of 2.5% of risk-weighted assets (RWA), which is expanded by 1 p.p. in the case of banks defined as systemically important banks. It is worth noting that, according to the prudential regulations of the BCRA, the abovementioned margins are not a minimum regulatory requirement. Lack of compliance entails restrictions at the time of dividend distribution by the institutions (for further detail, see the [Restated Text on Profit Distribution](#)). In the theoretical exercise presented here, the abovementioned margins are assimilated to the traditional regulatory requirements.

⁸³ Common shares and retained earnings.

⁸⁴ Until February 2018, the financial system had 77 financial entities, and the number went down to 76 as from March when the authorization to operate to Banco Finansur was repealed (Com. "B" 11675).

Chart 2.11 | Estimation Exercise of Tier I Core Capital Excess, including Capital Margins



Source: BCRA

By the end of 2017, the Leverage Ratio⁸⁵ for the ensemble of financial entities stood at 10.1%, slightly above the value recorded one year ago (9.8%) and slightly below the value recorded in late 2015. Thus, this indicator continues to exceed Basel recommendations (establishing a minimum ratio of 3%).

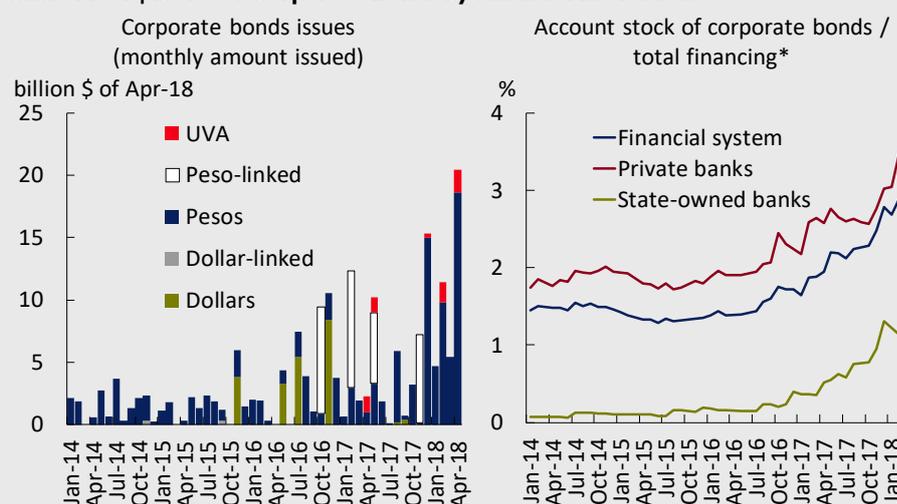
⁸⁵ Ratio of the capital best-suited to absorb losses and a broad exposure measure.

Exhibit 3 / Corporate Bonds as Source of Funds for the Banks

Corporate Bonds issued by banks have started to accelerate since mid-2016⁸⁶ (see Chart A.3.1). In the first half of 2017, there were several transactions in markets abroad, while in the second half most issues were made in the domestic market and in pesos. This occurred in a context where deposits in domestic currency of the private sector grew less than loans in pesos to this sector, given the increasing number of alternatives to channel private savings and a higher demand for credit, included UVA-denominated lines.

Considering the aggregate financial system, the stock of Corporate Bonds accounted for 3% of total funding (liabilities plus net worth)⁸⁷ as of March 2018, up 1.1 p.p. in year-on-year terms. In addition to entailing a source of funds that may be devoted to credit granting, the issue of Corporate Bonds by financial institutions is also relevant in terms of diversification of funding instruments and management of some net worth mismatches resulting from intermediation activities, such as mismatching in terms, interest rates and UVAs.

Chart A.3.1 | Issues of Corporate Bonds by Financial Institutions



Note: Corporate bonds denominated in dollars and payable in pesos (dollar-linked). Corporate bonds denominated in pesos and payable in dollars (peso-linked). * Net liabilities + net equity.

Source: BCRA, BCBA and CNV

Considering only banks⁸⁸ recording Corporate Bonds in their balance sheets, the stock of this type of liabilities amounted to around \$94.5 billion⁸⁹, by the end of the first quarter of 2017, equivalent to 4.5% of total funding of this group or 5.1% of its liabilities. Most banks with Corporate Bonds in their balance sheets have issued this type of instruments since October 2017. Out of the 15 main banks providing loans to the private sector in domestic currency (accounting for more than 82% of the segment), 11 banks have issued Corporate Bonds during the period. This group of banks has a larger proportion of mortgage loans and pledge-backed loans relative to the total stock of loans to the private sector.

⁸⁶ Especially the issues made in US dollars in international markets, intended to improve the maturity profile of Corporate Bonds.

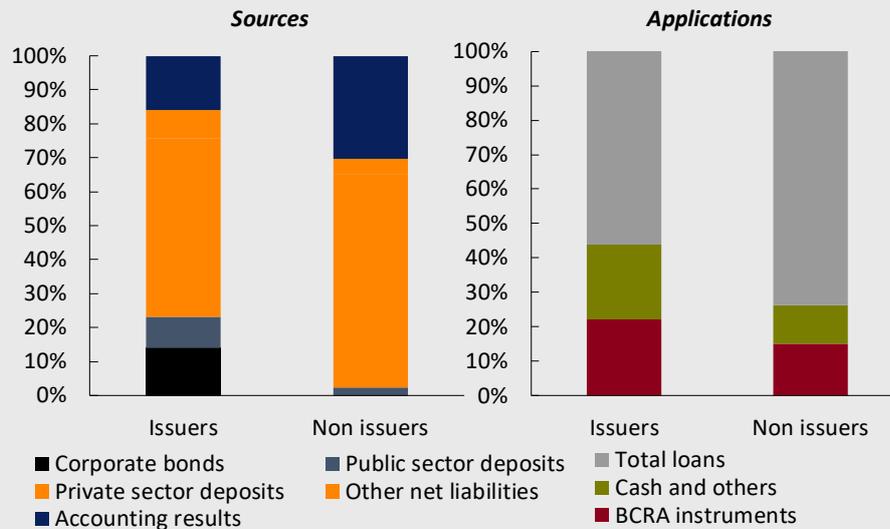
⁸⁷ Corporate Bonds accounted for 3.5% of total liabilities of the ensemble of banks as of March 2018, up 1.3 p.p. y.o.y.

⁸⁸ Non-banking financial institutions are not considered.

⁸⁹ The total stock including subordinate Corporate Bonds stands at around \$115 billion, out of which 74% corresponds to debt in pesos, 23% in dollars and the rest in UVAs.

Based on accounting information, from late September 2017 to March 2018, it is observed that the liquidity of the group of banks issuing Corporate Bonds went up (see Chart A.3.2) as a result, in part, of the inflow of funds from the issues. Nevertheless, there were no relevant differences between issuing and non-issuing groups of banks in terms of the pace of loan granting (from the standpoint of application of the funds) and of the pace of deposit taking (from the standpoint of origin of the funds). Banks that did not issue Corporate Bonds supplemented, proportionally and in part, the origin of funding with accounting results and other movements between assets and liabilities. In addition, the evolution of the time deposit-taking rate did not show significant differences between the groups.

Chart A.3.2 | Estimation of the Origins and Applications of Funds per Group of Banks. Last six months up to March 2018

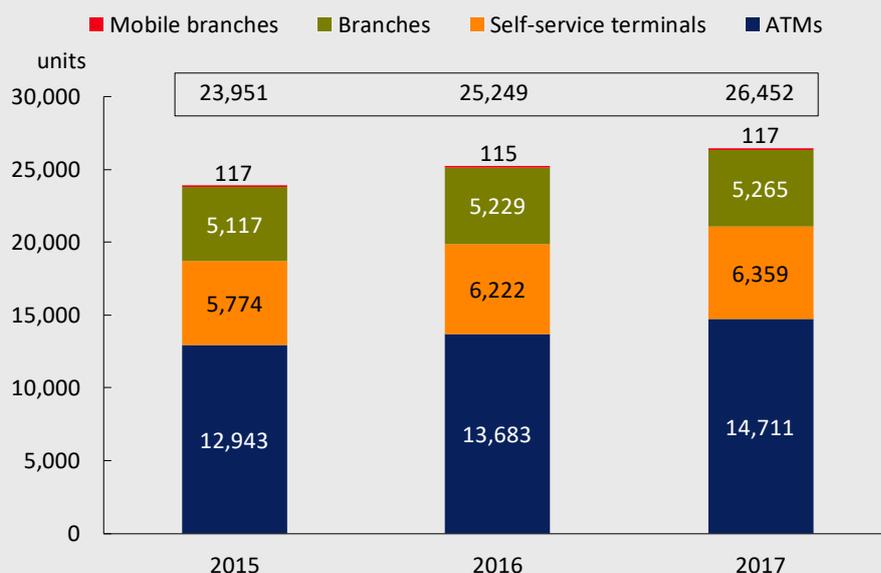


(*) Estimate based on balance sheet data. "Issuers" refers to companies that made at least one corporate bond issuance in the period. BNA is excluded from the analysis.
Source: BCRA

Exhibit 4 / Access to Financial Services

The access to financial services is an essential pillar in terms of financial inclusion, since the coverage of access points⁹⁰ —PDA— defines the chances that users may have to use these services. In December 2017, the financial system had 26,452 access points at national level, showing an upward trend in the last two years: in 2016, total access points went up 5.4% (1,298 points) and, in 2017, the number grew by 4.8% (1,203)⁹¹ (see Chart A.4.1).

Chart A.4.1 | Access Points per Type



Source: BCRA

By the end of 2017, ATMs accounted for around 56% of total access points, while self-service terminals accounted for 24% of the total⁹². In turn, traditional branches represented 20%, while mobile branches accounted for only 0.4% of the total. This composition is similar to the one observed in the previous two years. The evolution per type of access points shows that in 2016 self-service terminals recorded the highest expansion (7.8%), even though this growth decelerated in 2017 (2.2% increase). In this period, there was a remarkable expansion of ATMs (+7.5%).

According to the information provided by financial institutions and INDEC, Argentina has eight access points every 10,000 adult inhabitants; this number is broken down as follows: 4.5 are ATMS, 1.9 are terminals and 1.6 are branches. The increase in the number of access points at a rate over population growth was evident in the improvement of this indicator, which stood at 7.3 and 7.7 in 2015 and 2016, respectively.

According to the [Alliance for Financial Inclusion](#), Argentina shows similar values to those of other countries of the region in terms of the number of branches and ATMs every 10,000 adults. However, the yield of our country in terms of total access points is lagging behind. This is mainly due to the presence of correspondent banks in the countries under analysis. In this sense, even though at local level the country does not have correspondent banking, there are points for the withdrawal of cash located at stores (supermarkets, gas stations and pharmacies, among others) as well as branches of non-banking collection networks (such as RapiPago)⁹³, offering the cash withdrawal service. The non-banking collection networks are also authorized to receive cash deposits from the public, which are credited to bank accounts of clients.

⁹⁰ This definition includes, in aggregate terms, bank branches, mobile branches, ATMs and self-service terminals.

⁹¹ This growth indicates the number of new Access Points which were authorized to operate, net of the Access Points which were eliminated.

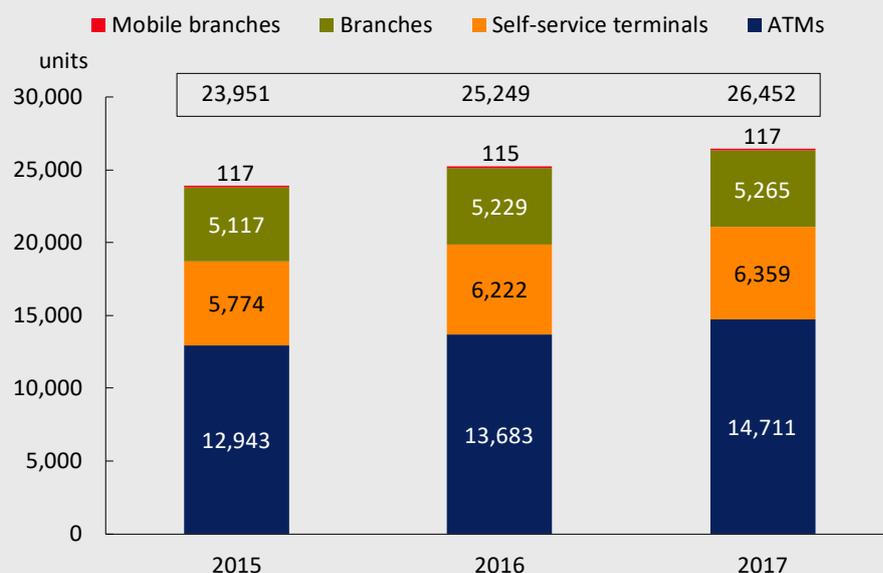
⁹² In the case of ATMs, 74% of the machines are located inside bank branches, while only 26% of them are located outside the banks (for example in supermarkets or gas stations). This phenomenon is even deeper in the case of self-service terminals: 99% of authorized machines are inside the branches and only 1% of them are located outside.

⁹³ [Executive Order 983/2017](#).

According to the data surveyed, there were 5,300 points for the withdrawal of cash as of April 2018, out of which 67% access points were located in the Center Region and in Buenos Aires, while 11.8% were in Patagonia, 10.8% in the Northwest Region, 7.1% in the Central-West Region and 3.2% in the Northeast Region. The main providers are Visa’s ExtraCash (45.7% of the total), RapiPago (28.6%), Cabal’s Más Efectivo (18.3%) and Maestro’s Cash Back (7.3%)⁹⁴. The regulation adopted by the BCRA promotes the installation of ATMS that are not operated by financial institutions. These points create new alternatives to withdraw money from bank accounts, thus improving access throughout the country and tending to reduce the gap with other countries of the region. However, it is worth noting that correspondent banks in place in other economies are authorized to make financial transactions other than cash withdrawal and deposit.

It must be considered that the 26,452 access points in place in 2017 were distributed in 1,440 locations (40.7%) where 91.3% of the adult population of the country lives⁹⁵, and that there was a total of 2,098 locations (59.3%) without access points (see Chart A.4.2)⁹⁶, where the remaining 8.7% of the population lives. Ninety-seven per cent of the locations without access points have an adult population under 2,000 inhabitants. The evolution in the number of access points shows that only 68 locations that in 2015 had no access point (over a total of 2,163 locations) started to have one access point in December 2017. Thus, even though there is an increase in the number of access points, they tend to concentrate in locations with a higher population density where there is at least another access point, if compared to locations that do not have any access point to financial services yet.

Chart A.4.2 | Locations with at least one Access Point



Source: BCRA

⁹⁴ This survey, which is merely illustrative, considers, on an individual basis, the stores and collection network branches, regardless of the fact that they may have several withdrawal points. Without considering this effect and taking into account that the same store may operate with more than one network, a conservative estimate would indicate that there are at least 4,000 additional non-banking access points, 15% of the total number of access points.

⁹⁵ The number of adults per location was calculated by applying the population growth ratio implicit in the projections and the population by department estimated by INDEC to the population results per location of the 2010 Census.

⁹⁶ The calculation was made taking into account the number of locations identified by INDEC in the 2010 Census. The results of the latest Census indicate that there are 3,538 locations and 490 rural areas in total.

Exhibit 5 / Competition in the Argentine Financial System

Even though there is still some debate in more developed and deeper financial systems about the interaction among the conditions of competition, efficiency and stability⁹⁷, in principle a greater competition results in better conditions of access and use of financial services by consumers. Therefore, creating a more competitive environment should be a policy target. Following this principle, as from December 2015, and within a framework of more general changes in the economic organization, the BCRA has adopted a series of measures to encourage competition in the Argentine financial system⁹⁸. The purpose of this Exhibit is to measure the level of competition in the sector and, especially, to provide a general assessment of the effectiveness of the abovementioned measures.

There is not one single way of measuring the degree of competition in the banking sector⁹⁹. In this Exhibit, we will assess the level of competition in the banking industry in Argentina using the [Panzar-Rosse Model \(1987\)](#). The results show that the degree of competition in the Argentine banking system has gone up in the last two years. At the end of the Exhibit, there is a roadmap indicating potential lines for improvement in the future in this type of analysis.

The Panzar-Rosse method allows us to make a quantitative estimate of the degree of competition in the system, assuming that the market is in long-term equilibrium. In this approach, the market power is measured according to the degree at which a change in the prices of inputs reflects in revenue (equilibrium). “H-Statistics” is defined as competition indicator, and it represents the sum of the elasticities of revenue relative to input prices. Based on the work by [Bikker and Haaf \(2002\)](#), the following revenue equation is estimated:

$$\ln II_{it} = \alpha + \beta \ln TPF_{it} + \gamma \ln PMO_{it} + \delta \ln PCA_{it} + \sum_j \theta_j FEB_{jit} + \varepsilon_{it} \quad (1)$$

Where the dependent variable *II* represents the income from interest (real), while *TPF* is the average interest rate of funding (ratio between the amount of interest paid and the amount of total deposits and other miscellaneous obligations), *PMO* is the price of labor (ratio between salaries and staffing) and *PCA* is the price of physical capital (ratio between operating expenses and fixed assets). In addition, a group of specific factors *j* of banks (*FEB*) are introduced as control variables, reflecting differences in behavior, risk and costs. As from here, H-Statistics is defined as:

$$H = \beta + \gamma + \delta \quad (2)$$

A value of *H* that is lower than, or equal to, 0 is indicating a monopoly, a value between 0 and 1 is a monopolistic competition, and a value of 1 would indicate conditions of perfect competition¹⁰⁰.

In turn, [Nathan and Neave \(1989\)](#) propose an empirical test to verify the condition of long-term equilibrium, on the basis of the assumption that in such condition the risk-adjusted return rates are equal among banks and have no correlation with input prices. To this effect, the same specifications of the revenue equation were also estimated, but replacing the dependent variable with the ROE¹⁰¹ of each institution. The

⁹⁷ An approach argues that a greater banking competition results in an increased fragility of the system since market power and benefit margins decline, impacting adversely on the value of the bank “franchise” and encouraging risk-taking by banks ([Berger et al. 2008](#)). Alternatively, a greater competition would increase the stability of the system by preventing that higher market power increase banking risk as the higher interest rates charged to clients hinder the repayment of loans and exacerbate the problems of adverse selection and moral hazard ([Akins et al. 2014](#)).

⁹⁸ For further detail, see the Regulatory Annex of this edition and of the previous IEF edition. In addition, see Chapter 5 of [IEF I-16](#) and [IEF II-16](#). These are some of the measures adopted: (i) elimination of maximum limits on lending interest rates and of the minimum limit for the interest rate of time deposits in pesos; (ii) free determination of commission prices, with the obligation of reporting the values to clients together with those of the competition whenever they are modified; (iii) transparency in the information of the Total Financial Cost of credits (in advertising material and in contracts); (iv) mobility of clients between institutions (transfer of salary account, free-of-charge savings accounts and free-of-charge instant transfers, possibility of opening and closing accounts on a remote basis).

⁹⁹ For example, see [Demircuc-Kunt and Martinez Peria \(2010\)](#) where a versatile approach is proposed to analyze competition in the financial system applied to a specific country. In turn, in [World Bank \(2013\)](#) and [de-Ramon and Straughan \(2017\)](#) reviews are made of the different measures used in literature.

¹⁰⁰ Intuitively, under specific assumptions, in the case of a monopoly, an increase in input prices results in a rise of the marginal cost and, to return to equilibrium, the marginal revenue should go up by reducing amounts (price increase); if the elasticity of demand is higher than 1, total revenue falls. In the case of competition, an increase in input prices results in an increase of the marginal cost and the revenue in the same proportion to ensure a benefit condition equal to 0.

¹⁰¹ Strictly speaking, $\ln(1+ROE)$ is used.

long-term equilibrium test consists in verifying that “E-Statistics”, defined as the sum of elasticities, is equal to 0.

To estimate equation (1) for the Argentine financial system, we have used monthly data from the balance sheets and statements of income of the institutions corresponding to the period 2005-2017. With a view to working with a homogeneous group of institutions, a sample of 45 universal banks was used; this means that banks with specific niches such as wholesale banks and non-banking financial institutions were left aside¹⁰². The special purpose of this Exhibit lies in identifying if it is possible to detect an impact of the measures adopted by the BCRA in 2016 with reference to competition in the Argentine banking system. Therefore, the estimation strategy consists in dividing the full period into two sub-periods: (i) 2005-2015 and (ii) 2016-2017, and then compare and see if the value of H-Statistics shows a statistically significant increase¹⁰³.

The results of the estimate are shown in Table A.5.1¹⁰⁴, with differences according to the period. In the first column of each segment, it is seen that the revenue equation allows for rejecting both null hypotheses ($H_0: H = 0$ and $H_0: H = 1$), and this means that the value of H-Statistics is effectively found in the interval (0, 1). As already mentioned, this result indicates that the Argentine banking system would operate with a market structure that is consistent with monopolistic competition. In addition, in order to check the validity of the previous result, the second column shows the estimate of the equilibrium conditions. In the two sub-periods, the result of the test does not allow for rejecting the null hypothesis that the rates of return have no correlation with the input prices ($H_0: E = 0$), thus signaling that there would be no evidence in this framework that the banking industry stands away from equilibrium conditions.

In terms of the differences in the conditions of competition between the last two-year period and the previous 10 years, there is an increase in H-Statistics from 0.39 to 0.74 (90% change). This gives us some evidence that the degree of competition of the Argentine banking system has increased in the last two years probably, at least in part, as a result of the measures adopted to this effect by the BCRA.

Table A.5.1 | Estimation Results

Dependent variable	Period 2005 - 2015		Period 2016 - 2017	
	Income from interest	ROE	Income from interest	ROE
Average funding rate	0.325***	-0.0298***	0.314***	-0.0177*
Price of labor	0.0668	-0.0699***	0.396***	0.00420
Price of physical capital	-0.00542	0.0677***	0.0269	0.0384***
Observations	5,633	5,560	1,077	1,048
Number of banks	45	45	45	45
H-Statistics	0.39		0.74	
<i>p-value</i> ($H_0: H = 0$)	0.000		0.000	
<i>p-value</i> ($H_0: H = 1$)	0.000		0.012	
E-Statistics		-0.032		0.025
<i>p-value</i> ($H_0: E = 0$)		0.104		0.680

* Significant at 10%; ** significant at 5%; *** significant at 1%

Finally, it is worth pointing out some limitations of the analysis presented here and, consequently, of the potential work lines for the future. In the application of this analytical methodology, we took the financial system as a whole, assuming that the definition of market entails the entire country. In the future, and based on the availability of relevant information, it would be possible to make a thorough analysis by defining, for example, the credit market in terms of provinces or locations. On the other hand, here we are assuming that the industry operates with one single product. In this sense, it would be convenient to assess whether it is possible to broaden the analysis by differentiating more than one line of business.

¹⁰² In addition, banks that were not active during the full two-year period 2016-2017 and banks with extreme values in the input prices were excluded.

¹⁰³ We are using the two way fixed effects estimation methodology, with standard errors corrected by the Driscoll-Kraay method, which uses a non-parametric covariance matrix estimator resulting in consistent standard errors vis-à-vis the heteroscedasticity and they are robust to general ways of space and time dependence.

¹⁰⁴ Due to reasons of space available, only the coefficients related to input prices are shown, but all specifications have complete controls. The results are available to readers interested in further detail.

3. Stability Analysis

In general terms, the financial system maintains the soundness features identified in prior issues of the IEF, combining high levels of liquidity, provisions and capital, with low to moderate exposures to risk (both individual and systemic). In particular, in the framework of risk factors stated in the assessment of the context (Chapter 1) and the changes in the system balance sheet defining its vulnerabilities (Chapter 2), the group of institutions would maintain a significant degree of resilience upon extreme adverse changes in economic conditions. It is worth considering that, in the current phase of the financial cycle, institutions are increasing their exposure to risks. In this regard, in a favorable economic context, several indicators of non-payment probability continue to perform consistently with a scenario of low credit risk. Facing a sustained rise of UVA-denominated loans (specifically, mortgage loans), balance sheet mismatches kept on increasing, mainly UVA and interest rate mismatches. In the medium term, there is margin to continue with the financial system deepening process and, simultaneously, there will be an increase of exposures to risks, which will continue to be monitored.

Exposure to systemic risks continues to stand at low levels, but with an upward bias

The exposure of financial institutions to sources of systemic risk is low, with no significant changes against the IEF for the second half of 2017. In a general context of very limited depth of the sector and prevalence of transactional activities, vulnerabilities related to the level of concentration, interconnectedness and condition of systemically important institutions are still relatively limited. Conversely, in the current phase of the financial cycle, the exposure of the system to credit risk is rising on the margin, with slight increases in levels of sectoral leverage (households and companies). Nevertheless, it is considered that the current dynamics of credit to the private sector has not shown yet clear and convincing signals leading to characterize it as a process of “excessive” increase of the level of financing (which is still low in terms of GDP), i.e., a situation making the system and the economy vulnerable to the occurrence of adverse external events (see Chapter 2).

Specifically, given the results of stress tests based on scenarios performed on a yearly basis (see Box 5) and exercises of sensitivity to credit risks more frequently conducted (see below), it is estimated that the financial system would exhibit a high degree of resilience to potentially extreme (and rather unlikely) credit risk events. This assessment is similar to that of the previous IEF. Low levels of exposure to risks and high coverage margins (liquid assets, provisions and capital), in a context of adequate regulation and supervision, are combined to generate the above-mentioned results.

Box 5. BCRA’s stress tests. Latest general results and advances for 2018

Every year, the BCRA conducts top-down stress tests for all financial institutions acting at local level. Such tests are performed by assessing solvency (capital adequacy ratios —CAR—¹⁰⁵) and liquidity (cases of shortages and needs for facilities) of each bank in a 2-year horizon, based on extreme adverse scenarios, and with assumptions and models defined and calibrated by the BCRA. In the latest tests completed with 2017 data, two different scenarios were used originated in external shocks with varying degrees of persistence. Whereas the first scenario presented a short-term shock followed by recovery, in the second scenario financial stress was persistent throughout the whole horizon under analysis. Even though no active management measures by the institutions were included (responses to the stress scenario presented), specific mitigation measures were taken into consideration, such as the existence of excess provisioning. Besides, the effect of effectiveness of International Financial Reporting Standards (IFRS) was incorporated as from 2018.

¹⁰⁵ Adjusted Stockholders’ Equity —RPC / Risk Weighted Assets —RWA.

In terms of impact of the occurrence of the assumed extreme scenarios (rather unlikely) on the CAR, the main results obtained in the last test show a remarkable degree of resilience of the system. A limited group of institutions of a relatively small size would have posted a CAR below 8% in either of the two years of each scenario: 14 institutions (out of 77) for the first scenario of short-term shock and subsequent recovery; only 9 institutions for the second scenario of persistent stress. The shortage of capital required to take it up to 8% of RWA would have been, in the year with the higher impact, below \$1.4 billion (0.7% of the regulatory capital excess for the system).

The stress test starting now in 2018 will be adapted to the new framework of IFRS accounts. In addition, like in previous periods, improvements will be included in the calibration of models employed, as well as in assumptions. For example, a higher degree of detail for some recurring income and expenses for specific institutions that, at present, were afforded a general treatment for the system as a whole.

Besides, for the first time at local level, in 2018, a bottom-up stress test is being performed with the participation of 4 private institutions classified as domestically systemic (accounting for 31% of assets of the system at the end of 2017). With this objective, participants were presented with two scenarios (a baseline scenario and a stress scenario) and a guide outlining the methodological framework of the test. Institutions are expected to use their own risk evaluation and assessment models. Upon completion of this test and following the analysis of results, the BCRA will consider to expand it to a larger number of institutions (to all large institutions or, even, to the entire financial system).

Taking into account the current phase of the financial cycle, prospects signal a relative –moderate– increase of the systemic risk. This would result from higher exposures to risk (specifically, credit and term risk) and leverage and lower liquidity margins, as a result of the rise of intermediation levels, with a significant role played by mortgage loans and long-term financing granted to companies. Thus, it is anticipated that the stock of loans may increase due to granting of new funds not only to existing debtors but also to new clients (in relation to whom relevant credit information is necessary). This will require appropriate monitoring focused on credit practices and standards applied by the institutions. At this point, it is necessary to highlight the importance of such credit practices and standards to determine the quality of credits generated at each time, since they condition the evolution of payment probability upon eventual changes in macroeconomic conditions (see Exhibit 6). Consistently with the assessments stated in this report, the BCRA has been keeping at 0% the rate for Countercyclical Capital Buffer¹⁰⁶.

Exposure to credit risk rises whereas non-payment probability indicators remain at low levels

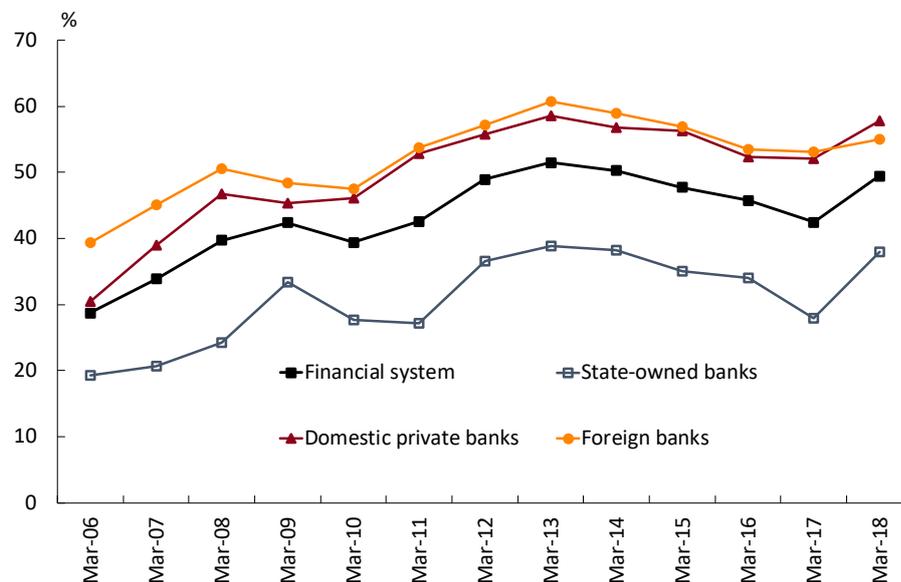
The gross exposure of the financial system to the private sector rose remarkably in early 2018, in line with the performance of economy (see Chapter 2 and Chart 3.1). The year-on-year increase was mostly explained by the performance of state owned banks and domestic banks, and it was evident both in the lending to households (standing at 23% of assets, with an increase of 3.3 p.p. y.o.y.) and to companies (26.2%, change of 3.6 p.p. y.o.y.). That notwithstanding, these values are lower than the maximum amount reached after the 2001-2002 crisis —by mid-2003—, thus allowing for the current momentum of credit demand and supply.

¹⁰⁶ With respect to this point, see Box 10 of [IEF II 2017](#) stating the decision on the rate for the Countercyclical Capital Buffer. The local methodology weights the evolution of the credit/GDP ratio gap relative to its long-term trend (based on the international standard recommendation), the growth of GDP and its cycle, and quantitative and qualitative measures about the relative strength of the supply and demand of credit.

This rise in the exposure of banks to the private sector was supplemented by a reduction in the level of concentration of credit among debtors¹⁰⁷, thus moderating the systemic risk accumulation.

Chart 3.1 | Gross Exposure to Non-Financial Private Sector

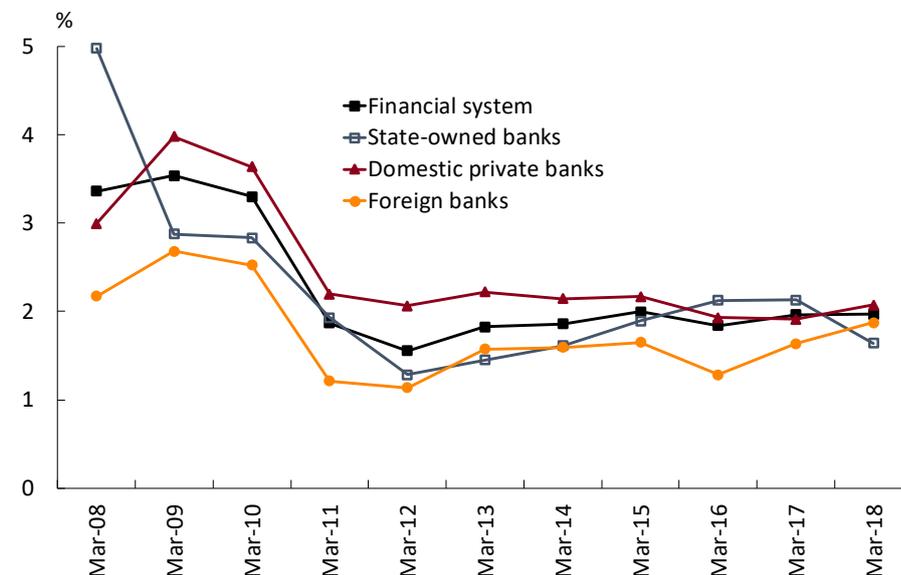
Credit to private sector in % of netted assets – By group of banks



Source: BCRA

Chart 3.2 | Private Sector Nonperforming Credit

Nonperforming credit / Total credit (in %) – By group of banks



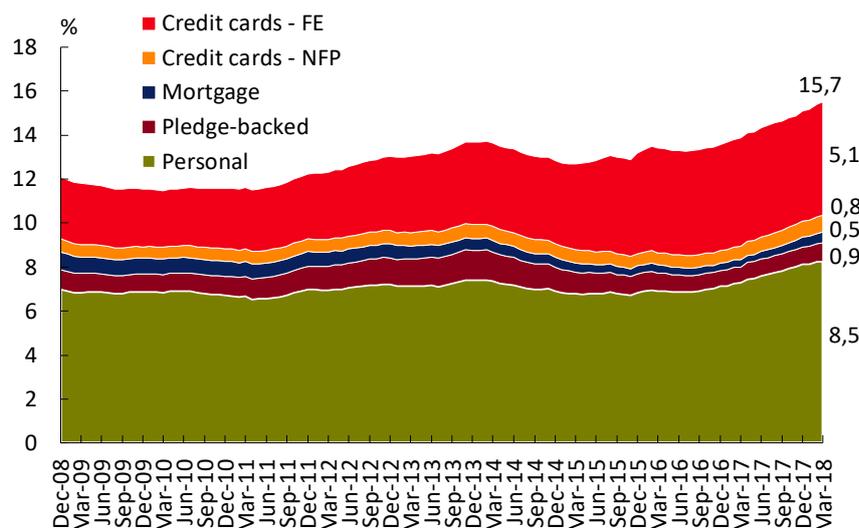
Source: BCRA

¹⁰⁷ In early 2018, financing to 100 largest debtors of the private sector in the financial system was equivalent to 14.6% of loans to this sector, slightly falling against the values recorded in mid-2017.

In the current positive phase of the financial cycle, the private sector non-payment probability would still stand at low and limited levels. The non-performing ratio of the portfolio was around 2% of loans to this sector in early 2018, remaining close to the value recorded at the time when the previous IEF was published as well as close to the average of the last 7 years (see Chart 3.2)¹⁰⁸. In turn, the level of provisioning for financial institutions exceeds the amount of non-performing loans¹⁰⁹. These figures would mirror, in part, the banks' prudence when managing credit risk.

Chart 3.3 | Household Financial Burden Indicator

As % of the wage mass



Note: The calculation considers the monthly services estimated by loans (capital, interest and CER adjustments), in terms of the estimated monthly wage mass. FE: financial entities; NFP: non-financial providers. Source: BCRA

A more detailed analysis highlights certain differences between the household segment and the company segment. On the one hand, higher indebtedness of households results in a heavier financial burden (see Chart 3.3). It is estimated that the aggregate relative weight of debt services for this sector would be at present at the maximum level since late 2008 (indicator available period). In this context, there is slight rise in the delinquency ratio (+0.1 p.p. against the value one year ago), reaching a level of 3%¹¹⁰. If data are broken down by segments, delinquency of credit lines for consumption rose (+0.5 p.p. y.o.y.) whereas the non-performing ratio of mortgage loans went down (-0.3 p.p. y.o.y., reaching a level of 0.2%), mainly due to the momentum of the UVA-denominated segment (see Chapter 2). UVA-denominated mortgage loans include a regulatory clause allowing, under certain conditions, for the extension of the term. This enables a better management of risks assumed by the parties (see Box 6).

Box 6. UVA-denominated Loans: Possibility to Extend the Term

As from their implementation in April 2016, UVA-denominated loans have shown a significant and sustained expansion. This performance is mainly boosted by mortgage loans to acquire family dwelling houses; these loans have reached contractual terms close to 25 years, a situation practically non-existing at local level until late 2015.

¹⁰⁸ Even if considering the “lagged” denominator for this indicator, in order to moderate the effect of the remarkable increase of financing in recent months, the new ratio continues to show a relatively low increase on a year-on-year comparison basis (with lags of 3, 6 and 12 months, the indicator value only rises 0.1 p.p., 0.2 p.p. and 0.5 p.p. against March 2017).

¹⁰⁹ If excluding regulatory minimum provisions corresponding to performing credit to the private sector, the level of provisioning reaches 83% of nonperforming loans to the private sector.

¹¹⁰ Taking into account the indicator with a “lagged” denominator, the year-on-year increase would be slightly higher (with lags of 3, 6 and 12 months, the indicator value goes up 0.3 p.p., 0.4 p.p. and 0.8 p.p.).

UVA-denominated loans comprise a set of features pursuant to the BCRA's regulatory framework. This type of credit lines:

- a. has a minimum 1-year term;*
- b. has an interest rate freely agreed between the parties;*
- c. has monthly repayment installments, with various amortization types;*
- d. includes a clause forcing banks to give clients the option to extend the number of originally-agreed installments. This clause is triggered if the installment to be paid exceeds 10% of the value of the installment resulting from having applied a capital adjustment based on the Salary Variation Coefficient ("CVS"), as from disbursement of the UVA loan.*

The last prudential regulatory requirement (d.) is intended to mitigate the effects of potential situations in which the evolution of inflation may exceed the performance of debtors' income and may generate stress on their payment capacity. Such clause, included in UVA-denominated loan agreements, has the following characteristics:

- may be exercised or not, at the option of the client –borrower;*
- if the borrower chooses to exercise it, the bank must extend up to 25% the term originally agreed for the loan.*

The BCRA's prudential regulations go one step forward, since they establish that, when granting loans to natural persons, banks must pay special attention to the installment/income ratio, so that the debtor may afford possible installment rises not affecting the payment capacity. This is because the client's income may not follow the evolution of inflation or that of the CVS, i.e., the average wage change.

On the other hand, delinquency of lending to companies stood at around 1%, falling slightly against the first quarter of 2017 (-0.1 p.p. y.o.y.)¹¹¹, in a context in which their levels of indebtedness posted no significant changes. Against this backdrop, it is worth considering that the BCRA has recently encouraged a greater use of weather risk hedging, and this contributed to making the credit rating of agricultural debtors more robust (Box 7).

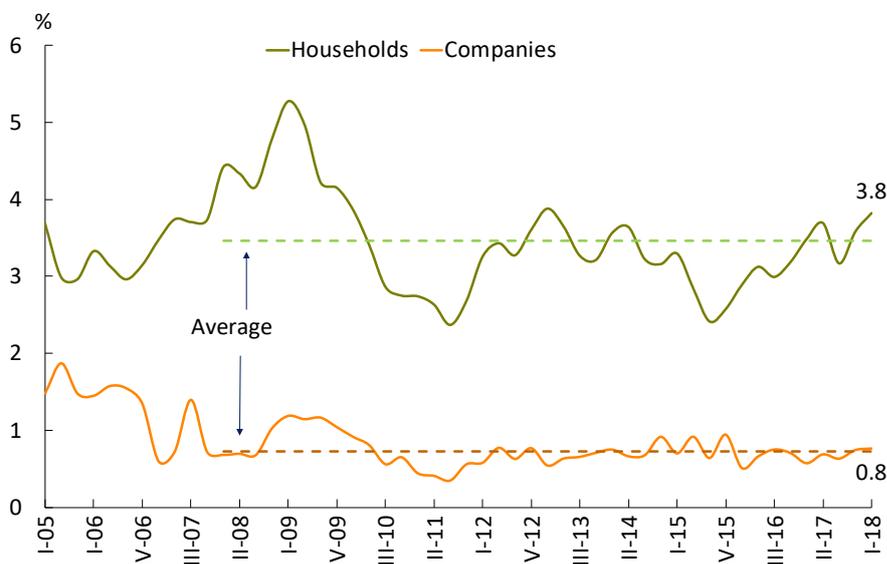
Box 7. Agricultural loans and weather-risk hedging

In recent years, various weather-risk hedging mechanisms have been developed globally, which go beyond the traditional agricultural insurance. This was the origin of parametric models of hedging, the payment of which depends on quantifiable objective variables with a high correlation to the risk to hedge, such as rainfalls (floods) or droughts in a specific region¹¹². In April, the BCRA decided to encourage the use of weather hedging, by acknowledging, in the regulations in force on solvency, the risk mitigation involved in this type of hedge transactions. Communication "A" [6489](#) set forth the reduction of requirements in the case of provisions for bad debts risk for loans contemplating such hedge, whereas the minimum capital requirement was reduced by almost 25% regarding credit risk for loans of up to an equivalent in pesos of €1 million granted to hedged agricultural Micro and SME. Thus, several tools are implemented to strengthen credit risk management by financial institutions, in case of any extreme weather or meteorological events, such as droughts or floods, and at the same time to enable producers in the agricultural sector to have access to loans under more favorable financial conditions by means of this type of hedge transactions.

¹¹¹ Except for the indicator with a 12-month lagged denominator (+0.1 p.p. in a year-on-year comparison of the indicator), considering lags of 3 or 6 months, slight reductions of the indicator are observed.

¹¹² Technology has enabled the generation of indices on such weather phenomena, which are defined by geographical area, production cycle, crop type, among other aspects, and are quantified through satellite observation of the regions.

Chart 3.4 | Quarterly Frequency of Debtors' Situation Deterioration (IPM)



Note: Information from financial entities. Source: BCRA

Indicators seeking to proxy the nonpayment probability based on microdata also show behaviors in line with a low credit risk context. The indicator known as IPM¹¹³ (an estimate of the probability that a debtor migrates to a lower credit rating within a period of time—in this case three months), both in the household segment and in the company segment, recorded a slight increase in the first quarter of 2018 and on a year-on-year comparison basis. The levels of IPMs do not substantially differ from the average of recent years for the respective segments (see Chart 3.4). The IPM for households, with a certain upward trend since 2016, is still above the IPM for companies.

Sensitivity exercises show a significant resilience of the system to potentially extreme credit risk events

The sensitivity exercises conducted by the BCRA show that the ensemble of banks would keep a high degree of resilience in case of severe adverse scenarios¹¹⁴ related to extreme credit risk events (rather unlikely to occur). These exercises assume the failure to repay by a certain group of debtors, and the impact is estimated on the capital of each financial institution. The purpose of these exercises is to provide an additional approach to the analysis of the sector's strengths and weaknesses; therefore, the BCRA carries out such exercises from time to time (semiannually), to supplement the stress tests conducted once a year, in which different macroeconomic scenarios are used (see Box 5).

In general, the results of sensitivity exercises conducted with data up to February 2018 are similar to the results of the prior issue of the IEF. The most extreme severe exercise¹¹⁵ generates losses close to 2 p.p. (-1.8 p.p. in the previous IEF) in the capital requirement compliance ratio in terms of risk-weighted assets (RWA) of the financial system, taking this indicator up to 14.4% (see Chart 3.5). This loss at aggregate level is rather below the requirements of the capital conservation buffer (2.5%). Nevertheless, under the extreme

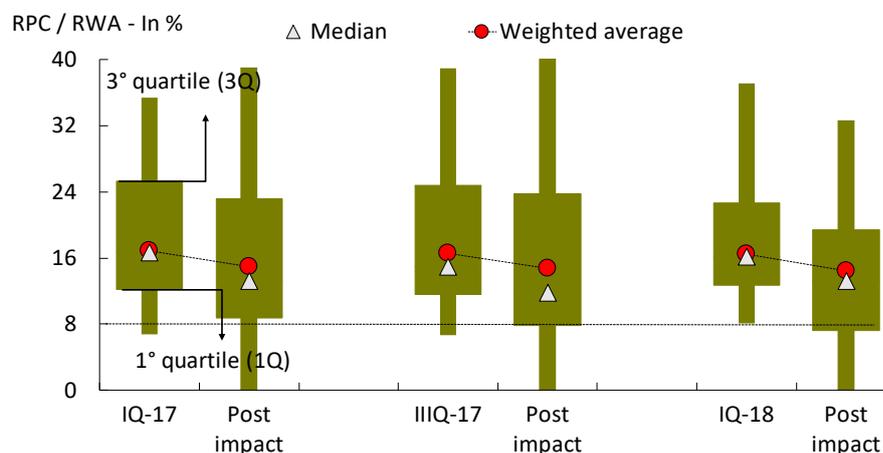
¹¹³ For further detail on construction of the IPM see page 39 of the [Financial Stability Report First Half 2017](#). The performance of the IPM was similar to that of the Estimated Default Probability (PDE) and that of the indicator calculated as the nonperforming balance in terms of total balance of a quarter ago (all stated in pesos with the same purchasing power). In turn, the PDE is the ratio of loans going from a credit rating 1 and 2 (performing) to a credit rating of 3, 4, 5 and 6 (nonperforming), in terms of the initial loans with a credit rating 1 and 2 (performing).

¹¹⁴ For further detail on sensitivity exercises, see [Financial Stability Report First Half 2016](#).

¹¹⁵ In this version of the exercise it is assumed that the nonperforming ratio of the credit portfolio of each institution rises from the current level to the maximum level reached during the peak of the 2008-2009 international financial crisis, to later write off the assets not duly provisioned from the balance sheet.

conditions imposed on this exercise, 20 institutions (19 in the previous IEF), representing only 14% of the system's regulatory capital (11% in the previous IEF), would go from a regulatory capital excess¹¹⁶ to a capital position lower than or equal to 0%.

Chart 3.5 | Sensitivity Exercise on Regulatory Capital



Note: the exercise supposes the increase of the non-performing ratio up to the maximum reached in the international financial crisis (between IIS-07 and IS-10), and then the non-payment of such loans. For IQ-17, the data from Feb-17 is considered, for IIIQ-17 the one from Aug-17 (last IEF) and for IQ-18 the one from Feb-18. Source: BCRA

The interest rate mismatch continues to be low

The estimated duration of the investment portfolio (assets net of liabilities in pesos—either CER-adjusted or not) of the financial system extended in relation to the statements in the last IEF, and by the end of 2017 it stood at around 2.2 years (56% rise). This duration tripled in year-on-year terms, mainly due to the sustained growth of UVA-denominated loans. In spite of the recent increase of long-term credit, the group of banks still focuses mostly on activities involving a limited transformation of terms. It is worth stating that banks have recently started to resort to alternative sources of funding with relatively longer terms, such as corporate bonds (ON) (see Exhibit 3), since these instruments might mitigate the mismatch of terms.

As from mid-2018, the regulations for assessment of this risk were modified and it is estimated that capital requirements will be more associated with the risk profile of each entity. In this respect, by the end of 2017, the BCRA established amendments of the guidelines for risk management in financial entities¹¹⁷, which will be operational as from the second half of 2018. The internal estimate of capital requirement made by banks (ICAAP —Internal Capital Adequacy and Assessment Process) must specifically incorporate the interest rate risk of the investment portfolio (banking book), according to their own risk appetite. Like other aspects considered in the ICAAP, the BCRA may demand a capital increase or a reduction of its exposure if the monetary authority may deem such action necessary.

Increase of UVA mismatch, even though still at a relatively low level

As from creation of the UVA in 2016, the granting of UVA-denominated loans consisted mainly in long-term loans with a fixed interest rate —such as mortgage loans. In turn, the resources to fund such lines turn out to be, at large, of a shorter relative term, in domestic currency and at a fixed interest rate —like that

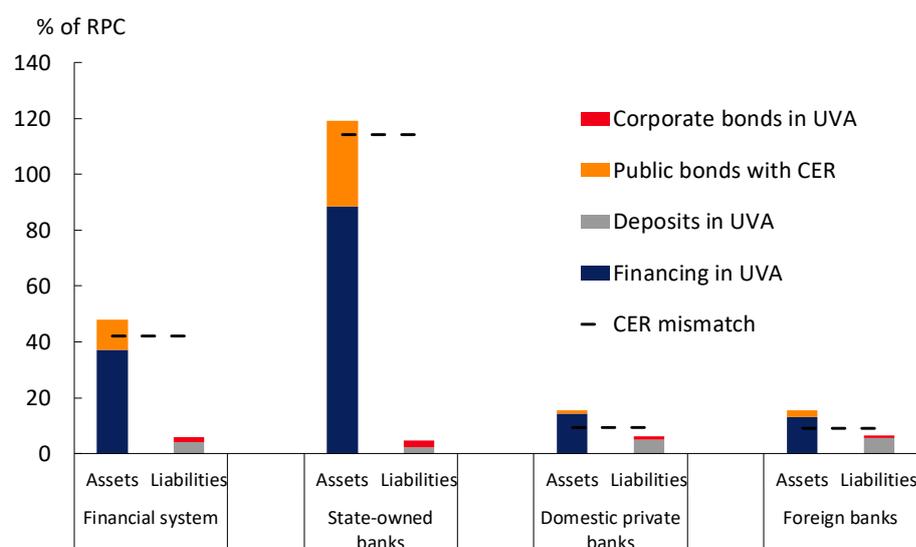
¹¹⁶ Not taking into account Capital Additional Margins (conservation, systemic importance, or countercyclical).

¹¹⁷ Communication "A" [6397](#).

used mainly by banks. This combination cause financial entities to assume, in addition to the risk of term or interest rate mismatch, a risk of currency mismatch —UVA-denominated loans with funding in pesos¹¹⁸.

To this date, this UVA/pesos currency mismatch is both incipient and moderate if compared to values recorded 10 years ago¹¹⁹ or to values seen at present in other Latin American economies¹²⁰. This mismatch is based on a substantially higher growth of UVA-denominated bank loans relative to the expansion of funding in such denomination. As outlined in Chapter 2, mortgage lines stood out among UVA-denominated loans, characterized by a term over 15 years.

Chart 3.6 | Estimated CER Mismatch and its Components by Group of Banks
Latest information available*



*The latest information available for financing, deposits and corporate bonds is at Apr-18. The rest of the concepts present data at Mar-18. Source: BCRA and CNV

Against this backdrop, the aggregate financial system mismatch in UVA-denominated items totaled 31.3% of the Adjusted Stockholders' Equity (RPC) up to April 2018, and this level goes up to 42.1% of RPC if we take into account the total items with a CER-adjusted capital¹²¹. These records stood at 20.5 p.p. and 26.7 p.p. of RPC, taking into account only UVA or all CER-adjustable instruments respectively, above the figures recorded in the previous IEF. This evolution can be attributed mainly to state owned banks (see Chart 3.6). As from late 2017, institutions gradually started to increase their UVA funding, but at a pace relatively more moderate than that of credits. UVA deposits have risen as from the last quarter of 2017, and they reached a stock close to \$17 billion up to April (0.5% of total funding). In recent months, 5 financial institutions issued debt in this currency for an aggregate nominal value equivalent to \$3.9 billion (see Chapter 1), which were added to the 2 issues of debt during the first half of 2017. Thus, the nominal value of all UVA-denominated corporate bonds issued by banks amounted to \$6.3 billion at the end of the first four months period of 2018 (0.2% of total funding —for further detail on Corporate Bond issues, see Exhibit 3). These amounts represent a marginal portion of \$150 billion of loans in such currency (4% of assets).

With respect to the dynamics expected for this mismatch, it must be borne in mind that at present there are mechanisms that would collaborate with management of associated risks. On the one hand, the BCRA authorized financial institutions to offer UVA-denominated time deposits for a shorter term (the minimum term goes from 180 down to 90 days), the same as with funds deposited in the so-called “*Alcancía UVA*”

¹¹⁸ For further conceptual detail on this type of risks, see Chapter 3 of [IEF I-17](#) and of [IEF II-17](#).

¹¹⁹ See page 64 of [BEF II-07](#). It is worth recalling that the CER mismatch observed at the end of the 2001-2002 crisis was mainly due to exposure to public sector.

¹²⁰ See Exhibit 5 of [IEF II-17](#).

¹²¹ Mainly due to holding of CER-adjusted government securities.

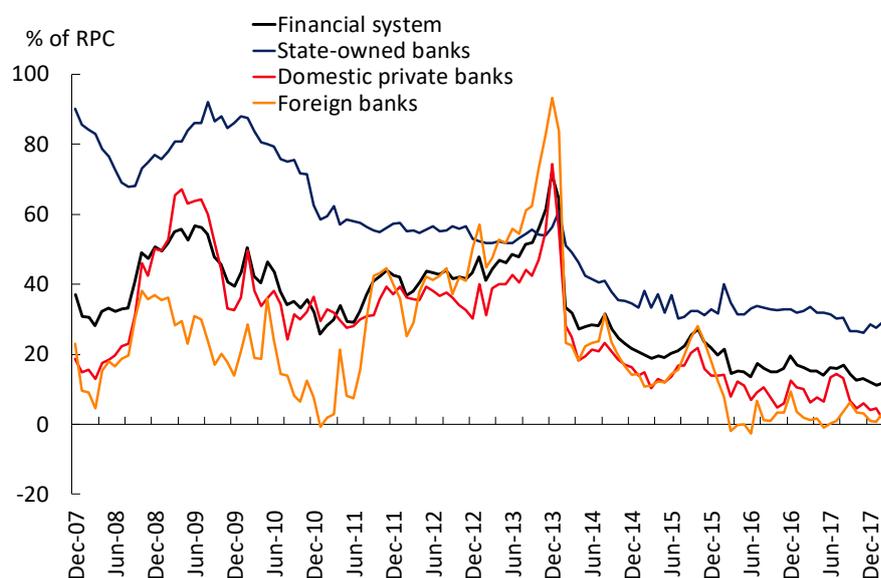
(UVA-denominated savings account). In turn, there are institutions that are currently analyzing the possibility of securitizing part of their UVA-denominated portfolio¹²².

The long position in foreign currency remains moderate

The foreign currency mismatch contracted if compared to the level stated in the previous IEF, standing for a long position equivalent to 7.4% of RPC up to March 2018 (see Chart 3.7). This variable stands in a range of minimum levels since the end of the 2001-2002 crisis. In a floating exchange rate regime like that existing in Argentina since the end of 2015, banks incorporate the possibility of exchange rate volatility when determining their exposures.

Chart 3.7 | Foreign Currency Mismatch by Group of Banks

Position in balance sheet plus net forward purchases



*Off balance sheet accounts. Source: BCRA

In the context of the nominal exchange rate increase in the period, and given the reduced foreign currency mismatch, the capital regulatory requirement for this heading accounted for only 2.5% of the total capital requirement (1.5% of RPC) up to March, slightly below the levels recorded in the previous IEF.

Global liquidity conditions in the system continue to be sizable

Indicators of the financial system's exposure to liquidity risk recorded no significant changes in recent months. In late 2017, the level of concentration of deposits as well as the relative importance of short-term liabilities in total funding stood at levels similar to those recorded at the time of the previous IEF edition.

In terms of liquidity risk coverage, indicators available show improvements against the values of the previous IEF. The ratio of liquid assets in a broad sense —taking into account local and foreign currency items, including banks' current account with the BCRA, cash, repos with the BCRA, LEBAC and LELIQ— to total deposits accounted for 43.6% up to March 2018, and such ratio has gone up in the past six months¹²³ (see Chart 3.8). The level of this indicator stood slightly above the average of the last 10 years, and this was also seen in the group of state owned banks and private banks. In turn, the so-called Liquidity Coverage

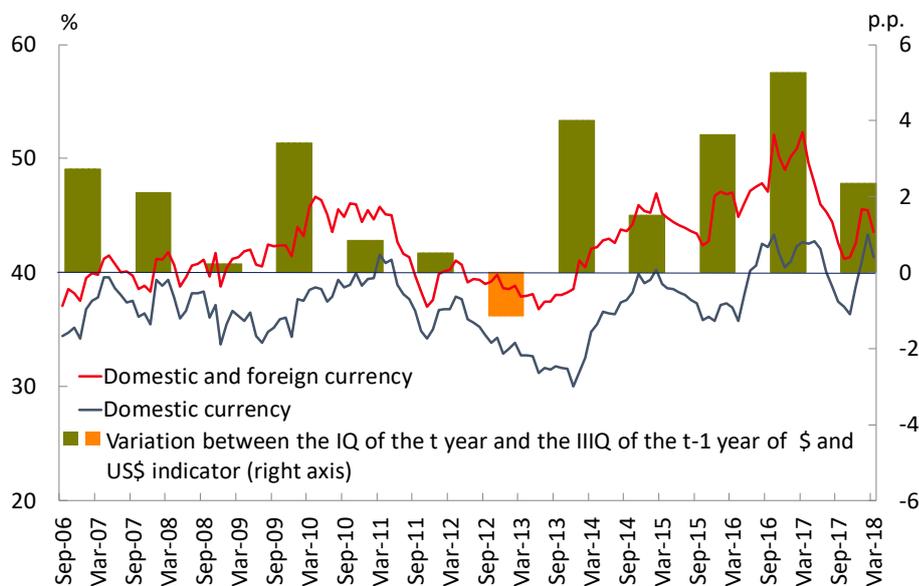
¹²² For example, in April, a local private bank issued a financial trust for \$440 million with the UVA-denominated mortgage portfolio as underlying asset.

¹²³ The ratio considering only domestic currency items posted a similar behavior.

Ratio¹²⁴ (LCR) –intended to measure the availability of high-quality liquid funds to face an individual and systemic stress scenario in a 30-day period— reached 2.1 in December 2017. This level is similar to that recorded in the previous IEF¹²⁵ and stands above both the minimum recommended at international level and the local requirements.

Chart 3.8 | Broad Liquidity of the Financial System

Current account with BCRA + Cash + Repos + LEBAC + NOBAC + LELIQ / Deposits



Source: BCRA

The increase of liquidity on the margin, in a context of credit growth, is mainly due to the remarkable expansion of public sector deposits and the dynamics of corporate bonds (see Exhibit 3). Therefore, the impact on liquidity indicators is much more significant in state owned banks.

¹²⁴ For further detail, see [Liquidity Coverage Ratio](#). This minimum requirement is mandatory only for Group “A” institutions, whose assets are higher than or equal to 1% of the system’s total assets. Communication “A” [6475](#).

¹²⁵ In relation to distribution of this indicator among banks of this group, the first decile reaches 1.5 and the ninth decile reaches 3.3.

Exhibit 6 / Vintage Analysis of Mortgage Loans to Households

In recent years, the BCRA has developed a set of tools to monitor and analyze various risks faced by the financial system and that, if they held true, would have an impact on the normal operation of such system and on the economy as a whole. In the specific case of credit risk, at present there are indicators assessing the financial situation of households and of companies, the probabilities of debt nonpayment events, exposures assumed by institutions, and exercises of the system resilience to shocks of this source of risk. Some of the results of such monitoring are published through different channels, including the [Financial Stability Report](#). Moreover, as from the end of 2009, the BCRA conducts the [Credit Conditions Survey](#) (ECC), which makes information available on changes by institutions on their credit risk exposure policies. Now, in a scenario of sustained credit expansion like the context at present, it is necessary to continue improving the capacity to monitor (prospectively) the quality of assets and the balance sheet exposure they generate. Against this backdrop, the first estimates for the local financial system of the so-called “vintage analysis” are herein presented.

The “vintage analysis” allows for monitoring the evolution of the quality of loans by breaking them down according to the period when the loans are granted¹²⁶. As will be seen, this tool is supplemented with information produced in the context of the ECC. The relevance of this tool lies in the fact that evolution of delinquency on loans is linked, in general, not only to the evolution of general factors influencing the debtors’ capacity to pay (economic activity, income, employment, etc.), but also to the manner in which institutions generated such loans at each moment over time. That is to say, how flexible or strict the institutions were in each time period to select debtors and assess their financial situation. Thus, knowing how loans were generated enables, for example, to assess in advance whether the system is accumulating any weakness which would become evident in net worth terms upon a reversal of macro or sectoral economic conditions.

Given the marked expansion of mortgage loans to households in the past two years¹²⁷ —driven by a more favorable macroeconomic context and by the launch of the UVA loans—, the vintage analysis will focus, at this instance, on this type of lines. To make this estimation, the Financial System Debtors Regime was used, which provides information on loans owed by each individual to financial institutions. Based on such regime, a process was built to individualize and classify each loan by means of several attributes, and to monitor their performance throughout time¹²⁸. This methodology served to form groups of credits or vintages per quarters. Then, in subsequent quarters, a delinquency indicator was calculated, where the numerator was the number of cases exceeding 90-day delinquency and the denominator was the total stock of loans of each vintage¹²⁹. For example, if we take mortgage loans generated in the past two years, credit performance shows a moderate to low delinquency rate (see Chart A.6.1). These loans were granted in a context of a GDP decline in 2016 (-2.2% in real terms) and of recovery in 2017 (2.9% real), with the addition of a bias by banks to easing their criteria and conditions for granting of such loans in both periods¹³⁰.

¹²⁶ I.e., for instance, for loans originated in a certain “t” period, the progress of their nonperformance or delinquency is assessed in “t+1”, “t+2” and so on and so forth, up to the time of termination. It is worth considering that up to the complete maturity of loans, various situations may occur such as delays or non-compliance by debtors (with a subsequent regularization of debts), early payments or repayments of capital, sales to financial trusts, or even the transfer to another financial institution due to mergers or sales of portfolio, among other circumstances.

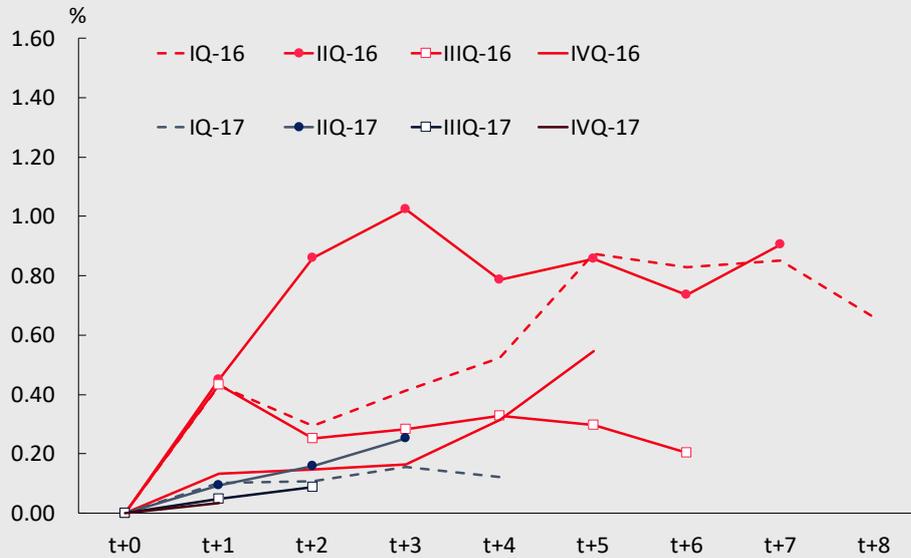
¹²⁷ See Chapter 2 for further analysis.

¹²⁸ It is worth stating that the above-mentioned Debtors Regime (feeding the so-called “Debtors Database”) is not specifically fit to conduct this type of analysis. Therefore, it is necessary to make assumptions and implement certain statistical processes to deal with some information limitations.

¹²⁹ The stock is net of any amortizations performed.

¹³⁰ See Chapter 2 and results of the ECC published in the BCRA’s Website.

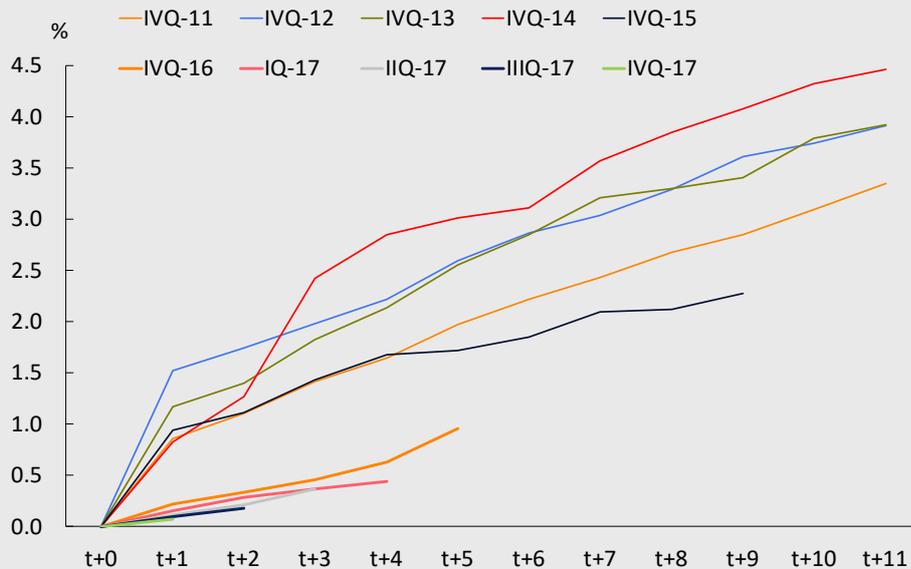
Chart A.6.1 | Evolution of Nonperforming Mortgage Loans to Natural Persons – 2016 and 2017 Vintages



Source: BCRA

If considering a longer period of time, taking the accumulated nonperformance per vintages (see Chart A.6.2), it may be seen that delinquency of the 2017 vintage loans during their first quarters (6 to 9 months), shows historically low levels, even below the levels recorded in other periods of economic activity growth (see Chapter 1). In the future, this new tool implemented by the BCRA will allow for the monitoring of the performance of credits generated in recent periods, especially UVA-denominated loans that, in general, have been granted with an installment/debtor’s income ratio lower than the ratio for traditional lines.

Chart A.6.2 | Evolution of Accumulated Nonperforming Mortgage Loans to Natural Persons – 2011 and 2017 Vintages



Source: BCRA

4. Payment System

In recent months, the BCRA continued to encourage measures to promote a greater use and more information about electronic means of payment. The purpose is to contribute to more secured, faster and cheaper transactions for all agents of the economy and, at the same time, to promote a context of higher levels of financial inclusion. The results of this strategy are being achieved on a gradual basis. Several indicators show that, since the previous IEF, the trend continued towards a higher use of electronic means, especially in terms of immediate transfers and several types of cards. In fact, in the first quarter of 2018, the electronic means of payment —immediate transfers, direct debits and credit and debit cards— recorded a year-on-year increase of almost 3.9 p.p. in terms of GDP (real year-on-year change of 15.9%) to 32.4%. Despite this recent performance, there is still a long way to go with a view to achieving a significant expansion and integration of the use of these means of payment alternative to cash. It will be highly relevant to continue improving its efficiency and to promote competition among service providers, supported by better levels of financial education throughout the country.

Modernization of the National Payment System

In early 2018, the BCRA designed a set of improvements in the operation of the Immediate Debit Transfers (DEBIN) system, a tool introduced throughout 2017. It is worth mentioning that the DEBIN system is based on an exchange of messages from a “collector” to a “payer” by sending a request for debit. Once the request is accepted, the debit or transfer of funds (at no cost) is made between their accounts immediately¹³¹. Recently, it has been established that companies originating DEBINs¹³² may request authorization in advance and, once obtained, the authorization will not expire¹³³. As a result, periodic payments may be systematized without the need of requesting an authorization on each occasion. In addition, the Low Value Clearing House (system administrator) has new responsibilities, such as making systemic controls and transaction scoring, among other changes proposed. In this context, and seeking to boost transactions made via the DEBIN mechanism and also via Immediate Electronic Payments (PEI), the monetary authority established that, in some cases, the debited financial institutions (origin of the funds) may charge the credited institutions (recipients of the funds) trade rate of up to 0.3% on the total amount involved¹³⁴. To make transactions, both the PEI and the DEBIN methods have some advantages relative to the direct use of the debit card (see Table 4.1).

In recent months, the BCRA gave an important step forward towards the interoperability of wallets and platforms, with the purpose that users are not forced to install and use different mobile applications for the payments they make in different stores. In this respect, the BCRA defined the technical specifications that local systems operating under the modality of “Quick Response Code” (QR)¹³⁵ must employ. This instrument, which is widely used in both developed and emerging economies for electronic payments, efficiently stores data on products intended to be traded and specifically on the account receiving the funds. To operate in the system, users willing to make a payment may use the e-wallet application in their cell phones (to which their bank accounts and cards must be associated), choose one of the means of payment¹³⁶ and then scan the QR of the product.

In line with the increasing use of mobile telephony for access to financial services in general and to payments in particular, in early 2018 the institutions were authorized to use mobile telephony devices to promote, install and/or explain to their clients the instructions to use mobile banking applications and/or the mobile payment platforms available to them¹³⁷.

¹³¹ For further detail on the characteristics of this instrument created by the BCRA, see Box 12 of [IEF II-17](#).

¹³² Called non-users of financial services in the corresponding regulation.

¹³³ Communication “A” [6423](#).

¹³⁴ Communication “A” [6420](#).

¹³⁵ Communication “A” [6425](#). It is worth mentioning that some individual undertakings allow for the use of this payment system, such as, for example, YPF with Todo Pago, Axion with Mercado Pago, and the Government of the City of Buenos Aires with Yacaré.

¹³⁶ Debit cards, credit cards, virtual wallets or transfers.

¹³⁷ Communication “A” [6432](#) and Communication “A” [6488](#).

Table 4.1 | Comparison among PEI, DEBIN and Debit Card

Feature	PEI	DEBIN	Debit card
Currency	Domestic currency	Domestic currency / foreign currency	Domestic currency / Foreign currency
Mean of payment	Immediate transfer	Immediate transfer	Debit in account (accreditation in 48hs)
Vehicle and method of payment	Homebanking / Mobile banking (electronic wallet, mobile point of sale or payment button)	Homebanking / Mobile banking	Mobile banking (electronic wallet, mobile point of sale or payment button) / Point of sale (POS)
Cost for the collector	Yes (0 to 0.6%)	Yes	Yes (1.1%)
Cost for the payer	No	No	No
Possibility of pre-authorizations	No	Yes	No
Notifications	No	Yes. By SMS, mail or mobile application	No
Reversion possibility	No	Yes	Yes

Source: BCRA

Considering the relevance of the ATM network expansion under the framework of the financial inclusion policies promoted by the BCRA, some roles were recently clarified of participants in the market of ATMs which are operated by non-financial companies in order to foster a more competitive and transparent environment. In addition to describing in detail the minimum responsibilities of the financial institution responsible for the administration whenever a non-financial company reaches an agreement with the financial institution, it was established that the non-financial company must participate in the ATM network on an equal footing against the remaining participants¹³⁸.

In addition, in a context where the BCRA continues to promote competition in this area, both the number of payment services providers and their proposals have intensified in recent times. These payment services are not directly related to a bank account under the name of the clients but, instead, they operate through wholesale bank accounts under the name of the payment services provider. Pre-paid cards and digital wallets are examples of these payment services.

Within the framework of the modernization of the national payment system, the offering of these payment services has gradually increased and become even more widespread, since they provide benefits of access and use, especially to the population segment that has no access to banking services yet. These services facilitate, in some cases, the crediting process of social benefits while, at the same time, they have gradually included new functions and tools that make them compete now with the traditional electronic means of payment. Among the abovementioned payment services, pre-paid cards stand out, and they are gradually gaining more depth in the population (see Box 8).

Table 4.2 | Comparison among Pre-Paid, Credit and Debit Cards

Feature	Prepaid card	Credit card	Debit card
Retail purchases	Yes	Yes	Yes
Possibility of extraction in ATMs	Yes	Yes	Yes
Provide financing	No	Yes	No
Associated bank account	No	No	Yes

Source BCRA

¹³⁸ Communication "A" [6483](#).

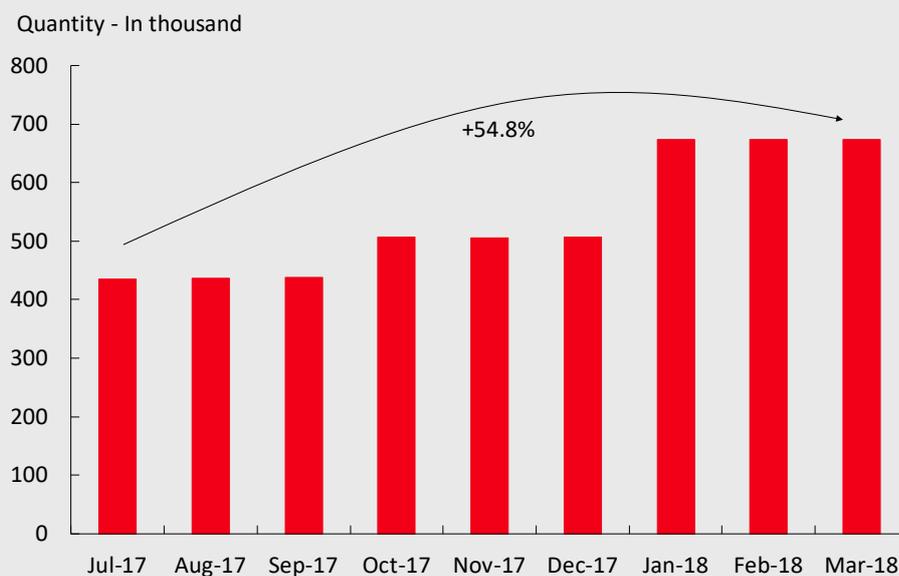
Box 8. Fintech companies are boosting the domestic market of pre-paid cards

Pre-paid cards allow users to make purchases in the point-of-sale terminals and withdraw funds through ATMs and non-banking collection networks¹³⁹, among other transactions. Even though this type of card has similar functions to a debit card, in the case of pre-paid cards the user does not need to have a bank account (see Table 4.2).

The emergence of new participants in the market, the expansion of transactions in e-commerce platforms and the increasing penetration of smart phones are helping Fintech companies to revitalize this kind of non-banking cards, providing innovative features. These features include: i) new tools for fund management, ii) integration with other user profiles so as to use available balances which, for example, resulted from other sales¹⁴⁰ and iii) apply for loans via mobile applications or websites associated to the card. Another advantage of pre-paid cards is that now it is much easier to obtain them (via web or a mobile application).

Another element that renders this type of instrument more attractive for users is its lower cost (for example, there is no cost for maintenance). Likewise, these pre-paid cards are “open”¹⁴¹, thus allowing for purchases or cash withdrawals at the terminals admitting the brand of the cards to which they are associated. Even more, in addition to facilitating payments in person at the stores and the transportation of values in an efficient manner to different geographical locations, they may be used to purchase some services on a virtual basis (such as streaming services) which require the use of a card to make the payment. As a result, Fintech firms offering this pre-paid card service are contributing to improving the scope of usability in terms of financial inclusion. In addition, reloading may be performed via bank transfer or in cash at off-banking collection points.

Chart 4.1 | Pre-paid Cards Issued by Payment Service Providers



With reference to the level of adoption, while debit cards added 4 million units in 2017 (to 45 million by the end of that year), pre-paid cards amounted to around 3,050,000 units as of March 2018, going up 17.4% y.o.y. Specifically, pre-paid cards issued by payment services providers, accounting for 22.1% of the total, have gone up 54.8% from July 2017 to March 2018, a trend that accelerated significantly during

¹³⁹ Such as Rapipago or Pago Fácil.

¹⁴⁰ For example, a seller of an e-commerce platform might use the funds resulting from sales by means of a pre-paid card. In the same sense, if the e-commerce platform allows for loan granting, the user may have the funds through this type of card.

¹⁴¹ In general, even though cards are issued under the brand of the company involved in its marketing process (Ualá, Pago24 or MercadoPago, among others), they are associated to the main brands dealing with means of payment (such as Cabal, Mastercard or Visa) and to a renowned network of processors (Prisma, First Data, among others).

the last quarter of 2017 (see Chart 4.1). In turn, pre-paid cards issued by financial institutions grew by 5% in the same period. Even though the evolution of this type of card is signaling a favorable outlook, the average use of the last 12 months was less than one transaction per card per month, and this means that the conditions of usability should continue to go deeper.

In terms of the organizational improvement of the national payment system, the BCRA has been making progress not only in terms of technological innovation but also of a more appropriate management of banknotes in circulation in the economy¹⁴². This is important to streamline the regular transactions made by the private sector, because it would reduce the operating costs of the society at large. In this framework, the BCRA continues to improve the composition of the cash held by the public (see Box 9).

Box 9. Improvements in the cash held by the public

By the end of 2015, the highest denomination of banknotes was \$100, accounting for 70% of the number of banknotes in circulation and almost 100% of their value (93% in December 2015, against 80% in 2005). This was a true problem to make transactions and imposed a high cost to society. It is worth mentioning that the increase in headline inflation between 2005 and 2015 reduced the purchasing power of each \$100 banknote down to a tenth of the value it had at the beginning of the period.

Against this backdrop, the BCRA made progress since 2016 in the reconfiguration of the cash held by the public, and these steps included the issue of a new family of banknotes with higher denominations—\$200, \$500 and \$1,000—, and also a new design introducing the series of “Native Animals of Argentina for the banknotes and “Trees of Argentina” for the coins. The next step is the launching of \$10 coins, since so far the coins of \$5 have the highest denomination. This recomposition has entailed a significant cost reduction for the BCRA. It is estimated that saving for the monetary authority—deriving from the issue of banknotes with a higher denomination instead of continue supplying only \$100 banknotes—would have reached nearly \$1.5 billion throughout 2017, and around \$200 million in the first four months of 2018¹⁴³.

By the end of the first quarter of 2018, the share of the new banknotes of \$200, \$500 and \$1,000 stood at almost 11% of the number of banknotes in use, while this figure goes up to almost 42% if we consider their weight in the total stock of cash held by the public. The BCRA seeks that the proportion of banknotes with a higher denomination gets closer to two thirds of the total value by the end of 2018, thus optimizing logistics processes and adjusting to the needs of both the public and the banks.

Recent Evolution of the National Payment System

In line with the regulatory changes introduced by the BCRA and the National Executive Branch, the increasing trend in the economy continued towards the use of electronic means of payments in recent months. In year-on-year terms, the amount of immediate transfers relative to GDP went up 2.2 p.p. in the first quarter of 2018 (to 16%), even though a series of seasonal and operational factors resulted in a slight decline (-1.9 p.p.) against the last quarter of 2017 (see Chart 4.2). The volume of purchases with both debit and credit cards¹⁴⁴ increased gradually in the last quarters up to 4.7% and 9.4% of GDP respectively, a positive trend that is also observed in direct debit transactions. Even more, in recent months, there has been an increase in the proportion of purchases with debit cards relative to ATM withdrawals, and this is signaling a trend towards the replacement of cash with electronic means of payment. In turn, and in line with the performance observed in recent years, the value of check clearing in terms of GDP continues to go down, even though it is still relatively high (almost 31.9% of GDP at the beginning of 2018), a trend that is also observed in cash withdrawals from ATMs (15.8% of GDP in the first quarter of 2018, with a year-on-year drop of 0.4 p.p.). As a result, electronic means of payment (immediate transfers, direct debits, and credit and debit cards) have recorded a year-on-year rise of nearly 3.9 p.p. of GDP (year-on-year real change

¹⁴² See Exhibit 5 of [IEF I-17](#) for an initial discussion on cash management.

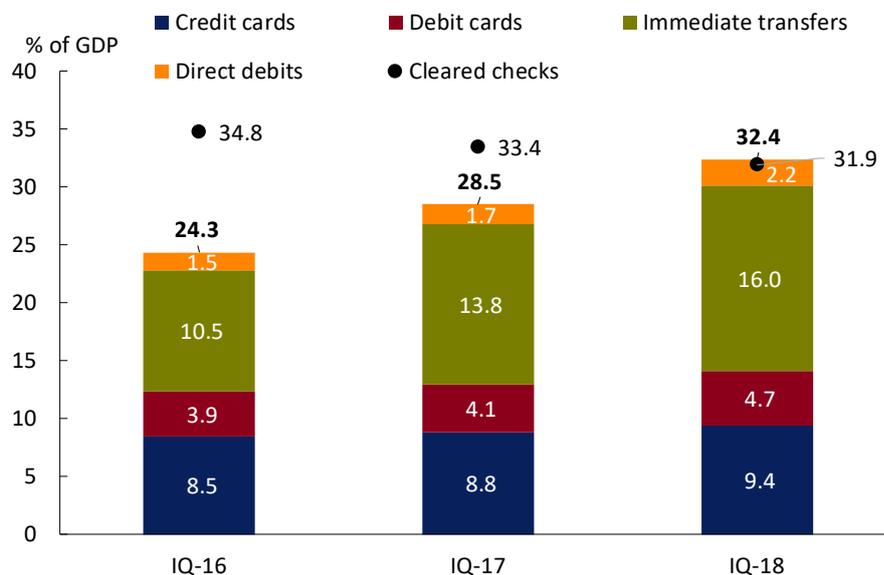
¹⁴³ It is worth noting that this is only saving derived from direct production. A more global figure should also include the reduction of logistics and handling costs resulting from lower physical amounts in paper money.

¹⁴⁴ Taking these cards in terms of their role as means of payment.

of 15.9%) up to 32.4%. This increase in the use of the electronic means of payment would be still higher if transactions made with pre-paid cards were included, considering the upward trend observed in the number of cards issued¹⁴⁵.

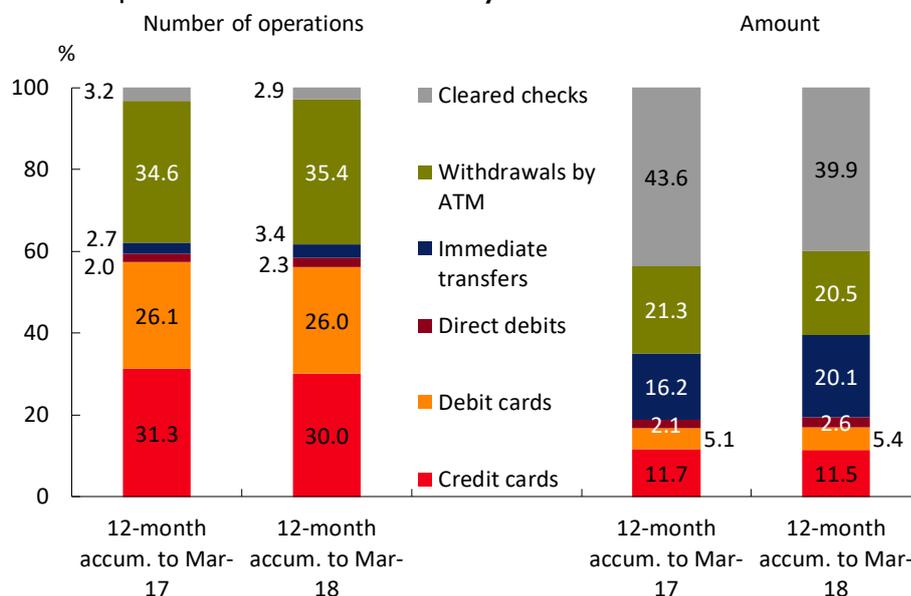
Chart 4.2 | Means of Payment Alternative to Cash

On a quarterly annualized basis as % of GDP



Source: BCRA and INDEC

Chart 4.3 | Use of the Different Means of Payment - Share



Fuente: BCRA

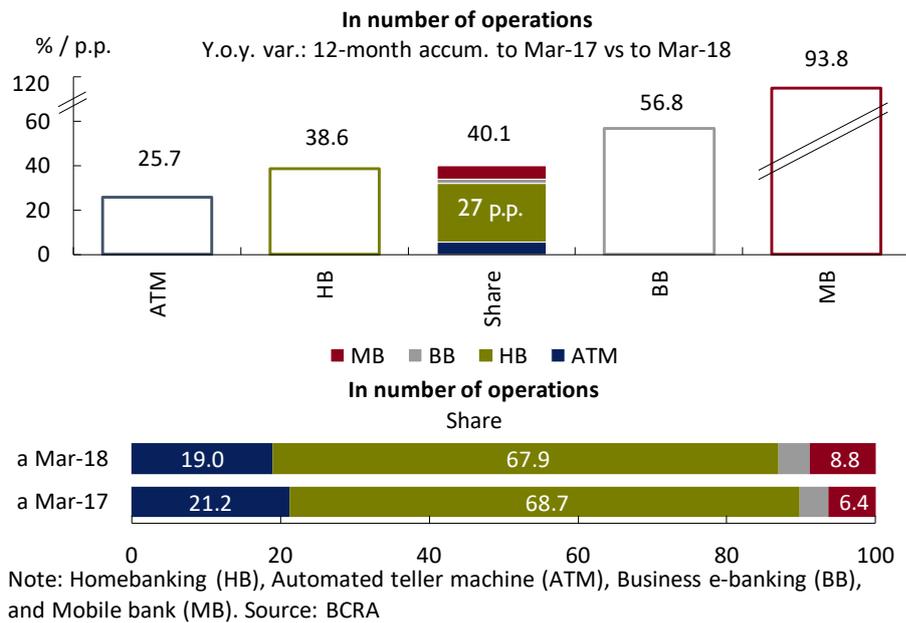
In the last 12 months, the relative share of immediate transfers have gone up among the main means of payment (see Chart 4.3), in terms of number of transactions (from 2.7% to 3.4% of the total) and especially in terms of value (from 16.2% to 20.1% of the total). The share of debit and credit cards remained relatively

¹⁴⁵ There are still no complete statistical data available about the volume of transactions related to these cards.

stable in terms of value (5.4% and 11.5% of the total, respectively), even though their share went down in terms of numbers. On the other hand, direct debits continued to increase, while the value of check clearing and cash withdrawals from ATMs dropped down to 39.9% (nearly -4 p.p. y.o.y.) and 20.5% (-0.8% y.o.y.), respectively.

The number of transactions made through immediate transfers recorded a remarkable increase of 40.1% (accumulated) year-on-year, mainly driven by the mobile banking channels (93.8% y.o.y., as a result of which their share goes up to 8.8% of total transfers) and the corporate electronic banking (56.8% y.o.y., to 4.2% of the total). ATMs and online banking channels have moved at a slower pace resulting in a slight drop in their share, even though they still account for 19% and 67.9% of transactions, respectively (see Chart 4.4).

Chart 4.4 | Immediate Transfers per Channel



As mentioned above, the BCRA continues to encourage the use of the PEI mobile payment platform. In this respect, as of February 2018, 364,000 transactions had been performed, distributed among PEI Mobile POS (Point of Sale) (59%), PEI Electronic Wallet (40%) and PEI Payment Button (1%). It is worth noting that PEI Mobile POS offers a wide range of benefits, including lower costs for all parties involved in the transactions, in addition to the fact that the use of this platform allows for compliance with the regulations on mandatory acceptance of electronic means of payment in transactions (see Box 10).

Box 10. Mandatory acceptance of electronic means of payment. Advantages in the use of Immediate Electronic Payments (PEI).

With a view to continuing with the formalization of payments, in February 2017, the Tax Authority (AFIP) released [General Resolution No. 3997/17](#), which regulated that providers of goods or services are obliged to accept electronic means of payments for their transactions with the clients introduced by [Law No. 27253](#) in mid-2016¹⁴⁶. All sellers must accept as means of payments all transfers arranged through debit cards, non-banking pre-paid cards for the exclusive crediting of social security and other benefits, as well as other equivalent means of payment¹⁴⁷.

¹⁴⁶ The schedule to comply with the abovementioned obligation, from April 2017 to March 2018, depended on the specific area of the economic activity, as well as on the annual turnover of the provider of goods and services, also including the case of taxpayers under the Simplified Tax Regime (so-called “monotax payers” – *monotributistas*).

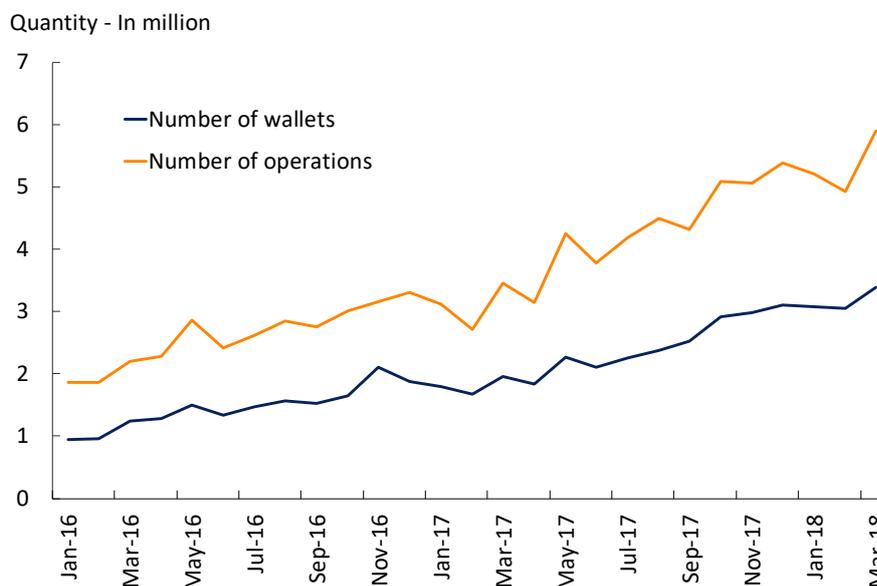
¹⁴⁷ [Executive Order 858/2016](#).

With a view to fostering the use of electronic means of payment, it is worth noting the Immediate Electronic Payment (PEI) method, introduced in due time by the BCRA¹⁴⁸, based on the immediate transfer of funds. One of the instruments covered by PEI involves the possibility of using the method known as Mobile Point of Sale or Mobile POS. Given the fact that it is connected to a cell phone or tablet, this platform allows for collections with the same debit cards by means of a security device to validate the transactions (“dongle”)¹⁴⁹. This PEI method allows for complying with the obligation established in the abovementioned regulations.

While for the consumer there is no difference in the use of either alternative, for the store, transactions made under the PEI platform have several advantages against the traditional method, including lower cost and quicker availability of the funds. These transactions have a commission ranging from 0% (for transactions of low amounts) to approximately 0.6% (according to market sources), i.e. virtually half the commission charged for the traditional debit transaction (1.1%¹⁵⁰). In addition, the “dongle” device has only the initial acquisition cost, which is cheaper than hiring the traditional POS. Even more, the PEI method creates an immediate crediting transfer and allows the seller to have the funds available much faster while, in the traditional method with a debit card, the store has to wait between one and two business days for collection. Finally, in some jurisdictions, PEI-related transactions, unlike traditional transactions, are not subject to tax withholdings.

In turn, an upward trend is observed in the access to electronic wallets. In fact, the number of electronic wallets went up slightly over 73% from March 2017 to March 2018, reaching a total of 3,385,896 units (see Chart 4.5). Regarding their use, a situation similar to pre-paid cards is observed, even though the figures for electronic wallets are slightly more favorable, averaging 1.7 transactions per wallet on a monthly basis.

Chart 4.5 | Electronic Wallets



Source: BCRA

¹⁴⁸ Communications “A” [5982](#) and [6043](#). For further detail, see the 2016 and 2017 editions of this [Report](#).

¹⁴⁹ The use of Mobile POS is not exclusive under the framework of PEI transactions (immediate transfers by means of debit cards as access cards), since some of them may also operate as a traditional POS to receive payments with cards. Taking into account the providers of the different companies, there would be around 321,000 devices of these characteristics.

¹⁵⁰ In early 2017, the National Executive Branch fostered a gradual reduction of the maximum fees on the transactions made with debit and credit cards. An agreement was signed with the representatives of credit card issuers and the chambers of commerce and trade associations, in order to reduce commissions (see [Press Release, March 2017, of the National Ministry of Production](#)). As from April 2017, the commission charged to stores per transaction went down from 1.5% to 1.2% in the case of the debit card, and from 3% to 2.5% in the case of credit cards, and at the beginning of 2018, these commissions stood at 1.1% and 2.35%, respectively. According to the established schedule, both rates will be 0.8% and 1.8%, respectively, as from 2021.

Abbreviations and Acronyms

€: Euro	FGS: <i>Fondo de Garantía de Sustentabilidad.</i> Sustainability Guaranty Fund.
a.: Annualized.	FSB: Financial Stability Board.
AEIRR: Annual Effective Internal Rate of Return.	GDP: Gross Domestic Product.
AFIP: <i>Administración Federal de Ingresos Públicos.</i> Argentina's Federal Tax Authority.	IADB: Inter-American Development Bank.
ANSES: <i>Administración Nacional de Seguridad Social.</i> Social Security Administration.	IAMC: <i>Instituto Argentino de Mercado de Capitales.</i> Argentine Capital Markets Institute.
APR: Annual Percentage Rate.	IBIF: <i>Inversión Bruta Interna Fija.</i> Gross domestic fixed investment.
ATM: Automated teller machine.	IMF: International Monetary Fund.
b.p.: basis points.	INDEC: <i>Instituto Nacional de Estadísticas y Censos.</i> National Institute of Statistics and Censuses.
BADLAR: Interest rate for time deposits over one million pesos between 30 and 35 days for the average of financial institutions.	IPMP: <i>Índice de Precios de las Materias Primas.</i> Central Bank Commodities Price Index.
BCBA: <i>Bolsa de Comercio de Buenos Aires.</i> Buenos Aires Stock Exchange.	IPOM: <i>Informe de Política Monetaria.</i> Monetary Policy Report.
BCBS: Basel Committee on Banking Supervision.	IRR: Internal Rate of Return.
BCRA: <i>Banco Central de la República Argentina.</i> Central Bank of Argentina.	LCR: Liquidity Coverage Ratio.
BIS: Bank of International Settlements.	Lebac: <i>Letras del Banco Central de la República Argentina.</i> BCRA Bills.
BoE: Bank of England.	LETES: <i>Letras del Tesoro en dólares estadounidenses.</i> US\$ Treasury Bills.
Bonar: <i>Bonos de la Nación Argentina.</i> Argentine National Bonds.	LIBOR: London Interbank Offered Rate.
CABA: <i>Ciudad de Buenos Aires.</i> Autonomous city of Buenos Aires.	LR: Leverage Ratio.
CCP: Central counterparty.	m.a.: Moving average.
CDS: Credit Default Swaps.	MAE: <i>Mercado Abierto Electrónico.</i> Electronic over-the-counter market.
CEMBI: Corporate Emerging Markets Bond Index	MEP: <i>Medio Electrónico de Pagos.</i> Electronic Means of Payment.
CER: <i>Coeficiente de Estabilización de Referencia.</i> Reference Stabilization Coefficient.	MERCOSUR: <i>Mercado Común del Sur.</i> Southern Common Market.
CNV: <i>Comisión Nacional de Valores.</i> National Securities Commission.	MERVAL: <i>Mercado de Valores de Buenos Aires.</i> Executes, settles and guarantees security trades at the BCBA.
CPI: Consumer Price Index.	MF: Mutual Funds.
CVS: <i>Coeficiente de Variación Salarial.</i> Wage variation coefficient.	MoF: Ministry of Finance.
D-SIBs: Domestic systemically important banks.	MoT: Ministry of Treasury.
DEBIN: <i>Débito Inmediato.</i> Immediate Debit.	MSCI: Morgan Stanley Capital International.
ECAI: External Credit Assessment Institution.	MULC: <i>Mercado Único y Libre de Cambios.</i> Single free exchange market.
ECB: European Central Bank.	NA: Netted assets.
ECC: <i>Encuesta de Condiciones Crediticias.</i> Lending standards survey.	NBFI: Non-Bank Financial.
EMBI: Emerging Markets Bond Index.	NPD: National public debt.
EPH: <i>Encuesta Permanente de Hogares.</i> Permanent Household Survey.	NFPS: Non-financial national public sector's.
EU: European Union.	NW: Net worth.
Fed: Federal Reserve of US.	

OB: *Obligaciones Negociables*. Corporate bonds.

OECD: Organization for Economic Cooperation and Development.

OPEP: Organization of the Petroleum Exporting Countries.

p.p.: Percentage point.

PEN: *Poder ejecutivo Nacional*. Executive Branch.

PGNME: *Posición Global Neta de Moneda Extranjera*. Net Global Position in Foreign Currency.

PPM: *Plataforma de Pagos Móviles*. Mobile Payment Platform.

q.o.q: quarter-on-quarter.

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: Superintendence of Financial and Exchange Institutions.

SME: Small and Medium Enterprises.

TCR: *Tipo de cambio real*. Real Exchange rate.

TN: *Tesoro Nacional*. National Treasury.

US\$: United States dollar.

US: United States of America.

UTDT: *Universidad Torcuato Di Tella*. Torcuato Di Tella University.

UVA: *Unidad de Valor Adquisitivo*. Acquisition Value Unit.

UVI: *Unidad de Vivienda*. Dwellings Unit.

VAT: Value added Tax.

VIX: S&P 500 volatility.

WB: World Bank.

WPI: Wholesale Price Index.

y.o.y: year-on-year.