Changing patterns of financial intermediation: implications for central bank policy

Central Bank of Argentina

Abstract

As a consequence of the significant economic and financial crisis suffered in 2001-2002, Argentina has experienced a particular path with respect to patterns of financial intermediation. Following the abandonment of the Convertibility Plan in December 2001, it suffered a huge financial and economic crisis. The crisis led the country to introduce significant changes in its regulatory framework; many of them in line with the guidelines introduced by multilateral bodies in the aftermath of the subsequent Lehman Brothers crisis. From that point on, a sounder and more stable banking system was established, which supported a strong economic recovery.

The ratio of credit to GDP reached almost 13% by the end of 2014. Although it remains low by international comparison, it is nevertheless 5.8 percentage points higher than at end-2004. Over the last 10 years, the growth in corporate and household credit lines has driven a strong expansion in private financing. The financial system continues to be funded primarily by a broad mix of domestic, highly atomized, deposits. Retail and other small deposits accounted for 73% of total bank funding as of October 2014.

The regulatory changes implemented by the Central Bank of Argentina (BCRA) include a macroprudential framework that establishes limits on foreign currency lending. Such limits aim at preventing the indirect exposure generated by the granting of loans denominated in foreign currency to agents whose income is denominated in pesos. The regulations introduced by the BCRA allow only funds obtained from deposits in foreign currency to be on-lent to customers who generate income in such currency. The share of foreign currency-denominated lending in total lending granted to the non-financial private sector stood at 6% at the end of October of 2014, down by 68 percentage points from December 2001.

Finally, it is worth noting that relatively large foreign capital flows to emerging market economies (EMEs) with small- or medium-sized domestic financial markets trigger a number of problems for economic policy management. The large amounts of internationally mobile capital surpass the absorption capacity of many EME capital markets and some commodity markets. Capital flows can have a number of side effects for recipient countries, including changes to established monetary transmission channels. Within a scenario of higher gross capital flows, portfolio investment is growing in relation to foreign direct investment (FDI). Given that portfolio investment is intrinsically more volatile, it is important to consider the role played and the impact of the behaviour of global investment funds on EMEs.

Keywords: private financial system's gross exposure, foreign currency lending, credit default levels, public banks' role, currency mismatches exposure, macroprudential policies

JEL classification: E58, G10, G38

Introduction

Over the past 10 years, Argentina's financial system has recovered from one of the deepest financial crises ever experienced (the 2001–02 crisis). From that point on, a number of economic and financial policies were implemented with the objective of re-establishing a sound banking system and providing the necessary conditions for a strong recovery. The "new" financial system that has emerged is now based on a set of guidelines that address the main shortcomings of the Convertibility Plan, among which the explicit lack of a lender of last resort and unfettered currency mismatches can be mentioned. The BCRA has played an active role in this process. Taking this into account, the 2008 global financial crisis was handled adeptly and the financial system did not suffer as much as in the past. Considering the relative magnitudes of international and domestic financial flows, regulatory financial policies were implemented to strengthen both liquidity and solvency indicators, and reduce potentially negative side effects on the banking system.

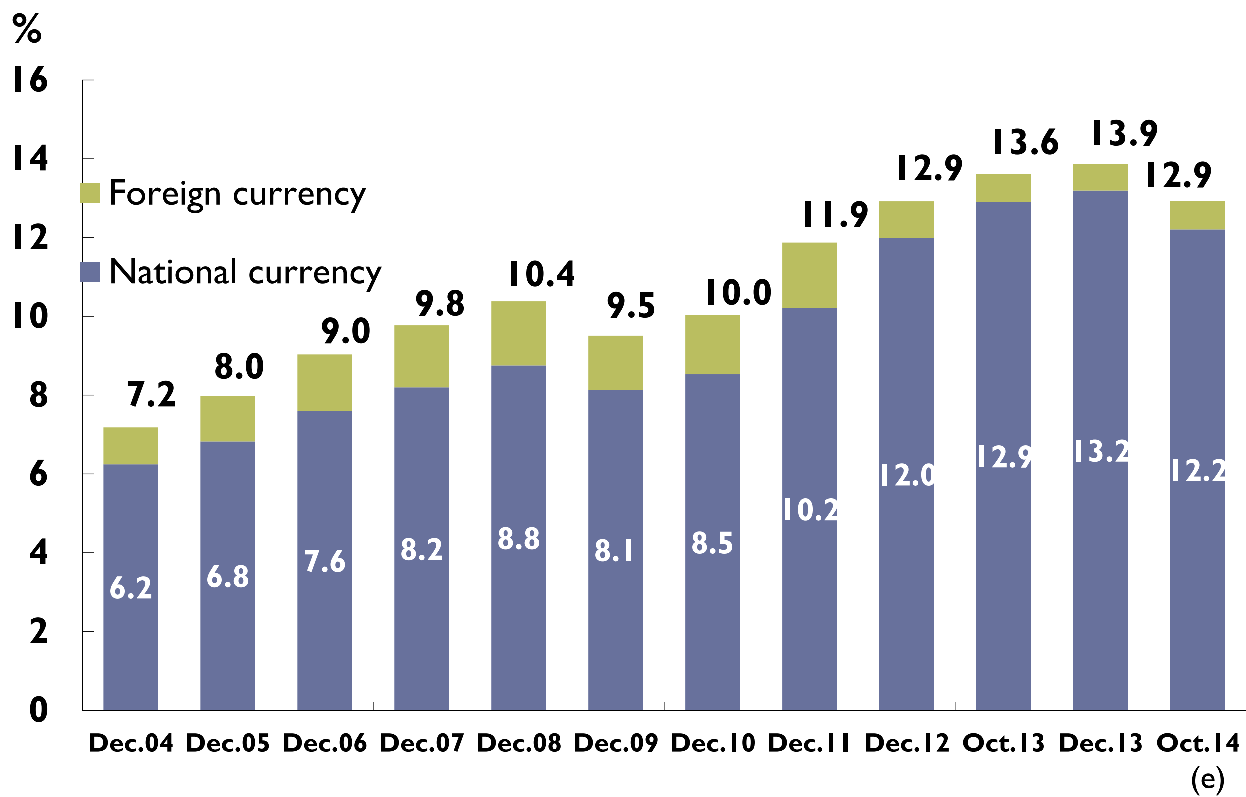
In the following paper, we describe the recent evolution of the domestic banking system, with an emphasis on its main characteristics and on the monetary policy applied by the BCRA.

Bank intermediation

In Argentina, banks have strongly expanded their financial intermediation to the private sector over the last decade. As a result, the ratio of credit to GDP reached almost 13% at the end of October 2014, a 5.8 percentage point increase in comparison with the value recorded at the end of 2004 (Graph 1). Even though the value of this indicator remains low, both in historical terms and in international comparison, a remarkable change was observed in the currency composition of lending. There was a significant reduction in the weight of foreign currency lending: currently, loans denominated in pesos are equivalent to 94% of total lending (Graph 2) while amounted only 26%of the total stock of loans in 2001. The increase in peso-denominated lending has helped to reduce exposure to currency mismatches in the banking system.

Bank credit relative to GDP

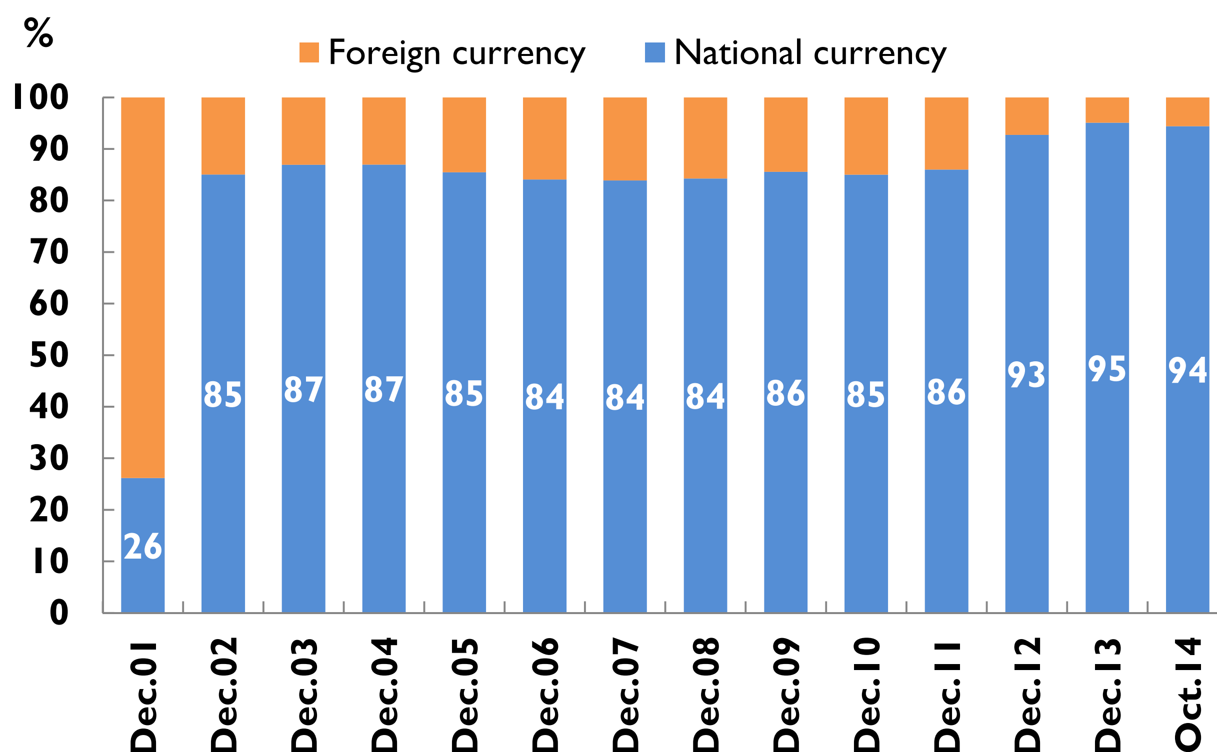
Graph 1



Source: BCRA.

Credit to private sector by type of currency

As a % of the total stock of loans — Graph 2

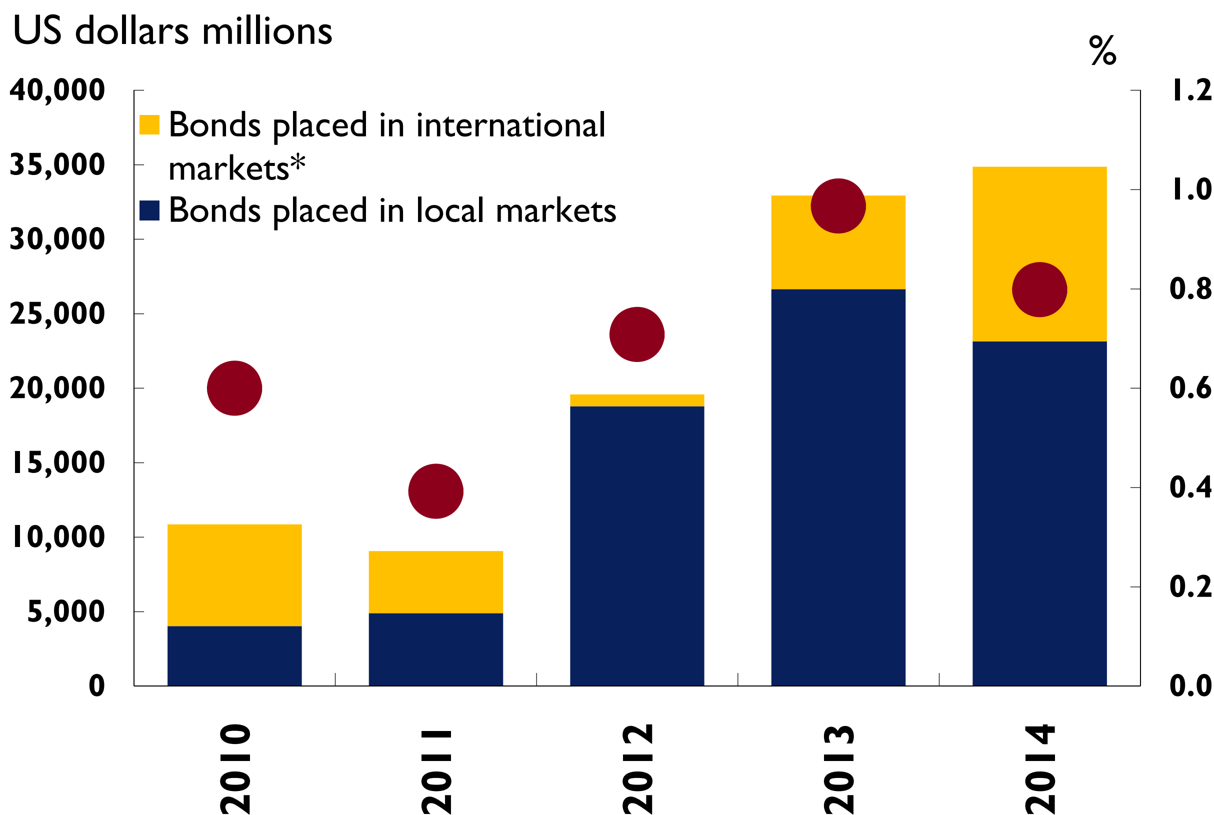


Source: BCRA.

Capital market intermediation

The issuance of debt securities by domestic firms has increased over the past few years, especially since 2012, in both local and international securities markets. That said, gross issuance remains relatively low, at less than 1% of GDP annually (see Graph 3). This Graph shows that financial intermediation remains largely bank-based. In terms of local market transactions, a significant percentage of new financing is related to debt issuance by the financial sector (banks and non-banks). Issuance in international markets is dominated by a few companies, of which the public oil company YPF accounts for the bulk.

Private sector financing – corporate bonds Graph 3



(*) Estimated

Source: BCRA based on CNV, BBCRA, IAMC and Indec.

Structure of domestic banks

Table 1 shows the evolution of the main components of domestic bank assets and liabilities over the last decade. In particular, we can see that:

- An increasing share of monetary regulatory instruments (Lebacs and Nobacs (Ls&Ns) is held by banks. While Ls&Ns represented only 5.8% of assets at the end of 2004, they increased to 12.8% and 14.6% at end-2010 and end-October 2014, respectively.
- The most liquid assets (cash in banks, deposits at the BCRA and repo operations with the BCRA) accounted for 17% of assets in 2004 and reached 21.8% in December 2010, although they dropped to 18.5% by 2014.
- A reduction in credit to the public sector (comprising both loans and securities holdings). Such credit accounted for 42.9% of assets in 2004 but fell by 29 percentage points in the next four years. It amounted to only 9.3% of assets by 2014.
- A consolidation of credit to the private sector as the principal bank asset. In December 2004 (after the effects of the local crisis of 2001–02), credit to the

private sector amounted to only 20.6% of bank assets. After a period of positive growth in lending to households and companies, credit to the private sector rose by 22 percentage points to 42.6% at the end of 2008. This expansion slowed as the global financial crisis affected the local economy. Nevertheless, the share of private sector lending amounted to 48.6% in October 2014.

- In terms of liabilities, over the last decade the domestic financial system turned for its funding to widely dispersed private and public sector deposits of short- and medium-term maturities. Such deposits have become the banks' main source of funds, this representing one of the most important developments for the financial system over the decade. Private sector deposits represented 41% of total bank funding in 2004, 51.8% in 2008 and almost 56% in 2014. Public sector deposits also increased their share in total bank funding, to a level of 18.6% in 2014, 3 percentage points higher than in 2004. This increasing reliance on locally sourced deposits put the domestic banking system on a better footing to face turbulence resulting from the global financial crisis.
- Central bank liquidity channelled to banks in the context of the 2001–02 domestic crisis represented 13.7% of funding at the end of 2004. Such resources were rapidly repaid and accounted for only 0.6% and 0.4% of assets in 2008 and 2014, respectively.
- Market financing (outstanding bonds plus subordinated debt) and foreign lines of credit accounted for 9% of bank funding in 2004, declining to 3.8% in 2008 and 2% in 2010 but gradually recovering over the last few years to 3.8% in 2014. This shift helped to temper the effects of the global financial crisis on the domestic banking system.
- Finally, the net worth of the banking system increased over the last few years from 11.8% of net assets in 2004 to 13.5% in 2014 (Table 1), reflecting the declining leverage of the financial system as a whole.

Financial system balance sheet

As percentage of net assets — Table 1

	Dec.04	Dec.06	Dec.08	Dec.10	Dec.12	Oct.14
Assets	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Liquid assets	17.0	15.7	20.6	21.8	20.8	18.5
BCRA securities (Lebacs and Nobacs)	5.8	10.5	8.0	12.8	9.2	14.6
Credit to the public sector	42.9	23.7	13.8	12.8	10.0	9.3
Credit to the private sector	20.6	32.7	42.6	42.1	50.9	48.6
Other assets	13.7	17.3	15.1	10.5	9.1	8.9
Liabilities	**88.2**	**86.5**	**87.1**	**88.1**	**88.2**	**86.5**
Public sector deposits	15.6	18.6	20.9	24.0	21.3	18.6
Private sector deposits	41.0	50.4	51.8	53.4	55.7	55.7
Financial deposits	0.3	0.4	0.4	0.2	0.1	0.1
Financial liabilities	0.7	1.9	1.2	0.9	1.1	0.7
Central bank liquidity	13.7	3.1	0.6	0.1	0.5	0.4
Outstanding. bonds	3.9	2.7	1.9	0.7	1.2	1.5
Foreign lines of credits	4.4	1.7	1.4	0.8	0.7	1.0
Subordinated debt	0.7	0.7	0.5	0.4	0.3	0.4
Other liabilities	7.8	7.0	8.3	7.6	7.3	8.2
Net worth	**11.8**	**13.5**	**12.9**	**11.9**	**11.8**	**13.5**

Liquidity risk

Banks increased their strength with respect to liquidity risk. In particular, liquid assets (including Ls&Ns holdings) stood at 48.7% of short-term liabilities in September 2014, evidencing increases of 7.9 percentage points and 6.4 percentage points compared to the end of 2005 and 2008, respectively. The broad liquidity ratio, which includes Ls&Ns holdings in pesos and in foreign currency not used by repo transactions also posted positive changes: the indicator reached 44.2% of deposits by the end of October 2014, which was 3.8 percentage points and 5.2 percentage points above the average figure recorded in 2005 and 2008, respectively. All types of institution raised their liquidity levels. Furthermore, banks usually record surpluses in liquidity compliance in both pesos and dollars, another signal of their strength with respect to liquidity risk.

Lending at fixed rates increases exposure to interest rate risk, given that assets usually have a longer term than liabilities. During the last few years, a gradual reduction in the exposure to interest rate risk was observed at the aggregate level, partly in response to financial institutions' lower exposure to the public sector (assets of longer maturities), an increasing bias to short- and medium-term financing and a new approach to interest rate risk management. Thus, for example, the impact of the

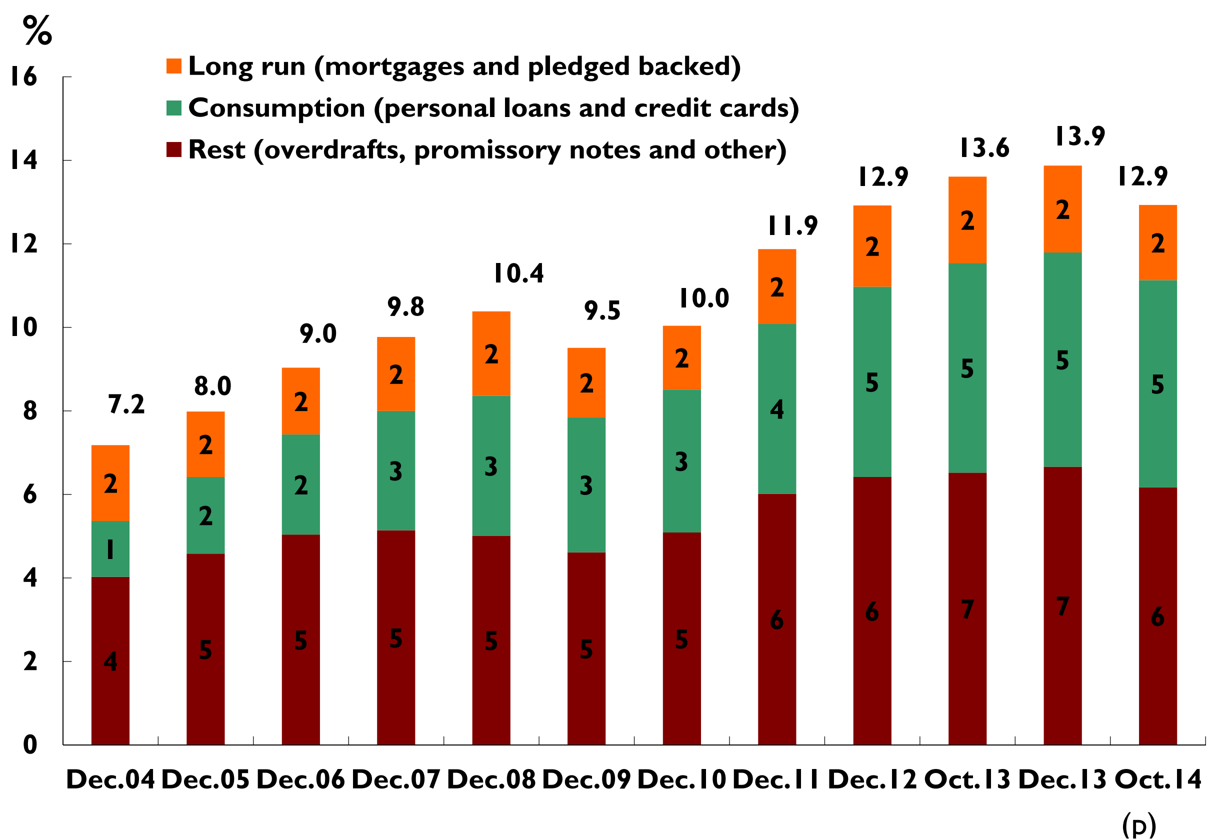
rise in domestic interest rates from the end of 2013 had only a marginal impact on financial institutions' net income.

As mentioned earlier, the financial system's gross exposure to the private sector increased significantly over the last decade, reaching 48.6% in 2014 from a low of 20.6% at the end of 2004. This trend was experienced by all groups of banks (private national and foreign entities as well as public ones), although it slowed during 2008–09. The continued recovery of income recorded by households and companies over the last few years – in a context of moderate indebtedness for both sectors – was reflected in falling bank credit default levels. This improvement was coupled with generous provisioning against non-performing portfolios, which helped to keep credit risk exposures low. Private sector defaults amounted to 2% of total lending by October 2014 – below international figures –, with a drop of 16.5 percentage points and 36.6 percentage points vis-à-vis 2004 and 2002, respectively.

Bank credit to private sector

Percent of GDP – financial system

Graph 4

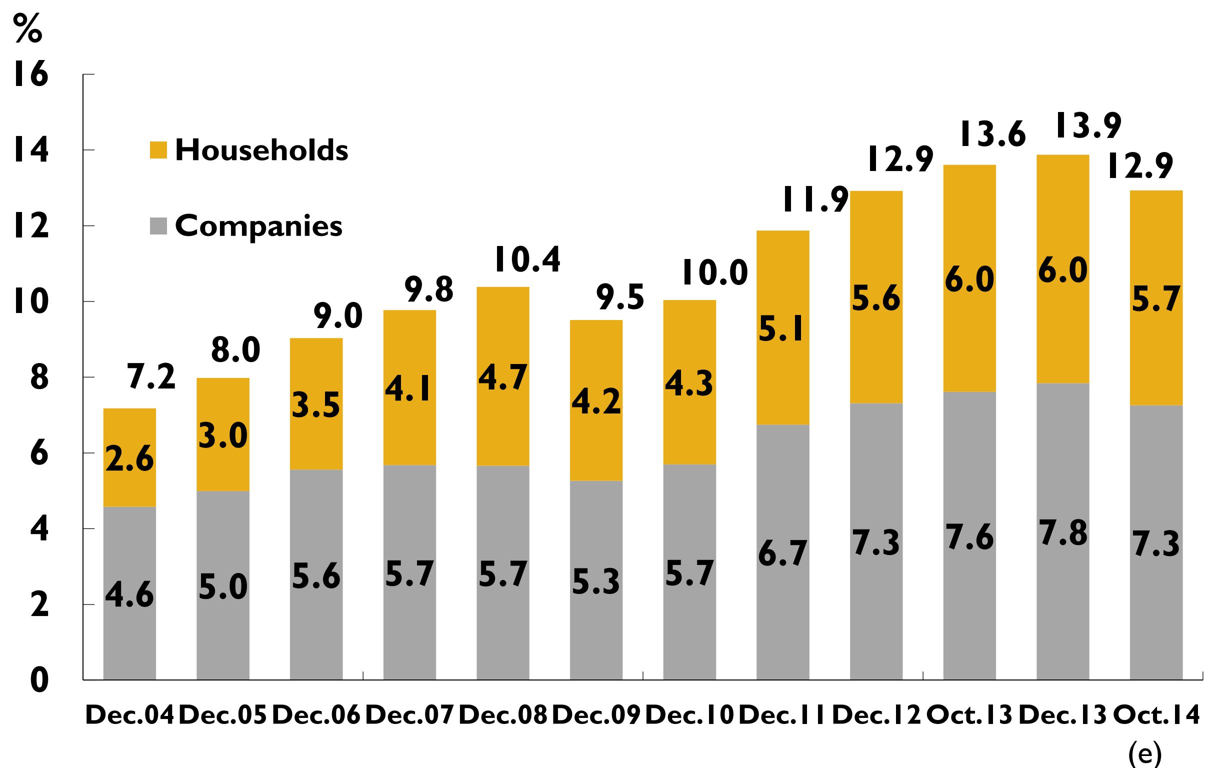


Source: BCRA.

Structure of lending

Regarding the structure of lending, at the end of 2004 almost 36% of total lending to the private sector was channelled to households and 64% to companies. In the next four years (2005 to 2009), the share of lending to households rose by nearly 9 percentage points to 45.5% as consumer lending expanded strongly. Following the impact of the global financial crisis on the local economy, and the introduction of BCRA policies aimed at strengthening productive financing, this trend changed: in 2014 financing granted to households reached 43.8% of the total (of which 80% represented consumer lending) while corporate lending amounted to 56.2%.

Bank credit relative to GDP | Graph 5



Source: BCRA.

By end-December 2013, more than 91% of the total stock of credit was fixed rate, with the remainder at variable rates. The bias towards fixed rate issuance has strengthened during the last few years.

In terms of collateral practices, the ratio of outstanding securitised loans (those with preferred guarantees A[1] and B[2]) to total loans granted to the private sector was about 15.3% in November 2014, some 4.5 percentage points and 6.6 percentage points less than in December 2008 and December 2005, respectively (2.8% with preferred guarantees A and 12.5% with preferred guarantees B). As a result, around 85% of loans were without guarantees. Currently, the default ratios for both types of portfolio are quite similar: 1.7% for loans with preferred guarantees and 2.1% for loans without preferred guarantees.

The share of foreign currency loans granted to the non-financial private sector stood at 6% at the end of October of 2014, down by 7 percentage points from December 2004 and by almost 68 percentage points from December 2001. This reduction resulted mainly from the macroprudential framework implemented by the BCRA. The framework established limits on foreign currency lending (see Graph 6). This reduced the financial system's exposure to potential currency mismatches in debtors' balance sheets. In particular, BCRA regulations allow only funds obtained from deposits in foreign currency to be on-lent to customers who generate income in the same currency, thus preventing the indirect exposure generated by the granting of loans denominated in foreign currency to agents whose income is in pesos. Foreign currency borrowers therefore have income that is directly or indirectly generated in that currency.

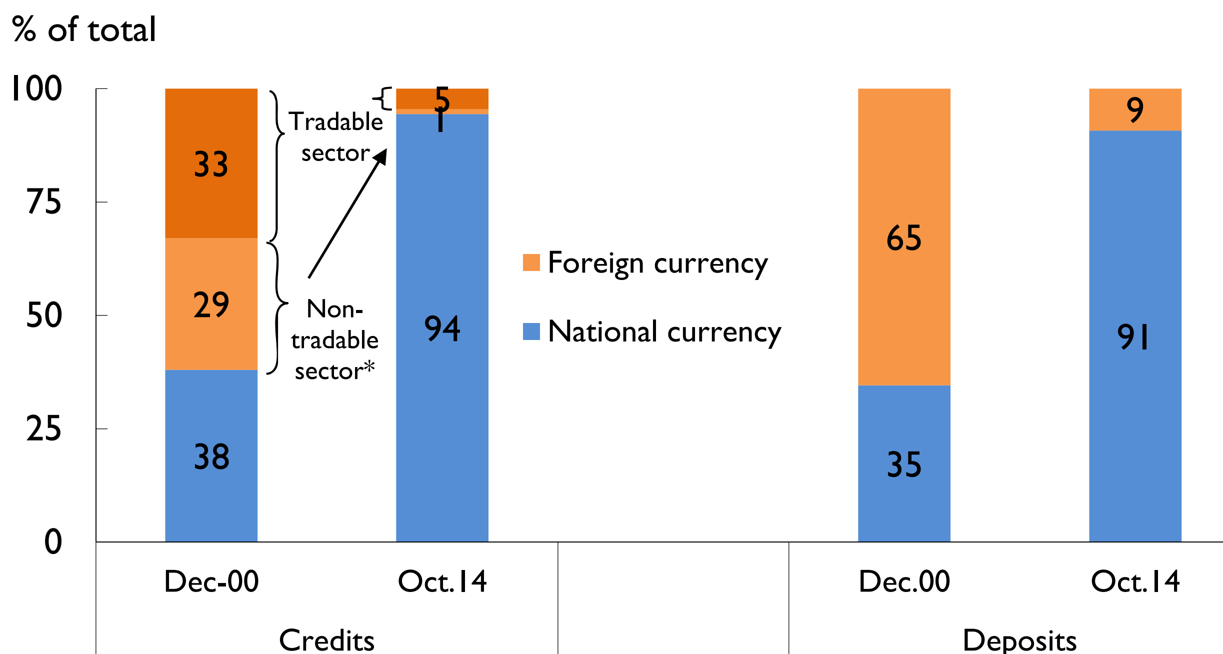
1 Preferred A: bonds or paper which are assigned or pledged in such a way that a financial institution is assured of full repayment of the financing by a solvent third party or via secondary markets through which the bonds can be sold. This category includes guarantees in cash, gold, a bank's own certificates of deposit, automatic export reimbursements, certain securities that are pledged (domestic government bonds, BCRA monetary instruments and securities issued by companies rated A or higher that are routinely listed), guarantees and letters of credit issued by foreign banks rated A or higher, certain warrants, the assignment of certain collection rights, such as those derived from public utility bills to consumers (electricity, gas, telephone, water etc), credit card coupons, tariffs and rates for public works concessions, discounted credit titles (deferred payment checks, promissory notes, bills of exchange and credit invoices) for which payment responsibility lies with the assignor (as long as certain conditions regarding risk diversification and credit quality of the issuer are met), guarantees granted by reciprocal guarantee companies on the BCRA register, and certain types of export credit insurance when the policy contemplates effective payment of the credits within 180 days of due.

2 Preferred B guarantees consist of property rights and third-party commitments, such as first mortgages on property, security interests in identified chattel goods, or possessory pledges in favour of the institution on vehicles and farms, highways and industrial machinery, other export credit insurance and guarantees granted by reciprocal guarantee companies on the BCRA register, financial leasing according to Law 25,248 for property, vehicles and farms, highways and industrial machinery, and certain fiduciary trusts set up in accordance with Law 24,441 to guarantee the payment of loans granted for property construction.

Financial intermediation with the private sector by currency

As a percentage of the entire financial system

Graph 6



*Note: non-tradable sector financing estimation includes loans in foreign currency to households, construction sector, gas, water, electricity and other services.

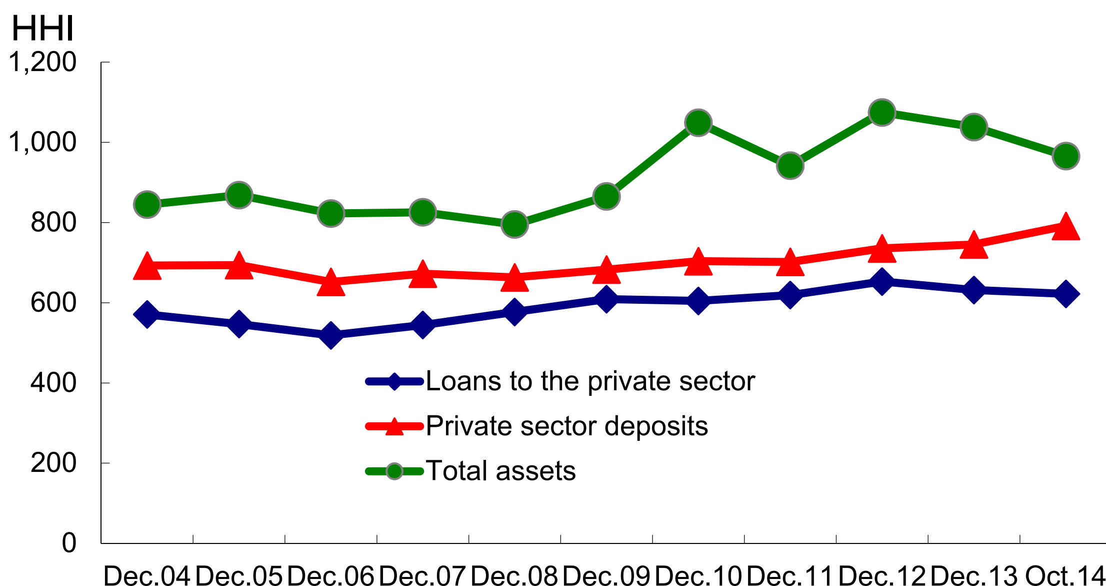
Source: BCRA.

Competition in banking system

As a guide to the intensity of competition in the banking system, a set of measures is generally used to determine market concentration, one of the factors affecting the market's competitiveness. One such measure, the Herfindahl-Hirschman Index (HHI), is a widely used barometer of market concentration. An index value of about 1000/1500 indicates that there is essentially no concentration in the banking system; a value of between 1000/1500 and 2000/2500 could be seen as indicating moderate concentration; and a value above that level would suggest high concentration.

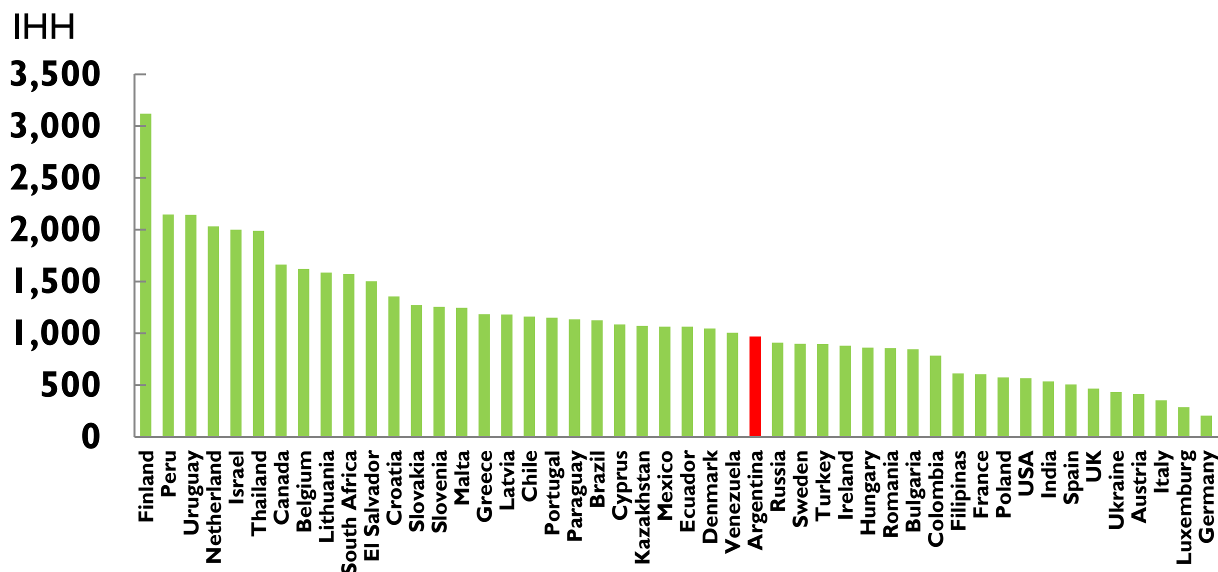
At the end of 2004, the HHI stood at 570 for private sector loans, 690 for private sector deposits and 845 for banking assets. Such values show low concentration levels and suggest a positive framework competition in the domestic market is considerable (Graph 7). These index values have increased marginally over the past 10 years, to 620 for private sector loans, 790 for private sector deposits and 970 for banking assets. This reflects in large part the mergers of some medium-sized private sector banks. A comparison of the local HHI index values with those of foreign banking markets suggests that the concentration of Argentina's banking system is moderate (Graph 7).

Concentration in lending to the private sector as measured by the Herfindahl-Hirschman Index (HHI) Graph 7



Source: BCRA

Cross-country comparison in private sector assets as measured by the Herfindahl- Hirschman Index (HHI) Graph 8



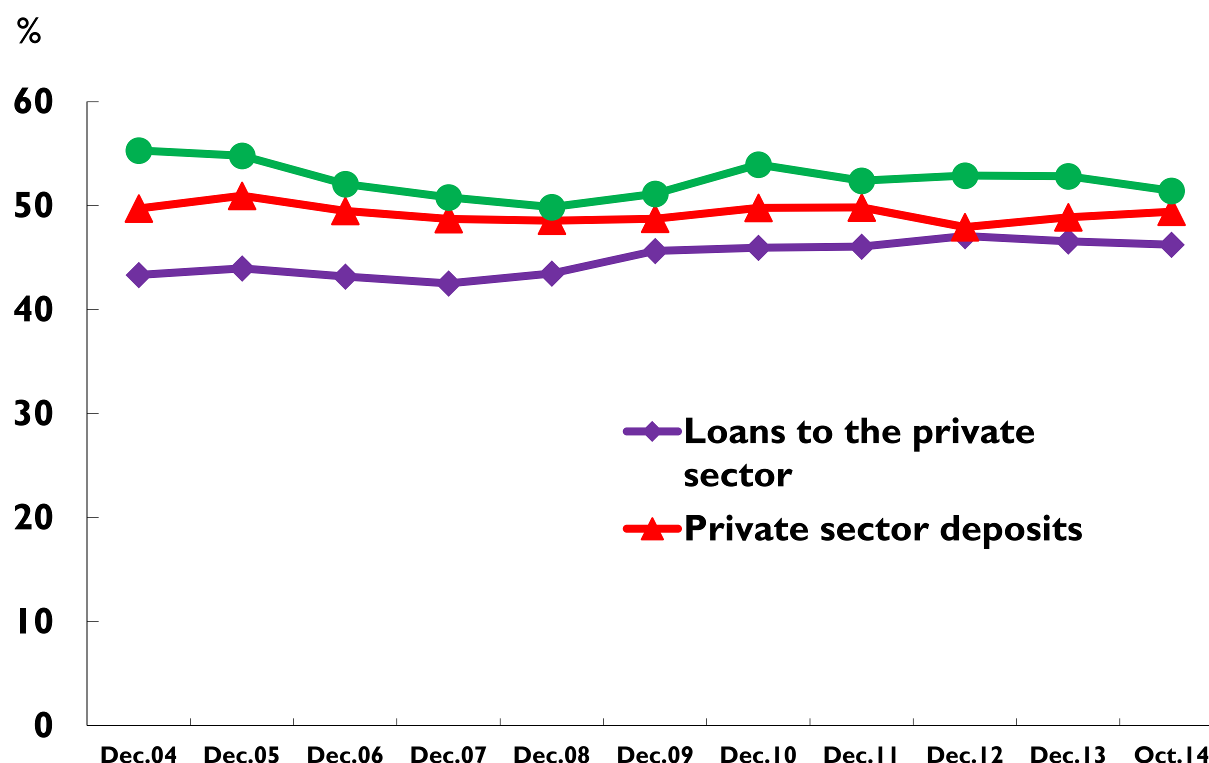
Note: data to 2009, except for Kazakhstan, Romania, Russia, South Africa, Thailand and Ukraine, which are to 2011; Croatia, Lithuania and Turkey to 2010; India to 2008; Brazil, Chile, Colombia, Ecuador, El Salvador, Mexico, Paraguay, Peru, Uruguay and Venezuela to 2014; Argentina to October 2014.

Source: ECB, "EU Banking Structures"; central banks; financial sector supervisors; BCRA.

Another concentration indicator commonly used is the share of the total market accounted for by the five largest banks (Graph 9). This indicator shows no significant change in the last few years.

Market share of lending by the five largest entities

Graph 9



Source: BCRA.

Public sector banks

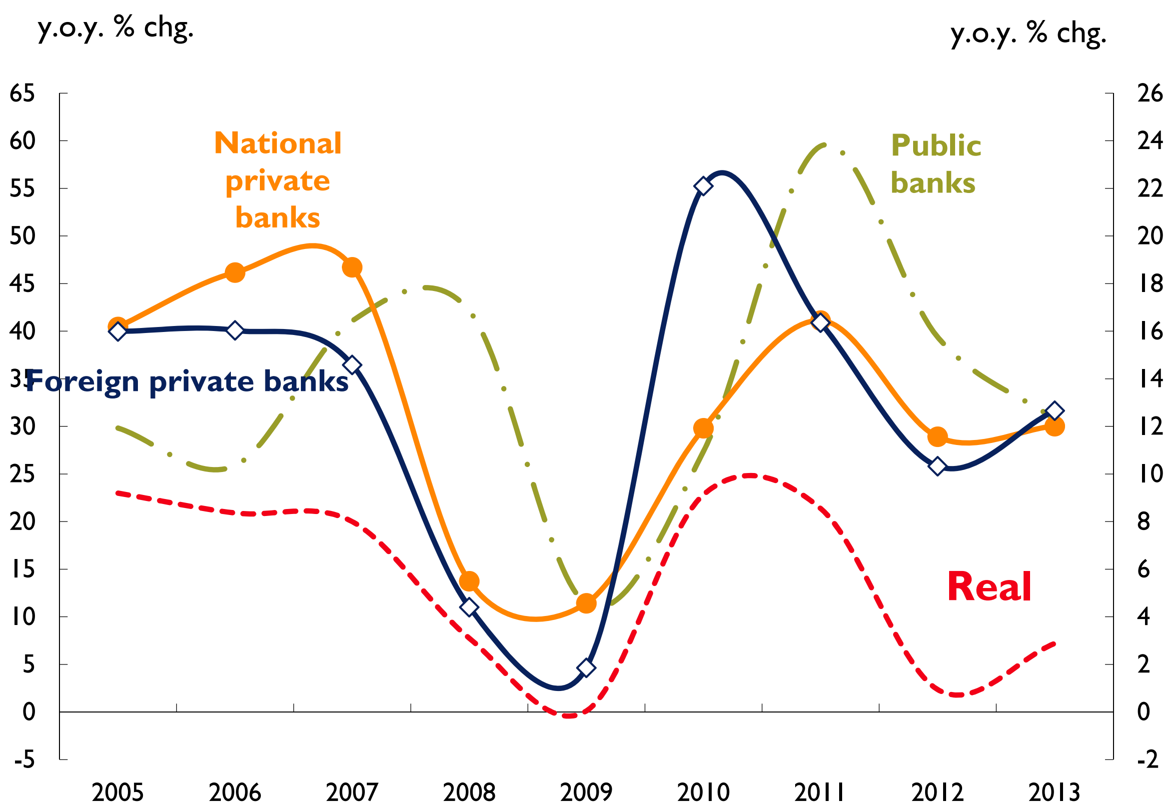
The role of public sector banks is to channel credit to households in favourable financial conditions and badly covered by private banks and, more importantly, to finance investment and productive activities. One of their most important activities is to finance small-and medium-sized enterprises (SME) across the country's different jurisdictions, especially in localities without a well developed private sector financial infrastructure. Public sector banks generally account for a relatively greater share of loans in the longer-maturity segment of the banking market.

Moreover, it should be noted that in Argentina public sector banks have supported the expansion of credit during periods of economic slowdown, showing a relatively less procyclical evolution compared with private sector banks (both locally and foreign-owned, Graph 9). This was particularly evident during the 2008–09 global financial crisis, when public sector banks partially compensated for the procyclical behaviour of private sector entities.

No significant changes were seen in the post-crisis business models of international banks in the domestic market. Deposits continued to be the primary source of funds and to be channelled mainly to the private sector. It should be noted that foreign private sector banks exhibited procyclical behaviour during periods of stress, with credit slowing sharply during the peak of the crisis, and recovering strongly afterwards (Graph 10).

Credit to the private sector

Year-on-year percent change by group of banks | Graph 10



Sources: BCRA; INDEC.

Measures adopted by the BCRA to promote productive credit

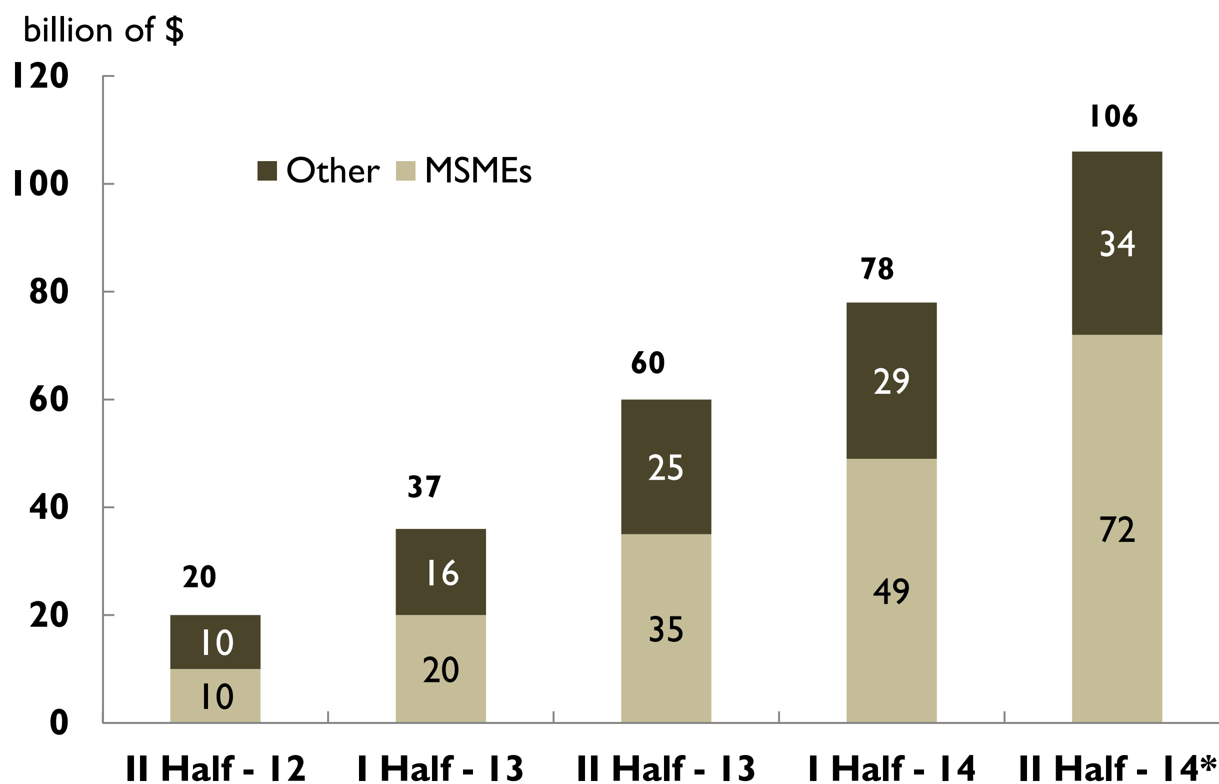
In addition to the active role played by public sector banks, the BCRA has taken several measures in the last years to promote productive investment, paying particular attention to micro, small- and medium-sized enterprises (MSMEs), and to the country's various regions. Moreover, in 2014 regulatory changes were adopted to expand credit at favourable conditions to underprivileged families. Such initiatives should contribute to increase the share of credit relative to GDP and to expand credit

for the financing of productive activities in total lending to the private sector. Some of the measures that could affect the way the monetary policy transmission channels operate are listed below:

- *Bicentennial productive financing programme:* since 2010, the BCRA has made funds available to financial institutions through overdrafts for a maximum term of five years. Banks must provide guarantees through national public bonds or other public sector assets that cover at least 125% of the overdrafts received. Financial institutions may offer domestic currency loans to finance investment projects in the productive sector with an average term of up to two and a half years, and with a maximum total financial cost set by the BCRA at the time of each auction.
- *Credit line for productive investment (LCIP):* the facility was established in July 2012 to finance the productive sector, with a special focus on MSMEs. Five six-monthly stages have taken place up to 2014 (Graph 11). At each stage, the main financial entities must allocate 5–5.5% of their private sector peso deposits (at a certain date) to the financing of investment projects. Financing is granted usually at a fixed rate of interest for a relatively long term (minimum of three years). Within certain limits, the LCIP allows, among other purposes, for working capital to be extended to MSMEs and for mortgage loans to be extended to families.
- *Cash reserve requirements:* the BCRA's charter allows the central bank to influence the allocation of credit through differentiated reserve requirements. Within this framework, the reserve requirement policy includes incentives for lending entities to grant loans to MSMEs. Since December 2012, a reduction in the minimum cash requirement based on the share of lending to MSMEs in the total of peso loans to the private sector has been implemented (with rates ranging from 0.25% to 3% of total deposits). In addition, there has been a reduction of the Minimum Cash Reserve Requirement (MCRR) in pesos, for an amount equivalent to 16% of financing granted from 1 January 2014 to MSMEs and for more than five years under the LCIP.
- *Reference interest rate regime for loans to families:* in June 2014, regulatory changes were adopted to extend credit on more favourable conditions to families. First, a reference interest rate regime was set for loans to families (basically personal and hypothecated loans) to limit the cost of credit to low-income segments of the population. Additionally, financial institutions were required to ask for prior authorisation to implement increases in fees on financial products and services deemed essential. In addition, in order to avoid distortions, financial institutions were asked to report the total financing cost of a loan at an annual nominal rate of interest instead of at an annual effective rate.
- *"AHORA 12" and "Pro.Cre.Auto":* the government launched both programmes in 2014. The first one was implemented in September to promote the credit card purchases of goods and services with 12 payments that are interest-free. In this respect, 16% of the financing granted through this programme may be applied by financial institutions to reduce their MCRRs. This financing may also be applied to fulfil the fifth stage of the "credit line for productive investment". The second programme seeks to promote the sale of cars that are domestically manufactured through loans granted by Banco de la Nación Argentina.

Credit lines for productive investment – cumulative totals

Credit approved basis | Graph 11



*Estimated credit approved during the second half of 2014.

Recent regulatory changes that could affect the transmission mechanism

The change in the structure of the domestic financial system that followed the collapse of the Convertibility Plan had implications for the usual transmission mechanisms of monetary policy, and, consequently, for the policies that were subsequently implemented. Although private sector financing has been growing during the last few years, the supply of funds through the banking system remains low in comparison with regional and international standards. As mentioned above, in 2014 the ratio of private sector loans to GDP stood at around 13% and had yet to recover to the levels reached before the abandonment of the Convertibility Plan. The low ratio of credit to GDP suggests that the credit channel remains somewhat weak in Argentina.

For that reason, regulations implemented over the last few years have aimed at reinforcing capital and liquidity requirements, and at increasing provisions, are expected to have a minimal impact on the bank lending channel. As discussed earlier, the banking system basically intermediates domestic deposits and credits, and there are no highly leveraged domestic investment banks.

Some macroprudential tools, such as limits on foreign currency lending and on financial institutions' positions with the public sector, might affect the transmission mechanism of monetary policy. Considering the limits on foreign currency lending, the regulatory approach has been to constrain the capacity of banks to grant loans in foreign currency: only firms with revenues that are denominated in foreign currency (or denominated in local currency but closely linked to the evolution of the exchange rate), such as those that export their production or substitute imports, can obtain financing in foreign currency. This regulation aims at preventing the credit risk associated with borrowers that have cash flows in domestic currency but debts in foreign currency (ie hidden currency mismatches).

Another regulation that could have an impact on the transmission mechanism is the unremunerated reserve requirement for short-term capital inflows. The specific objective of this instrument is to reduce procyclicality by discouraging short-term capital flows, mitigating the risks resulting from short-term capital flow reversals and reducing financial asset price inflation pressure. This instrument, introduced in 2005 (Decree 616/2005 of the national government), consists of a non-interest bearing reserve requirement (a mandatory deposit) of 30% on capital inflows (loans and portfolio investments) for a year. Moreover, a minimum holding period of one year was established for capital inflows. Foreign direct investment, purchases of debt equity instruments in primary public offerings and foreign-trade financing, among others, are excluded from this measure.

Macroprudential policy

The recent changes in macroprudential policies are not expected to affect the monetary policy transmission mechanism.

Argentina has implemented a range of macroprudential tools to achieve financial stability. Such instruments include, among others, taxes or regulations on short-term capital flows, loan-to-value ratios (LTV), other credit limits, such as debt-to-income ratios (DTI), reserve requirements (minimum capital, cash and liquidity requirements) and measures to address currency mismatches. In the same vein, an administrated floating exchange rate regime, which went hand in hand with the build-up of international reserves, has been used to prevent excessive exchange rate volatility. Other instruments are being evaluated, such as through-the-cycle capital buffers and forward-looking provisioning rules.

These measures – some now incorporated into Basel III and others still being discussed within various regulatory and supervisory forums under FSB guidance – were developed and implemented in some jurisdictions, including in Argentina, well before the global financial crisis as a complement to the Basel II framework (which was more focused on the microprudential aspect of financial regulation).

Argentina is committed to completing the adoption of the new elements of Basel III. In particular, the BCRA plans to introduce a liquidity coverage ratio (LCR), following the internationally adopted standards as of 2015 for the relevant banks. The implementation of this macroprudential tool is not expected to have any effect on monetary policy transmission, as the portfolios of local banks are already highly liquid. However, it will have a positive effect on liquidity risk management.

In line with international commitments, the BCRA has already published its identification methodology for domestic systemically important banks (D-SIBs). The technical analysis for the calibration of the higher capital requirements for D-SIBs is in its final stage and the macroprudential tool is expected to be completely implemented in 2015.

In 2014, the solvency indicators for the financial system remained at a high level. This resulted from book profits and, to a lesser extent, from new capital contributions. While a capital conservation buffer is already in place, total leverage is currently substantially below the regulatory limit. Thus, the domestic financial system is operating with considerable excess regulatory capital overall, with current common equity exceeding the minimum requirements established by the Basel III framework (which will be implemented in full as from 2019). Therefore, the introduction of higher capital requirement for D-SIBs is not expected to have a significant impact on the financial system.

Final considerations

In an environment of liberalised and integrated financial markets, capital inflows and outflows are having greater effects on EMEs than in the past. In addition, the structure of financial markets is changing in term of players and types of fund allocated. An increasing number of documents and studies analyse the effects of those changes, particularly regarding financial stability in the economies involved and the required policy prescriptions.[3] Relatively large flows to EMEs with small- or medium-sized domestic financial markets may lead to a number of potential problems for economic policy management. As Andrew Haldane mentioned there is a Big Fish Small Pond problem where: "the big fish are the large capital-exporting advanced countries and the Small Pond the relatively modest financial markets of capital-importing emerging countries".[4] The enormous amounts of capital that are being allocated in international markets exceed the capacity of many EME capital markets and some commodity markets to absorb it, triggering side effects including changes in the usual monetary transmission channels.

In this respect, it is important to note that within a scenario of larger gross capital flows, portfolio investment is growing in relation to foreign direct investment, and that the first type of financing is intrinsically more volatile than the second. In addition, as mentioned in the IMF's Global Financial Stability Report of April 2014: "herding among funds is on the rise", which is contrary to what was argued by authors such as Calvo and Mendoza.[5] In this reshaping of the global financial architecture, it will be crucial to consider the role played by the so-called global funds and the effects that their behaviour might have on domestic financial systems of EMEs.

[3] IMF, *Global Financial Stability Report*, April 2014.

[4] A Haldane, "The big fish small pond problem", speech at the Institute for New Economic Thinking Annual Conference, Bretton Woods, New Hampshire, 9 April 2012; A Haldane, "The age of asset management?", speech at the London Business School, 4 April 2014.

[5] G Calvo and E Mendoza, "Rational contagion and the globalization of securities markets", *Journal of International Economics*, vol 51, no 1, pp 79–113, June 2000.