Monetary Policy Report

January 2017

BANCO CENTRAL
DE LA REPÚBLICA ARGENTINA

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Preface

As established in its Charter, the goal of the Central Bank of Argentina "is to promote monetary and financial stability, employment, and economic development with social equity, to the extent of its powers and within the framework of the policies implemented by the National Government".

Without prejudice to the use of other, more specific instruments for complying with the rest of its mandates —such as financial regulation and oversight, exchange market regulation, and innovation in savings, credit, and means of payment instruments—, the main contribution that the monetary policy may offer to fulfill the monetary authority's mandates is to focus on price stability.

When inflation is low and stable, financial entities are able to better estimate their risks, which ensures higher financial stability. Moreover, higher predictability allows producers and employers to create, endeavor, produce and hire, which fosters investment and employment. Lastly, low income families may preserve the value of their income and savings, which enables economic development with social equity.

The contribution of low and stable inflation to these objectives is never as evident as when it does not exist: the flight from local currency may disrupt the financial system and lead to a crisis, the destruction of the price system hinders productivity and genuine job creation, the inflation tax hits the most vulnerable families and brings about redistribution of wealth that favor the most affluent segments of society. Low and stable inflation, on the other hand, prevents all of these problems.

In line with this vision, the BCRA has formally adopted an Inflation Targeting Regime, effective as from January 2017. As part of this new regime, the BCRA now releases its quarterly Monetary Policy Report. The report's main objectives are to communicate to the society the BCRA's perspective of the recent inflationary dynamic and its projection of price evolution, as well as to explain in a transparent manner its monetary policy decisions.

Autonomous City of Buenos Aires, January 18th, 2017.

Contents

1. Monetary Policy: Assessment and Outlook

The Central Bank of Argentina (BCRA) launched in September 2016 its Inflation Targeting Regime. The targets are of 12 percent to 17 percent for 2017, 8 percent to 12 percent for 2018, and 5 percent from 2019 on. This regime means that the Central Bank will use all available monetary policy instruments to achieve its goals.

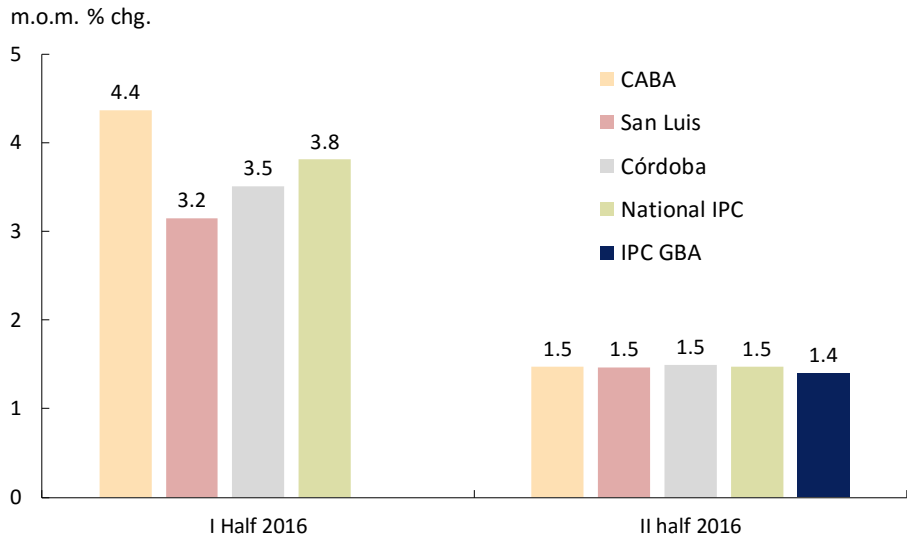
Inflation in the second half of 2016 was significantly lower than that in the first. Inflation measured by the Greater Buenos Aires Consumer Price Index (IPC GBA) prepared by the National Institute of Statistics and Census (INDEC), was of 1.4 percent monthly average, 2.2 percentage points below than that of May-June. As this index is available only since April, in order to compare the aforementioned semesters, we use the Consumer Price Indices of the City of Buenos Aires, Córdoba, and San Luis, as well as the weighted National IPC, which is a combination of the three. National cumulative inflation fell from 25.1 percent in the first half of 2016 to 9.2 percent in the second.

This evolution is consistent with the inflationary dynamic intended by the monetary authority, aimed at containing the inflationary impact of the reconfiguration of relative prices and leading to a sustained disinflationary process.

Economic activity fell at a lower rate in the third quarter relative to the second. The Leading Activity Index (ILA) prepared by this institution suggests that the economy may have started to move out of recession in the fourth quarter. For this year, the BCRA expects a recovery of the GDP, boosted by a growth in exports, greater private and public investment, and an improvement in households' real income. This view is consistent with analysts' forecasts: according to the Market Expectations Survey (REM), the economy is expected to grow 3 percent in 2017. In the medium term, analysts keep a favorable expectation for the economy, projecting an expansion of more than 3 percent for 2018-2019. This growth does not imply challenges in terms of inflationary pressures, given the slack in installed capacity and the policies aimed at encouraging productivity and investment.

In this context, the BCRA has maintained an anti-inflationary policy bias since December 2015, implemented through a positive interest rate in real terms: the BCRA sets its monetary policy rate (the one for the 35-day LEBAC in 2016 and the median of the repo corridor starting in 2017) so that it is above the expected inflation´s trend for the relevant period, discounting temporary disturbances. This policy was reflected into a reference rate of 26.75 percent in the fourth quarter and was gradually reduced to 24.75 percent, in line with the reduction in expected inflation.

Figure 1 | Average monthly inflation by semester in 2016



Source: Statistical offices of San Luis, Córdoba, City of Buenos Aires and INDEC

The BCRA will keep this anti-inflationary policy bias in order to reach its inflation target of 5 percent yearly in 2019.

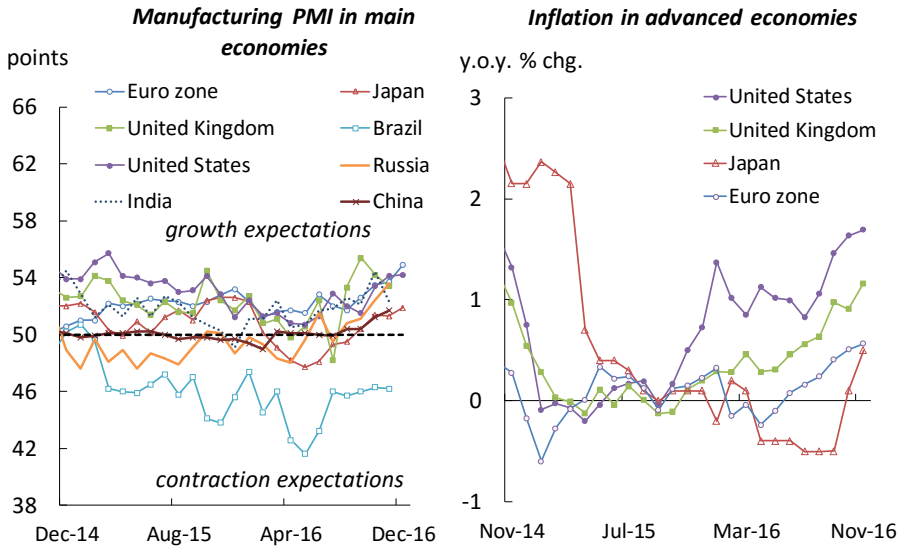
2. International Context

The most relevant news in Argentina's external context during the fourth quarter of 2016 were the promising signs seen in advanced economies in terms of economic activity and the increase in global uncertainty following the US presidential elections. At the local level, the preliminary results of the Tax Amnesty Regime were presented. It is still too early to assess the impact eventual changes in the international context may have on our country's economy, particularly as regards the US, given that the elected president is yet to take office. The external sector of the Argentine economy continued to react to the changes in the macroeconomic configuration since end-2015. Special mention should be made of the effective performance of the floating exchange rate regime, acting as a buffer of the external shock associated to the multilateral appreciation of the US dollar. Regarding the cost of external financing, the country has room to continue benefiting from the extraordinarily low international interest rates as it moves forward in its macroeconomic reform. The Tax Amnesty Regime enables the incorporation of a significant flow of resources into the local financial market.

2.1 Emerging rebound in global economic activity against a context of greater uncertainty

In end-2016, there were some promising developments in global economic performance. Leading indicators of the manufacturing activity in major economies suggest a more optimistic scenario, in terms of growth, than that of the last IPOM. On the other hand, the recent increase of the international oil price helps bringing inflation rates closer to the targets set by the monetary authorities of advanced economies, expanding the future monetary policy headroom(see Figure 2.1).

Figure 2.1 | Manufactured Purchasing Managers Index in main economies



*Purchasing Managers' Index (PMI)
Source: Datastream

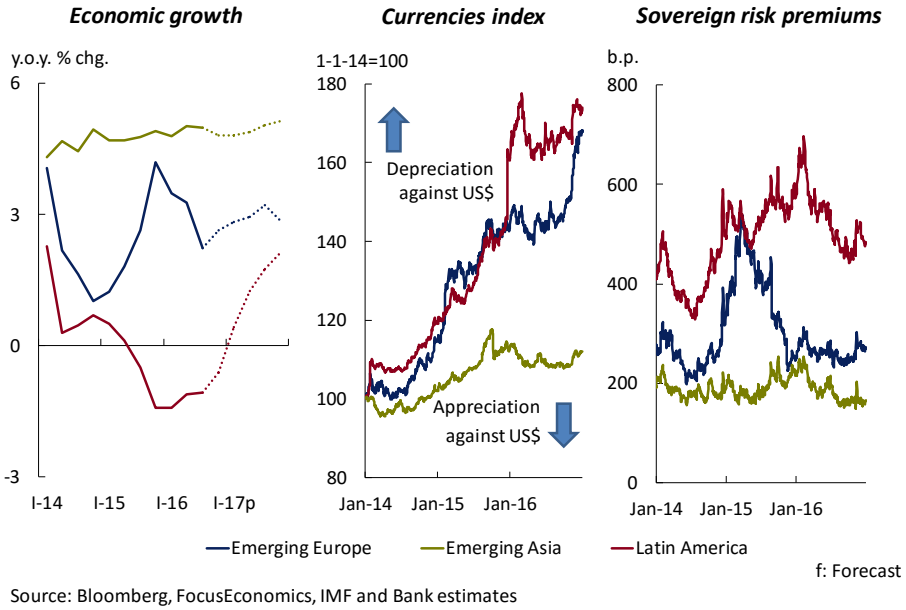
Growth in the US economy was greater than expected in the third quarter of 2016 (3.5 percent yearly), with improvements in consumption, investment and exports, while the labor market continued to strengthen. After the US presidential elections, international analysts forecast a more expansionary fiscal policy, aimed at providing a greater boost to economic activity, as well as more risks to the global economy in terms of the implementation of more protectionist trade policies.

In Europe, limited progress in the implementation of the United Kingdom's decision to leave the European Union (Brexit), doubts about its financial system solvency, and the possibility of the setting up of more protectionist governments in some countries in 2017 (particularly in France and Germany) generate a more uncertain scenario[1].

This uncertainty context also refers to China's macroeconomic and financial performance, which continued to gradually slow and rebalance towards greater share of consumption in GDP, in a context of high indebtedness levels and high real estate prices. The latter led the authorities to take measures to prevent a potential bubble in that market, which in turn could affect the country's financial stability. Some tensions related to this process became visible due to capital outflows[2].

Beyond certain idiosyncratic factors, Latin America continued adjusting the fiscal and external imbalances heightened in the last years due to lower international prices of commodities. With a high dependence on external savings, the region continued showing low relative economic dynamics, with higher costs to access external financing relative to other emerging economies, and significant depreciation of currencies relative to the US dollar (see Figure 2.2).

Figure 2.2 | Economic indicators. Emerging economies



Source: Bloomberg, FocusEconomics, IMF and Bank estimates

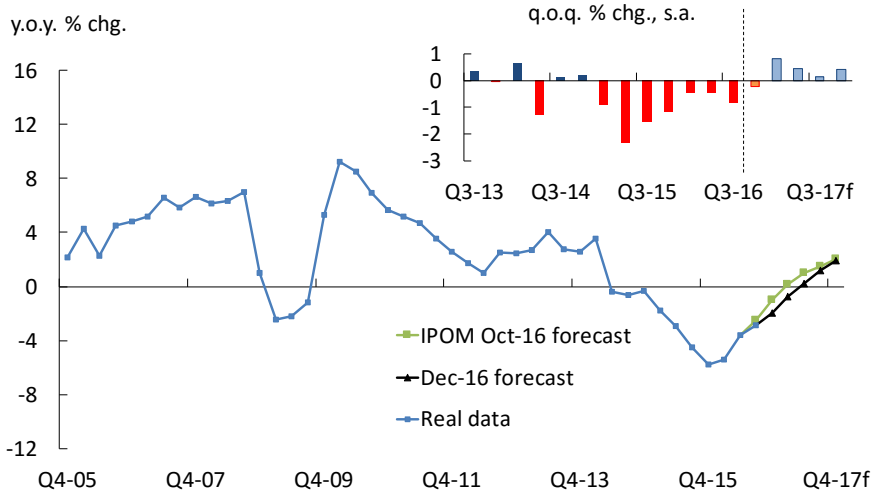
Within Latin America, the outlook for Brazil is one of the most fragile, and with major spillover effect on the Argentine economy. Different estimations perceive that, for each percentage point in growth in Brazil, the economic activity in Argentina varies between 0.2 and 0.7 percentage points in the medium term (see Exhibit 4 / On exports to Brazil and their effect in Argentina). Recession in Brazil expanded, and it is likely

[1] With stable growth outlooks, and after the recent rebound in inflation, the likelihood of the implementation of a more expansionary monetary policy decreased: the European Central Bank (ECB) extended its quantitative easing to end-2017 and scaled down the relevant monthly purchases.

[2] In the end of December, more strict conditions were implemented in China as to individual access to the exchange market.

that economic activity contracted further in the last quarter of 2016. An expansion in the first quarter of 2017 is currently expected, but leading indicators are not conclusive (see Figure 2.3). The implementation of a less restrictive monetary policy, jointly with the evolution of the disinflation process and reduction of fiscal imbalances, would create a scenario more conducive to a recovery of the economic growth. Relative to the last IPOM, expectations of growth in Brazil fell from 1.3 percent to 0.5 percent, as the recovery process appears to be more slow and gradual than that forecasted a quarter ago. Thus, after a contraction of 3.8 percent in 2016, Brazilian GDP could grow 0.5 percent in 2017. The Argentine economy, thus, would go from experiencing a negative effect of 0.34 percentage points on its economic growth during the last year, to receiving a slightly positive contribution this year.

Figure 2.3 | Brazil. Economic growth



f: Forecast
Source: LCA and Focus Survey of the Central Bank of Brazil

Estimations for 2017 regarding the growth of Argentina's main trading partners as a whole remained relatively stable compared to a quarter ago, with a slight downward bias (see Table 2.1).

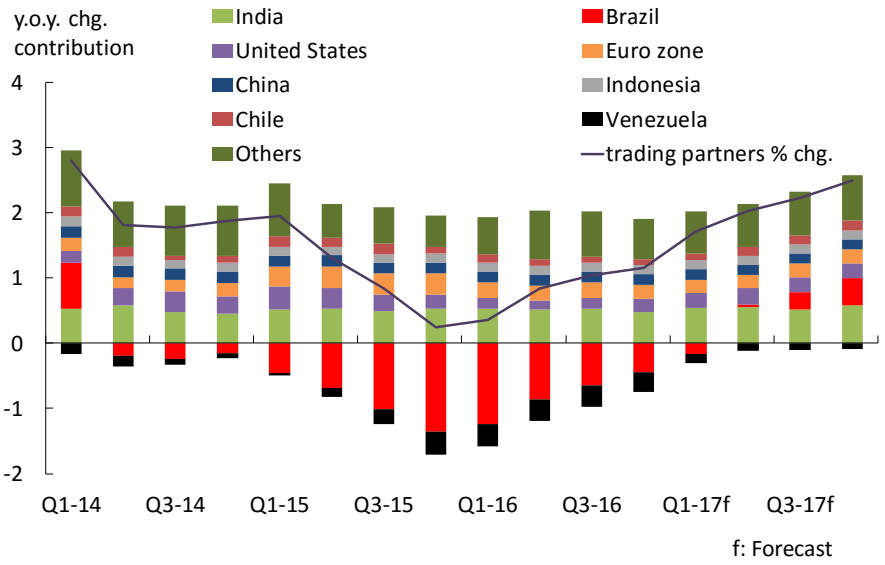
Table 2.1 | GDP growth forecasts 2017

	Estimation oct-16	Current estimation
Emerging economies growth	5.1	5.0
Advanced economies growth	1.7	1.8
Latin America growth	1.5	1.3
Global growth	**2.9**	**2.9**
Trade partners growth*	**2.3**	**2.2**

* Weighted by the main 22 Argentina´s trading partners, which in total represent 75% of the manufactured exports.
Source: IMF, CEPAL, INDEC, FocusEconomics, Focus Survey of the Central Bank of Brazil and Bank estimates

In 2017, the group of trading partners is expected to recover the dynamism seen before 2015, as growth returns to Brazil, and Venezuela reduces its economic contraction (see Figure 2.4).

Figure 2.4 | Growth of the main trading partners



f: Forecast

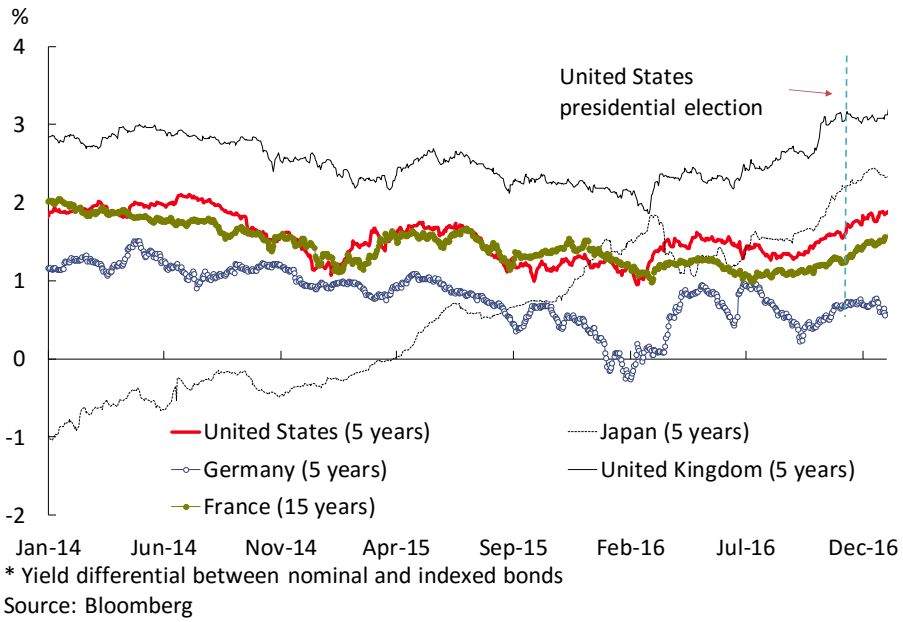
Source: IMF, FocusEconomics, Focus Survey of the Central Bank of Brazil and INDEC

2.2 International financial markets reflected the increase in uncertainty

2.2.1 The dollar appreciated and the valuations of various financial assets were corrected

The risks considered in the last IPOM were coupled by a new source of uncertainty, triggering a series of corrections in the valuation of various assets against the background of changing expectations regarding economic policies to be applied in major economies.

Figure 2.5 | Implicit inflation in 5 year bonds in advanced economies*



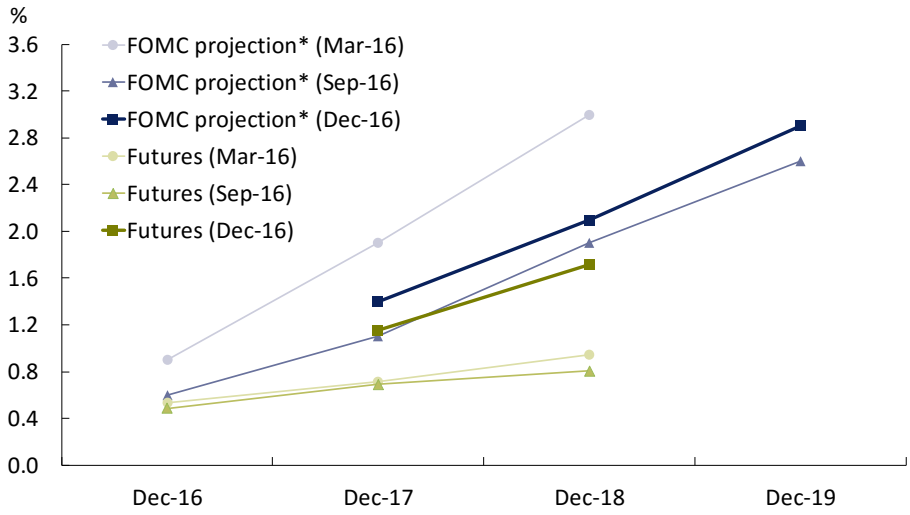
* Yield differential between nominal and indexed bonds

Source: Bloomberg

Following the US presidential elections criticism of globalization increased, especially regarding trade flows, decisions on real investment flows, and immigration. Forecasts about a more expansionary fiscal policy in the US and greater trade protectionism boosted inflation expectations in some advanced economies (see Figure 2.5).

Against this context, the US Federal Reserve (Fed) seems willing to implement more increases in the reference rate than a quarter ago. Both the projections by the members of the Fed's Federal Open Market Committee (FOMC) and the implicit expectations of interest rate increases in financial instrument traded in the market grew between September and December of the last year (see Figure 2.6).

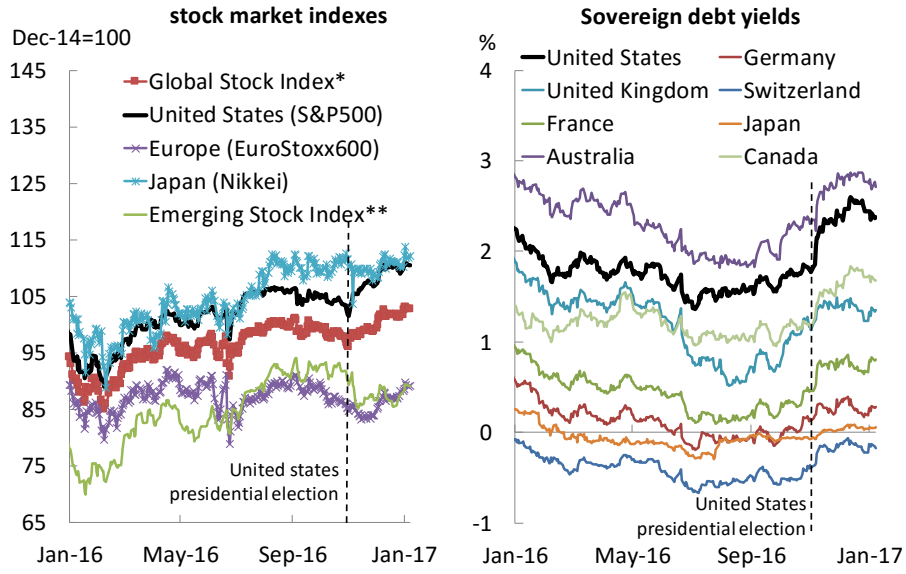
Figure 2.6 | United States. FOMC members interest rate target forecast and futures of the Fed Funds



*Median forecast of the Federal Open Market Committee from the Federal Reserve Board.
Source: Bloomberg

Together with the increase in the expected inflation, there was a jump in the yield of longer-term sovereign bonds —usually seen as risk-free instruments—, setting a challenging scenario for economic policy, given the high levels of public and private indebtedness in the main economies in the world (see Figure 2.7). Against this background, there was a widespread recovery in the prices of assets, reaching record heights in the US, driven by, among other factors, the revaluation of financial corporations, which could benefit from any advance in sectoral deregulation under the new administration.

Figure 2.7 | Stock market indexes and sovereign debt yields

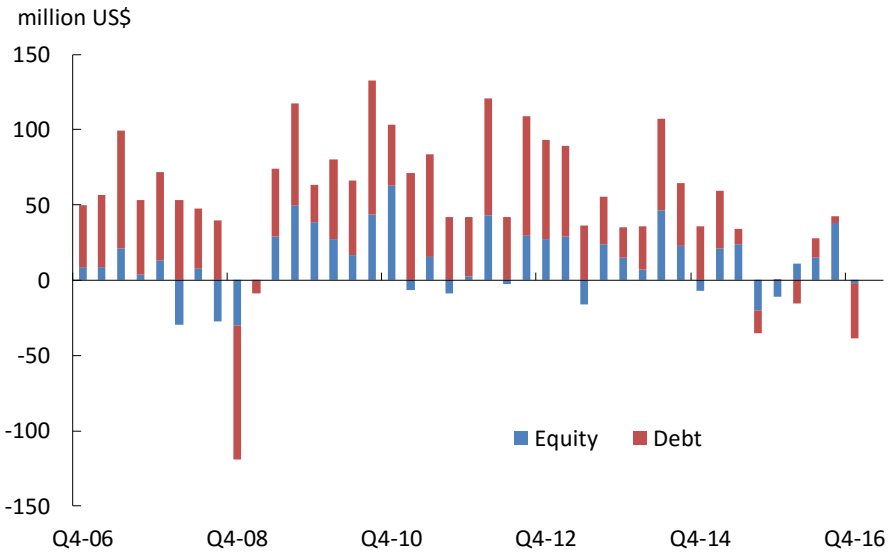


Source: Bloomberg

*MSCI global; **MSCI emerging

These developments triggered a new outflow of short-term capital flows from emerging economies (see Figure 2.8). Stock market indices in these countries showed a correction after the US election, launching a recovery by end-2016.

Figure 2.8 | Short term capital flows to emerging economies

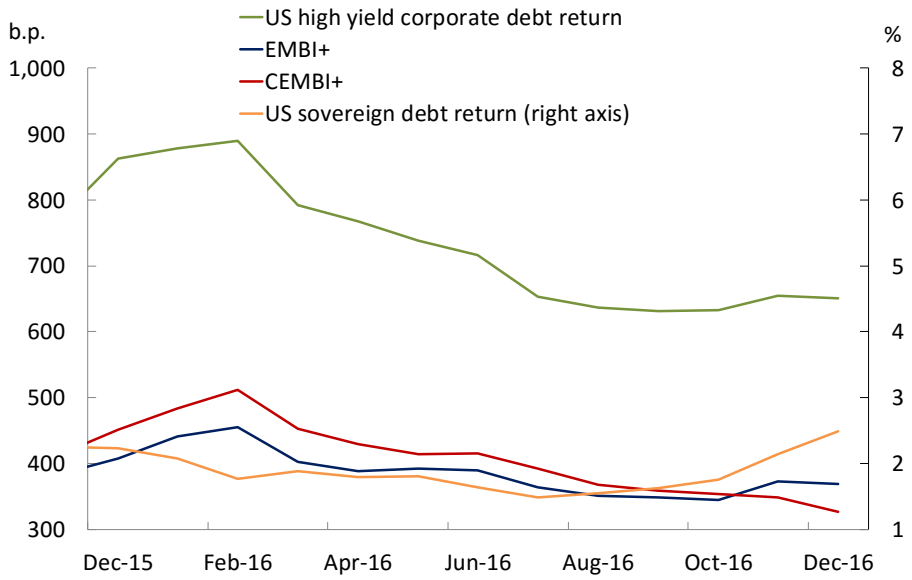


Source: Institute of International Finance

In a framework of increases in the interest rate seen as risk-free —US Treasury bonds—, the risk premium in the sovereign debt of emerging markets (EMBI+) broadened, while the cost overrun of emerging

markets' corporate debt (CEMBI+) continued to decrease, even below that of sovereign debt (see Figure 2.9). Returns on US high-yield corporate debt —an asset used to compare the debt of developing economies— recorded a light increase in the quarter.

Figure 2.9 | US high yield corporate debt return and risk premium of sovereign and corporate emerging debt



Source: Bloomberg

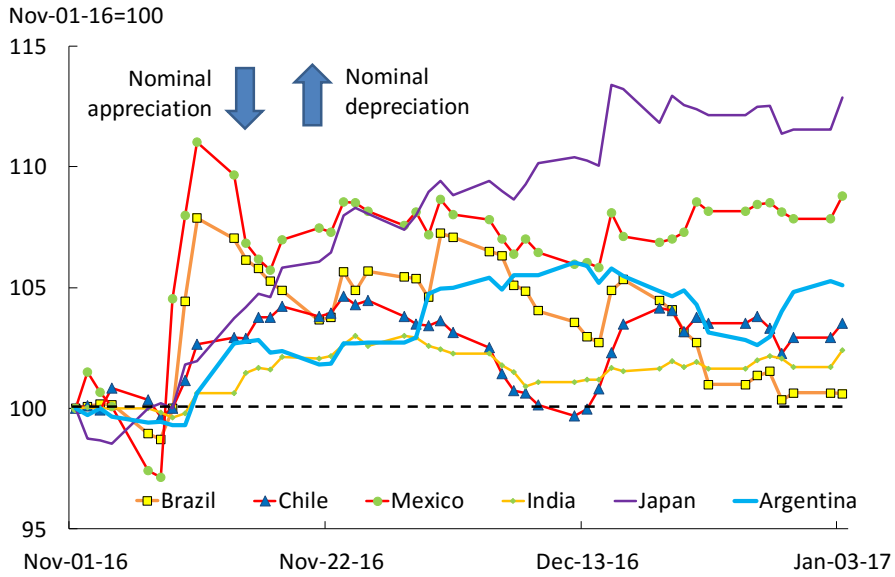
Thus, the risk facing emerging economies in general, and Latin American economies in particular, relates to the possibility of a deeper reversal of capital flows. This risk should be qualified by considering some factors underlying the process, such as the eventual greater growth in the US and the return differential between advanced and emerging economies. Regarding the first factor, higher rates in the US should be a response to higher inflation and growth, though this is a still-unrealized scenario. Should growth in the US accelerate, it would contribute to the global economic activity, and even to capital flows to Latin America, as shown in some evidence[3]. As to the return differential, higher interest rates in the US should be mitigated by the monetary policy of the ECB and the Bank of Japan, which are not expected to change their expansionary bias in the short run. This would contribute to keep the relative yields from emerging countries' assets at attractive levels.

2.2.2 The floating exchange rate regime act as an effective buffer

After the US presidential elections, the dollar appreciated relative to most currencies (see Figure 2.10). The currencies of the countries with the highest trading exposure to the US registered the highest depreciations relative to the US dollar. Both Chile and Mexico currently have free trade bilateral agreements which could be revised, and, thus, are among the most exposed economies. Japan intended to be a party to the Trans-Pacific Partnership (TPP). Moreover, countries that depend more on external saving, such as Brazil and India, were more affected by the increased volatility in international markets.

[3] See Felices, G. and B. Orskaug (2008): "Estimating the determinants of capital flows to emerging market economies: a maximum likelihood disequilibrium approach", Working Paper No. 354, Bank of England, November; Forbes, K and F. Warnock (2011): Capital Flow Waves: Surges, Stops, Flights and Retrenchment, Working Paper 17351, NBER, August; De Vita, G. and K. Kyaw,(2008):"Determinants of capital flows to developing countries: a structural VAR analysis", Journal of Economic Studies, Vol. 35 Iss 4 and Calvo, G., L. Leiderman, and C. Reinhart (1993): "Capital Inflows and Real Exchange Rate Appreciation in Latin America: The Role of External Factors," IMF Staff Papers, Vol. 40, No. 1.

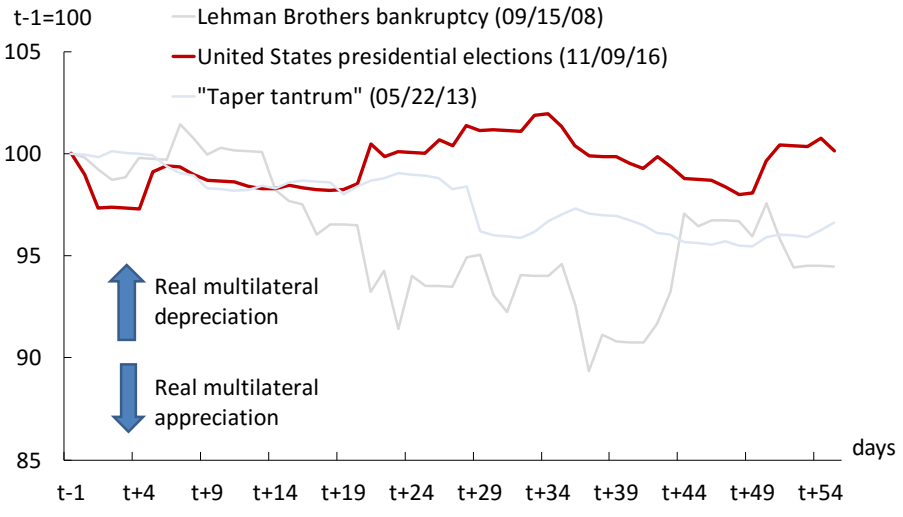
Figure 2.10 | Currencies evolution against the dollar. Selected Argentina´s trading partners



Source: Datastream and Bank estimates

In this opportunity, the floating exchange rate regime adopted by Argentina at the end of 2015 acted as an effective buffer for the external shock, allowing the real exchange rate to move independently from the multilateral appreciation of the dollar (see Figure 2.11). This behavior was seen even in the face of the extraordinary surrender of foreign exchange related to the Tax Amnesty Regime, unlike other recent external shocks (see Exhibit 1 / Effects of the Tax Amnesty Regime on the exchange market and "stabilizing speculation"). The bilateral nominal exchange rate relative to the dollar adjusted based on other currencies' movements.

Figure 2.11 | Argentina´s Real Multilateral Exchange Rate evolution against external shocks



Note: "t" = event day

Source: INDEC, Datastream and statistical office of San Luis and Autonomous City of Buenos Aires and Bank estimates

The Multilateral Real Exchange Rate Index (ITCRM) was in early 2017 approximately 10 percent more appreciated than that of the first quarter of 2016, though it should be 19 percent more depreciated than the average level of November 2015, before the exchange rate unification. In terms of bilateral relations, the real exchange rate depreciated about 8 percent relative to Brazil (mainly due to the appreciation of the Brazilian real), while it appreciated between 14 percent and 20 percent relative to the other major trading partners (United States, Euro area and China) compared to the first quarter of 2016.

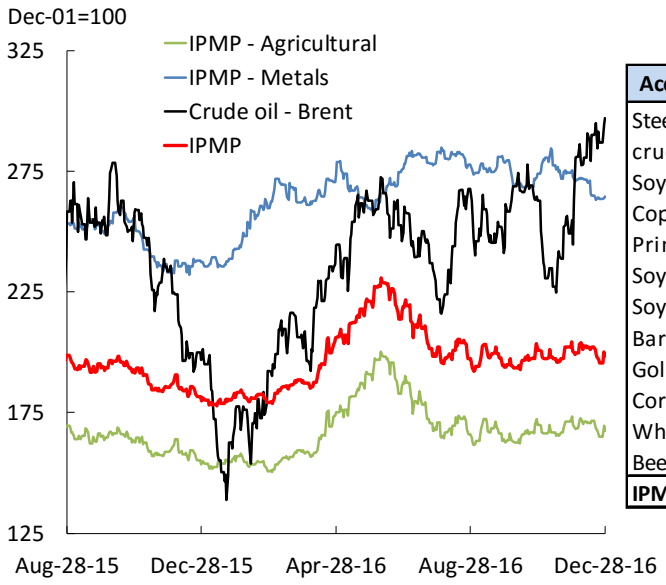
2.3 The external sector continued to adjust after the normalization of end-2015

2.3.1 Terms of trade remained stable

In the last quarter of 2016, there was an increase in the price of oil and metals, with all other prices relatively stable. Given than the share of those primary products in Argentine exports is reduced, there was no significant incidence on the prices of the local export basket.

In line with the projections of the last quarter, in the last quarter of 2016, the international prices of the commodities exported by Argentina remained stable, above the minimum levels seen at the end of 2015 (see Figure 2.12). Regarding the prices of primary commodities imported by Argentina, special mentioned should be made of the increase, of more than 50 percent, in the international price of crude oil (recently affected by the decision of the main oil exporters of cutting production[4]), which has a negative short-term impact in Argentina, as the country is a net energy importer.

Figure 2.12 | Commodity Price Index (IPMP) and main components



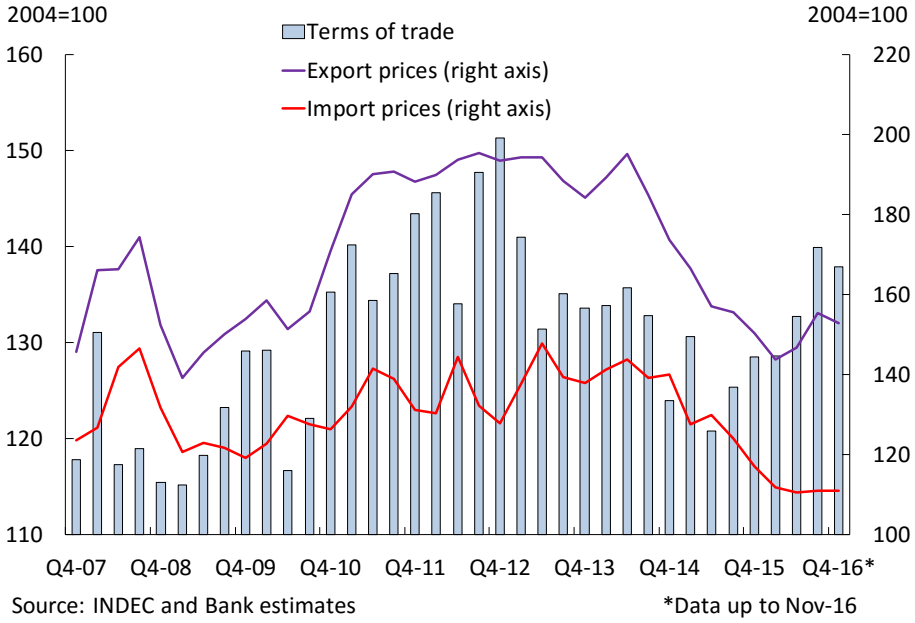
Accumulated % chg. 2016	
Steel	64.8
crude oil	52.1
Soybean oil	10.0
Copper	17.6
Primary aluminum	14.4
Soybean meal	16.8
Soybean	14.3
Barley	10.6
Gold	7.2
Corn	-5.1
Wheat	-7.4
Beef	-16.7
IPMP	10.1

Source: INDEC, Datastream and Bank estimates

In accordance with projections of the last IPOM, with partial fourth quarter data, import prices basically stopped falling in quarter-on-quarter terms and stabilized at levels below those of the last quarter of 2015. As export prices remained at levels similar to those of that period, the terms of trade are above those seen 12 months ago (see Figure 2.13**¡Error! No se encuentra el origen de la referencia.**).

[4] On November, 30th, the Organization of the Petroleum Exporting Countries (OPEC) announced an agreement to reduce their production to 32.5 daily million barrels starting in January, 2017. This was the first cut agreement of crude oil supply applied by the OPEC since 2008.

Figure 2.13 | Terms of trade and export and import prices



Signs of recovery in the price dynamics of advanced economies —and an increase in inflation expectations—, together with higher international oil prices, suggest that import prices in Argentina could resume a rising trend in the short run. This development could lead to a decrease in the current terms of trade, should export prices fail to show a commensurate increase.

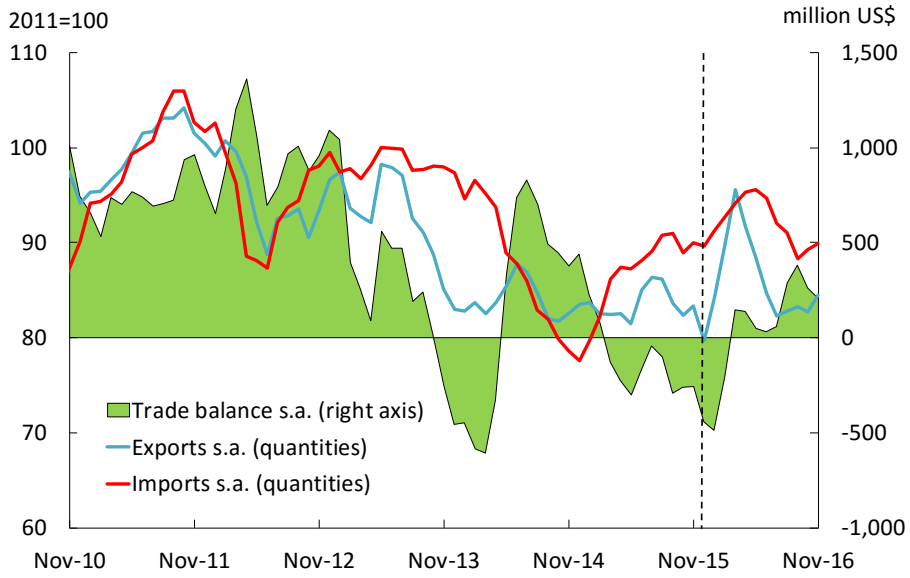
2.3.2 The trade balance was affected by the high terms of trade

Between October and November, 2016, the value of exports grew 1.0% seasonally adjusted[5] (s.a.) relative to the previous quarter, while imports grew 6.8% s.a.. As a result, the trade balance fell relative to the previous quarter (see Figure 2.14). In 2016, there was a trade surplus of about US$2 billion, compared to 2015's deficit of US$2.97 billion.

[5] In the last quarter of the year, the boost in exported volumes came from the increase in external sales of the soy complex—in particular, pellets—, after two consecutive quarters with falls in the sector's exports.

Figure 2.14 | External trade of goods (seasonally adjusted series)

(3-month m.a.)



Source: INDEC and Bank estimates

After the economic policy changes of late 2015, exports had a mixed behavior in 2016: on the one hand, grains and meat, other primary products and agricultural manufactured goods stabilized at high levels around those of 2013. Industrial manufactured goods (excluding land transport material) grew in a sustained fashion and could continue to expand and recover export levels of previous periods (see Table 2.2).

Table 2.2 | External trade of goods (s.a. series)

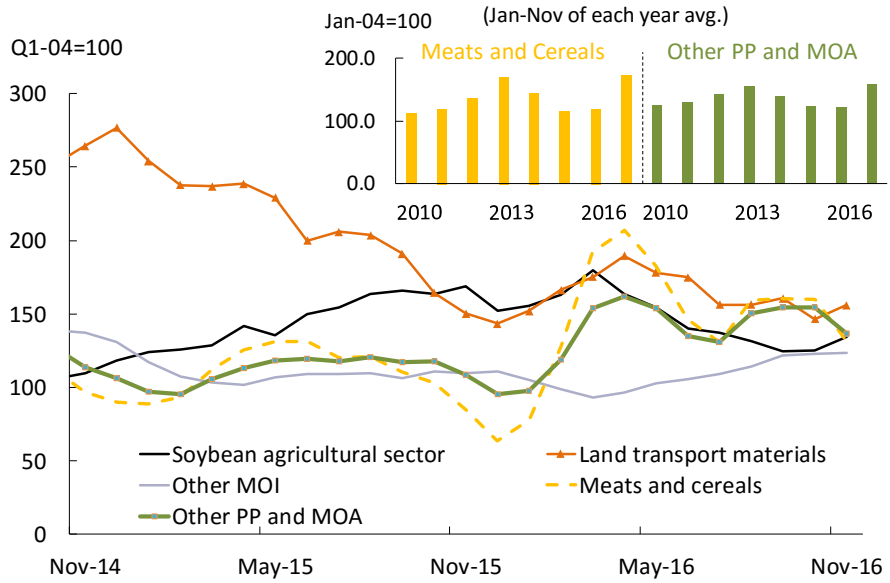
	Category	Share (%)	Q3-16			Q4-16**		
			Total	Prices	Quantities	Total	Prices	Quantities
EXPORTS	Primary products	27	20.5	0	20	16.1	7	9
	MOA	40	-13.4	3	-16	3.2	5	-2
	MOI	30	0.1	-2	2	2.0	-4	7
	MOI (excl. land transport material)	21	11.3	-3	15	3.0	-6	10
	Energy and fuels	3	4.2	-12	19	9.8	2	9
			-0.7	-0.4	-0.4	5.5	1.6	3.9
IMPORTS	Capital goods	21	-0.8	-4	3	5.5	-5	11
	Intermediate goods	29	-18.8	-17	-2	-14.7	-12	-3
	Fuels and lubricants	9	-31.6	-32	0	0.9	-13	15
	Capital goods pieces and accesories	21	-23.4	-1	-23	-4.7	6	-10
	Consumption goods	13	7.1	-6	14	9.0	-4	14
	Passenger automotive vehicles	7	13.8	-3	17	38.1	0	37
			-13.5	-10.5	-3.4	-1.2	-4.4	3.3

*Accum. last 12 months up to Nov-16 **Data up to Nov-16
Source: INDEC

In 2016, the external sales of the automotive industry (land transport material) fell, due to the recession in the Brazilian market, while the exports of the soy complex were not as dynamic as expected, particularly between the second and third quarters of 2016 (see Figure 2.15). However, in the last months of 2016, the improvement of soybean oil relative price provided the mills with the needed boost, and the rebound is expected to continue during the next few months (see Figure 2.16). Thus, during the year, the incentive the agricultural soy complex received through the reduction of 5 percentage points in export duties, the increase in the real exchange rate, and the easing of the deadlines to surrender foreign exchange, led to an increase in the volume of soybean related agricultural exports relative to 2015.

Figure 2.15 | Exports by main components

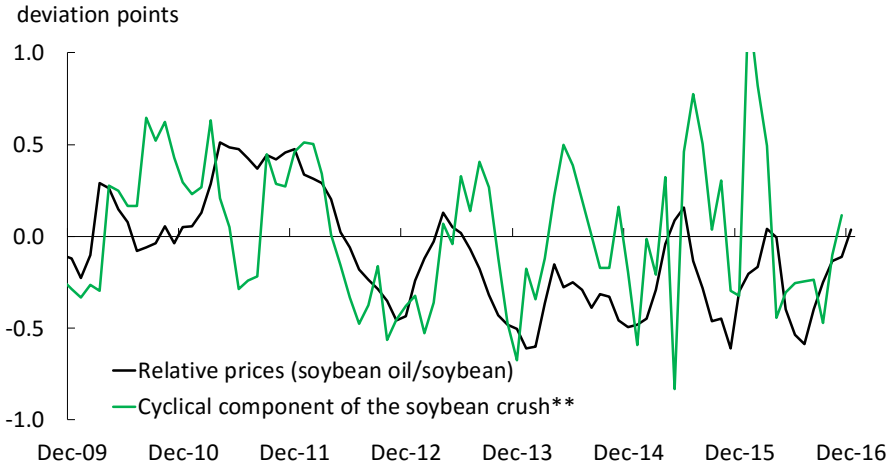
(s.a. volumes; 3-month m.a.)



Source: INDEC and Bank estimates

As to imports, the releasing of the trade restrictions implemented at end-2015 led to an increase in the imported volumes of capital goods, consumer goods and vehicles throughout 2016. By contrast, there was a clear decline in the external purchases of parts and accessories, intermediate goods associated to the promotion regime of the province of Tierra del Fuego.

Figure 2.16 | Local soybean crush and relative prices for the industry



CBOT FOB prices of soybean oil, in pesos, without the export duties effect. Soybean prices availables in the port of Rosario. Deviation against the historical average since 2007. **Deviation against the Hodrick-Prescott trend
Source: Bloomberg, MATBA, Ministry of Agroindustry and Bank estimates

For 2017, an expansion is expected for Argentina's trade flows. Export volumes should be boosted mainly by a larger grain crop and the eventual improvement in vehicle exports to Brazil. In turn, imports should also increase, in line with the recovery in domestic economic activity (see Section 3. Economic Activity).

2.3.3 The balance of payments reflected the new macroeconomic configuration

The aforementioned improvement in the trade balance of goods was partially offset by a decrease in the services balance, particularly in the travel account. Thus, the current account might have accumulated a deficit of about US$14.6 billion during 2016 (around US$2 billion below the previous year's deficit).

In 2015, the external deficit was financed mainly by a reduction of the stock of international reserves, an increase in the BCRA's external liabilities (swap with China), the forced reinvested earnings from foreign direct investment enterprises, and the intracompany indebtedness of multinational enterprises under the framework of the pervasive foreign exchange controls (cepo cambiario).

Following the normalization of the exchange market, the limit on assistance provided by the BCRA to the Treasury and the reinsertion of Argentina in the international financial markets since the regularization of the debt to holdouts, a change in the type of external financing of the economy was observed. The nonfinancial public sector became the main external borrower, considering the strategy of gradually reducing the inherited fiscal deficit. Under a flexible exchange rate regime, such as that adopted by the BCRA to give sustainability to the disinflation process, it is predictable that the private sector should turn into the purchaser of the foreign exchange inflows from the public sector (for both creating external assets and transferring earnings, transactions previously restricted). Meanwhile, within a framework of reconstitution of its external assets, the BCRA increased the stock of international reserves to about US$13 billion throughout 2016, while also increasing its external liabilities much less than the previous year (see Table 2.3).

Table 2.3 | Main components of the international balance of payments

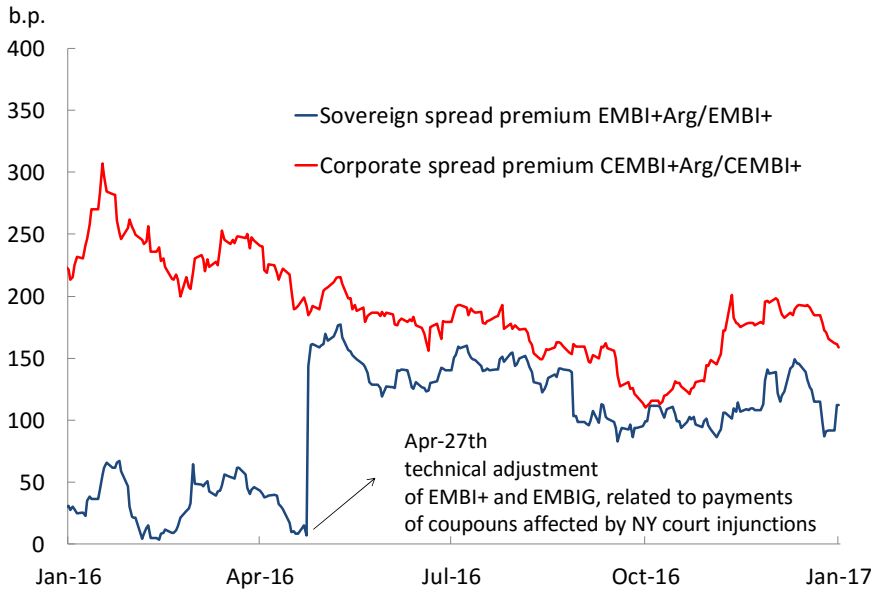
	million US$		
	2015	from Q4-15 to Q3-16	2016
Current account	-16,805	-15,654	
Capital and financial account	13,202	12,017	
Reserves change	**-4,933**	**-3,394**	**13,209***

*Source BCRA. The figure of 2016 does not include adjust by repo rates
Source: INDEC

2.3.4 The macroeconomic reform helped reducing the financing cost

During the fourth quarter of 2016, the external financing cost for Argentina —both corporate and sovereign— rose in comparison to the previous quarter, though it remained below the levels recorded in 2015. As previously stated, this was due to the rise of the international financial cost associated to long-term instruments, considered as risk-free (US Treasury bonds), that affected all emerging countries. Moreover, the surcharge demands for Argentine instruments, compared to those from other emergent countries, increased temporarily throughout the quarter and ended up in levels close to those recorded in the October IPOM (see Figure 2.17).

Figure 2.17 | Argentina's sovereign spread premium relative to other emerging countries



Source: Bloomberg, Reuters and Bank estimates

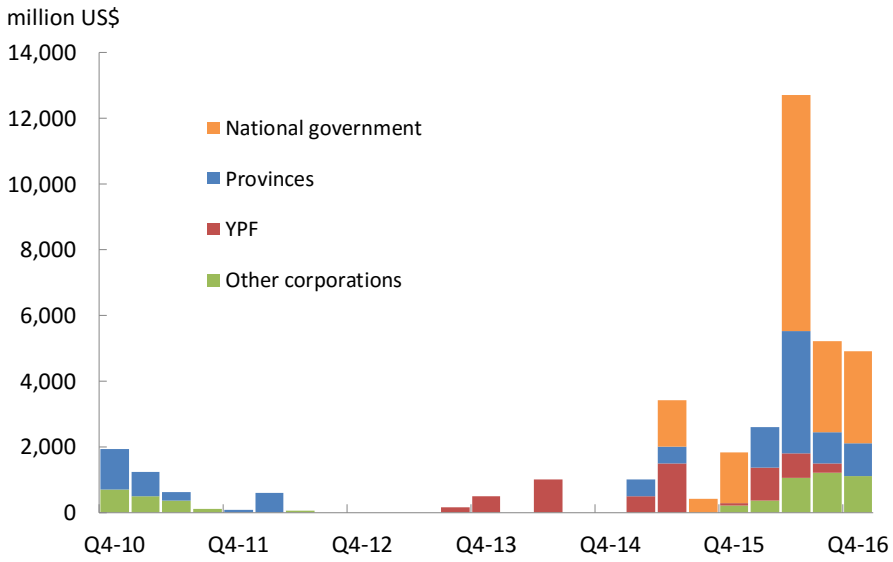
Argentina is still considered able to benefitting from the extraordinarily low international interest rates, as its macroeconomic reform process advances. The Tax Amnesty Regime was a major step forward in the individuals' tax and asset regularization. With only partial results, assets disclosed amounted nearly US$100 billion. Towards the end of 2016, US$13.7 billion corresponded to assets that had already entered the formal network of the local economy, mainly based on deposits in the financial system (about US$7.2 billion). Looking forward, once the situation has been regularized under the tax authority, those who have

disclosed assets held abroad can benefit from incorporating them to the local network, considering a more stable macroeconomic context, a more favorable tax treatment and expected returns difficult to obtain in advanced economies.

An additional normalization factor was the elimination of remaining short-term capital controls, which allowed the incorporation of Argentine bonds at emerging market indices. Due to technical factors, the demand for local fixed-income assets was boosted at an early stage (because of the future weighting increase of certain Argentine instruments in indices such as JP Morgan's GBI-EM, since end of February). During 2017, similar effects could be observed for shares (as long as Argentina is reconsidered as an emerging economy in the MSCI Emerging Markets Index).

The dynamics of the corporate and sovereign debt issuing abroad reflected the temporary change in the conditions of access to external financing. From October to early November of the previous year, such issuances were similar to the amount placed throughout the third quarter (see Figure 2.18[6]). In any case, after a brief interruption between mid-November and December, the pace of external issuances could rebound as of mid-January 2017.

Figure 2.18 | Sovereign and corporate debt issued in international markets



Source: BCBA, CNV, IAMC, MHyFP, Bloomberg and Bank estimates

Since the previous IPOM, among the subnational districts, only the province of Santa Fe placed debt securities in international markets for US$250 million, with an average life of 11 years, at a rate below 7 percent. During 2016, the issuances from provinces amounted nearly US$7 billion. During that period, the Argentine companies placed debt instruments for about US$5.8 billion.

2.4 Outlook

It is still unclear which are the economic and financial impacts caused by eventual changes in the tax and trade policies of the new US administration. The market considers a higher risk from a more aggressive process as regards increasing the monetary policy reference rates determined by the Fed. Moreover, there

[6] Excludes direct swaps and liabilities refinancing operations. Placements of the National Government include bond placements in dollars under the local legislation carried out in the market through a public auction that may be partially made up of local investors.

are doubts about the potential effects from the new political and economic alliances at the international level.

In Europe, the advances in the implementation of the United Kingdom's exit from the European Union will remain relevant. Besides, for the Euro area, doubts persist about the creditworthiness of some European banks. The electoral results in several countries of the region will also have an impact.

The context of low global economic growth, with reduced investment and a limited increase of the productivity, poses a challenging international scenario (see Exhibit 2 / Growth Accounting in the United States). The picture becomes more complex when considering the high levels of public and private indebtedness in advanced economies and in many of the emergent ones (China being the most remarkable) and the challenges associated to the global financial stability.

The direct influence of the new US context over Argentina seems to be limited, since exports to that country represents only nearly 7 percent of the total. Prospects of the local economy will be more influenced by the activity of their main commercial partners, and particularly by the effective recovery of the Brazilian economy. The financial and exchange rate stability in China and the continuity of its gradual convergence process towards more sustainable growth rates will be essential. From a financial perspective, having a reduced external debt and a net creditor financial asset position against the rest of the world, the Argentine economy would face possible turbulences at the global level, supported by a solvent situation.

Finally, the last stage of the Tax Amnesty Regime can continue boosting the local financial markets in the next months. For instance, the tax incentive aimed at repatriating the remaining funds based on the underwriting of public bonds or at making deposits in the local financial system could mobilize significant resources towards the development of investment at the national level (see Section 5. Monetary Policy).

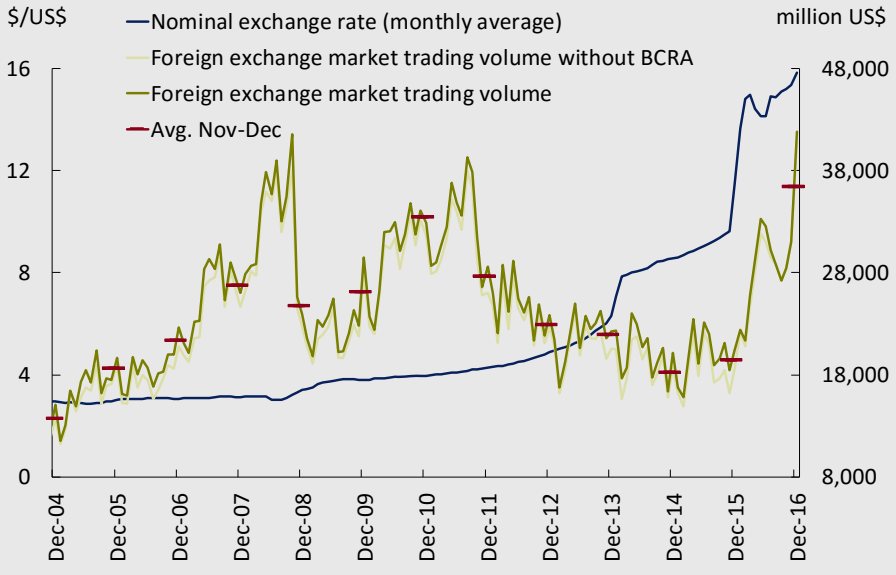
Exhibit 1 / Effects of the Tax Amnesty Regime on the Foreign Exchange Market and "Stabilizing Speculation"

One of the axes of the strategy carried out by the BCRA in December 2015, further deepened throughout 2016, was the implementation of a floating exchange rate regime. Considering Argentina´s last years, such regime is innovative and present advantages in terms of the economy's ability to process external shocks and, as long as the control of inflation expectations consolidates, it would allow to breakdown the historic relation of a high level of exchange rate pass-through to prices in Argentina.

Now, as it is true in all financial markets, in order that the exchange rate can actually fluctuate smoothly, without distorting relative prices or threatening the financial stability, it is highly convenient to have a deep and liquid market.

Therefore, during 2016, the BCRA gradually removed a large set of controls and regulations that not only distorted the exchange rate value, but also reduced the depth of the market by restricting the type of players and transactions that could freely demand or supply foreign currency. Furthermore, in the early days of 2017, the Government eliminated the 120-day minimum period requirement of staying in the domestic market for financial funds from abroad, and the BCRA eliminated the cash limits for the exchange market operations as well as the mandatory deposit of collections from export services in the country, thus removing three of the last obstacles for perfect capital mobility.

Figure 1 | FX trading volume and exchange rate[7]



Source: BCRA

An indicator of the effects of those actions is the volume operated in the exchange market. During 2016, the average monthly volume amounted to US$29.339 billion, representing a 35,3 percent increase against the average US$ 21.680 billion traded during the period 2012-2015, with a wide range of regulations. Such value is also higher than the US$28.625 billion monthly traded on average during 2009-2011 (a 2.5 percent

[7] The exchange market volume is calculated as the sum of the volume of operations between entities and clients through the Official Foreign Exchange Market (Mercado Único y Libre de Cambios, MULC), the operations carried out among entities and the absolute value of the BCRA's net purchases. Regarding the trading volume between entities and the BCRA, the absolute value of the daily net result was considered in order to eliminate the effect of the swap arrangements recorded as separate foreign exchange purchase and sale operations with change of instrument.

increase, see Figure 1). These figures remain at similar levels, even slightly higher if the BCRA's net purchases are excluded from the comparison, which means that the volume increase cannot be attributed to a different behavior from the monetary authority, but to the floating regime itself.

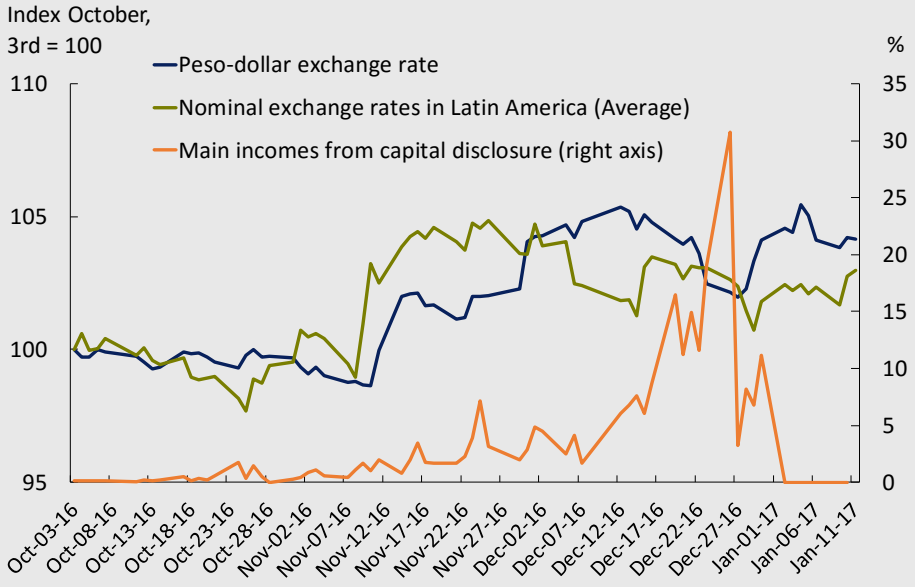
It is only to be expected that the deeper the market, the greater the capacity to absorb supply or demand shocks without abrupt changes in the nominal exchange rate. This is one of the reasons why economies where flotation is usual do not experience, with some exceptions, abrupt parity movements. One of the objectives pursued by the BCRA is precisely that the economic players accept exchange rate fluctuations as a common occurrence, without this necessarily affecting their savings and investment decisions or leading to an abrupt portfolio rebalancing.

In this sense, the successful capital disclosure —whose second stage was completed on 31 December, 2016— is a kind of controlled experiment, quite atypical in the economic science, enabling a comparison to determine whether the greater depth of the market actually mitigated the exchange rate volatility.

In fact, as a result of the special tax payment derived from the disclosure, an unusually high foreign currency volume (supply shock) was pumped into the exchange market and was concentrated within a limited time frame, given the settlement periods and incentives to wait until the very last moment.

As shown in Figure 1, the November-December 2016 transactions were very much higher, in historical terms, for that two-month period. Effects of the Tax Amnesty Regime began to be perceived in the early days of November, but it was not until 12 December that the operations related to the settlement of the special tax started to gain great strength, representing over 10 percent of the market volume up to the end of the month from then on, and reaching a peak equivalent to 30.8 percent of the daily volume on 26 December (see Figure 2). A total of US$4.8486 billion derived from the disclosure were settled, US$588.5 million corresponding to November and US$4.0922 to December. It should be mentioned that the BCRA's net purchases in the last two months of the year amounted to US$ 706 million, concentrated on a US$700-million transaction carried out on 20 December (see Figure 3).

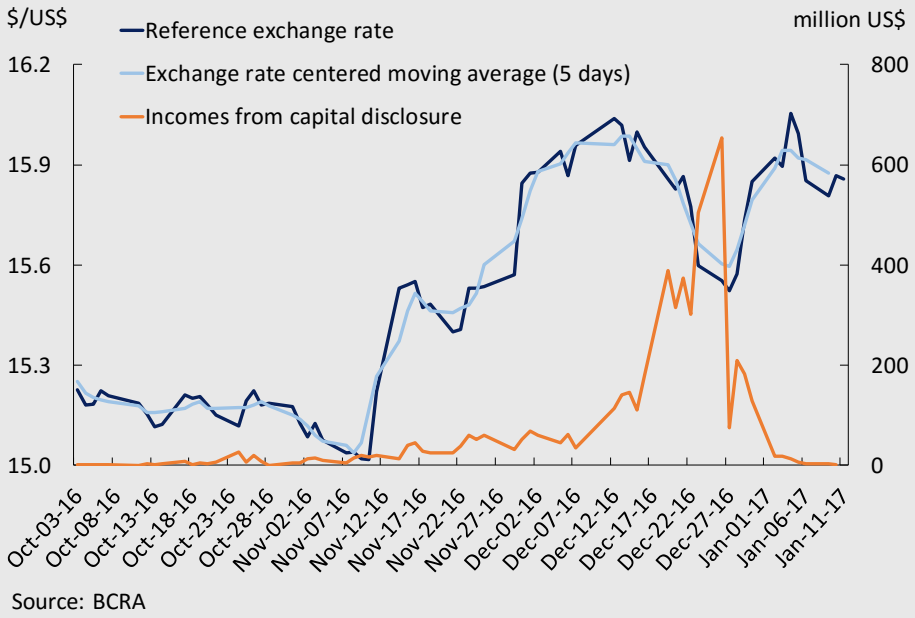
Figure 2 | Peso-dollar exchange rate and average rates in Latin America



Source: BCRA

When contrasting these unusual supply values with the trajectory of the nominal exchange rate, a quite clear pattern can be observed. In fact, the peso depreciation against the US dollar had started at a value near to 15.20 in October up to slightly more than 16 on 12 and 13 December. It was just around that date that foreign currency inflows from the disclosure became particularly intense: between 13-31 December, US$3.707 billion entered the country. The exchange rate against the dollar had a limited decline during that period, from 16.04 on 13 December to 15.52 on 27 December. This represents a 3.2 percent appreciation between the maximum and minimum monthly values (see Figure 3). Once the disclosure was completed, the exchange rate quickly returned to the previous levels. It should be noted that such small movement occurred when regional currencies were stable. Figure 2 shows a comparison between the evolution of the peso-dollar parity against an average of five regional economies with a floating regime: Brazil, Chile, Colombia, Mexico and Peru. This relative stability of regional currencies would show that no driving force leading to depreciation in the region could have been offset by the disclosure effect in Argentina, as it did not have a significant impact on the peso-dollar parity.

Figure 3 | Foreign currency income from disclosure penalties and reference exchange rate



Source: BCRA

Under the existing regime until December 2015, such an enormous shock only could have been absorbed, without any substantial change in the exchange rate parity, through purchases or sales made by the BCRA. On the contrary, in a liberalized market, the rational agents turn to what is known as stabilizing speculation.

This term coined by Milton Friedman in 1960[8] , refers to a particular type of speculation developed to reduce intertemporal differences in prices. This kind of speculator buys at “abnormally low” prices and sales at “abnormally high” prices. In this sense, Friedman defines “stabilizing speculation” as that which generates profits, and “destabilizing speculation” as that which generates losses.

[8] Milton Friedman (1960) “In Defense of Destabilizing Speculation”, in *Essays in Economics and Econometrics*, edited by Ralph W. Pfouts, pages 133-141. Chapel Hill: University of North Carolina Press.

Exhibit 2 / Growth Accounting in the United States

A stagnation process that affects most of advanced economies defined the years following the 2008 global financial crisis. Considering the US case, an objective fact stands out: towards 2010, the US economic output was significantly lower than its pre-crisis trend level and the unemployment rate reached 10 percent of the labor force. Five years later, the unemployment rate returned to levels considered as normal; however, the economic output had not even come close to its long-term trend.

The conventional explanation for this phenomenon focuses on demand factors, and particularly on the situation of the labor market. It is true that unemployment has a direct and immediate effect on the output; in fact, it was the main force behind the decline of the output below its trend level over the first years of the crisis[9]. However, once the economic recovery is on track, the unemployment weight becomes less significant and makes way to other factors more linked to supply factors, which would operate with a certain delay and become more evident as the crisis goes away.

By adopting a medium/long-term perspective about the factors contributing to the output growth, growth accounting exercises offer the possibility of examining this phenomenon in more detail. Accordingly, we have applied this exercise to the US economy following the methodology used by Hayashi and Prescott (2002)[10]. Based on a Cobb Douglas production function, with an adjustment of capital as per the capacity utilization and employment as per the number of hours worked, the per capita output growth rate is broken down into the following elements:[11] [12]

$$\widehat{y_t} = \widehat{h_t l_t} + \frac{\alpha}{1-\alpha}\left(\frac{\widehat{K_t}}{Y_t}\right) + \frac{\alpha}{1-\alpha}\widehat{u}_t + \frac{1}{1-\alpha}\widehat{A_t} \qquad (2)$$

1. $\widehat{y_t}$ **:** Per capita output growth rate
2. $\widehat{h_t l_t}$ **:** Per capita employment growth rate adjusted as per the number of hours worked
3. $\left(\frac{\widehat{K_t}}{Y_t}\right)$ **:** Capital-Output ratio growth rate
4. $\widehat{u}_t$ **:** Capacity utilization growth rate
5. $\widehat{A_t}$: Total factor productivity (TFP) growth rate

The results show a significant moderation in the per capita output growth rate during the post-crisis period. This suggests the magnitude of the challenge faced by this economy when returning to its pre-crisis path and converging to its long-term potential output, as it happened in other crises.

[9] The unemployment rate increased from 5.8 percent in 2008 to 9.3 percent in 2009, and then declined to 4.7 percent in December 2016.
[10] Hayashi, Fumio and Edward C. Prescott (2002): The 1990s in Japan: A Lost Decade. Review of Economic Dynamics, vol. 5, Issue 1.
[11] For a more detailed description of the methodology used in this exercise, see Exhibit 5: "Growth Accounting in Argentina 1980-2016" (page 46)
[12] Series on employment, population, capacity utilization and number of hours worked are provided by the Federal Reserve Economic Data (FRED). Regarding the GDP and the capital stock, 2011 constant price data series provided by the Penn World Tables 9.0 are used.

Table 1 | GDP per capita growth contribution in percentage points

	$\widehat{hl}$	$\widehat{\frac{K}{Y}}$	$\widehat{u}$	$\widehat{A}$	$\widehat{y}$
2002-2007	-0.49	0.17	2.06	-0.01	1.73
2010-2015	1.26	-1.07	1.70	-0.71	1.18

Note: average growth rate

The decline in per capita productivity and capital stock are relevant factors to explain the slowdown of output growth rates. Such results are consistent with Hall (2016)[13], who analyzed the US economy stagnation over the last years from a supply-side perspective. As to productivity, the results are similar to those found by this author: although when the negative productivity contribution appears before the crisis, the latter seems to emphasize the effect deepening its decreasing trend. Hall points out that it may be a result from the decline in research and development investment observed since 2000.

Despite the fact that capital contribution was slightly positive in the first stage, the result was reverted after the crisis. Such finding was consistent with Hall's research, in which there is evidence of a steep fall in business capital and equipment investment during this stage.

Table 2 | Labor force participation among 25-54 year workers across household income distributions

	2004	2007	2013
Total	83.8%	83.0%	81.2%
1st quartile (lowest income)	62.3%	61.2%	61.5%
2nd quartile	80.0%	78.0%	77.6%
3rd quartile	88.0%	87.3%	84.8%
4th quartile (highest income)	91.9%	91.4%	89.9%

Source: Hall (2016)

In addition to productivity and capital, Hall mentions a third factor which, though less relevant, also plays an important role in this process. Based on the post-crisis period, this author finds a drop in the total labor participation rate higher than 3 percentage points, a more than significant figure in a historical perspective. What is most striking about this result is that this reduction in the labor participation rate was mostly derived from the highest-income groups. According to Hall, this would rule out the hypothesis that a decline in the labor participation rate implies the marginalization of the poorest families in the labor market.

On the other hand, this study shows, between 2007 and 2014, a decrease in the time assigned to work as well as an increase in the time related to personal care and leisure. Additionally, there were no changes in education investment.

[13] Hall, Robert (2016): "The Anatomy of Stagnation in a Modern Economy". Philips Lecture presented at the London School of Economics, April 28, 2016.

Table 3 | Changes in weekly hours of time use, 2007 vs. 2014

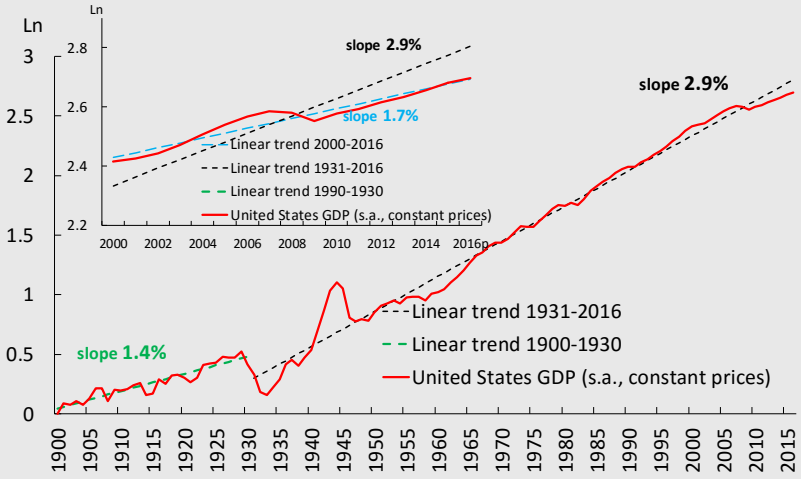
	Personal care	Market work	Education	Leisure	Other
Mens	1.3	-1.6	-0.1	1.6	-1.2
Women	2.2	-1.4	0.0	1.2	-2.0

Source: Hall (2016)

Based on such results, it follows that the fall of the labor participation rate would correspond to the highest-income sectors, where work time is replaced by leisure time.

A significant conclusion from this study is that closing the gap between the real GDP and the trend GDP prior to the crisis requires more than a demand increase that may derive from the monetary or fiscal policy, since there are three aspects of supply— lower workforce, productivity and capital stock— that hinder output convergence to its pre-crisis path.

Table 1| United States GDP and long term trends



Source: BCRA from BEA, Maddison andFocus Economics Consensus Forecasts data
f=forecast (2016 growth: 1.6%)

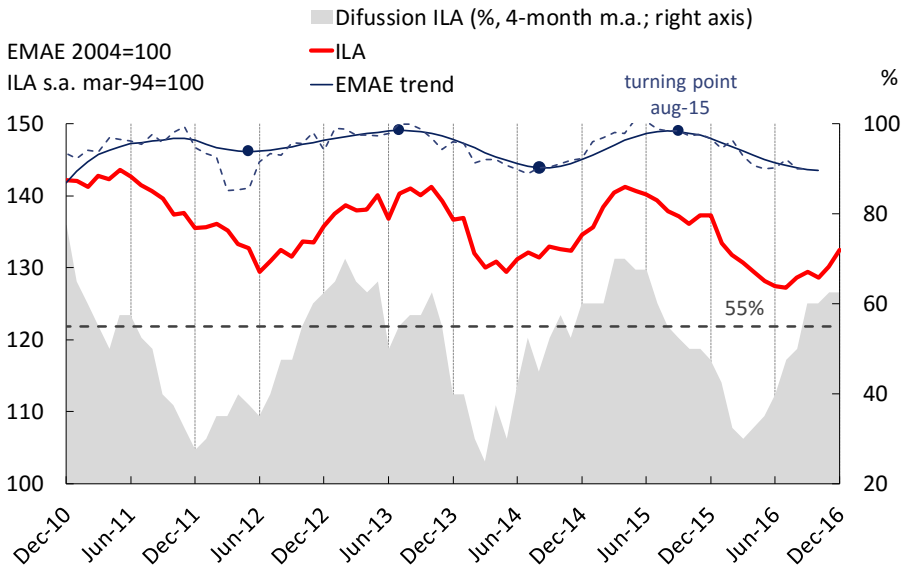
3. Economic Activity

In line with the projections from the October IPOM, the economic recession continued through the third quarter of 2016. In the fourth quarter, the BCRA Leading Activity Index (Índice Lider de Actividad, ILA) suggests that economic activity might have begun to expand. Over this period, some sectors showed improvement, and there were signs of recovery in the labor market. For 2017, the BCRA expects the economy to expand even in the face of more uncertain external conditions. GDP is expected to grow, boosted by household consumption, exports and investment, in a local context of improved macroeconomic environment with a marked downward trend in the inflation rate and more dynamic credit for the private sector. The strong acceleration of awarded infrastructure work tenders will also help to trigger investment in the next few months. This outlook is consistent with the consensus on market expectations found by the Market Expectations Survey (Relevamiento de Expectativas de Mercado, REM), which foresees a 3.0 percent growth in economic activity in 2017.

3.1 In the third quarter, the economy slowdown its fall, and leading indicators for the fourth quarter suggest a recovery for growth

The economy fell 0.2 percent s.a. over the third quarter of 2016 (-3.8 percent year-on-year). The data confirm that the economy has slowdown its quarterly contraction. In the fourth quarter of 2016, it became clearer that the economy had reached a bottom and would begin to recover. In line with the projections included in the October IPOM, the BCRA ILA from November and December suggests that the economy might have entered an upswing (see Exhibit 3 /ILA and Figure 3.1).

Figure 3.1 | Leading Index (ILA) and Economic Activity (EMAE)



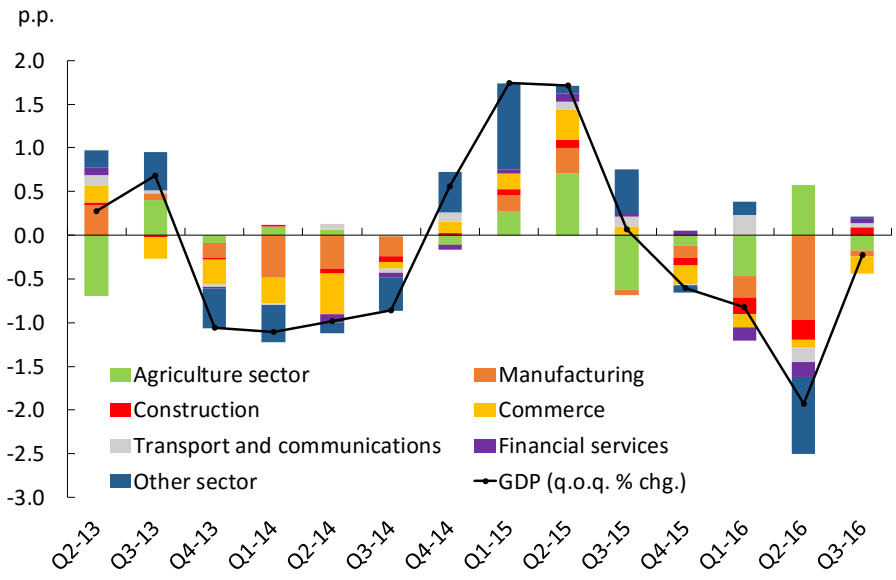
Source: INDEC, AFIP, Industry associations, Bloomberg, UTDT and Bank estimates

The disinflation process observed in the last few months has contributed to the improvement of the macroeconomic context, launched by the exchange rate unification, the capital account opening, the normalization of financial relations with the world, the elimination of foreign trade barriers, and the reduction of export duties. The sectors usually at the forefront of the economic cycle, such as agriculture, construction and industry, have shown the first signs of recovery. Household consumption has improved with disinflation and income strengthening measures, thus helping fuel the economic recovery.

3.1.1 Recession eased during the third quarter

At the sectoral level, the moderation of the GDP fall in the third quarter was mainly accounted for by a lesser contraction of good production (-0.2 percent s.a.) as a consequence of the recovery in the construction sector and the cutout of the reduction in the industry sector. Service provision declined 0.5 percent s.a., with a mixed internal behavior. Wholesale and retail trade, hotels and restaurants, real estate, corporate and leasing activities had a negative behavior, whereas transport and communications and financial intermediation increased from the previous quarter (see Figure 3.2)

Figure 3.2 | Sectoral contribution to GDP growth. Seasonally adjusted series



Source: INDEC and Bank estimates

During the third quarter, domestic absorption stood unchanged in the aggregate, while the increase in public consumption offset the contraction in private expenditure. The external sector made a positive contribution to GDP as a result of a decline in imports (-3.9 percent s.a.), after increasing significantly in the first semester and a slight contraction of exports (-0.4 percent s.a.).

Private consumption fell 0.3 percent s.a. in the third quarter (-3.1 percent year-on-year), a moderation in comparison with the previous quarter. It should be noted that the National Institute of Statistics and Censuses (INDEC) made a significant downward correction of the preliminary data for private consumption in the second quarter, showing a 1.2 percent s.a. decrease (vs. the +0.4 percent s.a. previously published). This drop was in line with the projections made in the May IPOM, based on the weakness of consumption leading indicators, labor market dynamics and real wages. As a result of the improvement in these factors, private consumption remained relatively stable during the third quarter. Investment decreased 2.2 percent s.a. (-7.5 percent year-on-year) as a consequence of the decline in

production durable equipment investment, which was partially offset by the construction recovery. Public consumption had a significant increase (+3.7 percent s.a.) after the fall in the previous quarter. As a result, as mentioned before, this was the only component of demand that expanded year-on-year (+1.9 percent year-on-year; see Table 3.1).

Table 3.1 | Quarterly GDP and contributions by demand components

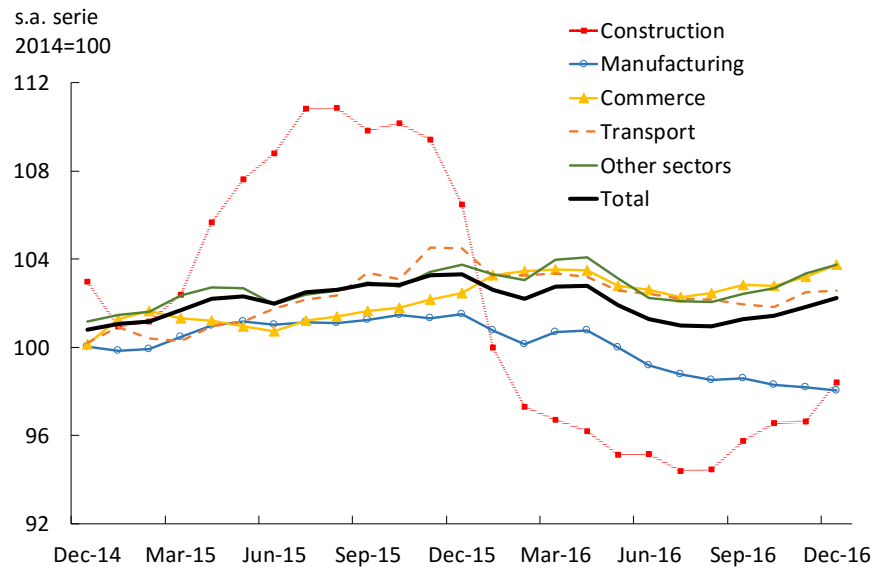
Demand components	Q1-16		Q2-16		Q3-16	
	q.o.q. % chg. s.a.	contribution in p.p.*	q.o.q. % chg. s.a.	contribution in p.p.*	q.o.q. % chg. s.a.	contribution in p.p.*
Private consumption	0.7	0.5	-1.2	-0.9	-0.3	-0.2
Public consumption	0.7	0.1	-2.0	-0.3	3.7	0.5
Investment (IBIF)	-3.7	-0.7	-0.6	-0.1	-2.2	-0.4
Exports	14.5	2.7	-11.1	-2.4	-0.4	-0.1
Imports	3.8	-1.0	0.1	-0.0	-3.9	1.1
Statistical discrepancy and change in inventories		-2.5		1.8		-1.1
GDP q.o.q. % chg. s.a.	**-0.8**		**-1.9**		**-0.2**	

*Contribution of each component to the GDP s.a. quarterly growth. Is equal to the product of each component's growth rate by its weight in the aggregate on the previous period.

Source: INDEC

The employment level in the formal sector[14]remained stable in the third quarter, according to data from the Ministry of Labor, Employment and Social Security (Ministerio de Trabajo, Empleo y Seguridad Social, MTEySS). At the sectoral level, employment in commerce and other services continued to grow, whereas it recovered in construction, after a several-quarter decline. According to the Permanent Household Survey (Encuesta Permanente de Hogares, EPH), the unemployment rate was 8.5 percent in the third quarter, which confirms a 0.8 percentage points reduction from the second quarter (9.3 percent). This dynamic was due to the increase in the employment rate (+1.2 percentage points) in the quarter, being better than expected for the context of worsening economic activity registered in the period (see Figure 3.3).

Figure 3.3 | Jobs recorded in the private sector



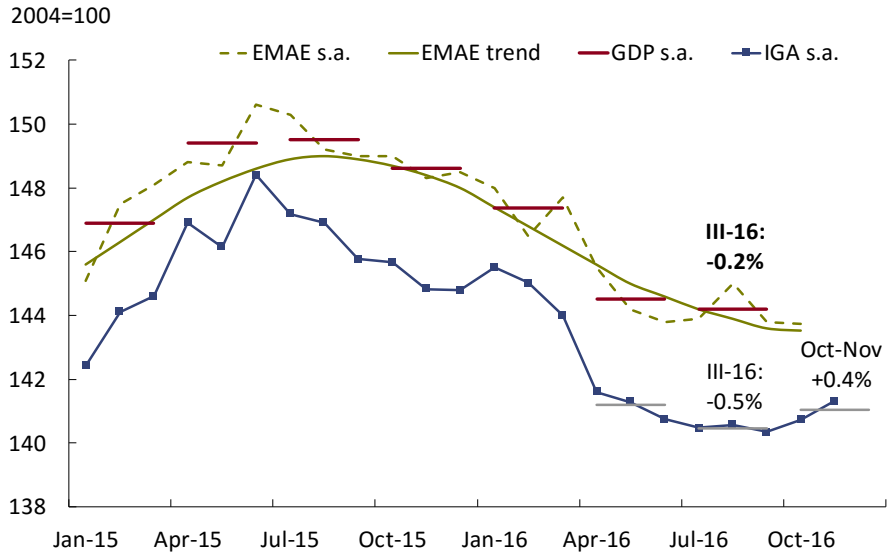
Source: AFIP and Bank estimates

[14] Labor informality reached 33.8 percent of wage earners in the third quarter, 0.4 percentage points above the rate from the previous quarter.

3.1.2 There are signs of an economic recovery at the end of 2016 that should intensify in early 2017

According to the BCRA's projection (PCP-BCRA), the GDP should experience a slight -0.2 percent s.a. reduction during the fourth quarter. Nevertheless, several leading indicators suggest positive outcomes for October and November, predicting an increase in activity for the fourth quarter of 2016. The data from the October Monthly Economic Activity Indicator (Estimador Mensual de la Actividad Económica, EMAE) showed that the level of activity remained unchanged in seasonally adjusted terms and stabilized in its trend-cycle after twelve negative variations, while the General Activity Index (Índice General de Actividad elaborated by Orlando J. Ferreres, IGA) showed 0.3 percent s.a. and 0.4 percent s.a. monthly increases in October and November, respectively (see Figure 3.4).

Figure 3.4 | Economic activity

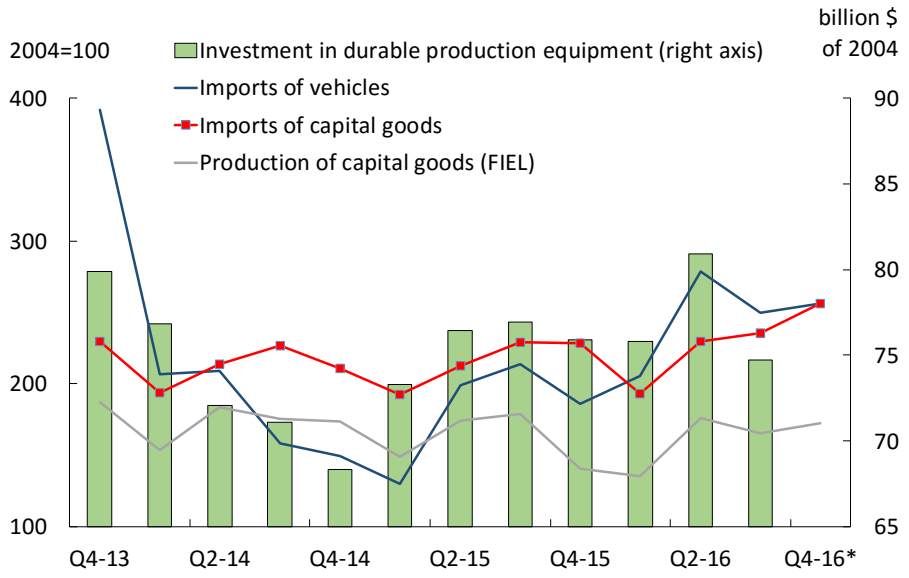


Source: INDEC, OJF and Bank estimates

In the fourth quarter, exports seem to have been fueled by grains, biodiesel and soy byproducts sales, whereas imports seem to have recovered through the increase in the purchase of capital goods, parts and accessories, and vehicles (see section 2. International Context). Investment appears to have grown for the first time in the year, due to both investment in durable equipment and construction. Private consumption should increase as a result of the improvement in household income, in a context of disinflation and more dynamic of the consumption credit[15]. The rise in investment in production durable equipment (EDP) should be fueled by capital goods imports, whereas the domestic production of capital goods should remain stable or increase slightly from previous levels (see Figure 3.5).

[15] The bonus for private sector employees also had an impact in December incomes.

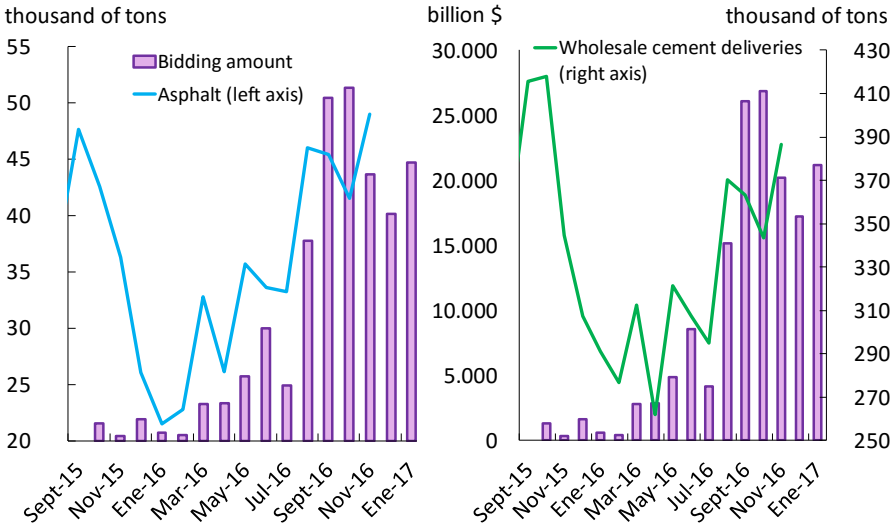
Figure 3.5 | Investment indicators. Seasonally-adjusted series



*Data up to Nov-16. Source: INDEC, FIEL and Bank estimates

Construction seems to have grown once again in the fourth quarter versus the previous one, mainly as a consequence of public works. Bulk cement and asphalt orders in October-November seem to have been boosted by the implementation of public works tendered at the national, provincial and municipal levels, which accelerated since August 2016[16] (see Figure 3.6).

Figure 3.6 | Asphalt and bulk cement sales, and tender amounts two periods in advance

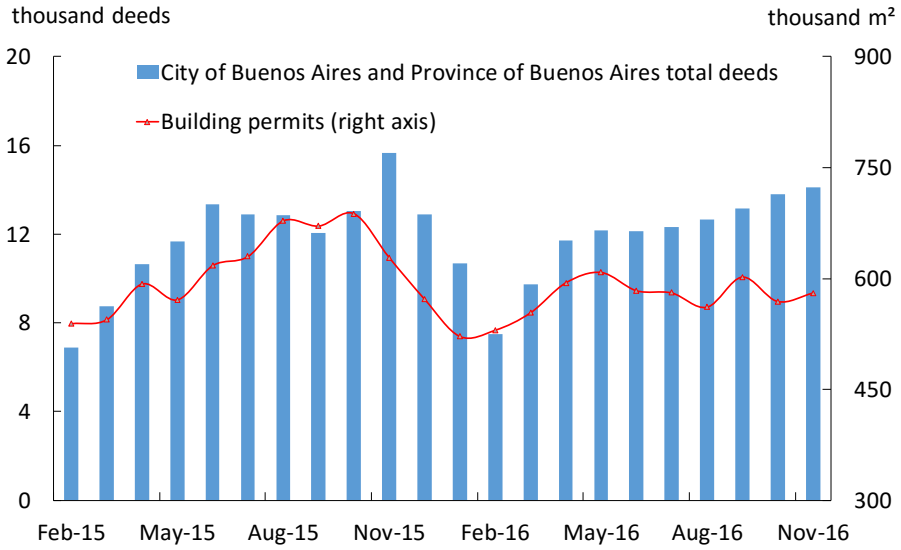


*Nota: The amount of the public work tenders was lagged two periods forward to reflect its leading indicator behaviour with regards to consumption of cement and ashphalt

Source: AFCP, CyT Asesores Económicos and Bank estimates

[16] Public work tenders amount increased 206 per cent in July-November 2016 versus the first semester, based on data provided by C&T Asesores Económicos. These tenders require a certain period of time to impact constructing indicators.

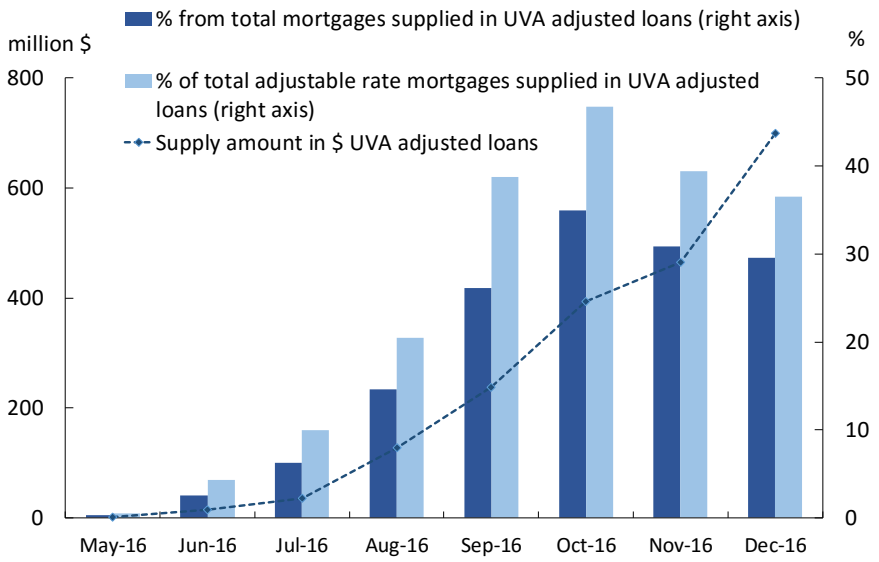
Figure 3.7 | Deeds and buildign permits (3-month moving average)



Source: INDEC, Public Notary Associations of City of Buenos Aires and Public Notary Associations of Province of Buenos Aires

These positive signs from public works are complemented by those coming from the private sector. In a context of free access to the exchange market, the number of purchase deeds signed in CABA and in the Province of Buenos Aires has maintained the upward trend initiated early this year, and in November recorded a 14 percent year-on-year increase. Besides that, building permits (measured in m^2) have shown a slightly upward trend since the beginning of the year (see Figure 3.7). The favorable economic outlook, the higher macroeconomic predictability and the expansion of mortgage credits are the main factors behind this behavior. Adquisition Value Unit (Unidad de Valor Adquisitivo, UVA) credits accounted for 58.6 percent of the increase in variable-rate mortgage loans for individuals from their launch, in April 2016, until November. This new instrument has proven to be a particularly useful mechanism to underwrite long-term financial agreements, because it reduces the amount of the down payment, while ensuring debtors and creditors with a certain real value for future payments, thus eliminating the risk of potential unpredicted inflation or disinflation impacting on the contracts (see Figure 3.8).

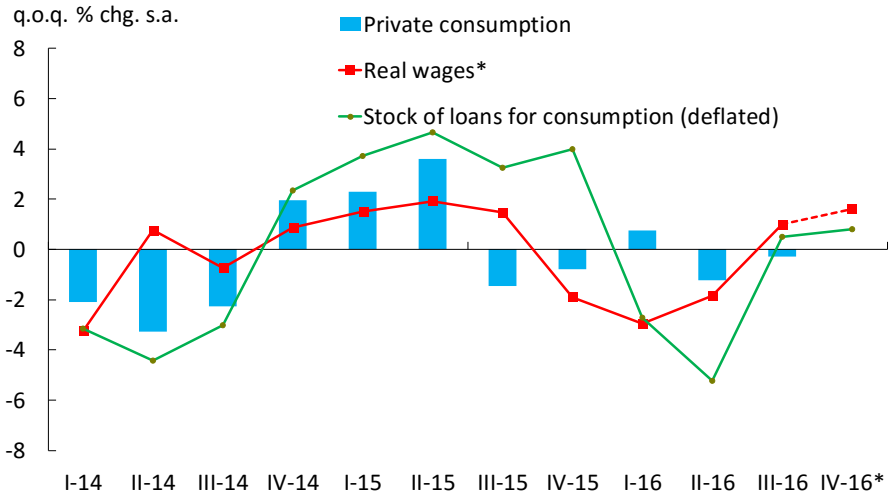
Figure 3.8 | UVA credit's evolution



Source: BCRA

Lastly, private consumption is expected to recover in the fourth quarter. Slowing inflation will continue to improve the purchasing power of wages, and higher credit demand will boost household expenditure (see Figure 3.9). Additionally, the minimum, vital and mobile wage has recovered in real terms as a result of the increases granted in September 2016 and January 2017[17], which, jointly with the bonuses granted by the private sector in late last year, has contributed to improving wager-earners' real income.

Figure 3.9 | Private consumption evolution, real wages and real loans



*Real wages as of Q4-16 estimated considering wage settlements of main unions. Loans incorporate information as of Nov-16. Both variables were deflacted by CPI-WN.
Source: INDEC, MInistry of Labor and Bank estimates.

Moreover, the Government has implemented a number of expenditure increases and tax reductions, which have helped households' real income recovery in the fourth quarter. These measures impact consumption and activity, given that they were targeted at the lowest-income households[18] and that the resulting widening of the deficit has not affected public debt sustainability perceptions. The measures include the update of the Universal Child Allowance (Asignación Universal por Hijo, AUH) and the Family Allowance[19], the Historic Reparation to Retirees and Pensioners[20], aimed at paying a long-overdue debt with senior citizens and at improving the income of over 2 million retirees and pensioners, and the Value Added Tax (VAT) return for vulnerable groups (see Figure 3.10).

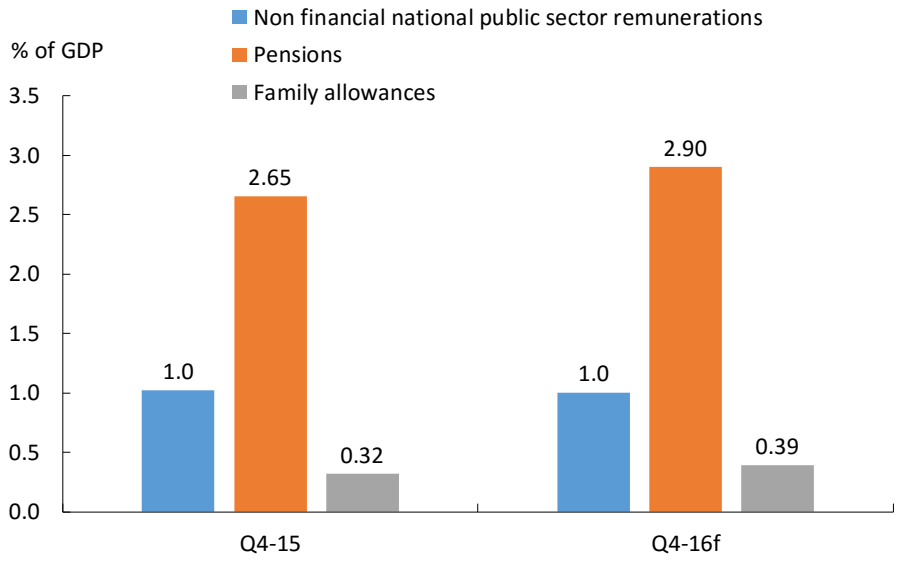
[17] In September 2016 and January 2017, the National Employment, Productivity, and Minimum, Vital and Mobile Wage Council (Consejo Nacional del Empleo, la Productividad y el Salario Mínimo Vital y Móvil, CNEPSMVM) issued its Resolution 2, granting 11 percent and 6.6 percent nominal increases. As a result, the minimum wage is now 9 percent above the August 2016 level in real terms.

[18] Low income households tend to allocate a higher share of their current income to consumption, lacking enough liquid assets in comparison with the households that should see their tax burden increase in the future as a result of the fiscal measures recently implemented. Parker, J., Souleles, N. Johnson, D. and McClelland, R. "*Consumer Spending and the Economic Stimulus Payments of 2008*" (2013) AER, have found that, for the United States, during a recession, fiscal stimulus for households have economically significant effects in the first quarter, and that most expenditure is incurred in by households with insufficient liquid assets, spending six times as much as households with enough liquid wealth.

[19] Scales have been changed and coverage has been extended to the children of self-employed workers.

[20] Law 27260, National Programme for the Historic Reparation to Retirees and Pensioners (Ley de reparación histórica a jubilados), was passed by the National Congress on June 29 and enacted on July 22 through Degree 881/2016. It updates earnings (when these have been wrongly calculated) and mandates the installment payments of the appropriate retroactive sums.

Figure 3.10 | National public sector expenditure with impact on private consumption



Source: Treasury Secretariat, INDEC and Bank estimates f: Forecast

Specifically, in December 2016, tax reliefs were granted such as the exemption of December's half 13th month salary (Sueldo Anual Complementario, SAC) from the income tax, and the allowance of the end-of-year bonus for low-income public employees[21], retirees and pensioners, as well as for AUH beneficiaries. As a whole, these measures represent a stimulus for consumption of roughly 0.16 percent of GDP in December (see Table 3.2).

Table 3.2 | Fiscal measures stimulating private consumption

Beneficiaries	Estimated amount (million $)	% GDP
Bonus for national public employees	900	0.01
Total for universal assistance per child	4,390	0.06
Pensioners´ Bonus	6,600	0.08
Bonus fiscal waiver	883	0.01
Total	**12,773**	**0.16**

Source: Treasury Secretariat and Bank estimates

[21]At the provincial and municipal levels, public employees benefited from an end-of-year bonus.

3.2 Outlook

The first stage, characterized by the correction of relative prices, the elimination of distortions that hindered the normal performance of the economy[22], and the necessary measures to consolidate the disinflation process, were the first steps towards increasing productivity and investment in the economy. In the last few months, investment may be boosted by the rising number of calls for infrastructure work tenders and the announcements of private and public-private investments[23] for the 2017-19 period[24]. Private works are expected to be revitalized by the success of the Tax Disclosure Regime and the implementation of the open-end mutual funds focused on the real estate and energy sectors.

The expected increase in the planted area and crop diversification reflects the impact of the measures implemented in the agricultural sector. The surface planted for the 2016-17 campaign of the six main crops will reach 32.25 million hectares (+4.6 percent year-on-year), a historical record according to the Buenos Aires Exchange (Bolsa de Comercio de Buenos Aires, BCBA). In this scenario, exports should make a positive contribution based on the good projections for the 2016-17 harvest and the improved outlook for foreign market-oriented industrial activities, thanks to a stronger demand from our commercial partners.

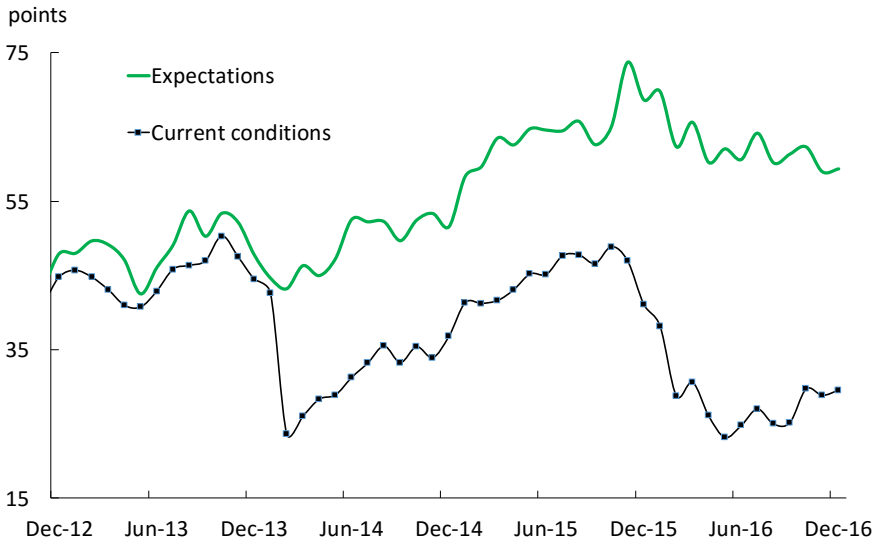
As policies have been implemented to create higher macroeconomic predictability and stability, a number of short-term measures have improved expectations of a strengthening of aggregate expenditure. These policies, jointly with the consolidation of the disinflation process, allow forecasting a recovery in household consumption in the following months. In this context, consumers' economic expectations have improved from the previous IPOM. The Consumer Confidence Index (Índice de Confianza del Consumidor, ICC) prepared by the Torcuato Di Tella University suggests that expectations remain high, and that the perception of the current situation has consolidated the recovery started in May 2016 (see Figure 3.11).

[22] The reduction and elimination of retentions, the removal of exchange restrictions, and the elimination of export operations records (registros de operaciones de exportación, ROE) and quotas, and the complete removal of exportation duties for grains and oilseeds, except soy (whose proportion of retention was reduced from 35 percent to 30 percent, and from 32 percent to 27 percent for oil and flour). ROE, which were mainly affecting wheat and corn, have now been replaced by an Export Sales Affidavit (Declaración jurada de venta al exterior, DJVE), thus losing its restrictive nature, being kept only for statistical purposes.

[23] Law 27328, passed by the Senate on November 16 and enacted by the Government through Decree 1203/2016 in the same month, regulates public-private participation contracts between the National State, as contracting party, and the private sector as contractor. This initiative is aimed at developing projects in the fields of infrastructure, housing, activities and services, productive investment, applied research and technological innovation through agreements between the public and private sectors agreeing on the design, maintenance and funding of a specific asset.

[24] The Ministry of Treasury has gathered private and public-private investment announcements amounting to about US$59.079 billion until 2019. The sources for the former are business associations and private firms, and, for the latter, private investment announcements in the framework of an agreement with the public sector. This amount does not include investment form entirely state-owned enterprises.

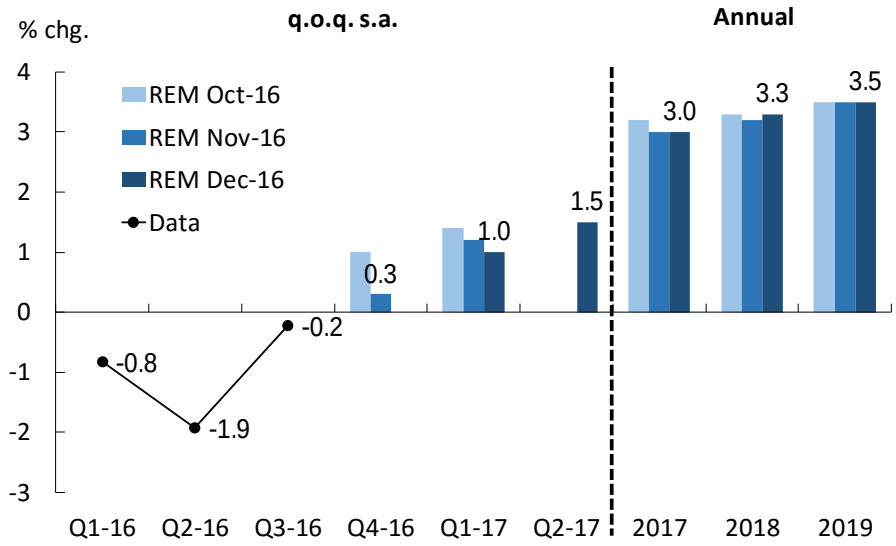
Figure 3.11 | Consumer Confidence Index



Source: UTDT

The main market analysts expect the economy to start growing in the fourth quarter of 2016, according to the December REM prepared by the BCRA. For 2017, analysts project a 3.0 percent growth, a slight 0.2 percentage points worsening relative to the October survey (see Figure 3.12).

Figure 3.12 | GDP growth expectations



Source: REM - BCRA and INDEC

For the medium term, growth economic outlooks continue to be positive despite the more uncertain international context in the last few months of 2016 (see Chapter 2. International Context). Analysts that responded the REM expect a 3.0 percent growth for the 2018-2019 period. This expected growth does not entail challenges in terms of inflationary pressures on the demand side, given the current capacity underutilization and the policies designed to bolster productivity and investment, which will result in an increase in the potential GDP.

Exhibit 3 / BCRA's Leading Activity Index

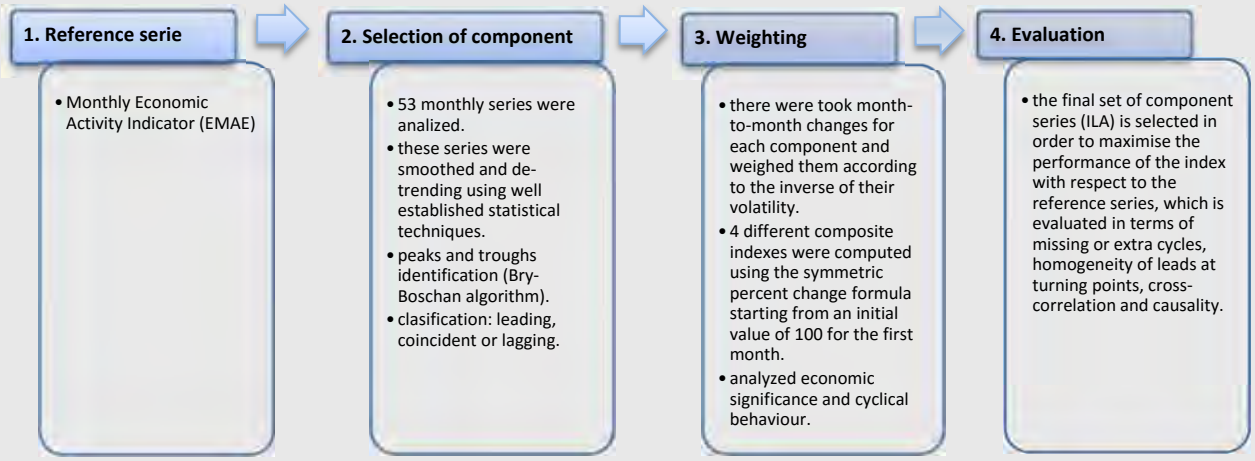
The Leading Activity Index (ILA) is a monthly index that anticipates, in a summarized form, the turning points in the economic activity. Based on Burns and Mitchell (1946)[25], an economic cycle consists on economic activity expansions followed by recessions, contractions and rebounds, giving place to a subsequent cycle that begins with a new expansion, this sequence of changes recurring but not regular. The anticipation of a recession (expansion) is particularly interesting to the BCRA, given the monetary transmission mechanism.

The ILA consists in ten real, financial and expectations series that usually anticipate the cyclic behavior of the Monthly Economic Activity Indicator (EMAE) developed by the INDEC. It is calculated within the seven business days after the close of each month and provides additional information by means of a signal system.

Background and methodology

The relevance of the so-called cycle indices —leading, coincident and lagging— has been thoroughly discussed in the literature, and their use is widespread among international and government entities.

The ILA development process, summarized in the figure below, has replicated the methodology used by The Conference Board, which estimates the leading indices for a group of countries, among them, the United States, the Euro Area, Brazil, China, India and Japan[26].



The ten series making up the ILA meet the requirements about economic relevance, reliability, extension and data availability, which allows it to be calculated in the first days after the close of each month, while the EMAE is published eight weeks later (see Table 1).

[25] In 1946, Arthur F. Burns and Wesley C. Mitchell published these indices for the USA. *Measuring Business Cycles* (NBER).
[26] See https://www.conference-board.org/data/bci.cfm

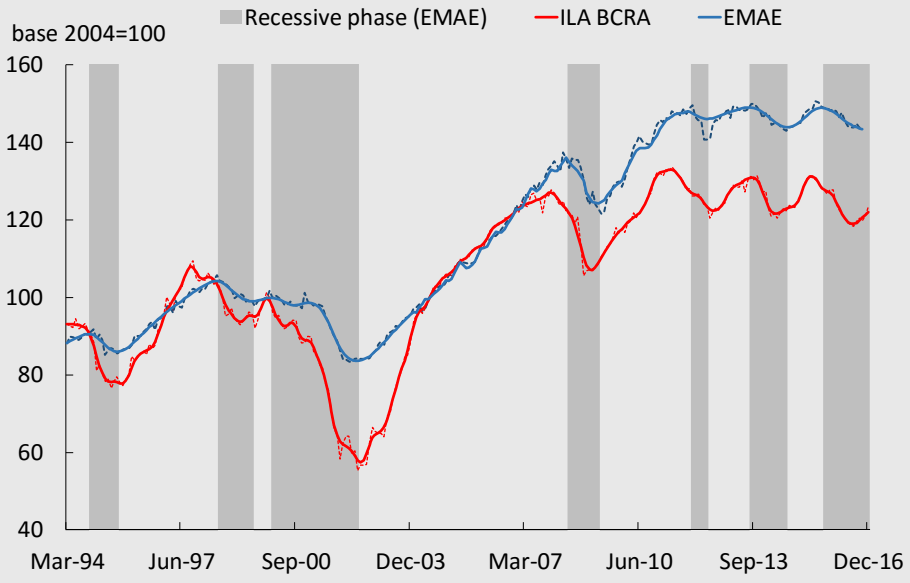
Table 1 | ILA componets and source of information

Financial and monetary	
Stock prices: Merval index*	Bolsa de Valores de Buenos Aires
Public bonds parity	Bloomberg
Car loans outstanding*	BCRA
Money supply M2*	BCRA
Economic activity	
VAT collection*	Ministerio de Hacienda
Cement sales	Asociación de Fabricantes de Cemento Portland
Vehicle production	Asociación de Fabricantes de Automotores
Office furniture sales	Confederación Argentina de la Mediana Empresa
Expectation	
Index of consumer confidence (dif. p.p.)	Universidad Torcuato Di Tella
Private formal employment (dif. p.p.)	Ministerio de Trabajo, Empleo y Seguridad Social

*Deflacted by CPI-WN

During the period under analysis (from March 1994 to December 2016), the Argentine economy have experienced seven recessive stages. The last one —which started in August 2015— is the third recession after the 2008 international financial crisis (see Figure 1).

Figure 1 | Economic activity. ILA and EMAE



Signal system: interpreting the ILA results

By definition, the ILA turning points (peaks and troughs) take place before the EMAE's. Technically, the identification of a turning point requires the confirmation of the series trend, which occurs after several months of seasonally adjusted variations in the same direction[27]. The leading indexes advantage is that

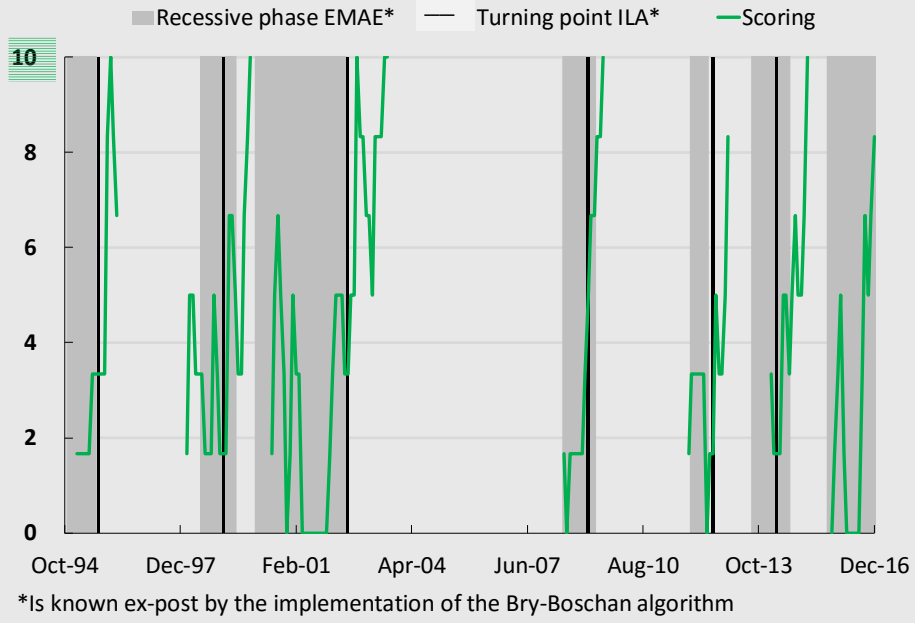
[27] The process to detect turning points developed by Bry G. y Boschan C. in 1971 is used. *Cyclical Analysis of time series and Programmed Selection of Cyclical Turning Points* (NBER).

they point out, in real time, the proximity of a turning point in the economy through the signal system. According to the specialized literature, there is no univocal rule and the signals must be established as per the historical behavior of three basic criteria of the leading index: duration, depth and diffusion. "Duration" refers to the number of months in which the ILA performs similarly; "depth" is defined as the cumulative variation over a certain period; and "diffusion" measures the percentage of the index components that show increases.

In the case of the ILA, once the criteria were calibrated based on historical series[28], a 0-10 scoring range was assigned, where 10 means the compliance of all conditions to reverse the economic cycle.

Intermediate instances that pointed out a phase shift were observed, even with a partial compliance of the criteria. Therefore, an overall score above 6 is an early signal that the economy is about to start a new phase, while a score above 8 means that the ILA turning point would have already occurred, and the probability of a wrong signal decreases (see Figure 2).

Figure 2 | Signal system of the ILA. Recession exits



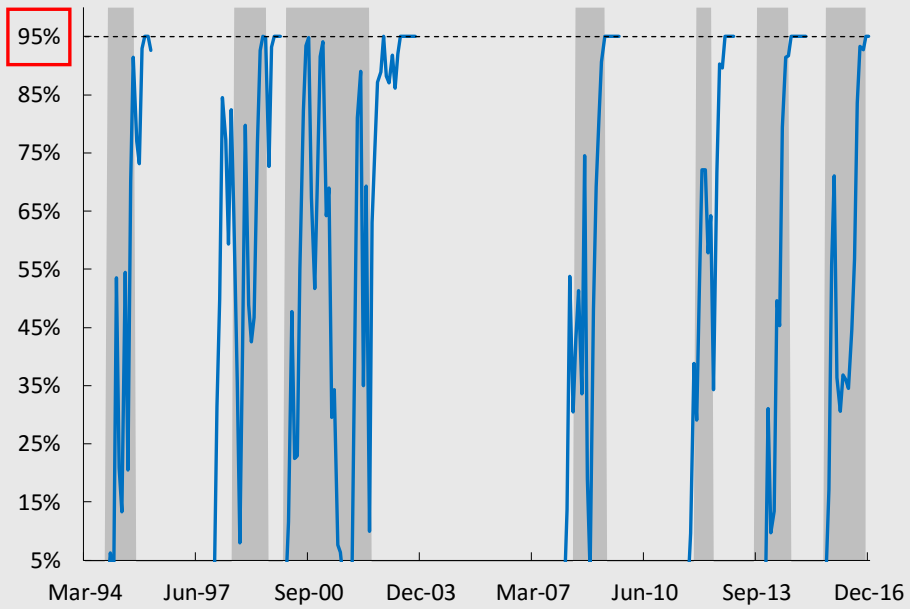
*Is known ex-post by the implementation of the Bry-Boschan algorithm

In order to obtain signals that may warn about the turning point, the ILA's stochastic behavior was also analyzed. Using a Bayesian approach[29], the probabilities that the ILA had shown a turning point over the last month or even before were estimated. Considering that the ILA monthly variations present different frequency distributions in expansionary and contractionary phases, the distribution functions which best adjust to each phase were tested, and the conditional probability that the ILA had recorded a peak or a valley during the last month was calculated. A critical value of 95 percent was set, indicating that, when the probability reaches that value, the signal that the ILA is undergoing a new phase is maximum (see Figure 3).

[28] The ILA's duration, depth and diffusion behavior were analyzed in the EMAE's phase shifts, minimizing the wrong signals. The following limits were determined: three monthly and consecutive ILA increases in a recession is a signal of the possible beginning of a rebound and vice versa; a diffusion level above 55 percent in the average of the four last months is a reinforced signal of emergence from recession and vice versa; and when the cumulative and annualized variation of the ILA during the last six months changes its sign and exceeds a 4.8 percent absolute value, the phase-shift signal is more robust. This limit falls to 2.3 percent when analyzed together with other criteria. The coincident index behavior is also included, which is developed using the same methodology as for the leading index, though based on the selection of variables whose cycles are in line with those of EMAE's.

[29] Based on the model originally used by Neftçi, S. *Optimal prediction of cyclical downturns*, Journal of Economic Dynamics and Control (1981) and Jorrat J. M. and Cerro A. M. *Computing turning point monthly probability of the Argentinian economy according to the leading index 1973-2000*, Economic Studies Vol. 27 – N°2, Dec-2000, pages 279-295.

Figure 3 | ILA. Sequential probability recursion. Troughs probability in the growth cycle



Based on data from December 2016, the ILA signal system assigned a score above 8 to the whole set of analyzed criteria, indicating that this leading index has already consolidated in an upturn. Such conclusion is further reinforced by the phase shift probability, which reached a critical value of 95 percent for the second month in a row. This indicates that the economic activity level would have started a recovery process.

Exhibit 4 / On Exports to Brazil and their Effect in Argentina

Recent history suggests that the economic cycle in Argentina is influenced by the Brazilian one, in line with the relevance of the neighboring country in Argentine exports. In fact, Brazil is our main trading partner, with nearly 20 percent of our total exports and 43 percent of the industrial manufactured goods exports. The economic activity contraction in Brazil over the last years has highlighted again the need to measure to what extent changes in the economic activity of both trading partners are transmitted to each other.

To that effect, literature has mostly applied time series models, particularly vector autoregression models (VAR). Regarding the Argentina-Brazil interaction, research has shown dissimilar results. Adler and Sosa (2012), using VAR models, found that a 1 percentage point increase in the Brazilian GDP has a cumulative impact of 0.16 percentage points on the Argentine GDP, after eight quarters. In turn, in De Cardenas et al. —BBVA Research— (2015), estimates are based on VAR and global VAR models, showing that a 1 percentage point increase in the Brazilian GDP, after six quarters, has a cumulative impact of 0.32 percentage points in the Argentine GDP. Finally, Chen —World Bank Global Economic Prospects— (2016) applying a Bayesian VAR, found that the cumulative impact given the same shock, after eight quarters, is 0.7 percentage points in Argentina.

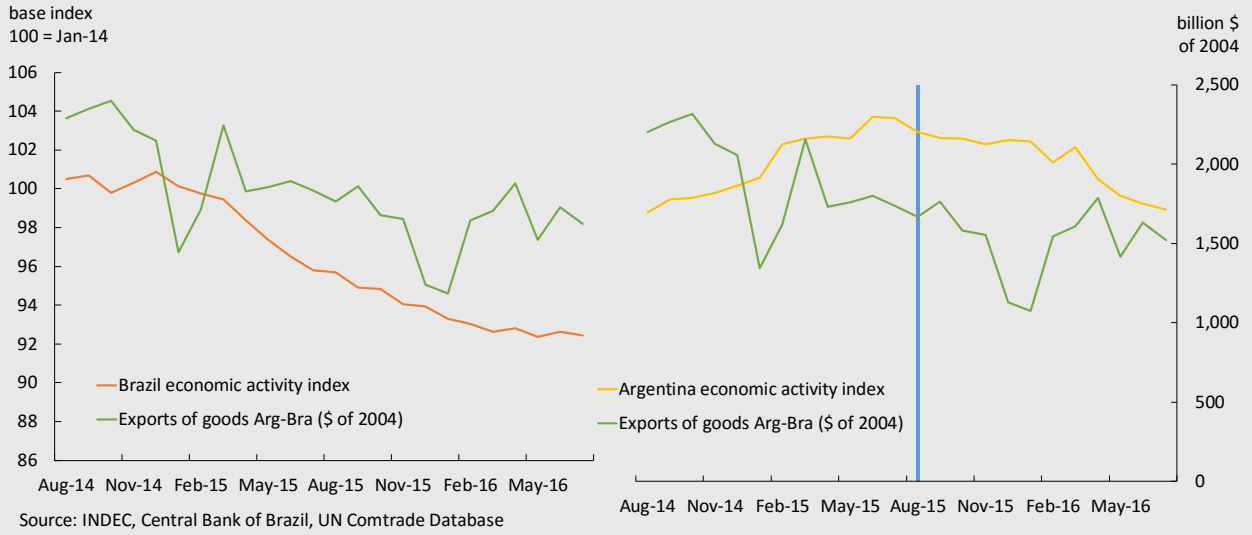
Based on such dissimilar results, responsive to the applied methodology and the period under analysis, an alternative approach is suggested. If the trade flow with Brazil is considered as the main transmission channel of economic activity changes experienced by this country, to focus the analysis on the Argentine exports to Brazil allows to delimit the range of the problem and the possibility to obtain a rough estimate of the aggregate demand contraction in our country. Specifically, our purpose is to quantify the impact of the decline in export flows to Brazil on the Argentine GDP as of August 2015, the last peak of the economic cycle. To that end, sectoral output and value added multipliers will be used, based on Argentina's input-output table (IOT). From this analysis, it is possible to quantify the total impact of trading changes with Brazil, as well as to conduct a disaggregated study about the differential impact per sector and to identify the most affected activities by the fall in the Brazilian demand for Argentine exports.

For this exercise, total exports of goods from the UN Comtrade Database and the IOT '97[30] supplied by the INDEC are considered. In order to determine the period under analysis, the August 2015 EMAE turning point was considered. Based on the latter, the past and following twelve months were taken, thus defining the comparison periods: August 2014 to July 2015 and August 2015 to July 2016. Data from both the National Accounts and the UN Comtrade Database are expressed in 2004 constant pesos ($ 2004). Figure 1 shows a 21 percent decrease of exports to Brazil[31] between the periods indicated, and a 5.6 percent fall in the Brazilian economic activity. Moreover, the accumulated decline of the Argentine economy, from the turning point to the end of the period, is 3.8 percent.

The gross output value (valor bruto de producción, VBP) and value-added (VA) multipliers[32] were developed using the standard input-output methodology, which uses as a main tool the direct and indirect requirement or "Leontief inverse" matrix[33]. The first multiplier indicates the increase in the total output of the economy against a unit variation in the final demand ($1) from a certain sector, while the second measures the increase in the value-added produced from the total economy against the same unit variation.

[30] The outdated matrix shows that some traditional assumptions from this analysis might not be sustained. Specifically, the import and product taxes ratios per sector may have undergone changes from the creation of the IOT up to date.
[31] Due to the lack of disaggregated data about service exports, exports refer only to goods.
[32] Product taxes are also included in the value-added in order to obtain comparability parameters against national accounts: $GDP = VA + Taxes$.
[33] For further explanation about the input-output analysis, see *Input-Output Economics*, Leontief W. (1986).

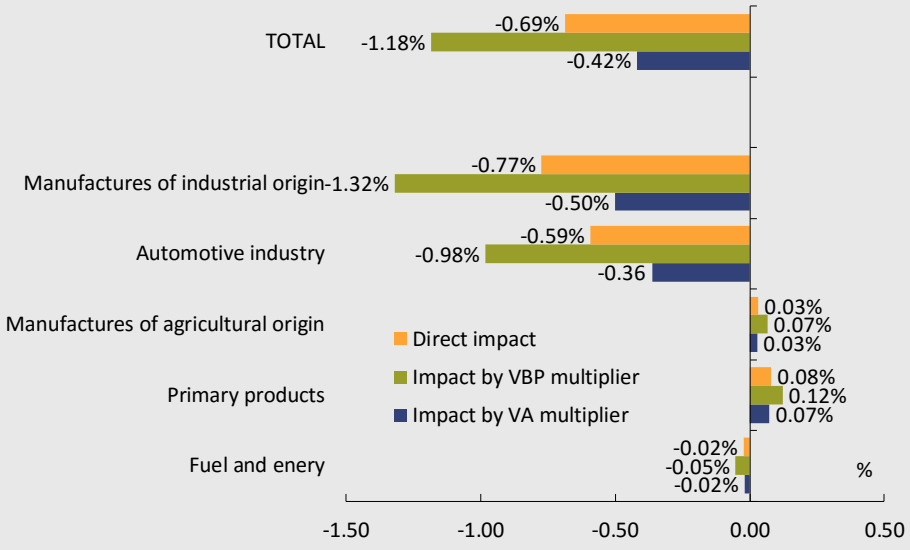
Figure 1 | Economic activiy and exports evolution



Source: INDEC, Central Bank of Brazil, UN Comtrade Database

Changes in exports to Brazil between the July-15 and July-16 accumulated periods are taken as the final demand variations of the different sectors. Connecting each variation per sector to their respective multipliers leads to the VBP and VA total increases. The aggregated effect on the GDP, derived from the dynamics of our exports to Brazil over the period under analysis, can be obtained by adding up the increases across all sectors. The main results are:

Figure 2 | Multipliers analysis (% GDP) acumm. 2Q2015



Source: INDEC, UN Comtrade Database and Bank estimates

The figure above identifies three types of impacts. On the one hand, the direct impact measures the change in exports as a share of the average GDP between 3Q2014 and 2Q2015 (2Q2015 accumulated). On the other hand, the two remaining impacts measure the VBP and VA increases, respectively, as a share of GDP as well.

The total VA loss associated to the exports decline is 0.42 percentage points of GDP. The discrepancy between this value and that of the direct impact is represented by the import component of our exports to Brazil. In other words, such difference can be explained by the decrease in imported inputs that is associated to the exports decline. The automotive exports decrease leads to a VA fall of 0.36 percentage points of GDP and a VBP fall of 0.98 percentage points in the total economy, thus making such decrease the main explanation for the aggregate dynamics.

Furthermore, an antagonistic dynamics can be observed in the evolution of exported primary products and agricultural manufactured goods versus industrial goods. The Fuel and Energy sector is undergoing a negative evolution that can be mostly accounted for by the internal supply restrictions, as they reduce the possibility to export.

The most affected sector by the Brazilian recession is the industrial manufactured goods exports, which faces a higher income elasticity than that of agricultural manufactured goods and primary products exports[34]. This feature, together with the relevance of the industrial manufactured goods on sales to Brazil (73.5 percent), explains the sensitivity of our exports —and therefore, of the Argentine GDP— to the Brazilian demand variations.

The results show that the decline in exports led to a reduction in the domestic GDP of 0.42 percentage points. Considering the variation between the accumulated 2Q2016 and the accumulated 2Q2015 in the Brazilian GDP (-4.8 percent), each point of decline in Brazil leads to a contraction of 0.09 percentage points in the Argentine GDP, consistent with Adler and Sosa estimation (2012).

[34] Furthermore, the capacity of industrial manufactured goods to reallocate their supply in other markets, when facing a decline in the Brazilian demand, is lower than that of other sectors.

Exhibit 5 / Growth Accounting in Argentina 1980-2016

Solow's seminal work (1957)[35] incorporated a simpler quantification of economic growth sources into the economic growth theory. Based on standard production functions, it is possible to carry out growth accounting exercises to break down variations observed in the number of goods and services produced, in the factor endowment changes (capital and labor) and in a residual element including technological changes and other variables not measured by changes in production factors.

Such residual factor, the TFP, is a potentially pertinent variable in terms of growth and welfare analysis, as productivity increases allow higher output levels without simultaneously expanding the number of resources used. As a result, it is possible to reduce production costs and enhance the competitiveness of the economy in international markets. It should be remembered, though, that the TFP is a residual factor that can eventually reflect measurement problems in any of the calculated variables.

In order to quantify the Argentine economic growth determinants, we have carried out a growth accounting exercise for 1980-2016. This methodology was applied to the Argentine case in a number of cases, Elías (1969)[36] being one classical reference. More recent works, such as Meloni (1999)[37] and Maia and Nicholson (2001)[38], extend the analysis to the 80s and 90s, while Coremberg (2012)[39] incorporates the 2000s.

We start from a Cobb-Douglas production function with constant returns to scale $Y_t = A_t\, K_t^{\alpha} L_t^{1-\alpha}$ (1), where "Y_t", "K_t" y "L_t" represent the aggregated output, capital and employment levels in the economy for a given period, "A_t" is a factor measuring technological changes or TFP, while "α" and "$1-\alpha$" are time-invariant parameters representing capital and employment shares in the output.

Based on Hayashi and Prescott (2002)[40], (1) can be broken down as follows[41]:

$$\widehat{\boldsymbol{y_t}} = \widehat{\boldsymbol{l_t}} + \frac{\boldsymbol{\alpha}}{\boldsymbol{1-\alpha}} \left(\frac{\widehat{\boldsymbol{K_t}}}{\boldsymbol{Y_t}}\right) + \frac{\boldsymbol{1}}{\boldsymbol{1-\alpha}} \widehat{\boldsymbol{A_t}} \qquad (2)$$

Where $\widehat{\boldsymbol{y_t}}$, $\widehat{\boldsymbol{l_t}}$, $\frac{\widehat{\boldsymbol{K_t}}}{\boldsymbol{Y_t}}$ and $\widehat{\boldsymbol{A_t}}$ represent the per capita output (considering the economically active population), per capita employment, capital-output ratio and technological factor growth rates, respectively.

Considering that $\widehat{\boldsymbol{y_t}}$, $\widehat{\boldsymbol{l_t}}$ y $\frac{\widehat{\boldsymbol{K_t}}}{\boldsymbol{Y_t}}$ can be derived from data supplied by the National Accounts, $\widehat{\boldsymbol{A_t}}$ is calculated as a residual value. This may lead to overestimations or underestimations of the TPF, due to measurement errors of the remaining production factors. Therefore, two adjustments are made: (i) employment is adjusted as per the average number of hours worked in order to reflect that both employers and employees adjust not only the employment level but also the hours worked; (ii) capital is adjusted according to the capacity utilization in order to contemplate variations in its use. Accordingly, (2) can be re-expressed as follows[42]:

[35] Solow, R. (1957): "Technical Change and the Aggregate Production Function". Review of Economics and Statistics. (39). 312-20.
[36] Elías, V. J. (1969): "Estimates of Value Added, Capital and Labor in Argentina Manufacturing, 1935-1963". University of Chicago.
[37] Meloni, O. (1998): "Crecimiento Potencial y Productividad en la Argentina, 1980- 1997". UNT. Mimeo.
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[39] Coremberg, A. (2012): "Measuring Productivity in Unstable and Natural Resources Dependent Economies: Argentina", paper submitted at the Second World KLEMS Conference, Harvard University, Cambridge, Massachusetts, August 9-10.
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[41] (1) is manipulated to reach $y = A^{\frac{1}{\alpha}}\, l\, (\frac{K}{Y})^{\frac{\alpha}{1-\alpha}}$. Then, applying logarithms and first differences, (2) is obtained.
[42] The procedure leading to (3) is similar to that used to obtain (2), except for the fact that it starts from a Cobb-Douglas production function of the following type: $Y_t = A_t(u_t K_t)^{\alpha}\, (h_t L_t)^{1-\alpha}$

$$\widehat{y_t} = \widehat{h_t l_t} + \frac{\alpha}{1-\alpha}\left(\frac{\widehat{u_t K_t}}{Y_t}\right) + \frac{1}{1-\alpha}\widehat{A_t} \quad (3)$$

where $\widehat{h_t l_t}$ is the employment growth rate adjusted as per the number of hours worked and $\frac{\widehat{u_t K_t}}{Y_t}$ is the capital-output ratio growth rate adjusted by the capital utilization. In this way, (3) shows that the per capita output variations can be explained by:

- Changes in production factors growth rates ($\widehat{h_t l_t}$ and $\frac{\widehat{u_t K_t}}{Y_t}$)
- Changes in the TPF growth rate ($\widehat{A_t}$)

This exercise uses annual data from 1980-2016. Output[43], capital stock[44] and employment[45] series are based on data supplied by the INDEC. The capacity utilization series[46] are developed from data supplied by Fundación de Investigaciones Económicas Latinoamericanas (FIEL) and National Institute of Statistics and Censuses (INDEC), while the hours worked series[47] come from the International Labor Organization (ILO) and INDEC. Finally, a $\alpha = 0.57$ value is used, arising from Escudé et al (2004)[48].

Table 1 shows the contribution of each factor to the per capita output in the different sub-periods, considering average growth rates for each one. The last column results from adding up the first three.

Table 1 | GDP per capita growth contribution in percentage points

	$\widehat{hl}$	$\frac{\widehat{uK}}{Y}$	$\widehat{A}$	$\widehat{y}$
1980-2016	-0,67	-0,52	1,40	0,22
1980-1989	-1,50	-0,15	-0,84	-2,48
1991-1998	-1,67	-0,01	4,91	3,23
1998-2001	-1,83	-0,28	-0,63	-2,73
2003-2011	3,70	-3,34	3,81	4,17
2011-2015	0,29	-0,65	1,17	0,81

Note: Average growth rates for each period

An analysis of the entire 1980-2016 period shows that the per capita output increased 0.22 percent yearly average, that is, the average Argentinian in 2016 was just an 8 percent richer than that of 1980[49], a clear

[43] GDP at 2004 constant prices. Combined with the 1986 and 1993 base series.
[44] Capital stock at 2004 constant prices based on the perpetual inventory method and using a 0.05 depreciation rate.
[45] $employment_t = EAP_t * [1 - (unemployment\ rate_t + 0.52 * underemployment\ rate_t)]$
[46] Capacity utilization-INDEC 1980-1994 and 2010-2016 series, FIEL 1994-2010 series. This index shows the capacity utilization in the industry rather than in the economy as a whole. However, in the absence of a better index, this is taken as a proxy of the entire economy.
[47] ILO 1980-2011 series, INDEC 2011-2016 series.
[48] "α" is calculated as an average for the 1980-2003 period. Escudé, G., F. Gabrielli, L. Lanteri, and J. Roulliet (2004): "Estimating Potential Output for Argentina", 1980:1-2004:1", Mimeo, BCRA.
[49] The 8 percent comes from the following calculation: [1.0022^(2016-1980)-1]*100

signal of the stagnation of our economy over the past 40 years. Only the TPF contributed positively during that period, with a negative contribution of employment and capital.

By analyzing the 80s, it can be observed that both the high inflation, which ended up in two hyperinflation episodes, and the debt crisis led to an adverse economic scenario for Argentina. This lead to a "lost decade" in terms of per capita growth, as all factors had a negative contribution.

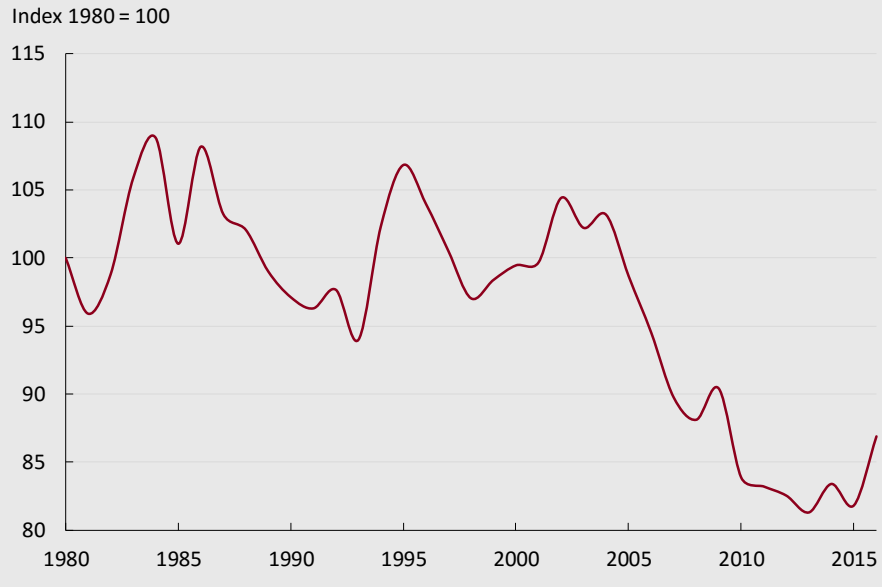
The performance of the 90s differs, depending on whether the first or last years are considered. Taking the 1991-1998 period, the increase of more than 3 points in the per capita output can be almost entirely explained by the enhanced productivity based on the stabilization of inflation, an increase in private investment and the beginning of a structural reform process. However, changes in the external conditions towards the end of the decade, as well as the restrictions of a fixed exchange rate regime to face such shocks, imposed pressures on the labor market. Such pressures were translated into a negative contribution to growth of the employment that deepened since 1998. Finally, the capital contribution was slightly negative in both sub-periods.

The 2000s present two well-differentiated stages. Between 2003 and 2011, the economy records the highest per capita output growth rate among all sub-periods under analysis. This result can be explained by the positive contributions from productivity and employment as a result of the large amount of employment slack after the 2001 crisis. As of 2011, the output growth decreased significantly due to a sharp decline in productivity and employment contributions. Once more, the capital contribution was negative.

The most remarkable result of this exercise, consistently maintained throughout the different periods, is the negative contribution from the capital-output ratio to the per capita output growth. Under a volatile macroeconomic scenario such as the one in Argentina, inflation, regime changes as well as persistent interventions and relative price distortions have created a less capital-intensive economy. Today, the capital-output ratio is 13 points below the value recorded in the early 2000s and nearly 22 points below the historical peak.

In this sense, an organized and stable economy, with low inflation, is one of the most important contributions the BCRA can make to reverse this trend.

Figure 1 | Capital/output ratio adjusted by capacity utilisation



Source: BCRA

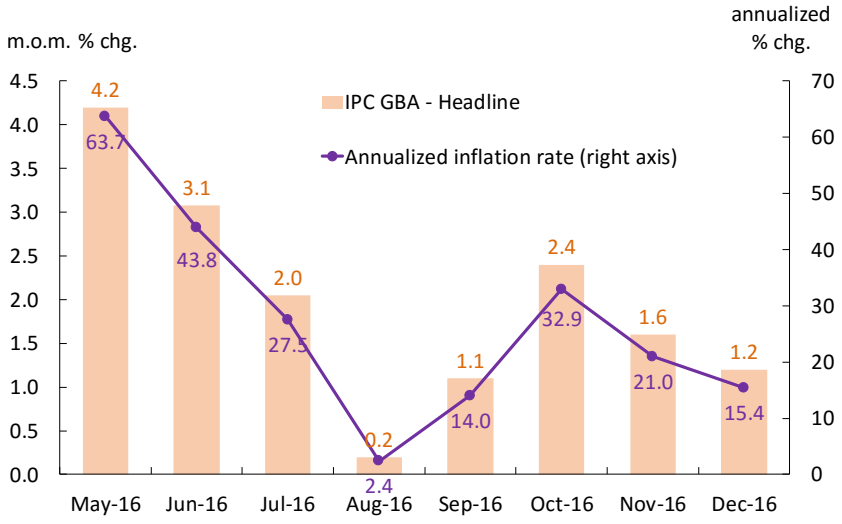
4. Prices

Inflation showed a sharp slowdown in the second half of 2016, as foreseen by the monetary authority. The Consumer Price Index of the Greater Buenos Aires (IPC-GBA), developed by the National Institute of Statistics and Census (INDEC), averaged a 1.4 percent monthly increase over this period, falling below 19 percent yearly, the lowest half-year increase over the last six years[50]. For the first quarter of 2017, the median of inflation expectations from market analysts who participated in the Market Expectations Survey (REM) was about 1.6 percent for headline inflation and 1.5 percent for core inflation, thus they might implicitly consider updating some items that are subject to regulation. By December 2017, expectations reached 21 percent year-on-year, staying away from the annual inflation target bands set by the BCRA (12 percent and 17 percent). The BCRA expects the disinflation process to continue beyond the monthly volatility caused by specific variations of regulated and seasonal items, in line with the inflation targets announced.

4.1 Inflation of the second half of 2016 was consistent with the BCRA's monetary policy goal

The IPC-GBA developed by the INDEC —which is the price index used by the BCRA as a monetary policy goal— recorded a monthly average increase of 1.4 percent between July and December, showing a sharp slowdown against the previous months. The monetary policy's anti-inflationary bias ensured that the elimination of several distortions affecting the economy did not affect inflation permanently and that the disinflation process deepened, reaching a 5 percent year-on-year target by December 2019. Following this path, the annualized inflation rate was below 19 percent in the second half of the year (see Figure 4.1 and Table 4.1).

Figure 4.1 | Consumer Price Index of the Greater Buenos Aires (IPC-GBA)

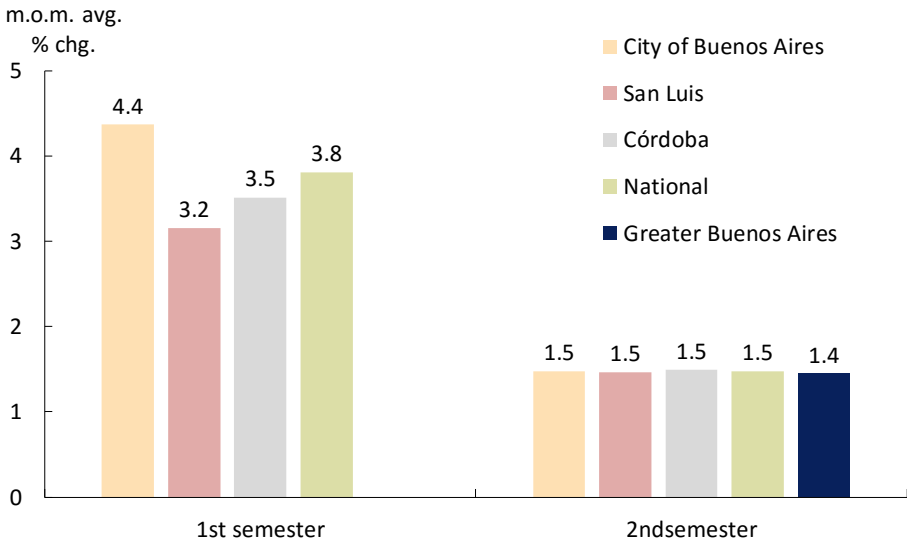


Source: INDEC

[50] In order to make a historical comparison, the annualized monthly average rate of the second half of 2016 —measured by the IPC-GBA on a December 2015 base, developed by the INDEC and published since April 2016— was compared to the annualized six-month moving average of that same index and other reliable official consumer price indices previously available. To that purpose, the following consumer price indeces were considered: IPC CABA, July 2011-June 2012=100 base; Córdoba IPC, 2014=100 base, and San Luis CPI, 2003=100 base. Each series was evaluated separately as of the date of availability, and it was concluded that, for GBA, the City of Buenos Aires and Córdoba, the lowest annualized increase of the whole series corresponded to the second half of 2016.

A marked slowdown was also noted in other districts where, in all cases, the inflation rate was reduced to less than a half in the second semester of 2016. The overall level of the weighted national consumer price index (IPC-NP)[51], which summarizes this information, averaged a 1.5 percent increase over the last six months of 2016, after having increased at a 3.8 percent monthly rate during the first half of the year (see Figure 4.2).

Figure 4.2 | Monthly average inflation variation by semester of 2016



Source: Statistical offices of City of Buenos Aires, San Luis, Córdoba, INDEC and Bank Estimates

Between August and November 2016, the consumer price indices estimations developed by the official statistics agencies were impacted by the judicial process related to the gas tariff increase[52], providing more volatility to overall variations. Excluding such impact[53], the overall IPC-GBA presented an average increase of 1.4 percent in the last quarter of 2016, was below 1.5 percent in the third quarter, and showed a marked slowdown in December (1.2 percent). Core inflation[54] reached a 1.7 percent monthly average in the last quarter of 2016, similar to July-September period. This addition was affected by increases in certain items, whose prices, though excluded from the regulated group, are subject to a certain type of administrative resolution. An example of this are the building operating and maintenance costs, which were impacted by the gas tariff increase in October and the janitors' collective bargaining agreement in December.

[51] The BCRA estimates the CPI-NP based on the the City of Buenos Aires, San Luis and Córdoba CPIs derived from the 2004-2005 National Household Expenditure Survey (Encuesta Nacional de Gasto de los Hogares, ENGHo 2004/05). In order to develop the IPC-NP and taking the consumption expenditure distribution per region developed by this survey as a reference, the IPC CABA is estimated at 44 percent (used as a representative of the GBA price evolution) and the remaining 56 percent corresponds to the interior of the country. Based on the Pampas region share, the Córdoba CPI is estimated at 34 percent and the rest of the interior of the country is represented by the San Luis CPI evolution (22 percent of the IPC-NP).

[52] In August, the National Supreme Court Justice declared the resolutions that had changed residential gas rates last April null and void, thus reversing the rates back to their previous value, prior to the increase. Then, as of 7 October, a new gas rate became effective and presented an increase somewhat lower than that originally proposed. These administrative resolutions provided volatility to overall consumer prices, which were exceptionally low in August and higher than they would have been without such an impact in October and November.

[53] A zero variation was considered for the network gas component for each month of the second half of 2016. That means that both the decline in August and the subsequent rise since 7 October were excluded.

[54] The CPIs can be divided in three categories: 1) "seasonal", including those prices mostly impacted by seasonal issues (such as tourism-related services), 2) "regulated", including those prices impacted by a strong tax or regulatory component (such as the price of public services) and 3) "core" or "remaining", identifying the underlying or basic inflation, that is, the more permanent price evolution.

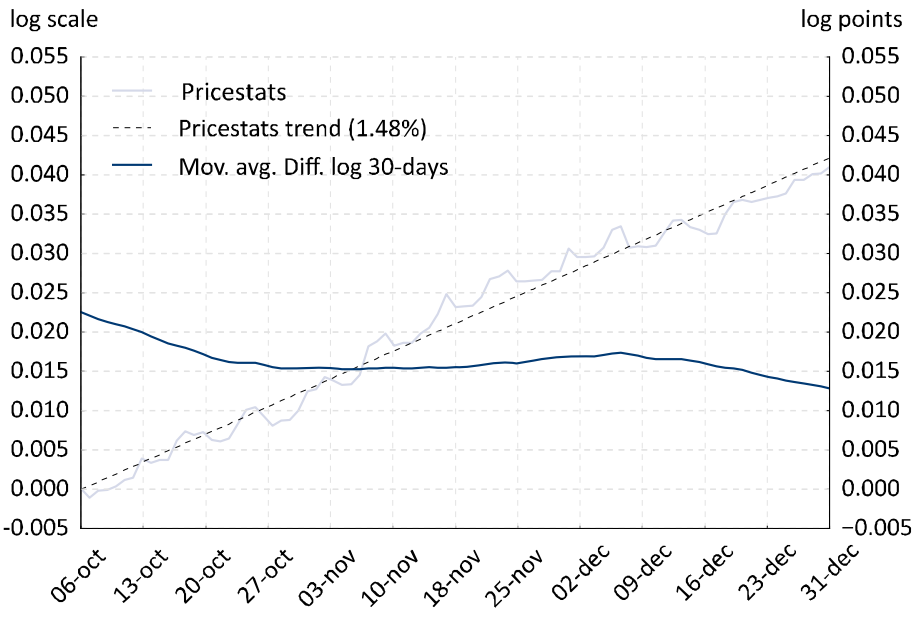
Table 4.1 | IPC-GBA

	May-16 / Jun-16 (a)	II Half-16 (b)	diff. in p.p. (b-a)
General level	3.6	1.4	-2.2
By chapter			
Food and beverages	3.4	1.7	-1.7
Clothing	1.3	1.6	0.3
Housing and essential services	6.1	0.5	-5.7
Household equipment and maintenance	3.8	1.4	-2.3
Medical care and health expenses	4.3	2.0	-2.3
Transport and communications	3.3	0.9	-2.4
Recreation	1.1	1.6	0.5
Education	2.7	1.3	-1.4
Other goods and services	8.5	1.5	-7.0
By category			
Core CPI	2.8	1.7	-1.1
Regulated	6.0	1.0	-5.1
Seasonal	3.5	0.6	-2.9

Source: INDEC

The high-frequency retail price index developed by PriceStats also reflects an inflation slowdown towards the end of 2016. In the last quarter, retail prices increased to 1.5 percent and 1.3 percent on average in December (see Figure 4.3).

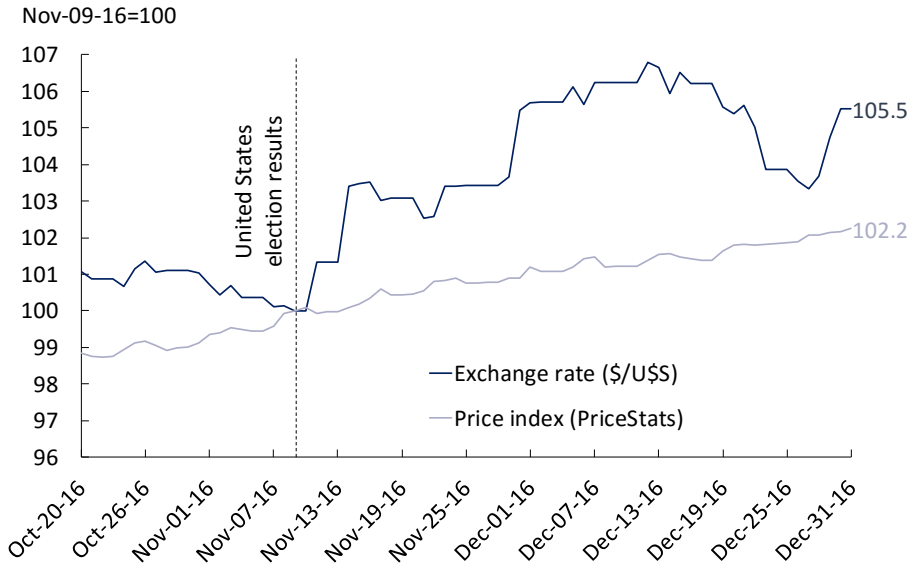
Figure 4.3 | High frequency price index



Source: State Street' PriceStats Aggregate Inflation Series

It is important to note that, in the current monetary-exchange rate regime implemented in Argentina, the existing disinflation process was not largely affected by the recent exchange rate volatility scenario. In November, the US presidential elections boosted the global appreciation of the US dollar. The credibility of the inflation targeting regime adopted by the BCRA —the interest rate leads the inflation rate and inflation expectations towards the proposed targets—, was essential to dissociate the evolution of the domestic prices from the exchange rate fluctuations (see Figure 4.4).

Figure 4.4 | Domestic prices and nominal exchange rate



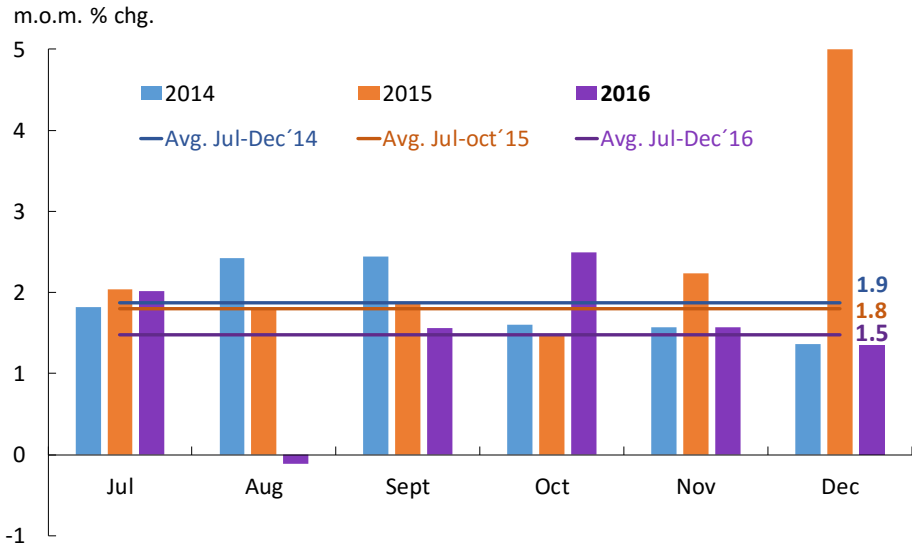
Source: State Street' PriceStats Aggregate Inflation Series and Bank estimates

4.2 Inflation reached the lowest levels in recent years at the end of 2016

In the second half of 2016, the monetary policy succeeded in limiting the impact of updated rates and leading inflation below the values recorded in recent years. According to the IPC-NP, the monthly average inflation of the second half of 2016 reached 1.5 percent, lower than that recorded over the same period in 2014 and 2015[55] (-0.3 percentage points and -0.4 percentage points, respectively; see Figure 4.5).

[55] By 2015, November and December were excluded, when the impact from the exchange market liberalization began to be perceived. The San Luis overall CPI from December 2016 is an own estimatate.

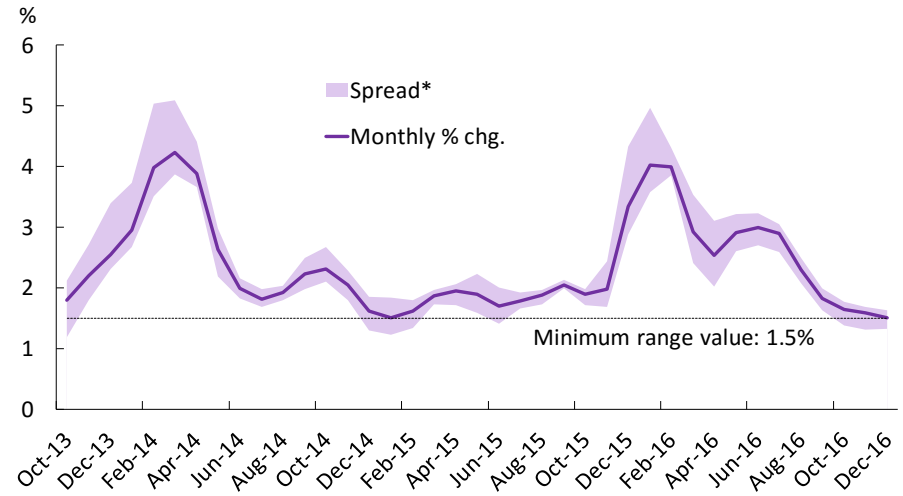
Figure 4.5 | Monthly consumer prices variation. IPC-NP



Source: Statistical offices of San Luis, Córdoba and City of Buenos Aires and Bank estimates

The IPC-NP core component showed the same trend, deepening the slowdown in the last quarter of 2016, with an average rise of 1.5 percent, that is, 0.3 percentage points below the previous quarter. This was a widespread behavior, and particularly with higher impact in the interior of the country (see Figure 4.6).

Figure 4.6 | Core IPC-N W



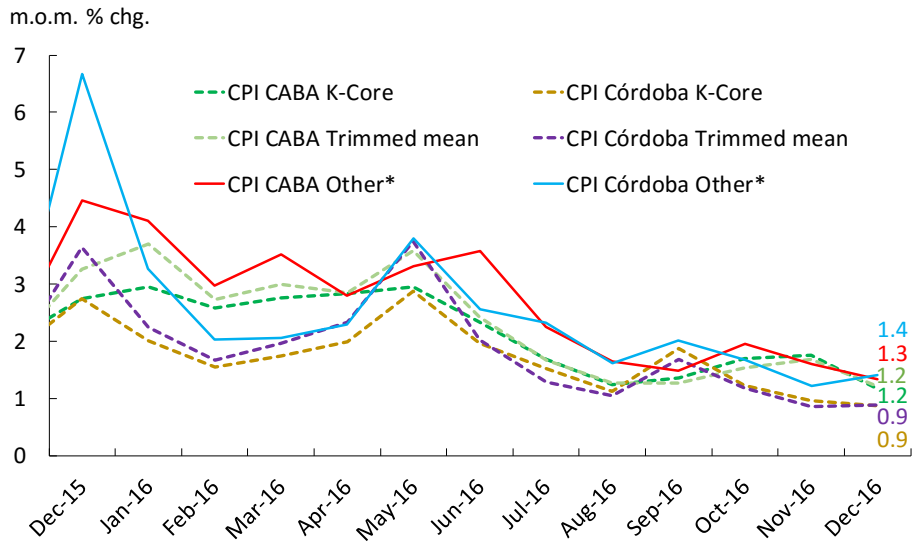
*Note: Made from the maximum and minimum monthly average variation of the 3-month window of the subnational indexes composing the National CPI

Source: Statistical offices of San Luis, Córdoba and City of Buenos Aires and Bank estimates

In the City of Buenos Aires, the core inflation[56] reached a 1.6 percent average over the last three months of the year, that is, 0.2 percentage points below the average value of July-September. The monthly trend decreased up to a 1.3 percent in December. In Córdoba, the core inflation[57] was 1.4 percent in the last quarter of the year (-0.6 percentage points against the third quarter).

Other core inflation measures[58], seeking to capture the series trend behavior by filtering out extreme values in the price change distribution, show a similar pattern to that of the official measures[59]. In Córdoba, both the trimmed-mean rate and the K-Core rate slowed down up to 1.0 percent over the last three months of 2016[60]. In the City of Buenos Aires, both measures averaged 1.5 percent and declined sharply to 1.2 percent in the last month of the year (see Figure 4.7). According to core inflation statistics mesures, the December 2016 annualized inflation was between 11 percent and 15.7 percent within the inflation target bands for 2017 (12 percent year-on-year and 17 percent year-on-year).

Figure 4.7 | Core inflation measures



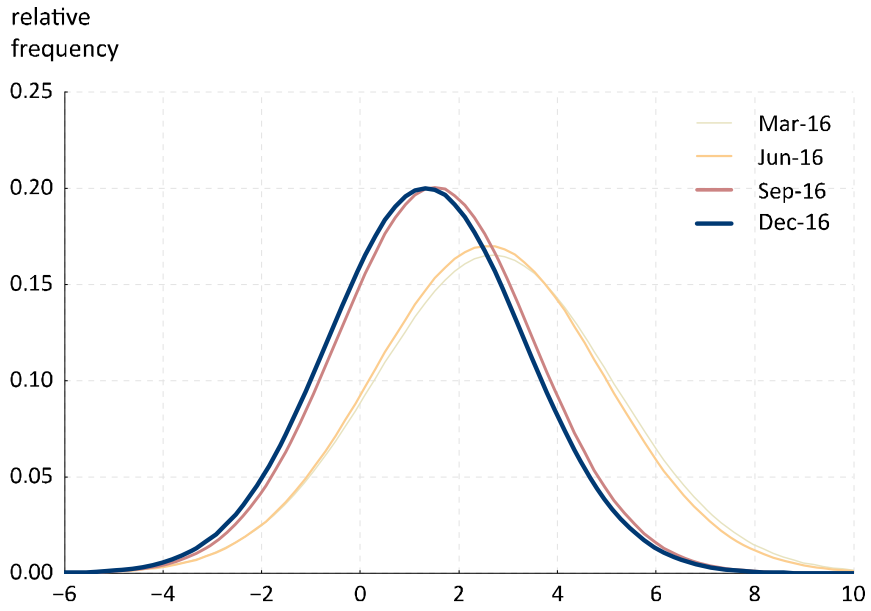
*Core inflation estimates published by the subnational statistical offices

Source: Statistical office of Córdoba, City of Buenos Aires and Bank estimates

The price slowdown was widely spread. Based on disaggregated data[61] from the City of Buenos Aires IPC, it can be observed that the monthly price change distribution slides towards lower values together with a decreased dispersion compared to the first half of the year (see Figure 4.8).

[56] Corresponds to the remaining index published by the Statistical Office of the City of Buenos Aires which, unlike the CPI-GBA core aggregated, includes education and prepaid medical plans.
[57] Publishes the remaining CPI using the same methodology as for the City of Buenos Aires CPI, that is, including education and prepaid medical plans.
[58] D'Amato, L.; Sanz, L. and Sotes Paladino, J.M. (July 2006). *Evaluación de medidas alternativas de inflación subyacente para Argentina* (Evaluation of alternative underlying inflation measures for Argentina). BCRA Studies, 1, 1-48
[59] These measures are developed by the BCRA by applying several statistical methods (see "Exhibit 5. Core Inflation Measures" from the July 2016 IPOM).
[60] The main difference between the "trimmed-mean" and "k-core" measures is that the former excludes those items whose variations exceed, in absolute value, a certain limit, while the latter does not exclude any item, but limits its relative variation to the overall inflation to a maximum "k". Specifically, the limit applied to the trimmed-mean is 15 percent. The "k" measured for this exercise is 10 percent. For further details about this methodology, see "Exhibit 5. Core Inflation Measures" from the July 2016 IPOM.
[61] A 3-digit (class) disaggregation of the City of Buenos Aires CPI was used.

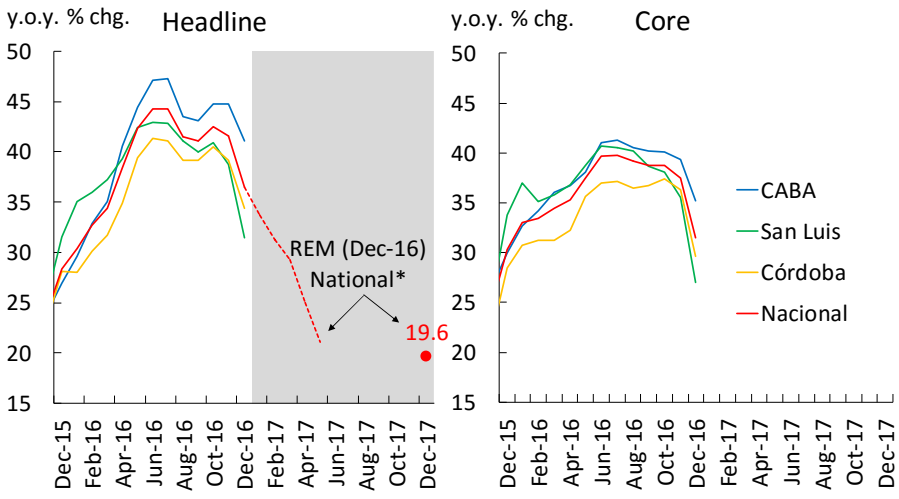
Figure 4.8 | Normal distribution adjustment over the monthy variation of the City of Buenos Aires price index (3 digits)



*Variations over a |10%| were trimmed
Source: Statistical office of City of City of Buenos Aires and Bank estimates

In year-on-year terms, the IPC-NP inflation reached 36.6 percent and core inflation closed at 31.5 percent in December 2016. According to market analysts' expectations, the year-on-year path of prices at a national level will show a sharp drop over in the first half of 2017 (see Figure 4.9).

Figure 4.9 | Year-on-year price indexes variation



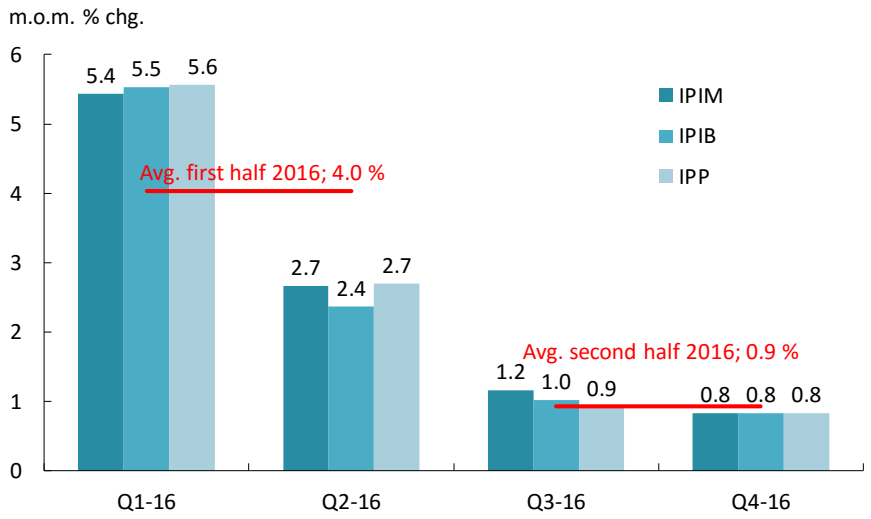
*National CPI from REM-BCRA projections (Dec-16)
Source: Statistical offices of San Luis, Córdoba, City of Buenos Aires, REM-BCRA (Dec-16) and Bank estimates

4.3 Costs and wages

4.3.1 Upward pressures over consumer prices seem to have reduced

Wholesale prices averaged rises around 1.0 percent between July and December, showing a marked slowdown against the first half of the year (see Figure 4.10).

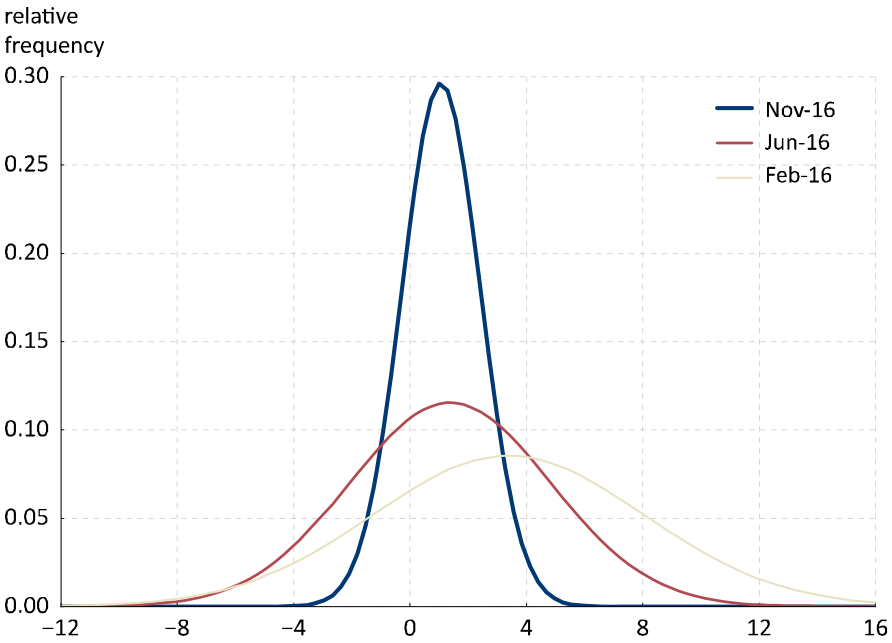
Figure 4.10 | Wholesale prices



Source: INDEC

This behavior was widely prevailing across all the components. As expected in a disinflation process, a reduction of the median and the dispersion of price changes over the months can be observed. This is observed when adjusting a normal distribution function to the peak monthly variations of the Domestic Wholesale Price Index (Índice de Precios Internos al por Mayor, IPIM) published by the INDEC (see Figure 4.11).

Figure 4.11 | Distribution of the monthly variation of the components of the IPIM

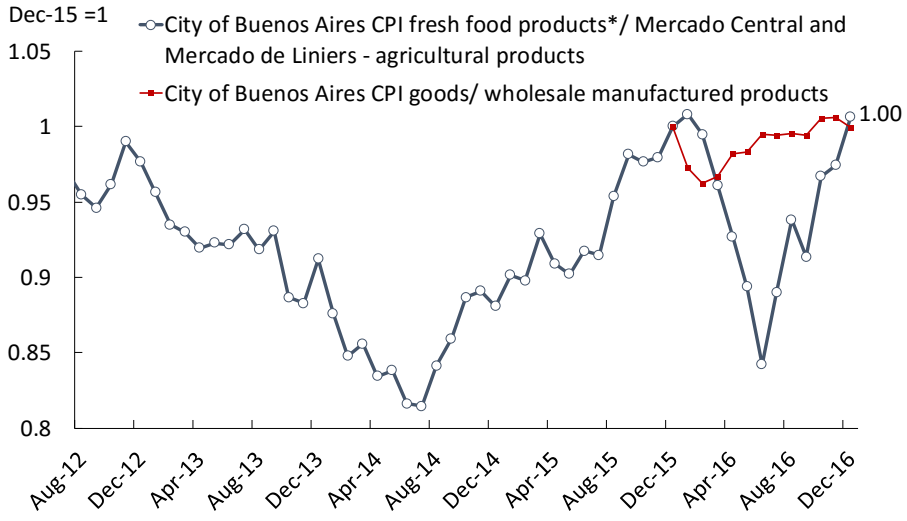


Source: INDEC and Bank estimates

This downward trend of monthly variation rates continued over the last quarter of the year. The IPIM and the Domestic Wholesale Basic Price Index (Índice de Precios Internos Básicos al por Mayor, IPIB) showed an average monthly variation of 0.8 percent. Agricultural product prices fell while manufactured products continued slowing down, largely due to food dynamics, refined oil products and chemical products and substances. The domestic prices of imported goods showed a similar trend by reducing the increases in the last months of 2016, as their market prices[62] reduced significantly the decline between January and September.

A rough estimate of the evolution of retail margins can be derived from the IPC goods/IPIM manufactured products ratio. During the first months of the year, following the normalization of the exchange market in December 2015, wholesale prices accumulated higher increases than consumer prices. By the middle of 2016 a retail margins policy normalization started and apparently have ended during the last months of the year. In this context, the upward pressures over consumer prices seem to have reduced. Those results are also valid for a subset of agricultural products (fruits, vegetables, milk and beef)[63], which are more volatile by nature (see Figure 4.12).

Figure 4.12 | Retail margins



*Includes fresh fruit, fresh vegetables, meat and dairy milk

Source: INDEC, statistical office of the City of Buenos Aires, Mercado Central and Mercado de Liniers

The Construction Price Index (Índice de costo de la construcción, ICC) developed by the INDEC (ICC-INDEC) increased to an average monthly rate of 1.5 percent in the second semester of the year, nearly half of the one recorded over the first semester of 2016.

Over the last quarter of 2016, construction prices increased to an average rate of 2.3 percent, largely due to a wage renegotiation led by the Argentine Construction Workers' Union (Unión Obrera de la Construcción de la República Argentina, UOCRA). A non-cumulative 17 percent increase was agreed in October, adding to the 22 percent stipulated last April. The formal labor cost of the sector increased 32.3 percent on average over the year, in line with the average increase experienced by the rest of the registered private sector[64]. However, given

[62] According to the Trade Import Price Index, the prices of imported goods accumulated a withdrawal of 4.4 percent year-on-year in October-November, after a 12.6 percent year-on-year drop over the first nine months of the year.
[63] In order to carry out said exercise, an index was developed by selecting a set of products with wholesale prices extracted from the Central Market (fruits and vegetables), the Liniers Market index (INML) and the Ministry of Agro Industry (fluid milk). The evolution of retail prices of that set of goods, as well as the weightings used were obtained from the City of Buenos Aires CPI.
[64] Data provided by the Integrated Argentine Social Security System (Sistema Integrado Provisional Argentino, SIPA) – Ministry of Labor.

that the construction industry is one of the sectors with the highest labor informality, the approved percentages of increase cover only a 28 percent[65] of workers. Building material prices averaged limited increases similar to those of the third quarter of the year (around 1.5 percent), though below those of the first quarter (2.6 percent). The City of Buenos Aires ICC (ICC-CABA) and Córdoba ICC (ICC-Córdoba) rose on average at a rate of 2.0 percent monthly over the last months of the year, as they were strongly impacted by the wage component.

4.3.2 Real wages recover over the last months

Real wages in the registered private sector showed a rebound towards the end of the year.The heterogeneous structuring of 2016 wage settlements allowed those sectors that received increase tranches in the second half of the year[66] to obtain a real improvement on their labor income, within a disinflation context, towards the end of the year (see Table 4.2). On the aggregate, wages of the formal sector raised at an average monthly rate of 2.8 percent, seasonally-adjusted between July and December[67], above the inflation recorded during the same period (1.5 percent monthly average, as per the IPC-NP). Such behavior differed from the first half of the year, when formal wages of the private sector increased at an average rate of 2.4 percent monthly, and inflation increased to 3.8 percent. Considering the annual average, the registered private sector wage cost declined in 2016, when wages and inflation rose to about 33 percent and 39.3 percent, respectively[68].

The Household Permanent Survey (EPH) database of the second quarter of 2016[69] was published in the third quarter of the year. The microdata analysis allows the wage segregation by segment. Considering the total number of wage earners, a significant gap remains between formal (2.2 times higher) and informal wages. The gap is similar when considering only the private segment (2.1 times).

By 2017 wage settlements known until then present a new modality, incorporating new negotiation stages and, in some cases, provisions that allow adjustments when inflation exceeds a certain limit. Therefore, the future price dynamics becomes particularly relevant over the previous evolution. For example, the wage settlement for state employees of Buenos Aires includes quarterly non-cumulative increases of 4.5 percent (18 percent year-on-year by December), plus deviation adjustments related to the cumulative inflation. That is, if inflation exceeds 4.5 percent quarterly, the additional rise should be applied retroactively to the month when the deviation occurred. This is a pilot case about how inflation targets announced by the BCRA are taken intoaccount as reference in nominal wage negotiations process.

[65] Estimation based on microdata from the EPH of the second quarter 2016, considering the private sector's wage earners.
[66] Covers those unions that agreed more than a rise tranche by the beginning of the year, including those that early agreed the percentage of increase and those that left a new stage negotiation open in the second half and agreed the rise at that moment.
[67] Own estimation based on data from the Ministry of Labor and the Federal Administration of Public Revenue (Administración Federal de Ingresos Públicos, AFIP).
[68] Based on data provided by the Ministry of Labor, the AFIP and the CPI-NP.
[69] This is the first user base from the EPH published by the INDEC, after a thorough review and evaluation period started in December 2015.

Table 4.2 | Wage agreements reached in 2016

Main unions		Agreement expiration	% of wage raise	Agreement details	Lump sum
Annual agreements					
Public administration (SINEP)	UPCN	Mar-16	31	7% a Jun-16 9% a Jul-16 12% a Aug-16	
Agrarian workers	UATRE	Nov-15	34	20% Dec-15/Sep-16 15% Oct-16/Sep-17	
Food industry	STIA	Apr-15	36.5	22% a May-16 11.9% a Nov-16	
Bank workers	Bancaria	Dec-15	33		
Oilseed workers	FTCIODyARA	Mar-16	38		
Truck drivers	FEDCAM	Jul-16	37		
Teachers	Paritaria nacional	Dec-15	52	$7,800 since February $8,500 since July	
Teachers of Buenos Aires	Federación de Educadores Bonaerenses (FEB)		34.6	$7,904 in February $8,846 in March $9,801 in July	
Faculty teachers	CONADU		35		
Metallurgical workers	UOM	Apr-16	33	20% in Apr-16 7% in Aug-16 6% in Oct-16	$ 2,600
Plastic workers	UOYEP	Jun-16	24	20% Jul-16 3.33% Aug-16	$1,500 in April $1,500 in May $2,000 in june
Chemical and petrochemical workers	FESTIQyPRA	May-16	37.5		
Transport drivers (short/long distance)	UTA	Feb-16	29	Apr-16 to Mar-17	$2,000 in Apr-16 $1,500 in Aug-16
Footwear workers	UTICRA	May-16	22	Dec-15/Dec-16	
Beef industry workers	FGPICD	Apr-16	32	20% Apr-16/Sep-16	$2,000 in 6 installments
biannual agreements 2016					
Retail workers	FAECyS	Apr-16 Sep-16	31.6	20% Apr-16/Sep-16 12% Oct-16/Dec-16 7% Jan-17/Mar-17	$2,000 in 3 installments
Construction workers	UOCRA	Apr-16 Sep-16	32	22% Apr-16/Sep-16 17% Sep-16/Apr-17	
Filling station workers	SOESGIP	Apr-16	26	17% Apr-16/Sep-16 18% Oct-16/Apr-17	$740 Jul-16 $740 Aug-16
Doorman workers	SUTERH	May-16	30	25% Jun-16/Nov-16 12% Dec-16/May-17	$1,800 in Mar-16 $1,800 in Apr-16 $2,000 in May-16 $2,000 in Feb-17
Graphic workers of Buenos Aires	FGB	Apr-16	24	15% May-16/Sep-16 9% Oct-16/Dec-16 4% Jan-17/Apr-17	$2,000 in 2 tranches
Apparel workers	SOIVA	Apr-16	34	21% Apr-16/Sep-16 10% Oct-16/Mar-17	$1,500 $5,000
Automotive workers	SMATA	Dec-15	35	7,5% Jan-16/Mar-16 11% Apr-16/Jun-16 9.4% Jul-16/Sep-16 3.5% Oct-16/Dec-16	
Gastronomic workers	UTHGRA	May-16	22	20% Jun-16/Dec-16 14% Jan-17/May-17	$2,000 in 2 tranches

Source: Press publications, unions information and Bank estimates

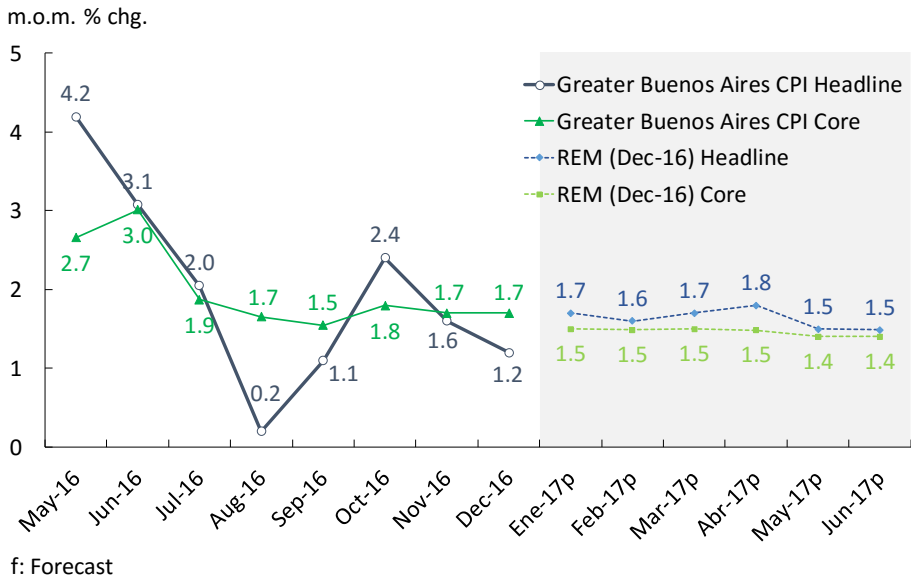
4.4 Outlook

The BCRA will continue maintaining its monetary policy anti-inflationary bias to ensure that the disinflation process continues. The BCRA expects a sharp fall of the year-on-year inflation rate by the first half[70] of 2017 and then a gradual convergence towards the December target. Given that private estimates are still above the target, the BCRA will maintain its monetary policy seeking to drive inflation expectations towards the inflation target bands established for 2017.

The latest REM predicts a headline inflation of 21 percent year-on-year by December 2017, 4 percentage points over the BCRA's upper target band. Regarding the core component (covering approximately 70 percent of the IPC basket), the market anticipates a 18.4 percent year-on-year variation. Considering such differential and assuming that seasonal goods and services (representing nearly 10 percent of the basket) increase to the same rate as that of the core component, analysts' implicit expectations are that the rest of the items (regulated goods and services weighted at 20 percent in the basket) will rise to 29.5 percent year-on-year, with a 6.9 percentage points contribution to the overall IPC-GBA variation (see Box).

The REM estimates a IPC-GBA inflation rate of about 1.6 percent[71] by the first quarter of 2017, subsequently decreasing to 1.5 percent monthly in June. The core inflation forecasts average 1.5 percent for the first quarter of 2017 and slowdown to 1.4 percent in June. The expected headline variation from January to March is higher than the core variation when including some expected and specific increases in several items subject to regulation, such as motor fuel, private schools, fixed telephone, electricity and public transport (see Figure 4.13).

Figure 4.13 | Market Expectations Survey



f: Forecast

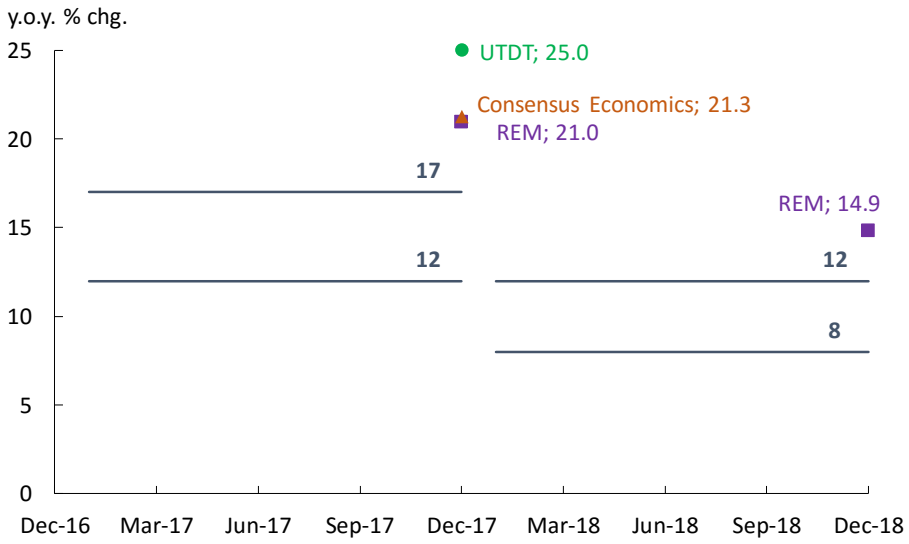
Source: INDEC, Market Expectations Survey (REM) - BCRA and Bank estimates

Moreover, according to the consumer survey carried out by the Torcuato di Tella University (Universidad Torcuato di Tella, UTDT) in December, the median of inflation expectations over 12 months remained at 25 percent year-on-year within the national average. The expectations evolution differed in the City of Buenos

[70] The CPI-GBA year-on-year variation would be below 25 percent in April and crossed the 20 percent mark in May.
[71] Quarterly average of monthly medians.

Aires and the interior of the country. While expectations in the City of Buenos Aires increased, reaching 24 percent year-on-year (4 percentage points over the November survey), they decreased in the interior of the country to 20 percent year-on-year (-5 percentage points according to the November survey). Meanwhile, in the Greater Buenos Aires, expectations remained at 30 percent year-on-year (see Figure 4.14).

Figure 4.14 | Inflation expectations and targets

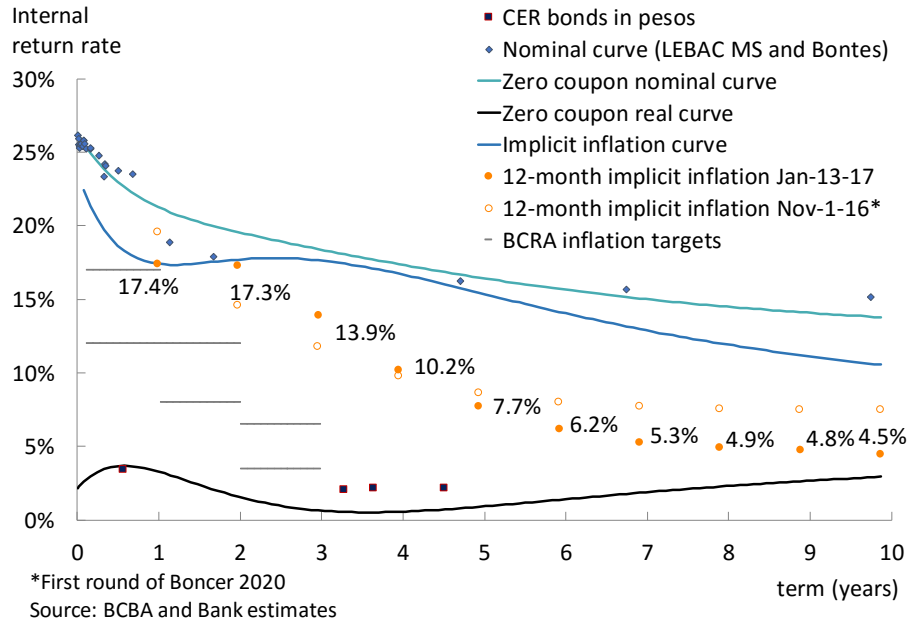


Source: Statistical provincial offices, Consensus Economics (Dec-2016), UTDT (Dec-2016), REM-BCRA (Dec-2016) and Bank estimates

Finally, by January 13th implicit inflation expectations in the bond market, based on fixed-rate Bontes in pesos and CER-indexed bonds[72], were 17.4 percent yearly for the rest of 2017; 17.3 percent for 2018; and 13.9 percent for 2019, thus marking a downward trend in the year-on-year price forecast (see Figure 4.15).

[72] The estimate of the 12-month implicit inflation (forward rate) is based on the comparison between zero-coupon rate curves in nominal pesos and zero-coupon rate curves in real pesos. The former has been estimated using the LEBAC secondary market prices and bonds in nominal pesos (Bontes); the latter has been estimated using the secondary market prices of the CER-adjusted bonds in pesos. The methodology applied is the same described in Exhibit 5 of the October 2016 IPOM, except for the curves adjustment, for which an extended Nelson and Siegel model (1987) suggested by Svensson (1994) was applied, which implies the incorporation of an additional factor to the original equation.

Figure 4.15 | Inflation expectations implicit in bond markets



The Central Bank will maintain an anti-inflationary bias, along with a clear and transparent disclosure of its policies[73] in order to ensure that the disinflation process continues and expectations remain within the bands set out.

Box. Disinflation path

Beginning in January, the Central Bank has formally adopted an inflation targeting regime, with a target band for the overall IPC that will be decreasing over time. In December this year, the bands were set out at 12 and 17 percent year-on-year for 2017.

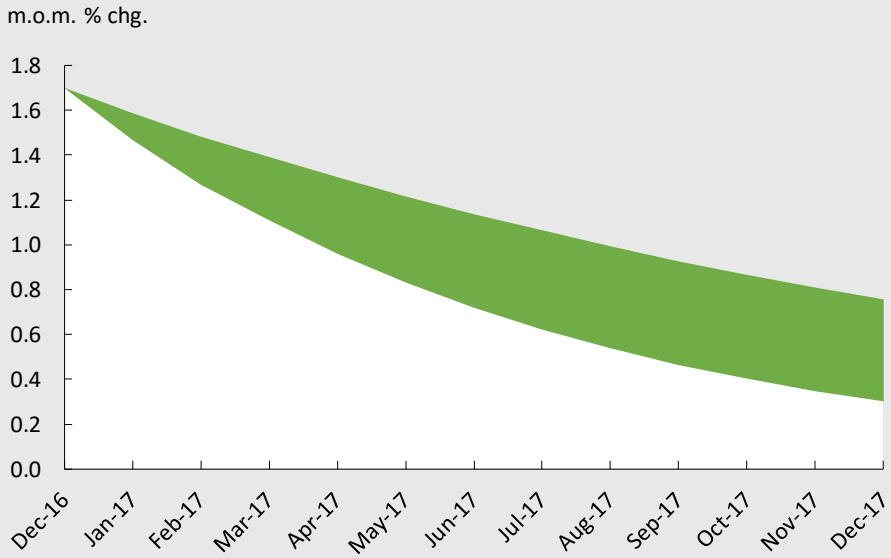
The headline inflation level can be broken down in a core component, including combined and persistent economy price fluctuations, and another component, consisting in less steady variations. According to the INDEC classification, the core component represents nearly 70 percent of the IPC-GBA basket. Goods and services excluded from the core component are seasonal or regulated, the former being more volatile by their own nature, and the latter due to regulations and/or administrative resolutions.

There are several core inflation paths consistent with the target, assuming certain behavior patterns for regulated and seasonal items. The scenario projected by the December 2016 REM's analysts has been adopted given the fact that the information available regarding regulated price variations to take place in 2017 is incomplete. Taking this into account, this exercise assumes a year-on-year headline variation of 2.6 percentage points higher than the core variation for December 2017, in line with the gap in REM's predictions. Regarding seasonal goods and services, a year-on-year increase rate equal to that of core inflation was assumed, as there are no previous elements suggesting a behavior significantly different from that rate.

[73] See weekly monetary policy communications and May, July and October Monetary Policy Reports.

Given the aforementioned assumptions, two possible paths were estimated implying a continuous reduction of the monthly core inflation[74], starting from the 1.7 percent recorded in December 2016, which would lead 2017 overall inflation level to the upper and lower limits of Central Bank's target bands. This would imply year-on-year increase rates for the IPC-GBA core components ranging from 14.4 percent year-on-year to 9.4 percent year-on-year, respectively. This exercise suggests that the target compliance requires a monthly core inflation below 1 percent over the second quarter of 2017 (see Figure 4.16).

Figure 4.16 | Disinflation path – Core IPC



Source: BCRA

Considering the aforementioned assumptions, all monthly inflation paths below the band indicated would be consistent with the target. However, there are other possible monthly core inflation paths showing an uneven decline with certain periods outside the set band, though they are in line with the annual inflation target set out by the BCRA. Indeed, outcomes of this exercise should be adjusted as long as the contribution of regulated prices to overall inflation is different from that predicted by the analysts.

[74] To this purpose, an exponential formula was used: $f(t) = 1{,}7\% \cdot e^{-t\delta} where \{t \in \mathbb{Z} \mid 0 \leq t \leq 12\}$ $t = 0$ corresponds to Dec-16 and $\{\delta, j \in \mathbb{R} \mid \prod_{t=1}^{12}(1 + f(t)) = 1 + j\}$ where j represents the Dec-Dec core inflation increase rate, given the assumptions consistent with the monetary policy bands.

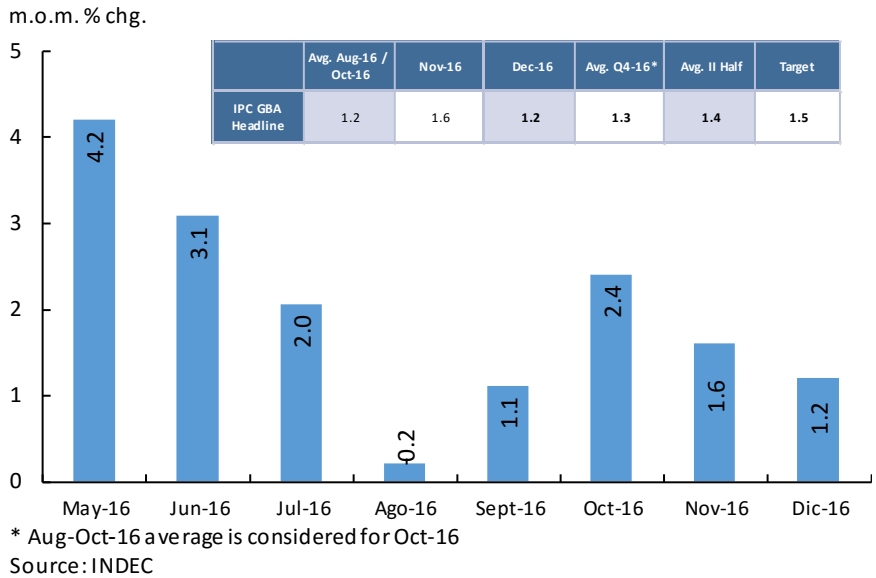
5. Monetary Policy

The BCRA reached its first intermediate inflation target for the fourth quarter of 2016. The inflation was below 1.5 percent monthly, considering the 1.3 percent monthly average of the last quarter and the ups and downs associated to the court decisions on gas rates, reinforced by a 1.2 percent in December and the 1.4 percent monthly average of the second half of the year. Beginning in January, the BCRA formally adopted an inflation targeting regime with a target range that will be decreasing over time: between 12 percent to 17 percent by 2017, 8 percent to 12 percent by 2018, and 5 percent as of 2019. In 2016, a transition process towards this new monetary regime had started by developing new operative and communication instruments, and eliminating regulations that disrupted and hindered the monetary policy transmission. The BCRA monetary policy will continue to maintain a clear anti-inflationary bias in order to ensure that the disinflation process that took place over the last months goes forward as per the inflation targets announced. Based on this, the monthly inflation is expected to keep decreasing gradually, apart from any transitory rises that may be recorded in monthly periods when rates or other outstanding regulated prices are adjusted.

5.1 The BCRA achieved its first target

The BCRA achieved its first intermediate target, by reaching a monthly inflation of 1.5 percent or less in the fourth quarter of 2016 (see Figure 5.1). When such target was set, the court decision leading to changes in gas rates was still unknown, so the resulting impacts should be taken into account when assessing its compliance (see Section 4. Prices). Considering inflation dynamics over the second half of the year —a period that set aside definitely the direct changes in price levels related to the exchange rates and charges adjustment—, the monthly inflation averages 1.4 percent. The inflation over the last half of 2016 was the lowest compared with the last six years (see Section 4. Prices). Alternatively, considering only the last quarter, and the August-October average inflation counted as the October value in order to include both the increase and decrease of gas rates (as suggested by the BCRA's President while submitting the previous Monetary Policy Report on October 18th, and to assess the target compliance made by this institution), the resulting inflation is 1.3 percent. Finally, the actual December rate was 1.2 percent monthly. In all cases, it can be stated that the target set by the BCRA was achieved.

Figure 5.1 | IPC GBA. Headline

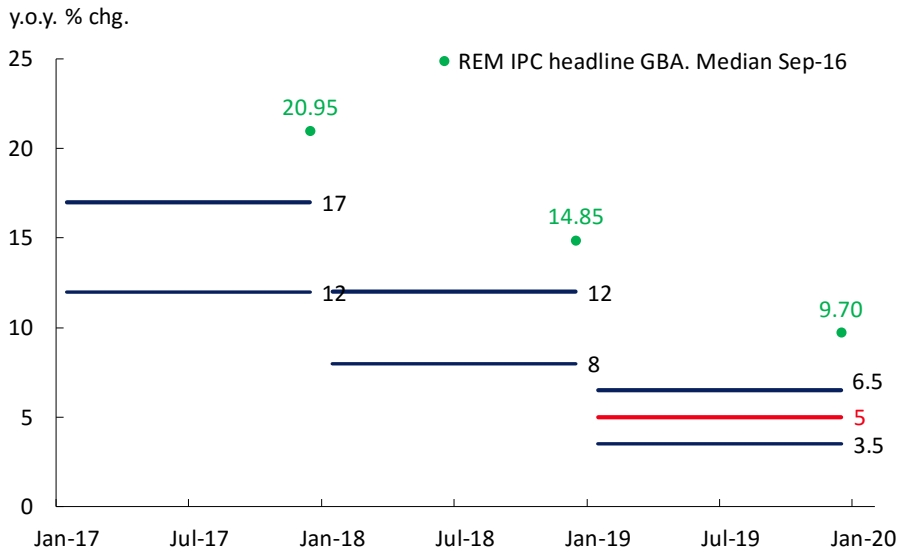


* Aug-Oct-16 average is considered for Oct-16

Source: INDEC

In September, the BCRA had officially announced its inflation target bands for the next years, with a decreasing path over time: from 12 percent to 17 percent by 2017, 8 percent to 12 percent by 2018, and 5 percent as of 2019 (see Figure 5.2). It also pointed out that the reference index used to assess the target compliance would be the broadest consumer price index published by the INDEC (initially, the CPI-GBA, then replaced by a national coverage index).

Figure 5.2 | Inflation targeting and expectations



Source: Market Expectations Survey (REM) - BCRA

According to the REM carried out by the BCRA, the expected inflation for the next years shows a clear decreasing trend, although with values above the targets (see Figure 5.2). In pursuit of its strong commitment to reduce inflation, the BCRA will keep its monetary policy anti-inflationary bias in order to lead inflation towards the intended bands.

5.2 The BCRA changed its monetary policy rate

As of the first week of January, the BCRA has changed its monetary policy rate from a 35-day LEBAC rate to the center of the LAF corridor 7-day rate.

The BCRA's repos and reverse repos operate as permanent facilities, meaning that those banks in possession of excess liquidity that could not be injected into the market (or scarce liquidity that could not be provided by the market) can make a reverse repo (or repo) with the BCRA at the end of the day.

A reverse repo consists in the formal purchase of a security (LEBAC) at a certain current price with a future sale agreement, within 7 days in this case, at some determined price. The difference between the current purchase price and the future sale price within a week, corresponds to the operation interest rate. For a reverse repo, the BCRA pays an interest rate to the commercial bank that provides the excess liquidity. Similarly, in the case of a repo, securities are sold by a bank to the BCRA today and repurchased a week later, the resulting value between the sale price and the repurchase price being the interest rate charged by the BCRA for supplying 1-week liquidity.

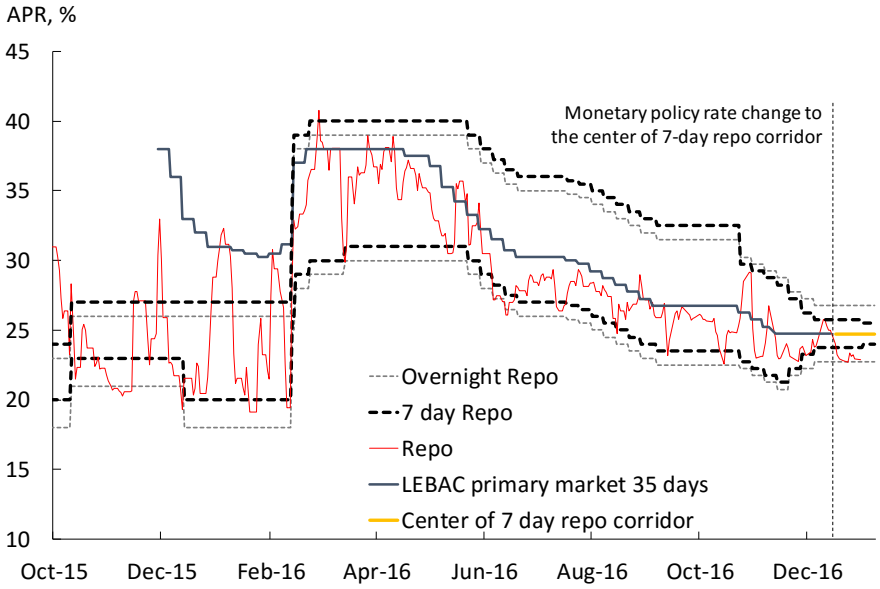
The public security purchased in cash and sold later by the BCRA under the repo operation serves as a collateral. Should a bank not be able to pay back at the end of the week, the BCRA would sell that security

in the market and recover its lent resources. In order to make these operations even safer, the current purchase price and future sell price of the repos and reverse repos are backed by a collateral security margin (of a 10 percent or more, depending on the security) that covers the price fluctuations of such assets in the market.

The reverse repos' interest rate works as an interbank market rate floor, since lending money to third parties that pay less interest rates than the BCRA is a poor deal for any bank. Similarly, the interest rate for repos is an interbank market rate ceiling, as paying more than the BCRA actually charges for the funds is not good business either for any bank.

The BCRA decided to set a 7-day policy rate within this segment, among other reasons, to avoid interfering in the overnight market, which presents the highest level of activity. In addition, it gradually narrowed its LAF corridor amplitude from 10 percentage points in March to 1.5 percentage points for 7-day operations, and to 4 percentage points for overnight operations (see Figure 5.3).

Figure 5.3 | Overnight repo rate corridor and interbank interest rate



Source: BCRA

Upon defining its corridor amplitude, the BCRA must weigh the advantages derived from less volatility — due to a higher control over its policy instrument— against those from a lower market intervention. A more active participation by the monetary authority might be counterproductive for the market development among third parties, as well as increase the BCRA's balance sheet size (and risk exposure)[75]. This can also reduce information obtained by the interbank market spreads, which are subject to the repos market arbitrage, particularly in the non-guaranteed segment, where the BCRA does not participate.

In turn, given the higher inflation and nominal interest rates, the BCRA's corridor must obviously be broader. Besides, a broader corridor for overnight operations against 7-day operations (chosen as a policy instrument) allows higher levels of overnight market rates fluctuation, reflecting market expectations about the next policy rate decision.

[75] See Bindseil, U. (2014) *Monetary Policy Operations and the Financial System*, *Oxford University Press*.

A review of the international experience of countries that have established a monetary policy rate corridor shows that there is no homogenous practice, as both overnight and 7-day operations with varied corridor amplitudes are found (see Table 5.1).

Table 5.1 | Reference Interest rates and Corridor Rate

Country	Floor	Roof	Policy Rate	Corridor Width	Country	Floor	Roof	Policy Rate	Corridor Width
Avg. Advanced				**0.79**	**Avg. Emerging**				**1.51**
USA (1)	0.75	1.25	0,5-0,75	0.5	**Avg. Latinamerica**				**1.43**
Eurozone	-0.4	0.25	0	0.65	**Peru**	3	4.8	4.25	1.8
United Kingdom	0	0.5	0.25	0.5	**Chile**	3.25	3.75	3.5	0.5
Canada	0.25	0.75	0.5	0.5	**Colombia**	6.5	8.5	7.5	2
Sweden	-1.25	0.25	-0.5	1.5	**Turkey**	7.25	8.5	8	1.25
Australia	1.25	1.75	1.5	0.5	**Indonesia**	4.75	6.75	6.5	2
Korea	0.25	2.25	1.25	2	**Poland**	0.5	2.5	1.5	2
Israel	0	0.2	0.1	0.2	**Thailand**	1	2	1.5	1

Note: values in percentage. Countries with a 7 day policy rate are highlighted

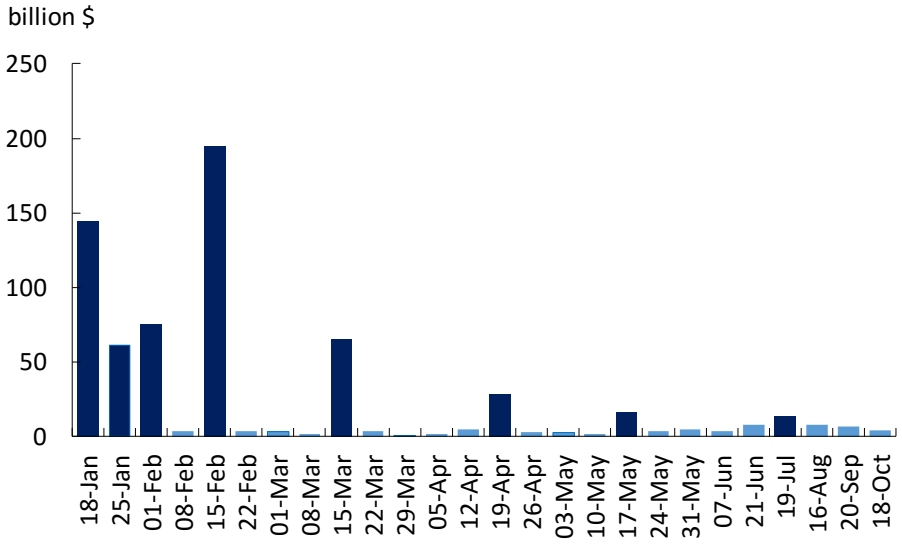
(1) The floor of the corridor is the rate at which balances are remunerated at the FED, while the roof is the discount window (primary credit).

Source: BCRA, BIS, respective central banks and Bank estimates

It should be noted that, in order to expand and shrink liquidity to set a short-term interest rate, central banks usually make open market operations using longer-term instruments within the LAF corridor, which allows them to manage their liabilities or change liquidity structural conditions.

Since its policy instrument change, the BCRA maintained unchanged the center of its 7-day LAF corridor at 24.75 percent. However, it continued holding LEBAC tenders as part of its efforts to manage its liabilities and market liquidity conditions. As of February 2017, LEBAC tenders will be held on a monthly basis and the tendered securities will present only one due date on the third Wednesday of each month (see Figure 5.4). This will help to provide more liquidity to these securities, and the 36 different maturities currently in effect will be reduced to nine.

Figure 5.4 | LEBAC maturity profile



Source: BCRA

Since the center of the LAF corridor was adopted, the LEBAC cutoff rate must not be interpreted as a monetary policy signal but as a reflection of market conditions. In this sense, the BCRA acts as a price maker in the segment chosen as a monetary policy instrument, and as a price taker along the rest of the interest rate curve.

5.3 The contractionary nature of the monetary policy during the disinflation process

Since March 2016, the BCRA has adopted a policy rate as a main instrument, which initially was the 35-day LEBAC rate, tendered on a monthly basis (and replaced by the center of the 7-day LAF corridor as of January 2017).

Since then, at every monetary policy meeting, the BCRA must determine the adequate interest rate that, compared to the expected inflation, is positive enough to gradually reduce the inflation rate, as per the intended target path announced.

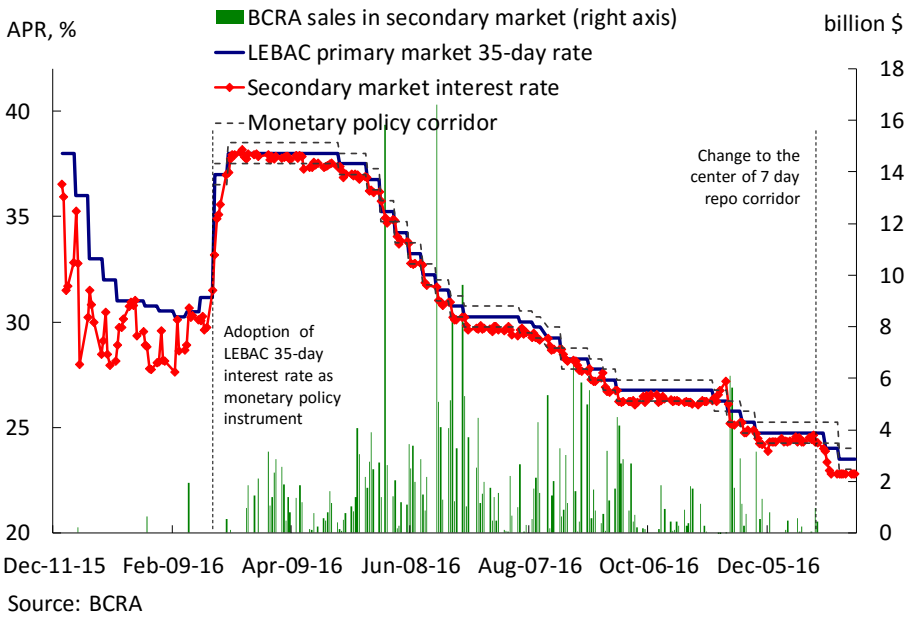
The BCRA must determine the expected inflation path in order to set an interest rate, which is not a simple task, particularly over a disinflation process such as the current one. To that purpose, the BCRA gathers as much relevant information as possible: its own estimates, the REM and all the information that may be extracted from financial asset prices available in the market[76]. Besides, the BCRA is continually monitoring information about high-frequency prices to check whether the price path is actually in line with the expectations.

When setting the policy rate, the BCRA considers only the future expected inflation, as it has no influence over past inflation. Furthermore, given the monetary policy lags, the BCRA's interest rate fluctuations tend to be gradual and do not follow transitory inflation movements.

Thus, the BCRA reduced its monetary policy rate by 13.25 percentage points from early March, reaching 24.75 percent as of 29 November. When the BCRA changed its interest rate to the corresponding to the center of the LAF corridor, it decided to keep its monetary policy rate unchanged at 24.75 percent (see Figure 5.5).

[76] See Exhibit 5 / Inflation expectations in the yield curve in pesos, from the October Monetary Policy Report http://www.bcra.gob.ar/Pdfs/PoliticaMonetaria/IPOM_Octubre_2016.pdf

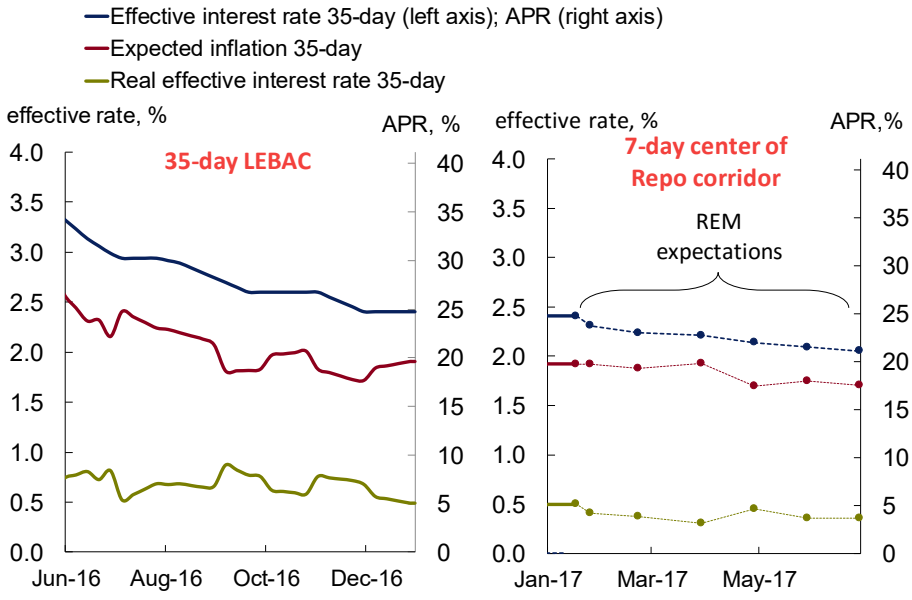
Figure 5.5 | Policy rate and secondary market operations



Source: BCRA

By reducing the nominal policy rates to a pace similar to that of inflation expectations, the BCRA succeeded in preserving the relatively stable character of its monetary policy (see Figure 5.6). In this way, efforts are made to strengthen the disinflation process that started this year and to converge the 2017 inflation expectations towards the announced targets.

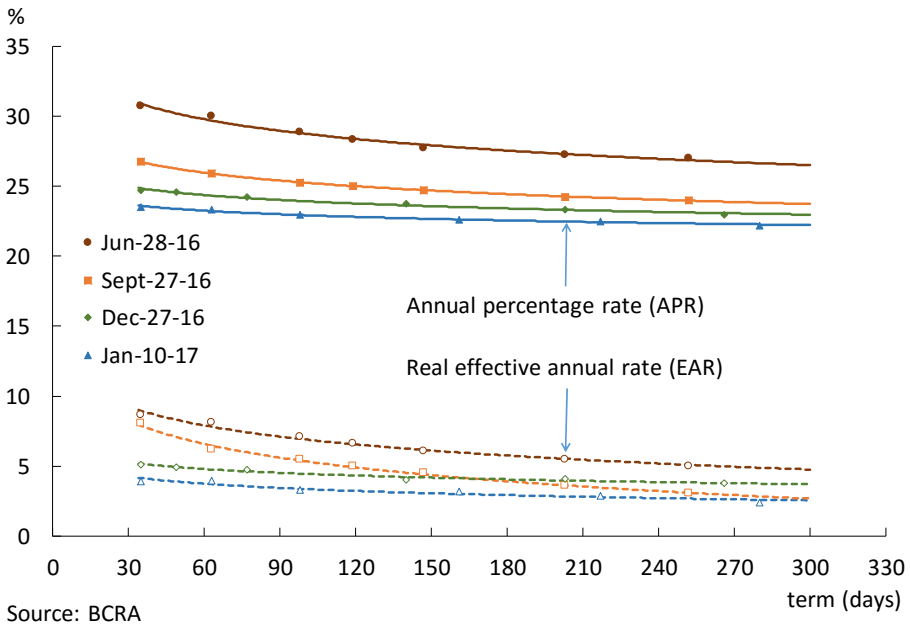
Figure 5.6 | Nominal and real monetary policy rate



Source: BCRA

Decreasing inflation expectations can also be checked when the real and nominal LEBAC's yield curves are analyzed (see Figure 5.7). It was verified that the nominal interest rate curve has a negative slope (consistent with an expected decreasing inflation path) and, in turn, the curve has been gradually moving downwards as the disinflation process was moving forward. However, the real interest rate curve shows a flatter and more stable pattern, a sign that the BCRA should maintain the anti-inflationary character of its monetary policy over the next months.

Figure 5.7 | LEBAC nominal and real interest rate curves



Source: BCRA

The BCRA's monetary policy will maintain a clear anti-inflationary bias to ensure the continuation of the disinflation process that took place over the last months, according the announced inflation targets.

5.4 The transmission of the policy rate to the market interest rates

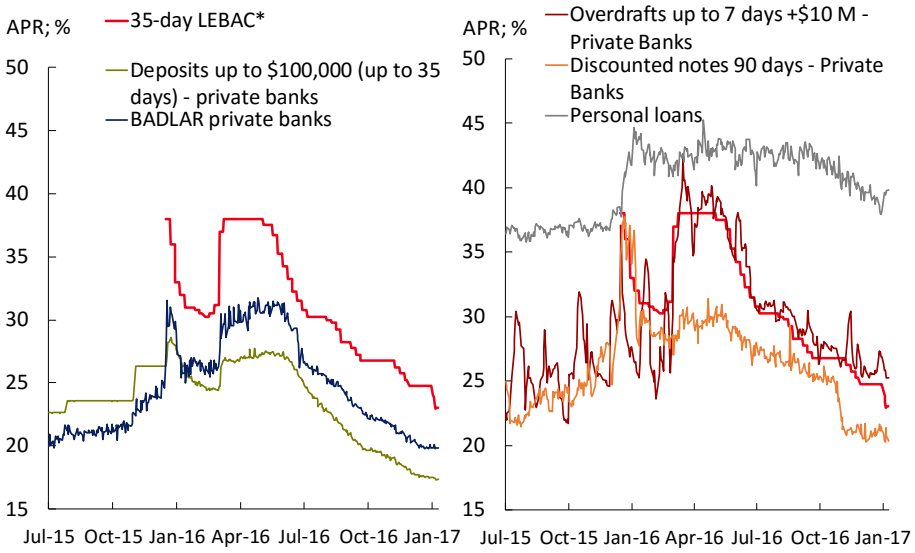
By setting its policy rate, the BCRA seeks to have an effect on interest rates with different maturities and those of all financial instruments in the market as well. In order to normalize the financial system operation and strengthen the monetary policy transmission channels, the BCRA removed the restrictions on deposit and loan interest rates at the end of 2015, allowing such operations to be freely agreed between financial entities and their clients.

In this context, changes in the BCRA's policy rate continued to be transferred, partially and with a certain delay, to entities' active and passive interest rates.

As regards active interest rates, the transmission was higher for short-term overdrafts to big companies, while it was lower for the rest of active interest rates. For personal loans, it must be taken into account that, by decision of the BCRA as of September, financial entities are not allowed to charge life insurance fees on new granted financing[77]; therefore, the decrease in their total financial cost was deeper than that of the interest rate. Meanwhile, the transmission for passive interest rates turned out to be more uniform, both for wholesale and retail deposits (see Figure 5.8).

[77] See Communication "A" 5928.

Figure 5.8 | Monetary policy rate, lending rates and deposit rates



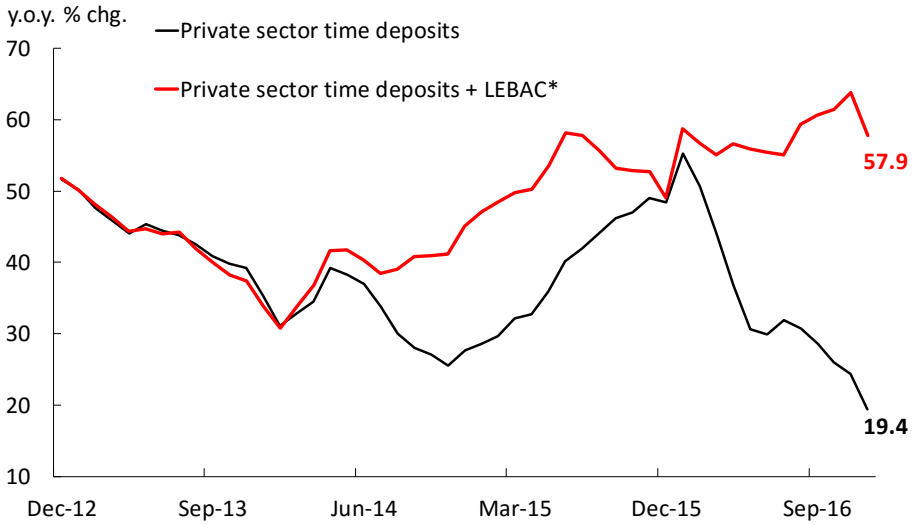
Source: BCRA

*As from 1/1/17 corresponds to secondary market interest rate

The improvement in LEBAC's and fixed-term deposits' real yields, observed as of December 2015, encouraged the strengthening of savings in pesos. In fact, although fixed-term deposits slowed down its year-on-year growth rate to 19.4 percent in December, this was due to a sharp increase in LEBAC holdings in the non-financial private sector. All in all, saving instruments in pesos recorded an increase of 57.9 percent during 2016 (see Figure 5.9).

Additionally, at the end of 2016, the money demand was affected by the transitory monetary impact from the tax disclosure, increasing the transactional money demand and reducing that of savings instruments in pesos (see Exhibit 7 / Effects of the Tax Disclosure on Money Demand).

Figure 5.9 | Peso term saving instruments



*Nominal value of LEBAC stock in circulation, excluding those owned by banks, public sector and non residents.

Source: BCRA

5.5 Interaction between the monetary policy and the foreign exchange and the fiscal policies

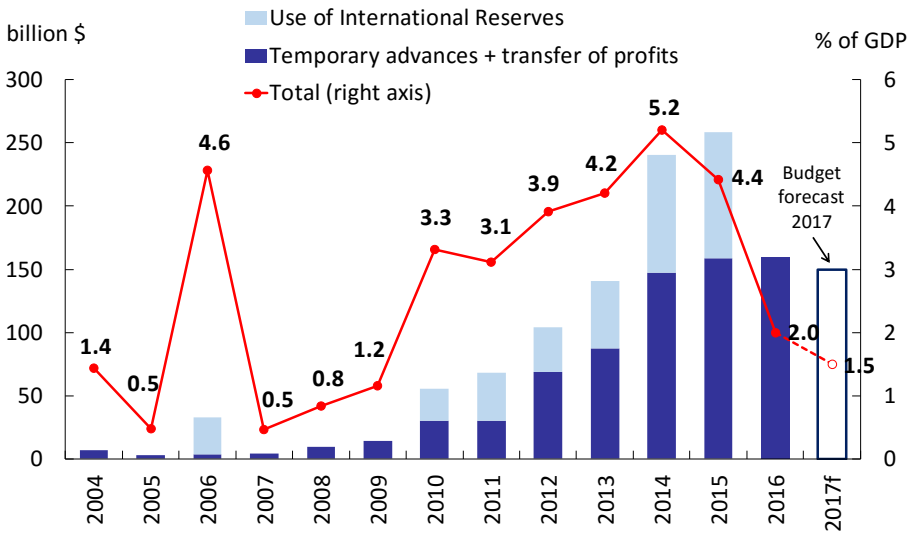
Decisions concerning both the foreign exchange policy and the fiscal policy have impacts on the monetary policy. Purchases (sales) of foreign currencies made by the BCRA in the exchange market create a monetary expansion (contraction). Also, the BCRA's financing to the Treasury creates monetary expansion. After the adoption of an interest rate as a policy instrument, the amount of money becomes endogenous, which means that, in order to keep interest rates at the required level, the BCRA absorbs any monetary expansion not backed by a higher money demand.

Jointly with its decision of adopting an inflation targeting regime, the BCRA moved to a flexible exchange rate regime as of December, allowing the economy to assimilate external shocks more naturally (see Section 2. International Context). However, the BCRA reserved the possibility of operating in the exchange market occasionally in order to strengthen its external assets and/or prevent excessive exchange rate fluctuations.

Since fiscal dominance (financing of the Treasury deficit with transfers from the BCRA) had been the main cause of inflation until 2015, the BCRA and the Ministry of Treasury and Public Finances agreed on a US$160 billion cap to the transfers of resources to the National Treasury by 2016, and a US$150 billion cap by 2017.

In the previous years, annual transfers of resources from the BCRA to the Treasury (through net temporary advances and profit transfers) and the use of international reserves had shown an increasing trend, accounting for 0.5 percent of GDP by 2007 and 4.4 percent of GDP by 2015 (nearly US$260 billion). Instead, the transfer of resources in 2016 turned out to be nearly US$100 billion lower, -2.4 percentage points in GDP terms (Exhibit 6 / Monetary Policy and BCRA Balance Sheet). By 2017, the limit agreed on was US$10 billion lower in nominal terms and represents a 0.5 percentage points decline in GDP terms (see Figure 5.10).

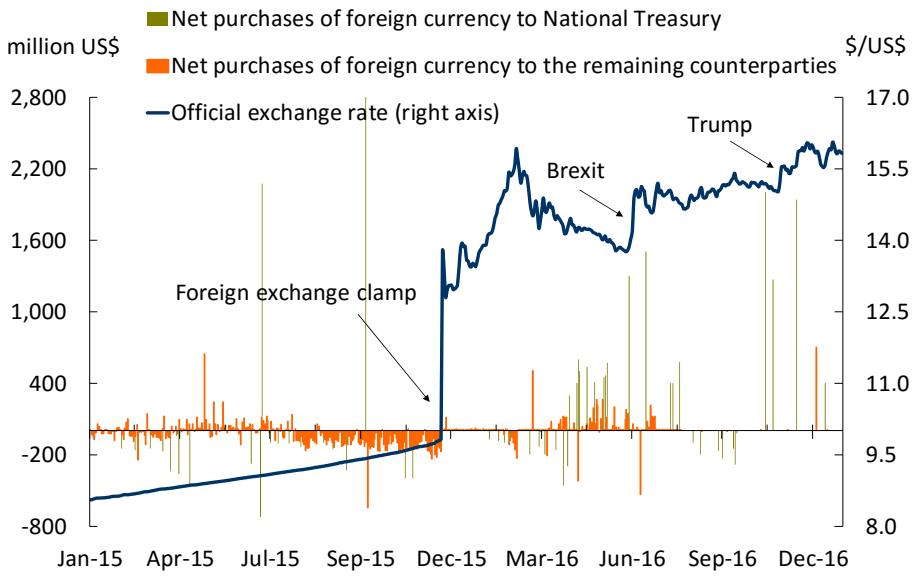
Figure 5.10 | BCRA transfers to Treasury and use of reserves



f: Forecast
Source: INDEC, Treasury Secretariat and Bank estimates

Moreover, the BCRA has taken advantage of oversupply foreign exchange contexts—as a result of gross crop revenues or the foreign exchange inflows related to the public sector and private sector debt placement— to purchase foreign exchange in the market and restore the level of its international reserves (see Figure 5.11). Although the sterilization of the monetary effects caused by those purchases implies a certain cost due to the need of placing LEBACs with interest payments, exchange rate gains offset such cost (Exhibit 6 / Monetary Policy and BCRA Balance Sheet).

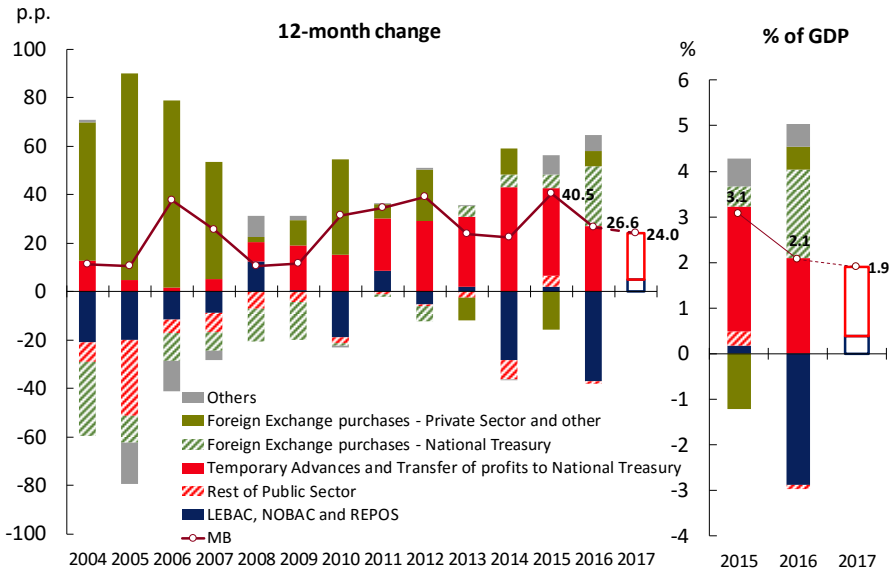
Figure 5.11 | BCRA purchases and sales on the exchange market



Source: BCRA

In 2016, the monetary expansion associated with transfers of resources to the Treasury was slightly lower than the increase in the monetary base demand. The additional monetary expansion related to foreign exchange purchases by the BCRA in the exchange market was automatically absorbed through the placement of LEBACs and repos (see Figure 5.12). By 2017, since the monetary expansion associated with the agreed transfer of resources to the Treasury will be lower than the planned increase in the monetary base demand, the BCRA will have enough margin to cover the difference with the partial maturing of the LEBAC at their maturity date, or by the foreign exchange purchase in the exchange market, as deemed necessary.

Figure 5.12 | Change in monetary base and contribution of explanatory factors



Source: BCRA

Finally, the LEBAC in circulation balance dynamics was in line with the monetary programming exercise submitted in September, when the formal adoption of the inflation targeting regime was announced, though higher than the initially planned in the April monetary programming exercise[78]. The ratio of LEBACs in pesos in circulation as a share of the monetary base reached 84.9 percent in December 2016, while an 88.9 percent had been forecasted in the latest projections. By 2017, if there are no purchases of foreign exchange requiring sterilization, the LEBAC/monetary base ratio could be reduced (see Exhibit 6 / Monetary Policy and BCRA Balance Sheet).

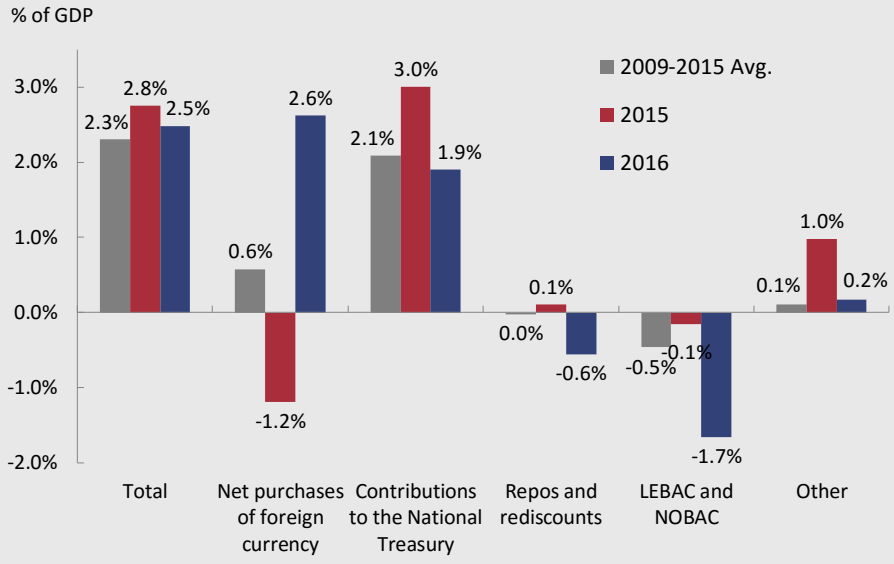
[78] See http://www.bcra.gob.ar/Pdfs/Prensa_comunicacion/Metas_de_inflacion26092016.PDF

Exhibit 6 / Monetary Policy and BCRA Balance Sheet

Over the last year, monetary base expansionary factors have evolved significantly against the 2009-2015 period. During that period, due to the public accounts decreasing trend and the decision to actively use monetary financing, advances and transfers from the BCRA to the National Treasury became the main factors of the monetary base issuance. In 2016, after lifting the restrictions to operate in the exchange market, a new monetary floating exchange rate regime with positive real interest rates was implemented, promoting the demand for domestic financial assets. The higher demand for domestic assets allowed the BCRA to make occasional interventions in the exchange market and gradually reconstitute the level of international reserves, which had decreased significantly during 2015. Moreover, after the settlement of the litigation against the holdouts, Argentina was able to access the debt market again. As a result, the monetary financing of the fiscal deficit was replaced by non-monetary financing (public securities), entailing a reduction of the share of advances and transfers in the monetary base variation factors. At the same time, the BCRA deepened its sterilization policy by absorbing the excess monetary issuance created during the 2009-2015 period.

Figure 1 compares the evolution of the monetary base expansionary factors in 2009-2015, 2015 and 2016. As it can be observed, the foreign exchange purchase went from being contractive, 1.2 percent of GDP in 2015, to being expansive, 2.6 percent in 2016, becoming the main variation factor. Moreover, the share of advances and profit transfers declined from 3 percent of GDP in 2015 to 1.9 percent in 2016. Finally, the contractionary effect from repos and rediscounts, and LEBAC placements reached 2.3 percent of GDP (-0.6 percent and -1.7 percent, respectively) in 2016, and was neutral in 2015. This sterilization inflow was nearly half-point of the GDP higher than the expansionary effect of operations with the National Treasury over the same year.

Figure 1 | Monetary base variation factors in % of GDP

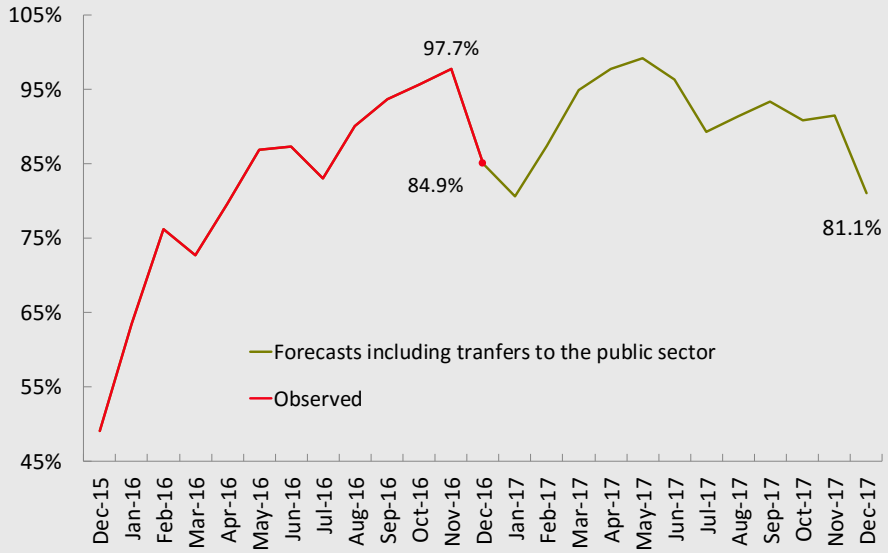


Source: INDEC and Bank estimates

The contractionary trend of the BCRA's participation in the Treasury financing will continue in 2017, including a transfer of US$ 150 billion agreed with the National Executive. This amount will represent a reduction of nearly 20 percent in real terms, 0.5 percentage points of GDP with respect to the 2016 financing (see Figure 5.10). In addition, the medium-term closing path of the fiscal deficit foreseen by the Ministry of Treasury, reinforces the decreasing trend of the BCRA's transfers during the next years and helps to strengthen the inflation decrease.

This level of transfers to the tax authority foreseen for 2017 will not present any risk to the evolution of the BCRA's liability and the quasi-fiscal balance. The money demand estimates suggest that the amount agreed is consistent with the inflation targets for 2017. In fact, the monetary expansion associated to transfers to the public sector will be lower than the expected increase in money demand, thus it would be possible to reduce the BCRA's non-monetary liabilities (reverse repos, LEBACs and NOBACs) as a share of the monetary base, in the absence of other money issuance sources (see Figure 2).

Figure 2 | Non-monetary liabilities in % of the monetary base



Source: BCRA

Further, the BCRA could operate in the exchange market in order to strengthen its external assets. Should the BCRA make foreign exchange net purchases, and depending on the amount, it may have to increase its non-monetary liabilities to withdraw the resulting monetary issuance from the market. Nevertheless, risks for the BCRA's balance sheet can be mitigated when considering two distinct characteristics of this process. Firstly, the liabilities issued are supported by international reserves, with a liquid and deep market where they can be sold if necessary. Secondly, international reserves provide returns to the BCRA based on the interest rate paid and the exchange rate evolution, which can offset the financial cost of issued liabilities to sterilize its acquisition.

Let us take as an example the BCRA's foreign exchange net purchases of US$14.397 billion made in 2016. Table 1 shows that, despite the significant increase of 2 percent of GDP in the BCRA's debt implemented through LEBAC, the BCRA's net debt from the bills issuance "created" by the acquisition of reserves decreased nearly 1 percent of GDP. Regarding the impact on the BCRA's results, the sterilization of those purchases created a gross financial cost of US$22.125 billion due to interests paid on the issued bills, while US$19.140 billion were earned by interests from international reserves and their value increase in pesos due to the exchange rate variation, thus reducing the net cost to US$ 2.984 billion. This result is consistent with the

economic literature findings: De la Torre and others (2013) found out that, considering properly the capital profits and losses, "the sterilized interventions in Latin American and Caribbean countries, with inflation targets established over the last decade, have created rather low costs and, in a few cases, even have generated profits"[79].

Table 1 | Variación del stock de LEBAC neta de la emisión realizada para esterilizar la compra de reservas internacionales en 2016[80]

	million $	% of GDP
LEBAC at the end of 2016 (12/31) (1)	630,310	7.9%
Pesos used to acquire reserves in 2016 (2)	209,176	
Interests earned and value increase from international reserves (3)	19,140	
LEBAC at the end of 2016 net of acquired reserves (4)=(1)-(2)-(3)	401,994	5.0%
LEBAC at the end of 2015 (12/31) (5)	345,124	5.9%
Stock of LEBAC net of acquired reserves (4)-(5)	56,870	-0.9%

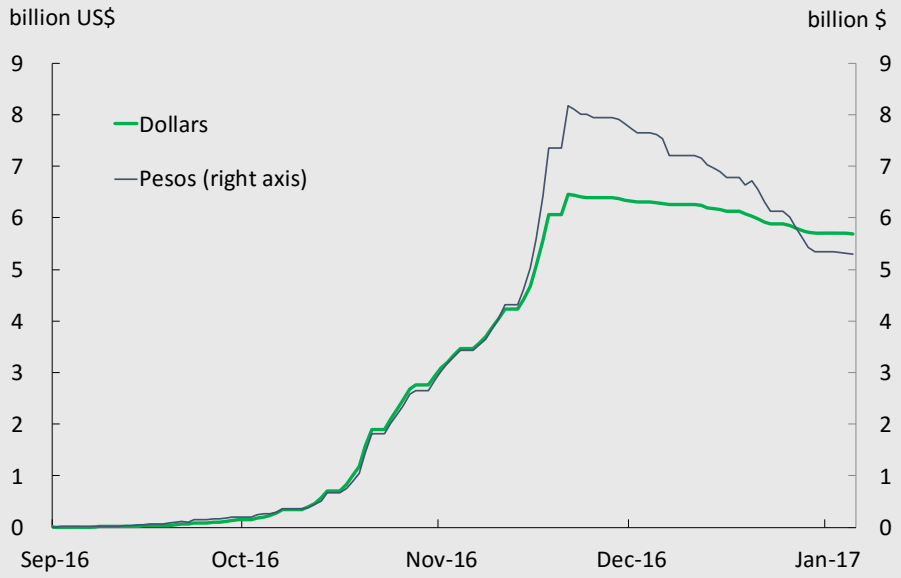
[79]De la Torre, Augusto, Eduardo Levy-Yeyati and Samuel Pienknagura (2013), Latin *America's deceleration and the exchange rate buffer*, LAC Biannual Report (October), World Bank.
[80] The pesos used to purchase international reserves come from the reference exchange rate at the time each operation was carried out. For profits/losses due to the exchange rate, which are added to accrued interests from reserves, such exchange rate is compared to that of the year end.

Exhibit 7 / Effects of the Tax Disclosure on Money Demand

During the second half of the year, within a context of sharply declining inflation and seemingly improving economic activity, a gradual recovery of money demand was observed[81]. Additionally, an acceleration of the growth of means of payment, particularly of deposits in savings accounts, was driven—among other factors— by the temporary effects of adhering to the Tax Disclosure System[82]during the last months of 2016. The period of validity of the system comprises three stages: a) until 21 November 2016, due date for disclosing cash money holdings in national and foreign currency within the country; b) until 31 December, due date for disclosing the remaining assets by paying the special tax rate of 10 percent; and c) the first quarter of 2017, when adherence to the system is still allowed but the tax rate increases to 15 percent[83].

During the first stage, money disclosure in the country should have been made through a deposit in any of the three special accounts created (savings accounts, as set out in Communication "A" 6022). Cash funds disclosure in the country was concentrated between mid-October and 21 November (see Figure 1). Once this stage finished, the balances of those accounts started to decline as the funds were being allocated to any of the allowed destinations.

Figure 1 | Balances of special accounts of the Tax Disclosure System



Source: BCRA

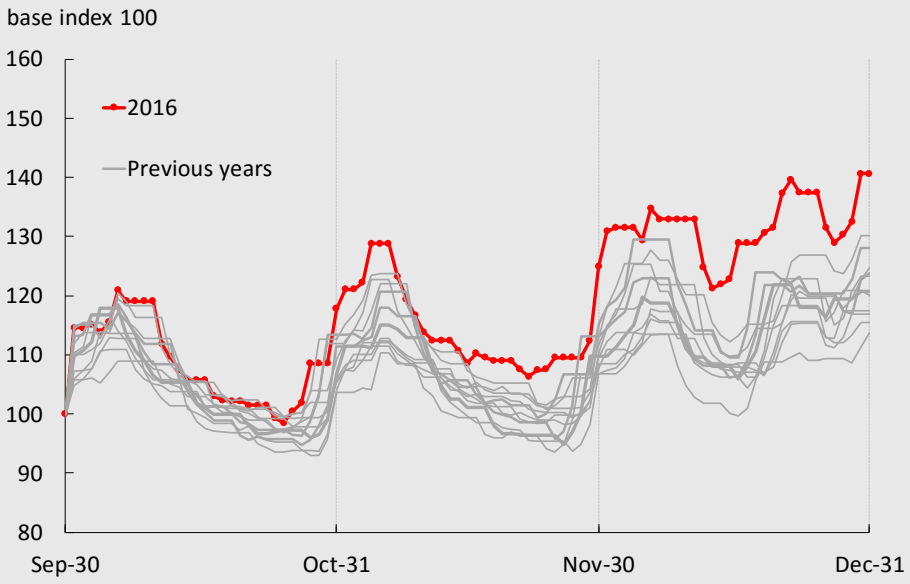
Moreover, it is not mandatory that those who disclose money holdings abroad bring them into the country. However, this part of the Tax Disclosure System also implied a temporary and more imprecise increase of the demand deposits in pesos in the private sector. This was due to the fact that the special tax should be paid in local currency, and those who sold dollars (see Exhibit 1 / Effects of the Tax Amnesty Regime on the Foreign Exchange Market and "Stabilizing Speculation") to afford it would have kept temporarily higher balances in demand deposits until they could actually pay off. A similar effect arose when the payment of the special tax was made through fixed-term deposits.

[81]During the second half of 2016, both the Private M2 and the Private M3 showed a steady increase in real terms.
[82]As set out in Book II of Act 27260.
[83]For further details, see Article 41 of Act 27260.

Another factor that would have also impacted on deposits in pesos in a similar way was the obligation of an advanced payment —in relation to previous years— of half of the complementary annual wage[84]. In short, as a result of said movements, the balance of savings account deposits in pesos of the private sector increased above expectations, given the evolution of prices and activity, and given their seasonal behavior as well. In addition, this resulted in a greater-than-usual decline of time deposits in pesos of the private sector, particularly in December (see Figure 2 and Figure 3).

Figure 2 | Savings account deposits in pesos in the private sector

(Daily stock – base index 7-days avg. up to Sep-30-16)

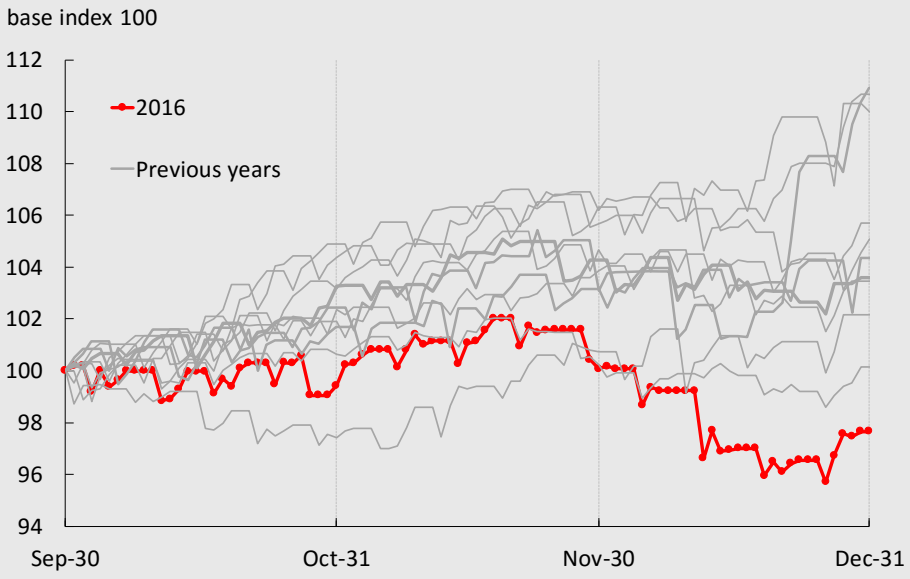


Source: BCRA

[84]As per Act 27073, the complementary annual salary will be paid in two installments, the first one to become due on June 30, and the second one on December 18 every year.

Figure 3 | Fixed-term deposits in pesos in the private sector

(Daily stock – base index 7-days avg. up to Sep-30-16)



Source: BCRA

It is possible that the effects of the tax disclosure yet to take place until March can be observed during the next months. Beyond this, a gradual further strengthening of the money demand is expected, provided that the consolidation of the current disinflation process and the recovery of the economic activity should continue.

Abbreviations and Acronyms

€: Euro

AFCP: *Asociación de Fabricantes de Cemento Portland*

AFIP: *Administración Federal de Ingresos Públicos*. Federal Administration of Public Revenues

APR: Annual percentage rate

AUH: *Asignación Universal por Hijo*. Universal Child Allowance

Avg.: Average

BADLAR: Buenos Aires Deposits of Large Amount Rate (Interest rates for deposits over 1 million pesos for terms of 30-to-35 days)

BCBA: *Bolsa de Comercio de Buenos Aires*. Buenos Aires Exchange

BCRA: *Banco Central de la República Argentina*. Central Bank of Argentina

b.p.: basis points

CABA: *Ciudad Autónoma de Buenos Aires*. Autonomous City of Buenos Aires

Bontes: *Bonos del Tesoro*. National Treasury bonds

CEMBI+: Corporate Emerging Market Bond Index Plus

CEMBI+AR: Corporate Emerging Market Bond Index Plus Argentina

CER: *Coeficiente de Estabilización de Referencia*. Reference Stabilization Coefficient

Chg.: Change

CNV: *Comisión Nacional de Valores*. National Securities Commision

CONADU: *Federación Nacional de Docentes Universitarios*.

CSJN: *Corte Suprema de Justicia de la Nación*. National Supreme Court of Justice

DJVE: *Declaraciones Juradas de Ventas al Exterior*. Export Sales Affidavit

ECB: *Banco Central Europeo*. European Central Bank

ECLAC: Economic Commission for Latin America and the Caribbean

EDP: *Equipo Durable de Producción*. Production durable equipment

EMAE: *Estimador Mensual de la Actividad Económica*. Monthly Economic Activity Indicator

EMBI+: Emerging Markets Bond Index Plus

EMBI+AR: Emerging Markets Bond Index Plus Argentina

EMBIG: Emerging Market Bond Index Global

EPH: *Encuesta Permanente de Hogares*. Permanent household survey

f: Forecast

FAECyS: *Federación Argentina de Empleados de Comercio y Servicios*

Fed: United States Federal Reserve

FEB: *Federación de Educadores Bonaerenses*.

FEDCAM: *Federación Nacional de Trabajadores Camioneros, Obreros y Empleados del Transporte Automotor de Cargas, logística y Servicios*

FESTIQyPRA: *Federación de Sindicatos de Trabajadores de Industrias Químicas y Petroquímicas de la República Argentina*

FGB: *Federación Gráfica Bonaerense*

FGPICD: *Federación Gremial del Personal de la Industria de la Carne y sus Derivados*

FIEL: *Fundación de Investigaciones Económicas Latinoamericanas*

FOB: Free on Board

FOMC: *Comité Federal de Mercado Abierto*. Federal Open Market Committee

FTCIODyARA: *Federación de Obreros Aceiteros y Desmontadores de la República Argentina*

GBA: *Gran Buenos Aires*. Greater Buenos Aires

GDP: Gross domestic product

IAMC: *Instituto Argentino de Mercado de Capitales*

IBIF: *Inversión Bruta Interna Fija*. Gross domestic fixed investment

ICC: *Índice de Confianza del Consumidor elaborado por la Universidad Torcuato Di Tella*. Consumer Confidence Index computed by the Torcuato Di Tella University

ICC-INDEC: *Índice del Costo de la Construcción*. Construction Cost Index

IGA-OJF: *Índice General de Actividad de Orlando J. Ferreres*. General Activity Index released by Orlando J. Ferreres

ILA: *Índice Líder de la Actividad*. Leading Activity Index

ILO: International Labour Organization

IMF: International Monetary Fund

INDEC: *Instituto Nacional de Estadística y Censos*. National Institute of Statistics and Censuses

INML: *Índice de Novillos del Mercado de Liniers*

IPC CABA: *Índice de Precios al Consumidor de la Ciudad de Buenos Aires*. Consumer price index for the City of Buenos Aires

IPC Córdoba: *Índice de Precios al Consumidor de la Provincia de Córdoba*. Consumer Price index for the Province of Córdoba

IPC-GBA: *Índice de Precios al Consumidor del Gran Buenos Aires*. Greater Buenos Aires Consumer price index

IPC-NP: *Indicador Nacional Ponderado*. Weighted national consumer price index

IPC San Luis: *Índice de Precios al Consumidor de la Provincia de San Luis*. Consumer price index for the Province of San Luis

IPIB: *Índice de Precios Internos Básicos*. Basic industrial price index

IPIM: *Índice de Precios Internos al Por Mayor*. Domestic wholesale price index

IPMP: *Índice de Precios de las Materias Primas*. Commodity price index

IPOM: *Informe de Política Monetaria*. Monetary Policy Report

ITCRM: *Índice de Tipo de Cambio Real Multilateral*. Real Multilateral Exchange Rate Index

LAC: Latin American Consensus Forecasts

LEBAC: *Letras del Banco Central*. BCRA bills

LFPIF: *Línea de financiamiento para la producción y la inclusión financiera*

M2: *Billetes y monedas + cuasimonedas en circulación + cuentas corrientes en $ y cajas de ahorro en $*. Notes and coins + quasimonies + $ savings and current accounts

m.a.: moving average

MATBA: *Mercado a Término de Buenos Aires*

MERVAL: *Mercado de Valores de Buenos Aires*

MIP: *Matriz insumo-producto*. Input-output matrix

MOA: *Manufacturas de Origen Agropecuario*. Manufactures of agricultural origin

MOI: *Manufacturas de Origen Industrial*. Manufactures of industrial origin

MSCI: Morgan Stanley Capital International Index

MTEySS: *Ministerio de Trabajo, Empleo y Seguridad Social*. Ministry of Labor, Employment and Social Security

MULC: *Mercado Único y Libre de Cambios*. Single free exchange market

National IPC: *Índice de Precios al Consumidor Nacional*. National consumer price index

NOBAC: *Notas del Banco Central*. BCRA notes

OPEC: Organization of the Petroleum Exporting Countries

p.p.: Percentage points

PCP-BCRA: *Predicción contemporánea del BCRA*

PMI: Purchasing Managers' Index

PP: *Productos primaries*. Primary products

R$*:* Brazilian Real

REM: *Relevamiento de Expectativas de Mercado*. Market Expectations Survey

REPO: Repurchase Agreement

ROE: *Registros de Operaciones de Exportación*. Export operations records

Rueda REPO: Tasa de interés promedio de las operaciones a 1 día hábil entre entidades financieras en el mercado garantizado

s.a.: Seasonally adjusted

SIPA: *Sistema Integrado Previsional Argentino*. Argentine integrated social security system

SMATA: *Sindicato de Mecánicos y Afines del Transporte Automotor de la República Argentina*

SOESGYPE: *Sindicato Obreros de Estaciones de Servicio, GNC, Garages, Playas de Estacionamiento y Lavaderos de Autos de Capital Federal y Provincia de Buenos Aires*

SOIVA: *Sindicato Obrero de la Industria del Vestido y Afines*

STIA: *Sindicato Trabajadores de Industrias de la Alimentación*

SUTERH: *Sindicato Único de Trabajadores de Edificios de Renta y Horizontal*

TFP: *Productividad total de los factores*. Total factor productivity

TN: *Tesoro Nacional*. National Treasury

UATRE: *Unión Argentina de Trabajadores Rurales y Estibadores*

UCI: *Utilización de la capacidad instalada*. Installed capacity utilization

UOCRA: *Unión Obrera de la Construcción de la República Argentina*

UOM: *Unión Obrera Metalúrgica*

UOYEP: *Unión Obreros y Empleados Plásticos*

UPCN: *Unión Personal civil de la Nación*

US$: United States Dollar

UTA*: Unión Tranviarios Automotores*

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

UTHGRA: *Unión de Trabajadores del Turismo, Hoteleros y Gastronómicos de la República Argentina*

UTICRA: *Unión de Trabajadores de la Industria del Calzado de la República Argentina*

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

VAR: *Modelo de Vectores Autorregresivos*. Vector Autorregresive Models

VAT: Value added tax

VBP: *valor bruto de producción*. Gross production value

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

YPF SA: *Yacimientos Petrolíferos Fiscales Sociedad Anónima*