Capital flows, economic performance and economic policy: Argentina's experience during the last decade

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1. From the mid-1970s to the end of the 1990s, Argentina showed a strong dependence on foreign savings. As a result, frequent shifts in financial capital flows have had a huge impact in terms of macroeconomic volatility, characterised by stop-and-go processes. This situation has worsened over the last 20 years due to different changes both in the size and direction of financial capital flows which, in turn, caused huge changes in the levels of activity, output and employment, and the financial sector as well. During this period, capital flows in international financial markets recorded procyclical fluctuations with large inflows at peak periods and abrupt outflows in the phase of recession.

The last recession in Argentina, which started in the second half of 1998 and lasted until the second half of 2002, and the abandonment of the convertibility system in early 2002 were the most recent episodes in which capital flow fluctuations had a particularly severe impact on economic performance. For this reason and as one of its economic pillars, from 2002 onwards economic policy has focused on stabilising the foreign exchange market and addressing the problems related to the volatility of short-term financial capital flows. The crisis showed once again that, given the size of international financial capital flows and the low degree of domestic capital and financial deepening, in a highly indebted economy, it was particularly important to implement policies to regulate and manage such flows, as other emerging countries have already been doing.

The impact of capital flows on the Argentine economy from 2001 to 2007 may be summarised as follows: (i) in a context of open capital account movements, there was a strong capital flight in the period prior to the abandonment of the convertibility regime; (ii) at the end of 2001, before the convertibility collapse, regulations on foreign exchange transactions were introduced and then, in early 2002, the peso was devalued, regulatory scheme on the capital account were enlarged and a floating exchange rate regime was introduced. All these factors caused short-term financial capital outflows to begin to decline rapidly during the first months of 2002; (iii) from 2003 to mid-2005, in the wave of larger capital inflows with the economic recovery under way, economic policy, on the one hand, continued to relax strict general regulations on capital outflows introduced during the crisis and, on the other hand, began to strengthen capital account regulations on short-term financial inflows; and (iv) in an international financial framework characterised by high levels of liquidity and low interest rates (that lasted until mid-2007), the economy continued to grow rapidly, as did short-term financial capital inflows.

2. Table 1, Balance of payments, shows the high volatility of capital flows that Argentina faced. It further shows that during 1992–2000 an annual average current account deficit of US$ 9.3 billion was financed by inflows in the capital and financial accounts. That situation changed in 2001, when the US$ 4.5 billion current account deficit could no longer be financed because of a massive reversal in capital inflows and, as a result, international reserves were significantly reduced by US$ 12 billion. During that year, net inflows came only from multilateral organisations (US$ 11.14 billion), particularly the IMF, and were comparable to the reduction of international reserves. This high volatility of capital flows affected the evolution of the real economy: GDP grew by 8.1% in 1997, declined by 4.4% and 10.9% in 2001 and 2002, respectively, and then rebounded to grow by 8.9% and 9.02% in 2003 and 2004.

Table 1

Balance of payments

In millions of US dollars[1]

	Average 1992–2000	2001	2002	2003	2004	2005	2006	First 9 months 2006	First 9 months 2007
I. Current account	**–9,382**	**–4,483**	**8,767**	**8,140**	**3,217**	**5,691**	**8,092**	**5,454**	**4,177**
Goods	**–804**	**7,451**	**17,178**	**16,805**	**13,265**	**13,087**	**13,872**	**10,171**	**8,730**
Exports fob	21,053	26,610	25,651	29,939	34,576	40,387	46,456	33,937	39,304
Imports fob	21,857	19,159	8,473	13,134	21,311	27,300	32,585	23,766	30,574
Services	**–3,754**	**–3,912**	**–1,460**	**–1,193**	**–1,330**	**–1,187**	**–837**	**–851**	**–959**
Exports	4,007	4,366	3,495	4,500	5,289	6,453	7,666	5,377	6,737
Imports	7,762	8,278	4,956	5,693	6,618	7,640	8,503	6,228	7,696
Income	**–5,303**	**–8,243**	**–7,491**	**–7,975**	**–9,282**	**–6,737**	**–5,440**	**–4,229**	**–3,902**
Investment income	–5,309	–8,244	–7,466	–7,950	–9,243	–6,686	–5,381	–4,184	–3,845
Interest	–3,529	–7,384	–7,696	–7,317	–6,956	–3,358	–1,120	–943	–465
Credit	4,077	4,821	2,653	2,615	2,818	3,239	4,038	2,895	3,791
Debit	7,607	12,205	10,349	9,932	9,774	6,598	5,158	3,838	4,257
Public sector	4,350	7,112	6,344	6,660	6,929	3,919	2,677	1,973	2,402
Private sector	3,257	5,093	4,005	3,272	2,845	2,679	2,481	1,865	1,855
Profits and dividends	–1,780	–861	230	–633	–2,286	–3,327	–4,261	–3,241	–3,380
Credit	630	789	350	451	861	989	1,318	999	886
Debit[2]	2,410	1,649	120	1,084	3,148	4,317	5,580	4,240	4,266
Current transfers	**480**	**221**	**540**	**504**	**564**	**529**	**497**	**363**	**307**
II. Capital and financial account	**12,628**	**–4,568**	**–11,404**	**–3,203**	**1,470**	**3,391**	**–5,562**	**–5,534**	**5,811**
Capital account	**53**	**101**	**406**	**39**	**41**	**240**	**97**	**96**	**111**
Financial account	**12,575**	**–4,668**	**–11,810**	**–3,243**	**1,274**	**3,302**	**–5,659**	**–5,630**	**5,700**
Banking sector	1,122	11,588	–2,573	–3,001	–3,097	–4,356	–10,521	–9,959	1,121
BCRA	–86	10,743	–1,808	–868	–1,990	–2,922	–10,400	–9,961	752
Non-financial public sector	7,050	–3,439	3,618	4,641	4,910	3,368	3,132	1,716	1,681
National government	6,792	–3,029	3,683	4,739	5,035	3,341	2,956	2,002	1,326
Non-financial private sector	4,404	–12,817	–12,856	–4,882	–539	4,290	1,730	2,612	2,897
III. Net errors and omissions	**–1,084**	**–3,032**	**–1,878**	**–1,356**	**630**	**–226**	**1,000**	**–181**	**169**
IV. International reserves variation (I + II + III)	**2,162**	**–12,083**	**–4,516**	**3,581**	**5,319**	**8,857**	**3,530**	**–261**	**10,157**
International organisations (net)	**1,719**	**11,144**	**–2,325**	**–937**	**–2,434**	**–3,223**	**–10,923**	**–10,808**	**–23**

[1] Provisional data. [2] Profit and dividends of the financial sector not included for 2002.

Source: Dirección Nacional de Cuentas Internacionales.

Since the abandonment of the convertibility regime (a fixed and convertible exchange rate one-to-one to the US dollar), and the peso devaluation that changed relative prices in favour of the tradable goods sector, economic policy has sought to stabilise the foreign exchange market and restore basic macroeconomic equilibria. Thus, in 2002, the drop in international reserves, which plunged to US$ 9 billion, was significantly reduced by an improvement in the current account emerging due, predominantly, to a trade balance surplus. As a result of the economic policy stance, since the third quarter of 2002 onwards the Argentine economy has expanded continuously, with surpluses on its current account and higher international reserves reaching US$ 46 billion in December 2007.

Table 1 also shows trends of different items of the balance of payments both in the period following the collapse of the convertibility regime and during the recovery. The following major changes should be highlighted: (i) unlike the previous decade, from 2002 onwards Argentina has made net payments of US$ 19.8 billion to multilateral organisations; (ii) there was a continuous reduction in the services account deficit, which has also contributed to the current account improvement; (iii) net payments of profits and dividends, which had declined due to the 1998–2002 recession and the implementation of capital regulations in 2002, recovered and reached US$ 4.3 billion in 2006, reflecting the economic recovery and the flexible handling of those capital regulations; (iv) during the period 2002–04, before the conclusion of the Argentine debt swap process, there were high levels of accrued interest that have been paid since 2005; (v) the non-financial private sector reduced financial capital outflows, which amounted to US$ 12 billion during 2001–02, and private capital inflows started to return in 2005.

Table 2, Foreign exchange balance, shows the evolution of the main items with a direct effect on the single free exchange market (MULC) following the abandonment of the convertibility system. Current account surpluses were achieved thanks to a permanent surplus on the trade balance, which has been greater than US$ 10 billion since 2003. In addition, the services item (including, among others, technical and professional assistance, tourism and transport) went from a slightly negative result to a positive one, whereas profits and dividends – as shown in Balance of payments – showed a negative result basically due to the interest payments accrued after the default on the external debt (the table also shows a decrease in interest payments to the IMF after the full repayment in January 2006).

Profits and dividends showed an increasingly negative result due to continuous economic growth. Furthermore, the components of the capital account showed a continuous increase in net income from non-residents as a result of foreign direct investments that reached US$ 1.6 billion in early 2007, twice as much as the amount recorded in 2003. Until 2005 portfolio investment explained the strong financial capital inflows that were later interrupted by the aforementioned implementation of regulatory measures on inflows, particularly on short-term financial inflows. The lines of credit related to international trade have shown a continuous increase with a negative net result until 2005 and a positive result since that year. The IMF and multilateral organisations item clearly shows that from 2003 to 2007 Argentina made net payments of US$ 22 billion.

During the period 2003–05 the domestic demand for foreign currency from the non-financial private sector remained virtually unchanged, reaching US$ 12 billion with a slight upward trend in the next two years. Since July 2007 the international financial markets have been characterised by higher instability. This situation generated a greater domestic demand for foreign assets, which was supplied by the sale of Central Bank foreign reserves in the spot market and Central Bank positions in the futures market. These measures were successful as they decreased the pressure on the foreign exchange market and proved how suitable a policy of precautionary reserve accumulation can be to deal with financial volatility in the absence of a lender of last resort. Foreign asset accumulation inflows were close to US$ 13 billion in 2005, fell to nearly US$ 11.5 billion in 2006 and rose again in 2007.

Table 2

Foreign exchange balance

In millions of US dollars

	2003	2004	2005	2006		2007
	Total	**Total**	**Total**	**Total**	**9 months**	**9 months**
Foreign exchange current account	**8,731**	**10,144**	**9,313**	**10,834**	**8,239**	**10,302**
Goods trade balance	12,595	12,778	12,689	13,303	10,435	12,086
Services	–337	–234	341	776	493	701
Income	–3,752	–2,756	–4,187	–3,826	–3,110	–3,170
Interest	–2,883	–1,914	–2,895	–2,686	–1,931	–1,754
Inflows	247	373	709	1,247	913	1,754
Outflows	3,130	2,288	3,604	3,933	2,844	3,508
Interest payments to the International Monetary Fund	745	572	525	90	86	15
Interest payments to other international agencies	820	543	646	712	583	617
Other interest payments	1,565	1,173	2,433	3,131	2,176	2,876
Profits and dividends and other income	–869	–842	–1,292	–1,140	–1,179	–1,416
Inflows	90	89	125	447	61	135
Outflows	959	931	1,416	1,586	1,240	1,551
Other current transfers	225	356	471	580	421	685
Inflows	680	1,034	1,320	1,357	970	1,241
Outflows	455	678	849	777	550	555
Foreign exchange capital and financial account	**–5,149**	**–4,825**	**–465**	**–7,420**	**–8,617**	**–182**
Non-resident direct investment	809	976	1,451	1,504	1,031	1,608
Inflows	902	991	1,548	1,526	1,050	1,660
Outflows	93	16	97	23	19	53
Non-resident portfolio investment	509	579	1,125	171	67	58
Inflows	549	657	1,170	213	101	88
Outflows	40	78	45	42	33	30
Financial loans and credit lines	–1,184	–1,279	–1,855	1,310	471	2,146
Inflows	1,493	2,491	3,411	6,128	3,509	6,691
Outflows	2,677	3,771	5,266	4,818	3,037	4,545
International Monetary Fund loans	–19	–2,050	–3,595	–9,530	–9,530	0
Other international agencies' loans	–1,354	–468	520	–1,415	–1,233	–7
Non-financial private sector foreign asset accumulation	–3,808	–2,837	1,206	–2,939	–2,026	–6,088
Inflows	7,735	9,728	12,968	11,427	8,164	10,525
Outflows	11,543	12,565	11,762	14,366	10,190	16,612
Financial sector foreign asset accumulation (GEP)	–276	465	–356	51	242	–168
Financial sector securities transactions	0	0	–95	398	230	227
Other public sector transactions (net)	–274	–297	640	2,106	1,611	1,469
Other net movements	448	87	493	924	519	574
Changes in international reserves arising from transactions	**3,581**	**5,319**	**8,847**	**3,414**	**–378**	**10,120**

Note: Temporary data.

Source: BCRA.

Finally, in the item “Other public sector transactions”, since the Argentine debt swap finished in 2005, financing has been obtained by the Treasury in market operations. As a result, there was a continuous increase in international reserves even in 2006, when Argentina made an early and full repayment of its debt to the IMF.

3. Given the high and persistent macroeconomic volatility experienced by the Argentine economy, the change in economic policy introduced in 2002 sought to generate conditions for achieving sustained economic growth and preventing foreign volatility from passing through to the domestic economy. As shown by other successful cases of economic development, the avoidance of recurring episodes of real exchange rate appreciation, usually followed by sharp nominal devaluations, is considered an essential requirement for the economy to follow the path of sustained development. The policies and measures designed to regulate short-term financial capital flows (both inflows and outflows) and precautionary reserve accumulation should be analysed within this framework. Such regulations are tools of countercyclical policy that cushion the effects of shifts in financial flows over the economic cycle and help to reduce volatility in domestic financial markets.

Higher short-term financial capital inflows give rise, via both domestic credit and aggregate demand expansion, to a process of real exchange rate appreciation, a phenomenon that occurs in emerging economies favoured by a much better export performance and/or terms of trade. In fact, the management of short-term financial capital inflows involves a short-term macroeconomic threat: (i) if exchange rate flexibility is limited, capital inflows may create a sudden rise in domestic credit and in prices of domestic assets, generating demand pressures and inflation (where aggregate supply does not react); (ii) alternatively, if the domestic currency appreciates, the external sector suffers a loss of competitiveness, adversely affecting aggregate demand, the industrial sector and employment.

Argentina’s precautionary reserve accumulation policy that led to an endogenous expansion of monetary aggregates, domestic credit and finally aggregate demand. The policy has been accompanied by a series of direct regulations that were implemented following the abandonment of the convertibility system. First, the aim of such regulations was to discourage short-term speculative financial capital inflows (attracted by appreciation expectations combined with positive interest rate differentials between domestic and foreign financial assets) by imposing a minimum maintenance period for funds channelled to Argentina’s single free exchange market (MULC). In 2002 the Central Bank implemented an exchange regulation by imposing a 90-day floor, later increased to 180 and 365 days by the Ministry of Economy. Subsequently, other regulations of an indirect nature were adopted under Executive Order 616/2005, which required a 30% non-accruing mandatory deposit of financial capital inflows designed to discourage speculative hot money that could eventually lead to future incidents of abrupt outflows.

The regulations in the foreign exchange market were aimed at increasing transparency in the operations and to make sustainable the stabilisation of the MULC in the medium and long term. Additionally, it is important to mention that goods imports may be wholly paid in advance, whether by cash or deferred payment, regardless of the type of good. There are no restrictions whatsoever to the payment abroad of services rendered by nonresidents, regardless of the kind of services (freight, insurance, royalties, technical advice, fees, etc.). Related to income, interest, profits and dividends, access to the Single Free Exchange Market is allowed in order to pay financial sector and nonfinancial private sector interest services.

With the same aim at stabilising medium and long term exchange market, resident individuals and legal entities (as per the definition provided in chapter IV of the IMF's fifth edition of the Balance of Payments Manual) outside the financial sector may access the Single Free Exchange Market to purchase foreign exchange with a monthly ceiling (originally US$ 100, set at US$ 2.000 per month, later increased to US$ 2 million) was imposed on residents’ demand for.000 in cases like: real estate investment abroad, loans to nonresidents, residents' external direct investment contributions, individuals' portfolio investment abroad, other unspecified residents' investment abroad, legal entities' portfolio investment abroad, foreign currency in order to stabilise the MULC.purchases to be held in the country, mutual fund portfolio investment, mutual fund bill purchases and grants.

4. In January 2002, after 10 years of a currency board, in the middle of foreign exchange and banking crises, one of the main goals of economic policy was to establish a single free exchange market (MULC) aimed at stabilising the foreign exchange market. The first regulations were implemented in November 2001, before the convertibility collapse. With the change of the exchange rate regime and after the devaluation, it became mandatory to convert to domestic currency, through the MULC, 100% of foreign exchange receipts from goods and services exports (FOB, CIF, DDP, EXW, FAS or FCA, as appropriate) and some transitory regulations were also implemented in order to restrain short-term financial flows.

The economy rapidly showed a foreign exchange surplus that remained at relatively high levels mainly because of the positive balance of trade, which was only offset in part by a larger net demand for foreign currency to pay for services, net income, capital transactions and private demand for foreign currency.

By early 2003, most regulations on foreign transactions were lifted, including restrictions on principal and interest payments on financial debt as well as on profit and dividend payments (just after the devaluation, in order to stop the depletion of international reserves, Central Bank approval was required for some capital income transactions). In addition, monthly limits on portfolio investment, direct investment and other external assets were relaxed. Simultaneously, the limit on foreign asset holdings by financial institutions and the non-financial private sector was gradually increased.

However, as short-term financial capital inflows continued to grow rapidly, other regulatory measures were introduced on the capital account. First, minimum stay requirements were imposed. New financial borrowing traded in the domestic foreign exchange market and rollovers of non-financial private sector and financial sector residents' external liabilities had to be made and kept for at least 365 consecutive days. They could not be repaid before the maturity date, regardless of the settlement modality and whether or not that modality involved access to the domestic foreign exchange market. The above did not apply to correspondent balances of institutions authorised to trade in foreign exchange, insofar as they are not financial credit lines, or to primary issues of debt instruments listed and traded in self-regulated markets.

Second, according to Executive Order 616/2005, Central Bank Communication "A" 4359 regulated interest-free deposits with local financial institutions meeting the requirements set forth in Communication "A" 4360. Deposits were to be made in US dollars with 30% of the equivalent of the total sum when there were foreign exchange inflows into the MULC. Both measures, established by the Ministry of Economy, proved to be appropriate in terms of reducing short-term financial capital inflows.

The regulations did not affect regular commercial and financial transactions. In addition: (i) there are no restrictions whatsoever on payment abroad for services provided by non-residents, regardless of the item (freight, insurance, royalties, technical advice, fees, etc); (ii) for income (interest and profits and dividends), access to the MULC is allowed in order to pay for financial sector and non-financial private sector interest services; (iii) non-residents (as defined in Chapter IV of the fifth edition of the IMF's *Balance of Payments Manual*) may access the MULC to purchase foreign exchange to be transferred to their accounts in foreign banks with funds collected domestically from: cash import, services, income and other current transfers receipts, principal instalments of national government debt issued in foreign currency (provided that foreign currency received has been converted to domestic currency through the foreign exchange market), residents' external liabilities from Argentine goods and services imports and non-residents' financial liabilities from foreign loans, validated by the external debt statement; (iv) some operations are exempt from the 30% mandatory deposit stipulated in Executive Order 616/2005, such as: primary issues of debt instruments listed and traded in self-regulated markets; income from non-resident investment applied to purchasing real estate; foreign financial lending that is agreed on and settled at an average life of no less than two years, taking principal and interest payments into account for the calculation; and the foreign inflows used by the private sector to invest in non-financial assets.[1]

5. In recent years, the foreign reserve accumulation policy, combined with the sterilisation policy, both implemented by the Central Bank, have allowed monetary aggregates to remain within the programme bands. Thus, reserve accumulation is sustainable over time and compatible with a stable, robust and predictable monetary-financial policy. The results obtained reveal the consistency that both mechanisms have been exhibiting (persistent accumulation and deep sterilisation). In the past five years the Central Bank has accumulated US$ 35.7 billion in reserves and the monetary aggregates have consistently remained within the bands foreseen by the monetary programme, helping to preserve the equilibrium in the monetary market.

The reserve accumulation strategy did not have negative repercussions on monetary growth: M2 (cash held by the public, deposits in current accounts and deposits in savings accounts in pesos) growth (year-on-year) showed a continuous decline. The control of the growth of monetary aggregates is a direct reflection of the sterilisation policy carried out by the Central Bank. Table 3 shows that during the period 2005–07 the Central Bank absorbed 66% of the monetary growth generated by purchases of foreign exchange coming from the external sector.

Table 3

Foreign currency purchases and sterilisation

Average flows in millions of pesos

Period	Foreign currency purchases at the MULC[1]	Increment of monetary base[2]	Sterilisation (total)	Sterilisation/ foreign currency purchases
2005	41,170	5,290	35,879	87%
2006	42,491	16,181	26,309	62%
2007	37,398	19,533	17,865	48%
2005–07	**121,059**	**41,005**	**80,054**	**66%**

[1] Includes the Treasury (single free exchange market). [2] 2006 data do not include the effect of the raising of minimum liquidity requirements.

Source: BCRA.

The sterilisation policy consists of financial transactions that the Central Bank carries out to compensate for the purchase of foreign currency where there is an excess supply of foreign exchange. By this policy in order to neutralise its impact on domestic interest rate and inflation, the Central Bank absorbs the pesos that issues for the purchase of foreign exchange. When the Central Bank buys dollars it issues pesos, and tis issuance of pesos increases the supply of base money, and if this supply exceeds the amount that is voluntarily

[1] More detailed information on foreign exchange regulation is available at: www.bcra.gov.ar.

demanded, it has to be absorbed in a prudent manner to avoid, as I mentioned, possible effects on inflation. The Central Bank therefore reduces the money supply through sterilisation, or absorbs the pesos it issues (theoretically, in the extreme case the Central Bank absorbs the increase in the monetary base and sells LEBAC and NOBAC by exactly the same amount as the initial excess demand for domestic assets, restoring the interest rate to its original level. In such a case, the excess supply of foreign exchange is in fact an excess demand for domestic assets).[2]

Sterilisation has been carried out through different mechanisms including: (i) early cancellation of rediscounts granted by the Central Bank during the 2001–02 crisis (this was one of the main monetary contraction factors in 2005 and one of the most significant contraction factors in 2006); (ii) issuance of non-monetary short- and medium-term debt (LEBAC and NOBAC); (iii) net issuance of reverse repos; (iv) sale of sovereign bonds held in the Central Bank portfolio (undertaken occasionally); and (v) changes in the minimum reserve requirement.

6. The Central Bank has been fully aware that the joint application of reserve accumulation and sterilisation policies could eventually involve costs, where the interest paid on LEBAC and NOBAC exceeds that of the international reserves. The economic literature usually cites at least three possible costs resulting from the upward pressure on domestic interest rates often associated with the sterilisation of international reserves: (i) the risk of a negative impact on investment and growth; (ii) the possibility of excessive stimulation of the inflow of short-term capital; and (iii) the possible quasi-fiscal losses.

In Argentina the trend and level of domestic interest rates, whether nominal or real, at historically low levels (especially for loans), the evolution of the nominal exchange rate, the low level of international interest rates, the strong economic growth and the role of investment in the current expansion, on the one hand, allowed the sterilisation policy to be sustainable. On the other hand, what is really of interest for a monetary market like the one in Argentina today is not how many pesos the Central Bank issues daily in order to purchase foreign currency, but the extent to which these pesos are sterilised. As mentioned earlier, the sterilisation policy allows the Central Bank to satisfy the demand for money in an adequate manner because it withdraws the surplus pesos from the economy and neither the accumulation of reserves nor the sterilisation has affected the level of activity. Regarding item (ii), as well as the low interest rates, there are still regulatory restrictions to cushion any incentive for short-term financial capital inflows. With regard to item (iii), there are factors that make the cost-benefit equation favour the current policy: the continuous quasi-fiscal surpluses exhibited by the Central Bank are concrete evidence that the revenues earned as the yield on both external assets (reserves) and domestic assets (bonds and rediscounts) are more than compensating for the financial costs incurred by the issuance of LEBAC and NOBAC. Table 4 shows that the total amount of LEBAC and NOBAC outstanding was US$ 52.9 billion at the end of 2007. The Table also shows that, from its peak in June 2007, the stock of LEBAC and NOBAC outstanding fell by US$ 8.5 billion as the Central Bank has

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[2] A macroeconomic inconsistency that is much discussed in the economic literature is summed up as the well known “Impossible Trinity” postulate of open economy macroeconomics (the trilemma). According to this postulate, in the presence of free mobile capital it is not possible to have a fixed exchange rate and at the same time adopt an independent monetary policy. However, some authors argue that under certain circumstances it is possible to address those objectives simultaneously. They maintain that if there is an excess supply of foreign exchange at some policy rate, the monetary authority can help equilibrate the market by buying the excess supply in the foreign exchange market, and can then control the domestic interest rate by sterilising the monetary effects of the previous exchange market intervention by some of the instruments mentioned above. It is argued that, in doing this, the monetary authority intervention in the exchange market helps to achieve the exchange rate policy objective and the intervention in the monetary market, through sterilisation, allows it to control the domestic interest rate.

used these instruments, among others, to provide liquidity to the domestic money market since mid-2007 when the international financial turbulence began.

Table 4

Stock of outstanding LEBAC and NOBAC

End of quarter, in millions of pesos

Period	LEBAC $	LEBAC US$	NOBAC $	Total $	Total $ + US$	Exchange rate
March 2002	180	52	0	**180**	**330**	2.85
June 2002	474	221	0	**474**	**1,316**	3.80
September 2002	1,793	237	0	**1,793**	**2,678**	3.73
December 2002	3,049	185	0	**3,049**	**3,671**	3.36
March 2003	4,423	188	0	**4,423**	**4,980**	2.96
June 2003	6,176	125	0	**6,176**	**6,528**	2.81
September 2003	8,264	137	0	**8,264**	**8,661**	2.91
December 2003	9,839	85	178	**10,018**	**10,266**	2.93
March 2004	11,658	77	506	**12,164**	**12,383**	2.86
June 2004	12,749	60	826	**13,574**	**13,751**	2.96
September 2004	12,827	44	982	**13,808**	**13,940**	2.98
December 2004	13,337	54	1,335	**14,673**	**14,834**	2.97
March 2005	15,369	52	1,888	**17,256**	**17,408**	2.92
June 2005	20,172	32	2,924	**23,097**	**23,189**	2.89
September 2005	22,280	31	4,595	**26,875**	**26,965**	2.91
December 2005	19,539	48	6,777	**26,315**	**26,462**	3.03
March 2006	11,765	37	16,299	**28,064**	**28,179**	3.08
June 2006	10,458	38	21,801	**32,259**	**32,377**	3.08
September 2006	10,210	18	28,050	**38,260**	**38,317**	3.10
December 2006	13,126	18	27,676	**40,802**	**40,859**	3.07
March 2007	15,328	19	35,858	**51,185**	**51,244**	3.10
June 2007	25,860	19	35,565	**61,425**	**61,483**	3.09
September 2007	24,699	0	33,982	**58,681**	**58,681**	3.15
November 2007	20,942	0	31,992	**52,934**	**52,934**	3.13

Source: BCRA.

As theoretically acknowledged "… The sustainability of the [sterilisation] policy depends on the interest earned by the foreign reserves, the domestic interest rate, the exchange rate trend and the evolution of the variables that determine the demand and supply of monetary base … there is a maximum level for the domestic interest rate that allows the sterilisation policy to be sustainable."[3]

The sterilisation policy has favourable prudential implications, because it imposes a quantitative limit on the growth of the monetary aggregates. From the Central Bank point of view, a policy that combines both reserve accumulation and monetary sterilisation increases confidence in the domestic economy and makes Argentina less vulnerable. This is one of the specific assurances that an economy which has been systematically battered by the events of the international economy can have: the protection needed to face possible external shocks and thus guarantee exchange rate and financial stability and predictability, not only over the short term but also the medium- and long-term.

7. During the 2001–02 crisis, the behaviour of foreign financial institutions differed from that of national banks, both public and private. In the 1990s, there was a significant increase in foreign financial institutions' share in the domestic market, through both the purchase of domestic banks and the incorporation of new ones. Table 5 shows that in 2000, before the crisis broke out, foreign private banks accounted for around 50% of both total credit granted to the private sector and private deposits. This percentage fell dramatically during the crisis, and by 2003 both shares were reduced by around 10%. Table 5 also shows that in recent years foreign banks' lending and deposits participation continued to decline, reaching 36% and 38%, respectively.

Table 5

Financial intermediation, by group of financial institutions

In millions of pesos and percentages

	Private sector loans						**Private sector deposits**					
	2000		**2003**		**2006**		**2000**		**2003**		**2006**	
Public banks	16,680	26.5	9,662	29.8	19,259	25.1	22,092	28.2	27,653	36.9	37,229	30.2
Private national banks	12,811	20.4	9,433	29.1	26,939	35.1	14,799	18.9	17,025	22.7	38,496	31.2
Private foreign banks	31,441	50.0	12,772	39.4	28,059	36.5	41,118	52.4	30,072	40.1	47,218	38.3
Non-bank financial inter-mediaries	1,952	3.1	511	1.6	2,597	3.4	389	0.5	201	0.3	488	0.4
Total	**62,884**	**100**	**32,378**	**100**	**76,853**	**100**	**78,397**	**100**	**74,951**	**100**	**123,431**	**100**

Source: BCRA.

The financial system was able to restore normality to its balance sheets and consolidate the recovery of its traditional financial intermediation activity sooner than expected following the 2001–02 crisis. In that scenario, the strong recovery of domestic credit and deposits was not significantly linked either to international markets' new lending or to the capitalisation of foreign liabilities. This trend reflects certain differences compared with the development of

[3] Roberto Frenkel, "The Sustainability of Sterilization Policy", Center for Economic and Policy Research, September 2007.

the financial system before and during the crisis. Positive prospects for the local economy and for the financial services business in particular encouraged financial institution shareholders to recapitalise their banks. In the case of foreign banks, they contributed 54% (US$ 3.1 billion) of the capitalisation that took place following the collapse of the convertibility regime (the total amount for the period 2002–07 was US$ 5.7 billion). Of that amount, 75% was capitalisation of outstanding debts and earnings, while the remaining 25% was through fresh capital. It is important to stress that, as a result of the consolidation of the sector, the ratio of capital to risk assets reached 17%, surpassing local and international minimum recommended levels.

Banks led the recovery of funding from the domestic market, mainly through deposits. They have shown dynamism in the issuance of corporate bonds (ON) and share subscriptions, showing significant progress compared with the early years of the decade (although market funding remains low in international terms). Though in an incipient stage, some financial entities have marginally increased their longest-term funding through corporate bonds. During the first half of 2007, five banks placed corporate bonds (genuine, not linked to restructuring processes), virtually all of them denominated in pesos, for US$ 620 million, compared with US$ 400 million during 2006 (accounted for by two financial institutions). Similarly, a domestic private bank placed IPOs abroad for around US$ 150 million. Foreign capital inflows therefore allowed a gradual consolidation of banks' funding, even though such liabilities still represent a low percentage in terms of banks' liabilities, at 5%.

Additionally, banks have generated trust funds in the last few years, particularly for improving their risk management of both lending and liquidity. Banks placed their assets in trust funds for around US$ 3.2 billion in 2005, US$ 3 billion in 2006 and US$ 2.7 billion in 2007.

In an economic scenario characterised by high volatility and uncertainty, economic agents usually prefer to keep their savings in foreign currency and, should banks be allowed to raise deposits in foreign currency, they are encouraged to furnish loans in a currency other than the domestic legal tender. As shown in the last financial crisis, such preference for foreign assets and the resulting currency mismatches make the financial system vulnerable to shocks to the exchange rate, which can lead banks to suffer liquidity and solvency problems. Bearing in mind the lessons learnt from the crisis, the Central Bank designed a series of measures to reduce currency risk, establishing that dollar-denominated deposits should only be allocated to lending in dollars, and credit in dollars to companies and households should only be granted when income and wages are tied to dollar receipts. In addition, dollar-denominated deposits and credits are subject to ceilings and capital requirements to limit currency mismatches. As a result, banks have reduced the active mismatch from dollar-denominated items from a post-crisis high of 69% of net worth to a current level of 23% (measured as assets in foreign currency minus liabilities in foreign currency over total net worth). Indeed, in the post-crisis period, while loans and deposits denominated in local currency were gradually expanding, their shares in total assets and liabilities showed an extraordinary improvement vis-à-vis the dollarised picture shown pre-crisis.

8. Until 2002, the domestic futures and options markets were basically confined to agricultural commodities. The abandonment of the currency board entailed designing a new strategy for improving risk management. By mid-2002, ROFEX (Rosario Foreign Exchange) was licensed by the National Exchange Commission to negotiate futures (with the notable participation of the Central Bank) and foreign exchange (US dollar) options. Thus, the markets broadened the existing market for agricultural derivative instruments to include financial derivatives, which allowed the participation of agents other than those from the agricultural sector by incorporating the Central Bank as counterparty. Regarding dollar-denominated futures, the number of agreements executed amounted to 2.7 billion for US$ 1 each, ie US$ 2.7 billion as a whole in 2003, rising to around US$ 23.6 billion. Financial agreements (the majority of which are futures denominated in US dollars) represented 99% of the total amount of agreements signed by ROFEX during 2007, whereas the remaining 0.94% comprised agricultural agreements. In addition, the Electronic Open Market (MAE) started to conduct transactions in

2004, showing a remarkably dynamic performance: from around 24,000 negotiated agreements (for US$ 100,000 each, ie US$ 2.4 billion) in 2005, and during 2007 the number increased to 105,500 (US$ 10.55 billion).[4] Other risk hedge markets like those related to interest rates (which involve the highest degree of activity throughout the world, whether via markets or OTC) are as yet little developed. In relation to global turnover, the derivatives market in Argentina is still small. The Central Bank has been a vital player in both markets, Rofex and MAE, signing futures contracts on foreign exchange (US dollar/peso). [5]

9. In spite of the current expansion, Argentine capital markets still show limited growth. In particular, the depth of the stock market is low (the stock exchange capitalisation ratio of domestic companies to GDP is almost 30%), as is liquidity (the four sectors with the highest market value conduct most of the transactions, absorbing a great portion of the liquidity of the marketplace). The stock markets are extremely vulnerable to external shocks, are highly volatile (due to recurrent crises) and show a remarkable concentration of stock exchange capitalisation and turnover with little diversification of sectors (oil, iron and steel, telecommunications and finance account for over 80% of the domestic stock exchange capitalisation, with oil/natural gas predominating). The market for corporate bonds is small compared to those of the main regional economies (below 10% of GDP), and thus even smaller compared to those of the developed economies. Furthermore, the issuance of corporate bonds, measured in US dollars, has not recovered the nominal values observed prior to the 2001–02 crisis.

Since the crisis, primary market issuance of corporate bonds on the BCBA (Buenos Aires Stock Exchange) has fallen in absolute terms (measured in dollars) and relative to GDP. After the crisis, corporate financing from markets was restricted to small amounts for the short term, except for debt restructuring transactions which accounted for most of the transactions during the period 2002–2005. The sector began to recover in 2003, and more so after the process of renegotiation of the public debt in default was closed in early 2005. There was also a change from the end of 2006, when over 90% of the issuance of corporate bonds was linked to new funding. From 2006 through 2007 corporate bonds issued in Argentina amounted to US$ 3 billion, below the peak of over US$ 5 billion each year reached before the crisis in both 1997 and 1998.

From another point of view, the issuance of peso-denominated debt, either government or corporate, has been lower than that of foreign currency debt, even though since 2007 there has been growing issuance in pesos at a fixed rate (though for shorter terms). It is worth mentioning that before the 2001–02 crisis broke out, the BCBA had issued negotiable obligations on account of new funding, whereas, as mentioned above, from 2002 to 2005 most local and international issuance by national corporates involved debt restructuring.

Lastly, the strong economic recovery and the changes in corporate structures – with mergers and acquisitions involving a diversification at a global level – that have taken place over the last few years have led domestic companies to expand into other regional economies and have attracted foreign companies to settle in or purchase companies in Argentina. With regard to foreign direct investment, a growing number of international companies have been investing in sectors such as tourism, real estate, beverages and foodstuffs, as well as the supply of metals and building materials. At the same time, domestic companies from the agricultural and metallurgy sectors have made heavy investments abroad.

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[4] In 2007 the ROFEX daily average turnover of financial agreements was US$ 104 million compared to US$ 50 million traded throughout the MAE.

[5] The future contracts on foreign exchange are settled in pesos on a net basis, where the principal amounts are not exchanged.

10. To sum up, the Argentine economy has been characterised by a strong dependence on external savings, and has shown recurrent current account deficits. For this reason, the frequent shifts in international financial capital flows have had a huge impact in terms of higher macroeconomic volatility.

The economic recession that began in 1998 and the collapse of the convertibility system in early 2002 were the most recent serious episodes in which capital flow fluctuations had a severe impact on the performance of the Argentine economy. For this reason, from 2002 onwards, one of the main pillars supporting economic policy has been focused on stabilising the foreign exchange market and addressing the problems linked to the volatility of short-term financial capital flows.

Under this policy, the economy has shown a remarkable recovery, with fiscal and external equilibria key characteristics. At the same time, the economy has achieved financial and exchange market stabilisation, while international reserves have been growing continuously. The favourable economic environment, combined with a positive external context in terms of high liquidity and low international interest rates, attracted international investors. As a result, demand for peso-denominated assets rose and short-term financial flows became much larger than expected. In order to face this situation, some transitory rules on the capital account were introduced by the Ministry of Economy, particularly aimed at discouraging short-term financial flows (the first regulations on foreign exchange transactions were actually established prior to the collapse of the convertibility system). These temporary rules have been reduced and do not interfere with investment or consumption decisions. Additionally, the Central Bank has been implementing a sterilisation policy in order to keep monetary aggregates under control. Argentina's experience shows that, under certain circumstances, this policy is consistent with one of international reserve accumulation.