



**An unlikely Phoenix: The recovery of Argentina’s monetary and financial system from its ashes in the 2000s and its lessons**

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Abstract:	The paper discusses the recovery of the Argentine financial system after the crisis of the so called “convertibility regime” of the nineties. The Argentine macroeconomic regime established in 1991 and based in the hard peg of the peso to the dollar at a 1 to 1 parity ended in a multiple crisis in 2001-2002. Beyond the default on the public debt and the currency crisis, the episode also involved the breakdown of the domestic financial system and brought to an almost complete isolation of the country from the international financial markets as a consequence of the default. Under such a deep crisis and the consequent high uncertainty, the recovery of the solvency of the financial institutions was an almost insurmountable enterprise. Surprisingly, however, with a gradualist approach (contrary to the IMF advice) and a degree of “regulatory forbearance”, the financial and monetary authorities were able to recover step by step the health of the financial system, which became much more resilient to shocks, even if its development has been very slow and, as a consequence, the contribution of domestic credit to the economic expansion of the 2000’s can be considered almost negligible.

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8 **An unlikely Phoenix: The recovery of Argentina's monetary and financial system**  
9 **from its ashes in the 2000s and its lessons.**  
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**ABSTRACT**

The paper discusses the recovery of the Argentine financial system after the crisis of the so called “convertibility regime” of the nineties. The Argentine macroeconomic regime established in 1991 and based in the hard peg of the peso to the dollar at a 1 to 1 parity ended in a multiple crisis in 2001-2002. Beyond the default on the public debt, the crisis also involved the breakdown of the domestic financial system, and an almost complete isolation of the country from the international financial markets as a consequence of the default. Under such a deep crisis and the consequent uncertainty, the recovery of the solvency of the financial institutions was an almost insurmountable enterprise. However, with a gradualist approach (contrary to the IMF advise) and a degree of “regulatory forbearance”, the financial and monetary authorities were able to recover the health of the financial system which became much more resilient to shocks, even if its development has been very slow and, as a consequence, the contribution of domestic credit to the economic expansion of the 2000’s can be considered almost negligible.

**KEY WORDS**

Argentina, financial crisis, financial recovery, debt default, financial regulations.

## **An unlikely Phoenix: The recovery of Argentina's monetary and financial system from its ashes in the 2000s and its lessons<sup>1</sup>.**

Even for a country especially prone to suffering cataclysmic crises with a surprising regularity<sup>2</sup>, the Argentine crisis of 2001-2002 was in a league of its own because of the dramatic depth of the debacle, which may have been the worst in the country's history. Given the sharp accumulated contraction in GDP since mid-1998, the deficit in the public sector accounts, the overwhelming pressures in the foreign exchange market and the simultaneous bankruptcy of the banking system, the odds that Argentina could recover rapidly and satisfactorily were deemed to be very low by most analysts and policymakers. After all, the "episode" was an extreme case of the so-called "triplet crises", combining simultaneous banking, currency and sovereign debt crises, of which only 8 can be counted worldwide as from 1970 (two in Argentina<sup>3</sup>), out of a total of 270 banking crises.

Argentina's 2001 crisis was also quite unusual in terms of sequencing. Thus, whereas it is common (Kaminsky and Reinhart, 1999) for banking crises to precede currency and sovereign debt crises, in this case the order was reversed, with the sovereign debt crisis leading to a currency crisis and, finally, to a generalized bank run<sup>4</sup>. Actually, only 1% of systemic banking crises in the IMF's database are preceded by a sovereign debt crisis within three years prior to their start. Thus, the episode we are discussing in this paper is indeed quite extraordinary, but so was the pace and extent of the recovery.

In effect, after touching bottom in the first quarter of 2002, Argentina's economy would show a remarkable recovery. Economic activity rebounded and then continued growing strongly and sustainably until 2009, when it was negatively affected by the international crisis, after which it kept growing fast until 2011. But although this outcome would surprise the skeptics who in 2002/2003 forecasted a long period of slow growth, the results achieved in the financial sphere were no less remarkable and, it may be

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<sup>2</sup> Together with Congo, Argentina is the country that, since 1970, has suffered from the highest incidence of banking crises (4) in the whole world.

<sup>3</sup> The other triplet crisis in Argentina took place in 1980-1982, when a banking crisis (1980) was followed by a currency crisis (1981) and, in turn, by a sovereign debt crisis (1982).

<sup>4</sup> The "timeline" does not cleanly reflect this causality, because the bank run and imposition of controls on deposit withdrawals preceded the sovereign default which, in turn, preceded the devaluation of the peso, but the causality is nevertheless clear.

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3 argued, were even more so, taking into account the dismal state of the banking system  
4 at the “point of departure”<sup>5</sup>.

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6 As will be explained below, not only did the banking system emerge from the  
7 crisis significantly strengthened compared to even its best years during the nineties, but  
8 it was also able to do so imposing relatively low fiscal and quasi fiscal costs on society  
9 and without the support of a solvent public sector, or from the multilateral institutions. In  
10 fact, the latter were unwilling to back Argentina’s policies in general, and were  
11 adamantly opposed to the gradualist strategy eventually adopted by Argentina’s  
12 authorities to restructure the financial sector, or to its approach to “normalize” the  
13 working of the monetary and currency markets.

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15 However, it must be stressed that, regardless of the errors of judgment on the  
16 part of the IMF at the time, and the consequent inadequacy of many (not all) of its policy  
17 recommendations, it was difficult *a priori* to be optimistic about the possibility of  
18 restructuring the banking sector without incurring in significant fiscal costs, or not to  
19 have doubts about the long-term viability of a considerable number of institutions.  
20 Relatedly, the same skepticism applied to the expectation that the financial/monetary  
21 situation could be stabilized without resorting to draconian (old?) IMF-style measures.

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23 How was it possible to not only restructure the banking sector but also to  
24 strengthen it, and to reduce or eliminate some of its crucial weaknesses without  
25 undertaking “shock” policies, such as the forced closure of many institutions, all this in a  
26 context where the public sector was technically bankrupt and without multilateral  
27 support? Are there any lessons that can be drawn from the Argentine experience  
28 relevant for the current predicament in the Eurozone? These are the questions to which  
29 we intend to find some clues in the following pages.

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31 The main critical building pillars of the general policy response to deal with the  
32 triplet crisis were established at the outset, and consisted of emergency measures and  
33 others of a longer-term or more permanent nature, which together implied a complete  
34 change in the macroeconomic policy regime. These building blocks were the sovereign  
35 default, the devaluation of the currency, as well as the implementation of a floating  
36 currency regime, and the introduction of stringent capital controls. In the specific sphere  
37 of banking, the main measures were an across-the-board partial debt forgiveness, to  
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<sup>5</sup> In many respects the macroeconomic performance of the country after the convertibility crisis was outstanding. But the period of fast economic growth came to an end around 2011, after a less virtuous management of macropolicies brought the economy to a stagflationary scenario under which GDP and employment stopped growing, entering into a “plateau”. For a more comprehensive discussion of the macroeconomic evolution of the country from the beginning of the century and of what we label the “populist macroeconomic policy” period (from 2010 on) see for instance: Damill, Frenkel and Rapetti, 2014 and 2015.

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3 protect debtors from suffering the full impact of the devaluation of the currency, coupled  
4 with the issuance of public debt to plug the resulting gap in banks' balance sheets, and  
5 a heavy dose of regulatory forbearance. This gave banks time to recover their capital  
6 levels, and register losses over time, as their capacity to generate earnings gradually  
7 improved.  
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11 However, it is worth noting that the enormous number of measures and  
12 regulatory changes introduced (largely) in the two years after the outbreak of the crisis  
13 were often not the fruit of a step-by-step and detailed planning on the part of the  
14 authorities, or necessarily the result of a careful assessment and weighing of exclusively  
15 economic factors. Often, the measures were implemented haphazardly at the height of  
16 the crisis, or the authorities backtracked from the initially preferred course of action. In a  
17 chaotic context, the complete overhaul of the monetary/financial/exchange rate regime  
18 was a complex process with a considerable degree of trial and error, where the final  
19 "design" was achieved by successive approximations. The final allocation of losses  
20 among sectors was the result of such a process. This was also the case of the final  
21 framework for capital controls, which required considerable efforts after a decade of full  
22 liberalization (capital transactions had not even been recorded in the 90s) and the  
23 previous loss of human resources with expertise in the matter.  
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28 It is only natural that when society has to allocate losses among different  
29 social/economic groups in a desperate situation, political considerations may conflict  
30 with what would be "optimal" from a purely economic perspective. Politics and  
31 economics become intertwined when the government has to allocate massive financial  
32 losses among different constituencies, and the pressures of interest groups may be  
33 more successful against a government which is politically weak and is in a situation  
34 where it has to act fast to prevent the crisis from worsening. In the end, and not  
35 surprisingly, most of the cost of the crisis was shifted to taxpayers, an outcome which  
36 clearly falls within the standard pattern in this type of crisis.  
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47 *The run up to the end of convertibility: deteriorating balance sheets and increasing exit*  
48 *costs*  
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52 To understand the magnitude of the challenge faced by the authorities, it is  
53 important to take into account that the ability of the banking system to withstand the twin  
54 shocks of default and devaluation was substantially reduced by the need to finance  
55 deposit outflows during 2001. The banks could not reduce their exposure to the  
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3 government to help finance the deposit outflow without triggering a sovereign debt crisis  
4 and, ultimately, the very banking crisis they were trying to prevent from occurring in the  
5 first place. On the contrary, they had to draw down their own external assets to finance  
6 both the deposit outflow and the fall in external credit lines.  
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10 This eliminated precisely the kind of asset that would have been so valuable in  
11 the event of default and devaluation. Moreover, in 2001 the banks also had to cut their  
12 loans denominated in domestic currency to avoid facing a currency mismatch, but unlike  
13 foreign currency loans, these were just the type of loans that were more likely to  
14 continue to perform in the event of a devaluation. As the banking system shrank in the  
15 face of the run, an increasing share of the banks' remaining assets became illiquid  
16 foreign-currency-denominated claims on the government (US\$ 26.7 billion at the end of  
17 2001, 30.5% of total assets) and on firms that lacked sufficient export revenue to  
18 finance these claims (39.1 billion at the end of 2001, 44.6% of total assets).  
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22 In brief, the evolution of banks' balance sheets immediately preceding the  
23 outbreak of the crisis aggravated their predicament and would limit the government's  
24 margin of maneuver when restructuring the banking system became inevitable. In  
25 general, by delaying the (inevitable) default-cum-devaluation in 2000-2001 Argentina's  
26 government at the time made the tasks faced by future policymakers much more  
27 difficult. And in contrast to the situation in the European periphery, there was no  
28 multilateral official support that could contribute to its rescue.  
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32 Nor could the authorities rely on the increasing presence of international banks,  
33 one of whose supposed main benefits should have been, precisely, their access to  
34 "parental support". In fact, in the run up to the abrogation of convertibility they  
35 implemented decisions that were biased against foreign banks, and which gave them  
36 the legal excuse not to support their domestic subsidiaries or their branches (despite  
37 their legal obligation with respect to the latter). There was a concern among the  
38 authorities that a "level playing field" would leave the whole sector in foreign hands,  
39 given that a process of "flight to quality" had been observed in the previous months. We  
40 will never know whether those banks would have supported their subsidiaries or not,  
41 had not the government enabled them to invoke the *force majeure* clause (see below  
42 the case of the Uruguayan crisis).  
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46 It should be borne in mind that from a purely "accounting" perspective, the  
47 banking system did not have a currency mismatch before the outbreak of the crisis and  
48 its foreign currency exposure to the private sector substantially exceeded its exposure  
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3 to the government<sup>6</sup>. However, rather than being a source of strength, this was a  
4 potential weakness, given the small size of the export sector and extensive lending to  
5 firms in the non-tradable sector. There was, in essence, a “hidden” currency mismatch  
6 in banks’ balance sheets which, in turn, reflected the private sector’s own balance  
7 sheet mismatches.  
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11 As if these weaknesses were not enough, the measures that had been adopted  
12 during the last months of the convertibility regime to stem the outflow of deposits, which  
13 dropped by 22% in 2001, had created a very risky liquidity situation, which would pose  
14 serious difficulties to the new authorities. In effect, in early December, during the last  
15 month in office of the outgoing government, the authorities established the so-called  
16 *corralito*, which consisted of (low amount) withdrawal limits on all sight deposits, and  
17 which seriously damaged the transactional role of bank money, so much so that it would  
18 convert to currency in circulation below par in the first months of 2002.  
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22 Inevitably, the restrictions and the expectations of a devaluation encouraged  
23 depositors to shift their time deposits to sight accounts as they came due, aggravating  
24 the risk posed by the mass of liquidity that was increasingly accumulating “closer to the  
25 exit”. Moreover, several mechanisms generated leakages in the *corralito*. This forced  
26 the authorities to freeze term deposits on February 9, 2002, through the so-called  
27 *corralón* (“large corralito”), because otherwise it would not have been possible to  
28 eventually allow for freer withdrawals from current and savings accounts, which would  
29 have made it extremely difficult to reestablish a more normal working of the collapsed  
30 payments system.  
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34 Relatedly, a few days earlier the authorities had put into effect an asymmetric  
35 “pesification” of domestic dollar claims (more on this below), by converting dollar-  
36 denominated loans into pesos at a 1 to 1 parity, whereas dollar-denominated deposits  
37 were converted at a 1 to 1.40 parity. All time deposits, not only those in dollars prior to  
38 pesification, were “reprogrammed” in monthly installments and their maturities were  
39 deferred, while depositors received a tradable Certificate of Reprogrammed Debt  
40 (CEDRO). This mechanism implied postponing the full release of the original deposits to  
41 as late as August 2005 for those exceeding 30,000 dollars before pesification. As an  
42 option, under what was to be the first of two exchanges of reprogrammed deposits,  
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55 <sup>6</sup> According to the official data (“Boletín Estadístico del Banco Central –Balance de las Entidades  
56 Financieras”), at the end of June 2001, the total lending of the domestic financial institutions in foreign  
57 currency (US dollars) surpassed by slightly more than 10% the amount of total banks’ liabilities in that  
58 currency. Meanwhile, total bank credit in foreign currency to the domestic private sector surpassed by  
59 more than 30% the total outstanding liabilities of the public sector to the domestic banks.  
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3 depositors could accept an exchange for public bonds, whose maturities reached 10.5  
4 years for term deposits originally denominated in dollars.  
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7 However, it was already too late to avoid generating severe disruptions. By  
8 mixing sight deposits that fulfilled transaction purposes with term deposits in dollars that  
9 had a store of value or savings role the outgoing authorities created a veritable  
10 monetary nightmare that significantly increased the liquidity risks faced by the banks  
11 and would greatly complicate the task of removing the restrictions and restoring the  
12 normal functioning of the payments system. Indeed, this is one of the main lessons that  
13 can be learnt from the Argentine crisis. Uruguay took advantage of this experience later  
14 in 2002, when it decided (though with multilateral support) to fully back dollar checking  
15 and savings deposits while rescheduling the time deposits, precisely so as to avoid  
16 harming the payments system<sup>7</sup>.  
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22 One of the consequences of the *corralito* was a remarkable rise in the real  
23 demand for money in the form of banknotes and coins, which increased 20% in the first  
24 quarter of 2002 despite a context of high inflation provoked by the devaluation.  
25 Interestingly, this preference for “cellulose” liquidity would not be a transitory  
26 phenomenon, but would persist well after the economy and the banking system had  
27 already recovered. The imposition of the *corralito* marks, in fact, a structural break in the  
28 demand for currency series.  
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32 January 6 2002 marked the legal end of the convertibility regime, which was  
33 accompanied with a 40% increase of the official exchange rate, though the depreciation  
34 of the peso in the market had actually taken place more than a month before. After a  
35 brief spell with a dual exchange-rate system, on February 3 the government established  
36 a unified floating exchange rate regime by setting up the so-called Single and Free  
37 Foreign Exchange Market (Mercado Único y Libre de Cambios or MULC).  
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### 43 *Allocating losses amidst chaos: the restructuring of the banks' balance sheets*

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46 To tackle the multiple problems the authorities were facing four fundamental  
47 measures were implemented.  
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49 The first was to drastically (legally) de-dollarize the financial system, particularly  
50 on the asset side (loans), so as to prevent a generalized bankruptcy of those economic  
51 agents with dollar liabilities, given that debt burdens which had seemed tolerable at the  
52 one-to-one peso-dollar parity became intolerably high after the devaluation. Moreover,  
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57 <sup>7</sup> Under the so-called Bonex Plan, during the 1989-90 crisis, the Argentine government had not made this  
58 mistake. It froze term deposits and exchanged them for dollar bonds.  
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3 the sharp reduction in income and profits made it all but impossible to service the debts,  
4 even those which were denominated in pesos<sup>8</sup>. Although a considerable part of pesified  
5 assets would become non-performing during the worst stage of the crisis, pesification  
6 likely dampened the debt-servicing difficulties that would have resulted if these private  
7 sector debts to the banks had remained denominated in U.S. dollars. Banks were  
8 probably better off with pesified deposits, a (hopefully) performing pesified loan, and a  
9 compensation bond than with a non-performing dollar loan, and dollar deposits.  
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11 The second fundamental decision had to do with the central task of allocating  
12 losses among bank shareholders, non-financial firms, depositors and taxpayers. This  
13 was done by implementing pesification in an asymmetric and incomplete manner, as  
14 well as by (partially) compensating the banks and depositors for the resulting losses  
15 through the issuance of public bonds. As often happens in these kind of situations, the  
16 burden of the losses was shifted from the debtors to the “creditors” (the banks, the  
17 taxpayers, the depositors and, especially, the bondholders).  
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19 A third essential element, consistent with the fact that the peso would float in the  
20 currency market and the pesification of credits, was the recovery by the Central Bank of  
21 its role as a lender of last resort, which allowed it to inject into the financial system large  
22 amounts of liquidity support, without which it would have ceased to operate.  
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24 The new policy framework was completed by a fourth central element, a system  
25 of capital controls implemented in early February 2002 that would be gradually  
26 strengthened over the year, but whose fundamental characteristics would be finished by  
27 August 2002, when the last main “leakages” that enabled the outflow of capital from the  
28 country were closed.  
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30 The combination of the currency’s floating, forced de-dollarization, capital  
31 controls and the recovery of its role as a lender of last resort gave the Central Bank a  
32 greater margin of maneuver to deal with the macroeconomic crisis and, together with  
33 regulatory forbearance, made it possible to prevent the banking sector from imploding.  
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35 However, the challenge ahead was formidable. There is a big difference between  
36 merely stopping a hemorrhage, as important as that may be, and bringing a patient  
37 back to long-term health. The Argentine banking system was still in intensive therapy,  
38 and the IMF was arguing that the government should divide banks into three groups:  
39 those considered salvageable, those that should definitely be closed down (including  
40 the large public banks) and a third group consisting of institutions which might or might  
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58 <sup>8</sup> Liquidity was extremely scarce and, in general, the payments system faced severe problems.  
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3 not recover, after a long stay in the so-called “hospital of banks”. The advice was to  
4 implement shock therapy. Gradualism was out of the question.  
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6 But the government did not heed such advice. The risks of such an approach  
7 were too high, particularly because requiring banks to rapidly adjust their capital levels  
8 could exacerbate the credit crunch and lead to the closure of potentially healthy  
9 institutions, which could recover with a future reversion in the macroeconomic scenario,  
10 as opposed to firm-specific factors that had adversely affected their performance.  
11 Moreover, the closure of banks could clearly undermine confidence even further. In the  
12 prevailing context, shifting losses to the banking sector, exceeding a moderate level,  
13 was not advisable, since there was no way to secure capital contributions in the  
14 amounts necessary to fill the capital hole in banks’ balance sheets.  
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20 Instead the authorities opted for a gradual, long-term approach to bring banks  
21 back to health, whose objective was to allow them to recover “naturally” over time from  
22 the generation of internal funds and with a strong dose of regulatory forbearance. In the  
23 meantime, regulatory forbearance would mask the true extent of the problems inherited  
24 from, paradoxically, an essential part of the “solution” that the authorities themselves  
25 had implemented in the first place to deal with the crisis: the asymmetric and incomplete  
26 pesification of assets and liabilities. As a result of this intervention in the banks’ balance  
27 sheets, these were faced with both stock and flow problems.  
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33 The asymmetric nature of pesification reflected the fact that banks’ dollar assets  
34 and liabilities were converted into pesos at different parities. Most of the dollar liabilities  
35 (debts) of the domestic non-financial private sector with the financial system were  
36 converted at a parity of one peso for each dollar<sup>9</sup> while, simultaneously, dollar deposits,  
37 which represented a sizable share of total deposits, were converted at a parity of 1.4  
38 pesos for each dollar<sup>10</sup> (and both were indexed to the CER coefficient, a smoothed daily  
39 indicator of inflation based on the CPI, similar to the UF in Chile<sup>11</sup>). Moreover, caps on  
40 interest rates on pesified loans were put into effect.  
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45 Pesification was incomplete because not all banking assets and liabilities were  
46 affected by it. In particular, debts under foreign law posed a special problem. It was  
47 imperative to be extremely careful with the banks’ external liabilities so as not to affect  
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51 <sup>9</sup> There were exceptions, mostly foreign trade credit lines and debts under foreign laws or foreign  
52 jurisdictions.

53 <sup>10</sup> Dollar deposits fulfilled the store-of-value function of money, and represented accumulated savings.  
54 Deposits that were originally denominated in pesos suffered the full impact of the ensuing inflation, but  
55 were mostly current account and savings deposits, which served the purpose of medium of payment. In  
56 other crises (Greece’s for instance), there is no such distinction.

57 <sup>11</sup> Later, low-amount mortgage loans and loans to individuals were indexed to wages and, finally,  
58 indexation of debt was completely abandoned.  
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3 commercial credit and, in general, the modest amount of foreign financing that domestic  
4 institutions were still able to receive after the default. Although it was not possible to  
5 legally force the restructuring of dollar liabilities with non-residents (foreign lines of credit  
6 and corporate bonds), a large share of the external obligations that could not be pesified  
7 under Argentine law were restructured under the umbrella of the sovereign default and  
8 the imposition of capital controls that restricted debt service abroad<sup>12</sup>. But at the same  
9 time, it was also the case that the banks did not have assets which could generate the  
10 dollar cash flows with which to service those debts. The currency mismatch was an  
11 involuntary consequence of pesification. After all, the banks had had a “long”  
12 (accounting) dollar position before its implementation.  
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15 Banks suffered capital losses because of the way pesification was implemented,  
16 whereas depositors lost in dollar terms, because the nominal exchange rate rose  
17 strongly, and significantly exceeded the (transitory) official rate of 1.40 pesos for dollar.  
18 However, they recorded a capital gain in real (peso) terms as a result of the asymmetric  
19 conversion-cum-indexation.  
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22 The banks, in contrast, suffered a capital loss, regardless of whether it is  
23 estimated in dollars or pesos. Asymmetric pesification implied an immediate loss of 40  
24 cents on each peso of deposits, originally in dollars, which were funding loans to the  
25 private sector. Incomplete pesification generated a gap for each peso of assets funded  
26 by the dollar obligations abroad, which had to be valued at the market exchange rate,  
27 thus introducing an additional asymmetry between liability valuation and asset valuation.  
28 Even more, the future evolution of both gaps was of an uncertain magnitude. The first  
29 one could only grow, because inflation would increase the value of reprogrammed  
30 deposits, which were indexed by CER, in a context where prices would rise as a result  
31 of devaluation, not to mention other possible contributing factors (monetary/fiscal). The  
32 second gap was also bound to increase, because the (short-run) equilibrium level of the  
33 exchange rate well exceeded 1.40 pesos per dollar, so the exchange rate was bound to  
34 increase and an overshooting was also likely, given the circumstances. But there was  
35 still a third gap, though less quantitatively significant, which resulted from the  
36 asymmetric indexation between those assets whose value adjusted according to the  
37 evolution of wages (low-amount loans to households, mortgage debt) by means of the  
38 CVS (wages variation coefficient), and deposits reprogrammed under the *corralón* in  
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57 <sup>12</sup> Firms, however, could not pay their domestic creditors while they were in default on their external debt,  
58 so they had to put funds into domestic escrow accounts.  
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3 CEDROs, which adjusted on the basis of the evolution of the CER (consumer prices)<sup>13</sup>,  
4 and also bore interest. Because wages were stagnant during the course of 2002,  
5 whereas consumer prices rose about 40%, the result was an indexation loss on  
6 deposits that exceeded the indexation gain on claims against households. Significantly,  
7 all these losses added to the foreseeable rise in non-performing loans as a  
8 consequence of the recession.  
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13 Clearly, in the government's order of priorities protecting debtors, especially the  
14 business sector and mortgage debtors, was at the top of the list. Pesification was  
15 essentially a debt forgiveness measure (it would reduce dollar contract obligations by as  
16 much as 75%). But the loss inflicted on depositors by the pesification of dollar deposits  
17 was a politically very sensitive issue, so the authorities partially mitigated them by  
18 shifting part of those losses to the banks' balance sheets.  
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23 It is worth noting that these measures to protect debtors had an "across the  
24 board" character, with minimal or no differentiation between debtors according to the  
25 specific situation of each company or sector, or the amount of debt, so they also  
26 benefitted companies that were natural "winners" in the new macroeconomic context,  
27 such as those in the tradable sector, or even high worth individuals. Certainly, in the  
28 case of the banking sector, any viable, practical mechanism, that could have been  
29 implemented to restructure debts would have inevitably involved, as it did, some degree  
30 of asymmetry in the treatment of assets vis-à-vis liabilities. However, the degree of  
31 asymmetry and the distribution of gains/losses between agents of the specific  
32 mechanism that was put into effect may perhaps not have been optimal from the  
33 perspective of maximizing the potential for economic recovery, but it was especially  
34 crude from a fairness perspective, and was the result of the successful lobbying efforts  
35 by the business sector, since the authorities would have preferred to pesify at a higher  
36 exchange rate<sup>14</sup>. The decision to use such highly asymmetric rates may have originated  
37 in a number of factors: the belief that the peso would settle at an exchange rate of 1.40  
38 per dollar, the social and political imperative of offsetting depositors' losses, and the  
39 visible concessions to various debtor groups. Nonetheless, it surely contributed to  
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50 <sup>13</sup> Thus, the asymmetry would depend on the evolution of the real wage. It was initially negative, but later  
51 turned positive, so by 2004 the banks were no longer worried about this asymmetry.

52 <sup>14</sup> According to Schumkler et al., large and foreign depositors (or investors with access to foreign-based  
53 accounts) were fully compensated for their losses, or even obtained capital gains, while small depositors  
54 suffer capital losses. Moreover, given the income level of the different social groups involved in the  
55 transfers, this may have had negative effects on income distribution.  
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3 significantly alleviating the debt service and burden of indebted firms, thus paving the  
4 road for the recovery of production and profits, and a large increase in free cash flows  
5 that would later enable an increase in fixed investment.  
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9 Another factor that may explain the incentive to shift losses onto the financial  
10 system is that, whereas banks can operate with negative net worth, and this fact can be  
11 “hidden” from the general public, so a panic needs not arise, the bankruptcy of the non-  
12 financial private sector can provoke enormous damage immediately, which can feed  
13 back on the financial system itself, and cannot be masked as easily. The recovery of the  
14 Central Bank’s lender-of-last-resort role and the reprogramming of deposits significantly  
15 contributed to attenuating the problem of liquidity. This, in turn, reduced the urgency of  
16 filling the hole in banks’ balance sheets with capital in a truly economic sense, as  
17 opposed to an accounting perspective, so making it possible to provide immediate cash  
18 flow relief for the non-financial business sector and the household sector.  
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25 Ultimately, however, banks’ losses had to be absorbed by the government (the  
26 taxpayers). The negative impact on net worth of each kind of “gap” was offset by means  
27 of a different “compensation” bond. Thus, the conversion of loans and deposits at  
28 different exchange rates gave banks the right to receive Treasury Bonds (Boden 2007)  
29 for the full amount of the loss, bonds which were indexed to the CER. The discrepancy  
30 between liabilities in dollars (foreign debts) and pesified assets was compensated by  
31 the issue of dollar bonds (Boden 2012), which banks could exchange for peso bonds up  
32 to the full value of that loss, and the gap originating in asymmetric compensation,  
33 belatedly in 2004, by means of the Boden 2013.  
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39 However, the government’s compensation did not fully close the nominal  
40 accounting gap between assets and liabilities. Incomplete as it was, the issue of  
41 compensation bonds left the banks with a much larger share of their assets in  
42 government bonds, which had market value well below face value. By end-2002 holding  
43 of government obligations accounted for 48% of bank assets, if valued at par, though  
44 much less if valued at market prices, but represented a significant weakness in banks’  
45 balance sheets that would only be solved with the passage of time. It is worth noting  
46 that banks also faced a considerable real interest rate risk, because the yield on  
47 compensation bonds, whose inflation adjustment would capitalize over time, might  
48 become lower vis-à-vis an eventually growing real interest rate. This gap could reduce  
49 bank capital. In principle, this imposed limits on the degree to which the Central Bank  
50 could raise real interest rates, if in fact it had wished to do so.  
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4 From a purely accounting perspective, the allocation of compensation bonds  
5 made it possible to even increase the banking system's net worth in pesos in February  
6 2002 compared to its level in December 2001, but this did not reflect the system's true  
7 solvency, which was badly damaged. Valuing the compensation bonds at the market  
8 prices prevailing at the time (which were far below par) the financial system's capital  
9 was really negative. This was an inevitable consequence of the general design of  
10 pesification, which initially aimed to basically shift the loss from households and  
11 businesses onto the banks. The approach can be rationalized as being grounded on the  
12 obvious fact that without the recovery of both production and household demand, any  
13 set of measures implemented to restore the banking system (or rather, the whole  
14 economy) to health was doomed to failure. But it is also true that this implied putting into  
15 effect measures intended to alleviate the situation of debtors that, in the short run, were  
16 actually detrimental to banks balance sheets, such as changes in aspects of the  
17 bankruptcy laws, suspension of foreclosures, the forced refinancing of mortgage debts  
18 at low interest rates, maturity deferments on various types of loans, etc. This  
19 aggravated the maturity mismatch faced by banks, especially taking into account that  
20 deposits were "running for the exits".  
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It may seem counterintuitive that buttressing a bankrupt banking system with the  
bonds of an also bankrupt government can work, especially since there was no external  
support. But the implicit assumption behind the use such bonds was that they were, in  
effect, senior to the government's other debt (which was in default). Consequently, the  
government bonds held in bank portfolios could be considered to be worth much more  
(relative to face value) than government debt held by the non-financial private sector,  
both domestic and foreign<sup>15</sup>. The new debt's credibility originated essentially in the  
government's capacity to subordinate prior creditors. Another way of rationalizing this is  
that the authorities, in fact, provided the banks with an "advance" on the savings to be  
obtained by the Treasury in the future sovereign debt restructuring, which was finally  
implemented in February 2005 with the most significant haircut to that moment, and the  
second most significant after Greece's 2012 restructuring.

This interpretation is somewhat counterfactual and it was not generally perceived  
to be valid at the time the compensation was implemented. However, it is clear that the  
lack of any form of external support could only lead to a significant haircut on the public

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<sup>15</sup> But, of course, banks could not sell their government bond holdings at this higher implicit price in the market, since for the buyers that "special price" did not apply, and also because banks would have had to record the loss compared to the accounting value. Thus, these holdings became quite rigid in the banks' balance sheets, until the situation improved markedly.

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3 debt holdings of the, *de facto*, junior creditors (those that were neither banks nor  
4 depositors), considering the unavoidable need to compensate the banks for their losses.  
5 One of the main factors explaining the current predicament in Europe is precisely the  
6 interdependence between banks and sovereigns, which can create a vicious circle. It  
7 becomes very difficult to restore the solvency of banks without reestablishing that of the  
8 sovereign, and vice versa. Thus, the weakest countries in the Eurozone periphery are  
9 finding it hard to deal with this problem despite considerable external support. In the  
10 case of Argentina, the lack of that support on the face of an unsustainable public debt  
11 burden shifted the cost of restructuring to junior creditors<sup>16</sup>, since the sovereign could  
12 not afford to be more lenient with the bondholders.  
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15 In the end, the redistribution of wealth in favor of the debtors was mostly  
16 “financed” by the losses suffered by those creditors holding debt issued before 2002,  
17 which became junior to the new creditors (banks and depositors). However, from a  
18 present value perspective although not necessarily *ex post*, in terms of realized values,  
19 the burden also fell on domestic depositors (which were later partially or, in some cases,  
20 fully compensated), as well as on foreign creditors of the private sector (mainly financial,  
21 but also non-financial), since the government forced domestic companies to refinance  
22 their debts (2002), although there were no haircuts in nominal terms.  
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### 25 *Against all odds: stabilizing the exchange rate in a context of excess liquidity*

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27 One of the main challenges faced by the authorities in the first two quarters after  
28 the outbreak of the crisis was that of stabilizing the exchange rate and introducing  
29 monetary policy instruments, at a time when there were massive outflows of deposits  
30 from the banking system which, in turn, required significant liquidity support from the  
31 Central Bank. This generated an endogenous, and difficult to control, passive increase  
32 in the supply of base money, particularly currency, since the authorities decided to  
33 minimize and, if possible, avoid bank closures. But this demanded that the Central Bank  
34 could flexibly provide substantial liquidity support, and a framework for the regulation of  
35 emerging liquidity assistance (ELA) facilities that was at least barely adequate for the  
36 challenges faced by the monetary authorities during the crisis did not exist at the time.  
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40 Consequently, the Central Bank Charter had to be changed in January 2002 so  
41 that the institution could legally provide assistance to the banks in the necessary  
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<sup>16</sup> To the extent that it increased the government’s negotiating position. It was clearly a case of lack of capacity to pay, rather than a case of unwillingness to pay.



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3 amounts. The maximum 30-day limit for such assistance was eliminated and lending  
4 exceeding 100% of regulatory capital was allowed, as well as the possibility of providing  
5 rediscounts or loans to the banks using national public bonds as collateral. The  
6 emergency liquidity facilities would finally be given almost their current, more detailed  
7 and structured form in 2003, when the Central Bank was empowered to provide peso  
8 loans to support distressed financial institutions in a wide range of circumstances and to  
9 lift financing limits in times of systemic stress.  
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15 This framework is the result of the lessons learned during the crisis, when it  
16 worked well. Probably its most noteworthy characteristic is that, realistically, it does not  
17 set the assistance limits in stone, but rather relies on a sort of “constructive ambiguity”,  
18 so that financial institutions are not completely sure in advance of the degree of support  
19 they will receive, thus attenuating moral hazard, given that ordinary financing is  
20 reasonably restricted in the norms. At the same time, the framework does not pretend to  
21 impose a disciplining straightjacket that would be useless or, rather, counterproductive  
22 in a systemic crisis.  
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29 Though liberally supporting the banks was the chosen path to tackle the banking  
30 manifestation of the triplet crises, the authorities could not passively accept the  
31 inevitable side-effect of this policy, the significant and uncontrolled expansion of money  
32 that it entailed. In this regard, initially the Central Bank did not even have sterilization  
33 instruments, which were eventually created in March, but their capacity to significantly  
34 influence monetary developments would not be relevant until the second semester.  
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39 Such ELA policy implied validating a higher level of inflation, but the alternative of  
40 adopting a tough stance based on the usual moral hazard argument, or the pretense of  
41 establishing some sort of monetary anchor, was not feasible nor sensible, given that  
42 minimizing the granting of rediscounts could trigger a panic in the banking sector and,  
43 ultimately, lead to even higher inflation as a result of the possible further collapse of  
44 aggregate supply.  
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49 As if all these difficulties had not been enough, the Central Bank did not even  
50 have the monopoly of money issuance. Many provinces had been issuing quasi-monies  
51 since 2001, and they continued to do so in 2002, when they represented 40% of the  
52 increase in (broad) money in circulation and 18% of broad M2 by year-end, reflecting  
53 the substantial, though gradually shrinking, provincial deficits. As mentioned before, the  
54 preference for bills and coins did not represent a transitory phenomenon generated by  
55 the lack of confidence in the banking system and the increase in the size of the  
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3 underground economy, but it was associated with a break in the historically observed  
4 ratio between monetary circulation and GDP, which had averaged 5% in the  
5 convertibility period but did not drop below 7% as from 2004.  
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9 The potential destabilizing effect of liquidity leakages from the banking sector  
10 continued to be one of the main concerns until almost mid-2003. It is worth mentioning  
11 that the Central Bank, overwhelmed by the challenges faced by itself and the institutions  
12 it had the task of supervising, temporarily suspended all of the banks' numerous  
13 obligatory reporting requirements with only one exception: the banks' liquidity reports.  
14 Not by chance. The year 2002 would end with a 42% drop in deposits in real terms.  
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19 What complicated the task was that the *corralito/corralón* and the reprogramming  
20 of deposits had failed to slow down the outflow of funds from the banks to the necessary  
21 extent, and there were reasons to be wary about the likely behavior of depositors if the  
22 situation did not stabilize rapidly. Restoring some minimum degree of confidence was of  
23 paramount importance to prevent the exchange rate from spiraling out of control and  
24 feeding into prices and wages, thus potentially creating a vicious circle that could lead to  
25 high inflation, or even hyperinflation.  
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31 But improving expectations would not be easy. It should be borne in mind that  
32 most of the banking sector was technically insolvent throughout the whole period, 50%  
33 of loans to the private sector were non-performing in early 2002, and that the population  
34 had recently been subjected to a series of tremendous shocks which had severely  
35 affected their confidence in both banks and the government. At the very least,  
36 policymakers could not work under the assumption that they would willingly return to the  
37 banks once they were able to get their money back.  
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43 On the contrary, the *corralito*, the *corralón* and pesification had created a  
44 repressed demand for liquidity which, in turn, would in all likelihood lead to a strong  
45 demand for dollars in the short term. Moreover, given the political sensitivity of the  
46 issue, throughout 2002 the authorities themselves gradually raised the withdrawal limits  
47 on sight deposits, as well as on the time deposits that had been reprogrammed.  
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51 But there was also the problem that part of the outflow of deposits was not  
52 planned or authorized by the government. No sooner had the *corralón* and the  
53 reprogramming of deposits been established than a new source of liquidity leakages  
54 rapidly surfaced: despite the forced pesification and deposit freeze, a flood of court  
55 cases generated a steady flow of court orders to release deposits of successful  
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3 plaintiffs. Those deposits freed under the *amparos* (judicial injunctions) that had  
4 originally been denominated in dollars were required by the court orders to be  
5 redeemed in dollars or in pesos at the market exchange rate, rather than at the  
6 pesification rate of 1.4. So the exchange rate asymmetry loss was even greater on  
7 dollar deposits released under the *amparos* than under the general pesification scheme.  
8 The same problem existed with regard to court deposits, which especially affected  
9 public banks. The negative impact on the banks' liquidity exceeded 10% of cash and  
10 equivalents in just the first quarter of 2002 in nominal terms.  
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16 Besides, these exchange differences implied not only a liquidity "leakage" but  
17 also losses that generated a reduction in the solvency of banks. None of these losses  
18 were compensated for by the government which, however, chose to postpone and  
19 soften their impact on the banks' net worth, by allowing banks to account for these  
20 losses gradually over a period of 60 months. Consequently, in the case of the *amparos*,  
21 the government was forced to favor those depositors which decided to sue, instead of  
22 accepting reprogrammed deposits or public bonds. As a result, it ended up allocating  
23 the full amount of the losses thus generated to the banks.  
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30 In this context, the greater-than-expected strength shown by the transactions  
31 demand for money, a welcomed development which reflected both "bank phobia" on the  
32 part of the population and the resurgence of the underground economy, would not  
33 prevent the exchange of pesos for dollars from happening. There was substantial  
34 excess liquidity that was the counterpart of household and corporate accumulated  
35 savings, which had got mixed-up with money holdings with a transactions motive inside  
36 the *corralito*. The market exchange rate rapidly tripled in the first quarter of 2002 and  
37 this overshooting would only start to revert in the second semester, once the measures  
38 that will be explained below started to bear fruits.  
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44 To be able to deal effectively with the related problems of excess liquidity and  
45 exchange rate stabilization, the authorities needed to urgently recover the capacity to  
46 implement monetary policy, which included both creating appropriate tools to intervene  
47 in the markets and reestablishing some sort of normality in the operation of the  
48 payments system. In this regard, an image of the dismal state of affairs then prevailing  
49 is given by the fact that, at the outbreak of the crisis the Central Bank could not operate  
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3 effectively in the foreign exchange market<sup>17</sup> and banks would not lend to each other.  
4 The interbank market had totally collapsed<sup>18</sup>. There were cases of (foreign) banks which  
5 would not lend or assume credit exposures even with the Central Bank itself. Bonds  
6 could not be traded, because no institutions were able to pay for them. The market for  
7 forwards ceased to operate for three months and left contracts unfulfilled, which led to  
8 its being sued<sup>19</sup>.  
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13 To attenuate the extreme degree of fragmentation in the money market, the  
14 Central Bank introduced the so-called “función giro”, which enabled it to connect any  
15 two banks, with the Central Bank acting as a kind of central counterparty, that would not  
16 trade with each other because one or both of them would not accept the counterparty  
17 risk of the other. This mechanism was initially used for transactions in the spot market,  
18 but would be successively required to foster the development of several markets over  
19 the following years (forwards, interest rate futures, etc.), given the recurring banks’  
20 reticence to assume the resulting risk exposures against each other. This phenomenon  
21 of fragmentation would later be observed in both the US and Europe, in the cases of  
22 their recent banking crises.  
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30 The Central Bank, against the view of the IMF, sensibly opted for strongly  
31 intervening in the foreign exchange market instead of letting the dollar float freely to find  
32 its “equilibrium value”. Stabilizing exchange rate expectations was judged to be crucial  
33 to be able to implement effective monetary policy, because even in a scenario of  
34 recession and unemployment a continuously rising dollar could have probably led to  
35 high inflation.  
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40 This was likely in a scenario where funds freed from the banking system were  
41 exerting a strong pressure on the exchange rate. But intervention in the FX market, if  
42 not complemented with a financial instrument that could compete against the dollar  
43 effectively enough to attenuate capital flight, could only lead to a persistent and  
44 unsustainable drop in foreign exchange reserves. This instrument would, at the same  
45 time, contribute to sterilizing the excess liquidity that was being created as a result of  
46 the banking crisis. In addition, the creation of such an instrument could help to establish  
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52 <sup>17</sup> It started by intervening in the wholesale market, but this proved to be insufficient to have a  
53 corresponding impact on the retail market, which was crucial for the formation of expectations. This led  
54 the Central Bank to create a mechanism to operate in that market almost directly.

55 <sup>18</sup> By February 17, the Mercado Abierto Electrónico (MAE), where banks bilaterally trade with each other  
56 (without a central counterparty), had not recorded a single transaction.

57 <sup>19</sup> Some institutions which had sold dollars forward reneged on their obligations and were sued by their  
58 counterparties.  
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3 a reference interest rate, so as to start building a framework for monetary policy that  
4 would be useful in more normal times in the future.  
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7 Thus, the so-called Lebac (Central Bank Bills) in pesos were introduced in mid-  
8 March, auctioning them initially at extremely high interest rates (140%) and with very  
9 short maturities (7 days, later extended to 14 and 28 days), in what was the first non-  
10 compulsory debt issue in months. Mario Blejer, the Central Bank's president at the time,  
11 thought of the implicit bet being offered to investors as a contest between greed and  
12 fear, and so it was. Interest rates had to be high to tempt investors to invest in a peso-  
13 denominated financial instrument, given inflation expectations and the anticipation of a  
14 continuing rise in the exchange rate. In this regard, it is worth remarking that the bills  
15 had to be issued by the Central Bank, given that it had to take the place of a bankrupt  
16 treasury which was in default. However, the Central Bank's bills could hardly have been  
17 viewed as a default-free instrument at the time either, though it may have been  
18 considered as nevertheless having a good risk-return profile, but only in the very short  
19 run, which explains the lack of demand for longer maturities in the first months of its  
20 existence. The Central Bank would also introduce Lebac in dollars and indexed by the  
21 CER, despite the government's reticence for fear of reigniting the indexation of prices  
22 and wages that had been a typical feature of Argentina's economy before  
23 convertibility<sup>20</sup>.  
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34 The introduction of an instrument to absorb pesos was also important for another  
35 related reason. The authorities were forced to rapidly discard the option of tackling the  
36 problem of excess liquidity by means of a compulsory exchange of deposits for bonds,  
37 as was advocated by the IMF, and which was the final straw that led to the downfall of  
38 the worn-off Minister of the Economy, Remes Lenicov. The (comparatively) voluntary  
39 approach followed by the authorities, by which depositors were offered a menu of  
40 options, was less politically costly and was more consistent with the objective of  
41 rebuilding confidence, but was more risky from the point of view of monetary control. As  
42 time passed, neither the Congress nor the Judiciary were willing to validate any  
43 measure that entailed another generalized infringement of contractual rights, and the  
44 Executive did not feel strong enough to implement such a strategy. In May 2002 the first  
45 of two voluntary exchanges of reprogrammed deposits for bonds was announced. The  
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56 <sup>20</sup> This was a correct stance in the first years after the outbreak of the crisis, but it would later create  
57 significant distortions once macroeconomic policy became systematically expansionary, leading to  
58 double-digit inflation.  
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3 second, more generous than the first, would be offered in May 2003, together with a  
4 third option to which freed reprogrammed deposits in the near term.  
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7 In addition to the Central Bank's intervention in the FX market and the Lebac,  
8 capital controls constituted the third pillar of the government's policy instruments to  
9 tackle the challenges in the monetary-financial sphere.  
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12 In effect, increasingly restrictive exchange and capital control measures were put  
13 into effect throughout 2002, the most critical phase of the crisis. Since the initial efforts  
14 to stem the massive outflow of deposits and their use to purchase dollars had failed,  
15 and given that the economy completely lacked external financing, closing every  
16 "loophole" that prevented the Central Bank from losing reserves became imperative.  
17 However, after more than a decade of a total absence of even minimal controls and  
18 recording of transactions, reestablishing and perfecting this "technology" to maximize its  
19 effectiveness while minimizing disruptions was not a minor task.  
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26 The new norms were aimed at having a close control on all transactions and the  
27 restrictions not only affected the capital account of the balance of payments, but also  
28 the current account. The range of transactions that required the authorization of the  
29 Central Bank to transfer foreign exchange abroad was significantly expanded, the  
30 maximum amount of foreign exchange that could be sold to companies (and individuals)  
31 was reduced, banks were forced to sell part of their foreign exchange holdings, and  
32 exporters were obligated to sell their foreign currency proceeds to the Central Bank.  
33 Controls were later gradually relaxed as from the last quarter of 2002, as a  
34 consequence of the improvement in the macroeconomic situation and the stabilization  
35 of the foreign exchange market. It is worth noting that flexibilization mostly consisted of  
36 measures that facilitated the outflow of capital. In fact, restrictions to entry were later  
37 reinforced, reflecting the concern about the impact of speculative capital inflows as from  
38 2005.  
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#### 46 *The turning point*

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49 After a dreadful first semester the economy started to recover on all fronts. In  
50 fact, economic activity reached its minimum in April 2002, but the key monetary/financial  
51 variables would show an almost simultaneous improvement shortly after, as from  
52 July/August. June may be considered to have been the final month of the most critical  
53 phase of the crisis, when the average exchange rate reached 3.60 pesos per dollar,  
54 touching a daily maximum of 3.87 by the end of the month. However, the yield of the  
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3 Lebacks in pesos would still rise to 129% on July 10, reflecting a strong expectation of a  
4 further depreciation.  
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7 But it would not happen. The intervention of the Central Bank in the FX market  
8 and by means of the increasingly significant market for Lebacks, as well as the  
9 considerable impact of a further tightening of capital controls between May and  
10 September, which were adjusted to close some significant loopholes, halted the peso's  
11 depreciation. This fundamental development would mark the turning point of the crisis  
12 and the beginning of the recovery.  
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17 After first stabilizing, the exchange rate thereafter showed a declining trend in  
18 late 2002, which would persist in the following year. Moreover, despite continued  
19 *amparo*-related outflows, in July overall deposits stabilized, reaching their minimum  
20 level in both nominal and real terms, and begun to expand from then on (if only  
21 "voluntary", non-restricted, deposits are considered, that happened as early as from  
22 May) for the first time since August 2001. Nominal and real interest rates started to  
23 decrease, though the former could still reach 90% in some banks on 30-days time  
24 deposits. The considerable reduction in the inflation rate in the second semester, which  
25 reached "only" 1% per month by year-end, contributed to the expectation that real  
26 interest rates were still highly attractive for investors both in pesos and, even more so,  
27 in dollars, given the stabilization of the exchange rate.  
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35 International reserves touched bottom in August, after having accumulated a  
36 41% drop since end-2001 (91% of capital flight in 2002 was explained by the net  
37 purchase of dollar bills). Also as from July, the Central Bank was able to make net  
38 purchases in the foreign exchange market, and ended up recording a FX surplus in the  
39 second semester. This partly reflected the collapse of imports, the cessation of  
40 payments on the public debt, and the required previous authorization by the Central  
41 Bank for the payment of interests and dividends to private (non-privileged) creditors. It is  
42 true that these factors had also had an impact in the first semester, but it had not been  
43 enough to prevent international reserves from falling in that period. Only credit to the  
44 private sector would have to wait longer to see an improvement.  
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51 The more favorable circumstances, especially the sustained rise in deposits,  
52 made it possible to free sight accounts from the restrictions imposed by the *corralito*. In  
53 turn, the evidence that this did not have an adverse impact on the FX market led the  
54 authorities to relax the restrictions on the transfer of funds abroad. These two measures  
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3 implemented in late 2002 marked the end of the first stage in the “normalization” of the  
4 financial system.  
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7 The second stage to overcome the crisis would involve the unwinding of the  
8 remaining restrictions on bank deposits, an additional relaxation of exchange controls,  
9 and the redemption of federal and provincial quasi-monies, all of which would be  
10 implemented throughout 2003. These measures contributed to bolstering confidence  
11 and signaled the final normalization of the monetary system, which was fully achieved in  
12 2005, with the disappearance of the last remaining balances of reprogrammed deposits,  
13 more than two years after the outbreak of the crisis.  
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19 Indeed, after dismantling the “*corralito*” in 2002, the authorities still faced the  
20 challenge of dealing with the problem posed by the “*corralón*” which, despite contracting  
21 in absolute and relative terms throughout 2002, still represented 29% of the banking  
22 system’s total deposits. With the benefit of hindsight it appears as if the risk was  
23 overblown at the time, but *ex ante* it was perceived as quite a difficult challenge for the  
24 authorities.  
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### 29 *The unfreeze of deposits and the monetary overhang that was not*

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31 The heart of the problem in early 2003 was whether there was still a monetary  
32 overhang or not. Though the economic context had clearly improved and money  
33 demand had shown a surprising resilience during the worst phase of the crisis,  
34 especially that for currency, there were reasonable doubts about the likely behavior of  
35 depositors if the restrictions were to be removed. In essence, the question was to what  
36 extent the freeing of deposits would disrupt the presumably fragile equilibrium prevailing  
37 in the money market, at least without requiring a substantial rise in interest rates that  
38 would deteriorate banks’ results. Even worse, it was feared that, if badly handled, the  
39 consequences could potentially be very destabilizing. The recently achieved stability in  
40 demand and savings deposits could be vulnerable to shocks now that the *corralito* had  
41 been fully lifted, and freeing the *corralón* was possibly a very different endeavor, given  
42 that it consisted of repressed “savings”, as opposed to (mostly) transaction balances.  
43 Moreover, the depth of the market for Lebacs (5% of total deposits) was still insufficient  
44 to successfully sterilize a significant amount of money, so there was a risk of losing  
45 monetary control.  
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55 On the other hand, the alternative of waiting passively for the Cedros to  
56 progressively come due according to the original schedule generated an important  
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3 liquidity risk, which was exacerbated by the strong concentration of their maturities, and  
4 restoring some sense of normality required the lifting of all restrictions. Confidence in  
5 the banks was still perceived to be low, and the court injunctions were a destabilizing  
6 factor on their own. The crucial variable that would decide the success or failure of the  
7 attempt to solve the problem was the percentage of the amount of deposits that would  
8 be reinvested (rolled over) after being given the opportunity to exit the banking system.  
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13 However, there was still one hurdle to overcome before the unfreezing of the  
14 funds inside the *corralón* could be attempted. It was first necessary to tackle the  
15 problem posed by the high debts of banks with the Central Bank (which were  
16 guaranteed by long-term illiquid public bonds), originating in the liquidity support they  
17 had received during the worst phase of the crisis. The crucial point was to increase the  
18 average maturity of these liabilities, so that banks could face the unfreezing of deposits  
19 in an already improved liquidity position, a development which could make it possible to  
20 shrink the *corralón* more rapidly.  
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27 To this end, the Central Bank established a voluntary “matching” mechanism  
28 whose amortization schedule (which extended over a 70-month period) and interest  
29 rates were similar to those of the public bonds that served as collateral of those banks’  
30 debts with the Central Bank. There was one important requirement: banks willing to  
31 adhere to the matching scheme had to make progress in the restructuring of their  
32 external liabilities, with the requisite that they had to lead to reduction in the net present  
33 value of those debts. Relatedly, the norm encouraged financial institutions to capitalize  
34 debts with parent banks or make new capital contributions to the domestic  
35 subsidiary/branch<sup>21</sup>.  
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41 The combination of the matching scheme, which differed the repayment of  
42 rediscounts, with the restructuring of external liabilities, which extended the maturities of  
43 those obligations, paved the way for the Central Bank to eventually decide, in February  
44 2003, to allow almost every bank to pay back reprogrammed deposits in advance,  
45 giving each bank discretion to decide the extent to which they would do so. Although  
46 acceptance of the offers among depositors were only 24% of the total balance of  
47 Cedros, partly as a result of the alternative of liberating funds through court injunctions  
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54 <sup>21</sup> In this regard, one of the lessons of the crisis, which was rapidly included in the Central Bank’s  
55 regulatory framework, was that it is essential that domestic branches of international banks (not only  
56 subsidiaries) have their own capital in the country, instead of relying on a presumed support from their  
57 parent. This would later be a crucial issue during the banking crisis in Island and, more generally, in the  
58 Eurozone.  
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3 as well as because of the pending definitive Supreme Court ruling on pesification, 77%  
4 of the funds were reinvested in the banks, even without a significant increase in interest  
5 rates. This finally encouraged the authorities to decide the complete liberation of the  
6 Cedros in April, which implied freeing the deposits in three stages according to the  
7 amounts involved, an initiative which required extending the maturity of rediscounts  
8 (and banks' external liabilities) so as to provide sufficient assurances to the banks. This  
9 time acceptance reached 48% of total Cedro balances and, more remarkably, 97% of  
10 the funds were reinvested in time deposits. By the end of 2003 deposits under  
11 restrictions had fallen to only 7% of total deposits.  
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18 It is worth noting that the lifting of the *corralón* was associated, somewhat  
19 paradoxically, with a reduction in the banks' liquidity risk, even though it implied, in  
20 principle, a fall in the average maturity of liabilities. However, in practice, this would not  
21 happen, because it bolstered confidence, it attenuated the impact of the court  
22 injunctions and it smoothed the distribution of maturities. Because of the high rate of  
23 reinvestment the effective maturity of liabilities would actually increase and the banks'  
24 liquidity risks would cease to constitute a central issue by year end, when liquidity ratios,  
25 at 24%, exceeded by 8 pp. Central Bank's requirements and reached 29% including  
26 Central Bank's bills and notes.  
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33 The banking system's health also improved on the capital front. Accounting  
34 losses disappeared by year-end 2003 and capital levels were boosted by the  
35 refinancing of external liabilities (which involved a reduction in the NPV of their debts)  
36 and by capital injections by banks' shareholders (mainly foreign).  
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40 *Regulatory forbearance and chronotherapy in action: "time heals all wounds".*  
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42 After successfully dealing with the challenge of removing the restrictions on  
43 deposits, and the associated liquidity risks, the authorities decided to tackle the difficult  
44 and longer-term objective of recovering the banking system's solvency and, in general,  
45 of establishing a regulatory framework adequate for the new macroeconomic policy  
46 regime, taking advantage, when appropriate, of the lessons learnt as a result of the  
47 crisis.  
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52 However, this comprehensive revamping of the regulatory framework (of which  
53 significant parts were implemented in April 2003) still implied, to a considerable extent,  
54 putting back into effect many elements, if not most, of the framework that had been  
55 designed in the nineties, but under a very different macroeconomic policy regime. The  
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3 changes would be more relevant in what may be labeled, with a liberal use of the  
4 concept, the “macroprudential sphere”, than in the microprudential domain, where there  
5 was not much innovation. But there would also be important “transitory” norms.  
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9 In effect, since it was evident that solvency could not be restored immediately  
10 (half of the banks’ assets were bonds of a defaulted government), the Central Bank  
11 opted for a gradualist strategy, which entailed a slow process of convergence to the full  
12 regulatory capital requirements that would prevail in the long run, when “normality”  
13 could finally be restored. Thus, one of the objectives was to give banks time to  
14 endogenously recover their capital base through retained profits, given that they could  
15 not resort to public-sector support. The second objective, though related to the first, was  
16 to apply regulatory forbearance, particularly in aspects which could facilitate the  
17 recovery of credit.  
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24 A detailed analysis of the numerous norms that were introduced is beyond the  
25 scope of this article, but some of those that involved capital requirements and positions  
26 are worth mentioning, because they are at the root of the central weakness affecting the  
27 banking system at the time and in the following years.  
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31 Minimum capital requirements were reduced to the (then) standard 8.0% of risk-  
32 weighted assets, down from 11.5% during the convertibility regime. The rationale was  
33 that the financial fragility that characterized that regime was no longer present,  
34 particularly the risk posed by high (essentially) unhedged foreign exchange positions  
35 and the very limited role that the Central Bank could play as a lender of last resort since,  
36 in the new context, it could liberally assist the financial system.  
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41 Moreover, since the outbreak of the crisis the Central Bank had enforced a  
42 process of de-dollarization of credit. Capital requirements were differentiated by  
43 currency denomination, with a higher requirement on foreign currency exposures.  
44 Among the norms introduced in 2003, there was also a ban on foreign currency lending  
45 to domestic firms without foreign exchange earnings (if the borrower’s earnings are in  
46 domestic currency, their value must be closely linked to the evolution of the exchange  
47 rate). Moreover, the Central Bank imposed stringent requirements on the banks’ short  
48 foreign currency net position, to attenuate potential losses in scenarios where the peso  
49 depreciates.  
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56 There was no option but to implement a gradual convergence to the required 8%  
57 (full) capital level because of two main factors. First, the high exposure to the public  
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3 sector of banks' balance sheets "inherited" from the crisis. Second, the high associated  
4 interest rate risk, because of the (forced) long-term maturity of these same assets<sup>22</sup>.  
5 The objective of one of the most significant norms introduced in 2003 was precisely to  
6 gradually reduce the gap between the accounting and the market value of these  
7 problematic bank assets. In fact, one of the lessons of the crisis, in the view of the  
8 Central Bank, was that exposures to the public sector should not only be capped as a  
9 percentage of capital/assets (as, though imperfectly, they had been) but could also not  
10 have zero capital requirements.  
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17 The new capital regulations included several elements which enabled banks to  
18 "comply", including "special" valuations for public sector assets and reductions in the  
19 capital requirements on public sector exposures and interest rate risk. Quantitatively,  
20 the most significant was the valuation of public sector assets, which was (initially) well  
21 above their market prices. The combined result reduced the requirements at the same  
22 time that it augmented the capital position admitted for the effect of compliance, thus  
23 closing the existing gap as compared to the new regulatory framework in "normal"  
24 times. Incidentally, the Central Bank's bills and notes (Lebacs and Nobacs) did not  
25 benefit from any special treatment, thus consolidating the *de facto* seniority they had  
26 acquired compared to national government bonds.  
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33 The schedule established in April 2003 foresaw that convergence to normal  
34 capital requirement levels would be achieved in January 2007 on interest rate risk, and  
35 on January 2009 on public sector exposures. The whole scheme involved a high degree  
36 of regulatory forbearance, but it was fulfilled. It is worth noting, however, that it was not  
37 obvious *ex ante* that such an outcome would be possible. The marked improvement in  
38 Argentina's macroeconomic performance played a large role. But despite the continued  
39 improvement in the situation of the banking system as from the time that the above-  
40 mentioned regulations were put into effect, the banks' capital position under full  
41 compliance with the regulatory framework (in other words, with no transitory  
42 "forbearance adjustments" of any kind) would not systematically register an excess over  
43 required capital at the aggregate level (not for all banks) until the year 2008.  
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50 Regarding the regulation of liquidity levels, the Central Bank established higher  
51 requirements on dollar liabilities (20%, as opposed to 16%), in line with the objective of  
52 discouraging dollarization, in an otherwise standard norm, in which reserves are set in  
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57 <sup>22</sup> Banks could not sell these bonds without suffering a loss equivalent to the gap between the accounting  
58 and the market value.  
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3 accordance to the remaining term to maturity of liabilities, though they are quite high for  
4 the then prevailing international standards. Dollar deposits that cannot be on-lent to  
5 borrowers with repayment capacity in that currency have a 100% reserve requirement.  
6 The very prudent treatment in the regulations of the banks' dollar exposures, liabilities  
7 and currency mismatches, would show its usefulness years later, both in 2009 during  
8 the domestic repercussions of the international crisis, and especially in 2012, when the  
9 level of dollar deposits dropped by almost 50%, without generating a situation of stress  
10 in the financial system.

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16 *Back to health: robust but very small.*

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19 In 2005 the banking system would record a positive net income for the first time  
20 after the crisis. Moreover, capital contributions from shareholders and controlling parent  
21 banks as from 2002 made it possible to attenuate the drop in net worth in real terms,  
22 which started to recover from March/April 2004. This allowed the Central Bank to  
23 remove the prohibition on dividend payments that had been in force since April 2002. In  
24 parallel, loans to the private sector began to recover in 2004 and non-performing loans,  
25 after four years of continuous increase, started showing a decreasing path. By 2006 the  
26 system's ROE reached 15.3%, liquidity reserves were almost 24% and exposure to the  
27 public sector had dropped to 16.3% by year-end.

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Banks' performance indicators continued to improve in the following years, with  
only temporary setbacks, showing increasing financial soundness, with strong capital  
and liquidity buffers, rising profitability and an augmenting share of credit to the private  
sector in total assets. Thus, the strategy adopted to bring the sector back to health  
(disregarding occasional indecisions, reversals and policy slippages in the first months  
of 2002) can be considered to have been successful, if assessed against the final  
outcome. This conclusion is further supported if one considers the relatively low  
associated fiscal costs, which have been estimated at 9.6% of GDP, compared to 55%  
of GDP in Argentina's 1980<sup>23</sup> banking crisis.

Undoubtedly, these "low" fiscal costs were partly the result of the fact that the  
burden also fell heavily on public debt creditors, considerably on the banks themselves  
(initially, but moderately in the end), and moderately on depositors (though it was

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<sup>23</sup> These figures are from the Banking Crises Database by Laeven and Valencia. Fiscal costs are there defined as the component of gross fiscal outlays related to the restructuring of the financial sector. They include fiscal costs associated with bank recapitalizations but exclude asset purchases and direct liquidity assistance from the treasury.

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3 perceived as high initially, or *ex ante*). Ultimately, the party that was significantly “bailed  
4 in” were the existing bondholders on the “old”, pre-crisis, sovereign debt. Without their  
5 involuntary “contribution”, the recovery of Argentina’s banking sector would have been  
6 much more difficult and it would have taken a different route. Only with strong  
7 multilateral support would a different option have been feasible, and an alternative  
8 approach on that basis was tried on the other side of the River Plate, also with success,  
9 but with fiscal costs which doubled those in Argentina (20%).  
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15 In effect, in the case of the Uruguayan crisis, which started in mid-2002 largely as  
16 a result of contagion from Argentina, the authorities decided to avoid default, and were  
17 able to do so with the support of the US government and, more reluctantly, the IMF.  
18 Moreover, foreign banks, which again had been the great beneficiaries of the “flight to  
19 quality”, were deliberately left out of the liquidity support provided by the government  
20 and had to rely on their own resources to weather the crisis. However, unlike in  
21 Argentina, domestic private banks were left to face their fate, and the largest were  
22 placed under liquidation. Importantly, multilateral support was especially “calibrated” to  
23 make sure that current account and savings dollar deposits at public and intervened  
24 banks could be fully backed. The dollar time deposits of the two large public banks were  
25 reprogrammed and their maturities stretched over a three-year period. Thus, depositors  
26 in foreign banks, which faced no restrictions, were better off compared to those in public  
27 and domestically-owned private banks, precisely the outcome that was purposefully  
28 avoided by Argentine authorities. They did not want domestic institutions to be  
29 stigmatized.  
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39 In some sense, the sovereign debt side of the Argentine 2001/2002 crisis,  
40 together with the lack of multilateral support, generated its own solution to the banking  
41 side of it, forcing the other actors in the drama to be bailed in to varying degrees. But  
42 other factors also contributed to facilitating the banking system’s restructuring.  
43 Argentina’s banking sector at the time did not have strong linkages with the rest of the  
44 world, so its external liabilities were comparatively low, and the deposit/loans ratio was  
45 high, reflecting relatively low levels of other sources of funding. The successful  
46 management of the banking crisis can also be partly attributed to the existence,  
47 previous to its outbreak, of an adequate bank resolution framework<sup>24</sup>, which contributed  
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55 <sup>24</sup> The guaranteed deposits and the assets with economic value of the failed bank are transferred to  
56 create a new “good bank”. The assets can then be transferred directly to the acquiring bank or to a trust  
57 fund that ultimately issues certificates of the participation to the acquiring bank. Internationally, this is  
58 quite standard nowadays.  
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3 to minimizing the disruption and panic that could have been generated by the few bank  
4 closures which occurred during the crisis. This framework, though, was flexibly  
5 complemented for the first time with a “bridge bank mechanism”, which was used in the  
6 resolution of three banks belonging to Credit Agricole, one of the few foreign institutions  
7 which left Argentina.  
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12 Indeed, foreign institutions did not flee Argentina in droves, as some might have  
13 expected after the generalized violation of contracts, and the discriminatory treatment  
14 on the part of the authorities. Their strategy was to wait and see whether the recovery  
15 values on their (now) bad assets might improve with time. Forfeiting the possible upside  
16 by leaving, once the costs of the crisis and the government’s response to it had already  
17 been suffered, did not make sense from a strictly financial point of view.  
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### 20 21 22 *A creditless recovery.* 23

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25 After falling to less than 9 percent of GDP in mid-2004, credit to the private sector  
26 expanded steadily reaching almost 11 percent of GDP in late 2006. This level was still  
27 extremely low by regional standards, and both corporates and households had (and still  
28 have) relatively low levels of debt on average. Argentina’s was clearly a creditless  
29 recovery. Already by the first quarter of 2005 Argentina had recovered its peak pre-  
30 crisis seasonally adjusted GDP level (recorded in the second quarter of 1998), and the  
31 economy had expanded by 26.3% since the first quarter of 2002. However, in those  
32 three years, credit to the private sector actually decreased 26.4% in nominal terms  
33 (58.0% in real terms). Banking credit did not play even a minimal role in the recovery. In  
34 fact, credit was contracting during the critical two first years after the outbreak of the  
35 crisis.  
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42 A robust banking sector may not be necessary to finance a rebound and near  
43 term growth – which could come via retained earnings and non-bank credit. In fact, the  
44 devaluation generated capital gains for those economic agents (corporations and high-  
45 net-worth individuals) with long dollar positions, which could be profitably invested in  
46 construction projects at bargain prices<sup>25</sup>. It is not surprising that the construction of  
47 (upscale) residential buildings was the first sector to recover from the crisis, though the  
48 impact later became more widespread. Thus, Argentina’s pervasive asset dollarization  
49 had, as a partially offsetting benefit, a favorable impact in terms of the mobilization of  
50 “idle” dollar resources, which thus made banking credit less necessary for the recovery.  
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57 <sup>25</sup> It was often the case that debtors which benefited from pesification had in reality a long dollar position,  
58 if funds outside the domestic banking system are considered, including undeclared funds abroad.  
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3 Part of those funds, of course, had fled from the system before the outbreak of the  
4 crisis.  
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8 In contrast to the usual pattern, where creditless recoveries tend to be weaker  
9 and more protracted than those where credit is growing<sup>26</sup>, as the evidence from the  
10 current crisis in Europe shows, Argentina's recovery was fast, with the economy  
11 accumulating 45% growth from the third quarter of 2002 to the fourth quarter of 2006. It  
12 must be noted, however, that the accumulated drop in GDP from peak to trough (2<sup>nd</sup>  
13 quarter 1998 to first quarter 2002) had been incredibly severe, so the degree of spare  
14 capacity in both labor and capital made it possible to increase production without the  
15 need for high rates of investment in the ensuing recovery<sup>27</sup>. Also in contrast to what is  
16 usual in creditless recoveries, investment quite rapidly exceeded the level recorded in  
17 the year preceding the crisis (17.7% in 2004 vs. 15.8 in 2001), and would exceed 20%  
18 as from the second half of 2005. The sharp fall in real wages (in 2001-2002) and  
19 subsidized utility prices initially provided the internal funds needed to fuel investment, in  
20 a context where profit levels were especially high.  
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28 Another factor that helped the banking system to heal its wounds, particularly as  
29 from 2007, was inflation, coupled with the authorities' deliberate policy of maintaining  
30 very low real interest rates (though not with the main purpose of strengthening the  
31 banks' bottom lines, but to stimulate aggregate demand). Banks became the  
32 government's partners in collecting the rising inflation tax.  
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### 36 *Final remarks*

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39 There are several lessons that can be drawn from the Argentine 2002 triplet crisis  
40 and subsequent recovery of its monetary and financial system, with a view to  
41 establishing an appropriate set of policies, or rough principles, to guide the response in  
42 similar episodes in the future or elsewhere.  
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46 First, it is essential to establish an adequate macroeconomic framework. This  
47 should necessarily include capital controls within a managed floating framework, so as  
48 to prevent destabilizing volatility, namely massive capital flight in the worst phase of the  
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52 <sup>26</sup> Abiad et al. (2011) find that creditless recoveries tend to be relatively weak and output growth is on  
53 average a third lower than in normal recoveries.  
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55 <sup>27</sup> Argentina's recovery in 2003-2005 is acknowledged to be a "true miracle" by Abiad et al. (2011),  
56 together with the cases of Chile's and Uruguay's crises in 1984-86, and Mexico's crises in 1995-1998.  
57 They are characterized by double-digit falls in GDP during the recessions (though Mexico's was "only"  
58 6%). Thus, Argentina's fast recovery was, in part, due to a "rebound effect".  
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3 crisis and excessive capital inflows when confidence is reestablished. Moreover, the  
4 Central Bank must be able to act “flexibly” as an effective lender of last resort, so as to  
5 manage the process of bank restructuring in a way that prevents, or at least reduces to  
6 a minimum, the possibility of a panic and unjustified contagion, and the consequent  
7 capital flight.  
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12 Second, the Central Bank must drastically restrict banks’ currency mismatches  
13 and restrict the size of the dollarized segment of the financial system. Together with the  
14 capital controls, these (“macroprudential”) measures make it possible to have a better  
15 control of the buildup of risk in the system. The accumulation of currency mismatches  
16 has indeed proved to be a key factor in the run up to many crises, and it is important to  
17 control it even in the best of times, when apparently risk is very low.  
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22 Third, a crisis requires the authorities to exercise a considerable degree of  
23 regulatory forbearance that gives the system time to recover. This is essential in cases,  
24 like that of Argentina, where there are no fiscal resources to restore solvency rapidly,  
25 and where confidence is so low that an aggressive bank resolution/consolidation policy  
26 might exacerbate instability, and leave most of the financial system in foreign hands.  
27 Forbearance can help, to the extent that banks’ balance sheets overstate their degree  
28 of insolvency, especially when public debt is valued at default prices, so as the  
29 economy recovers, and especially after the restructuring of sovereign debt, solvency is  
30 strengthened *pari passu* with the rise in asset prices, both public and private.  
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37 Fourth, and regarding the flow dimension of the banks’ problem, monetary policy  
38 should enable banks to achieve high enough interest margins (as has been the case in  
39 the US in recent years), so as to be able to post profits over time. This, together with the  
40 return of confidence and economic growth can help to gradually reestablish the banks’  
41 earnings capacity, so that accumulated (and mostly retained) profits can contribute to  
42 first rebuilding and later expanding the institutions’ capital bases.  
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47 Fifth, taking into account the sovereign debt side of the triplet crisis, it is  
48 imperative to force creditors to bear losses from the start, so as to provide both (current)  
49 flow and (longer-term) stock relief to the debtor country’s overburdened economy.  
50 However, even that may be insufficient when the gap is too large, as the Greek case is  
51 sadly showing.  
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