Edited by

José M. Fanelli and Rohinton Medhora

FINANCIAL REFORM IN DEVELOPING COUNTRIES

IDRC

CANADA

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Financial Reform in Developing Countries

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To my wife

José M. Fanelli

To my parents

Rohinton Medhora

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José M. Fanelli, Guillermo Rozenwurcel and Lucio Simpson[1]

2.1 INTRODUCTION

The first important attempt to liberalize financial markets in Argentina took place between 1977 and 1981, and it was a complete failure. Throughout the 1980s, the degree of 'financial repression' oscillated but interest rates were basically market-determined. However, the financial system operated under important distortions related to the volatile macroeconomic environment.

The implementation of the Convertibility Plan (CP) in March/April 1991 and the drop in international interest rates gave a decisive thrust to the liberalization policy undertaken in mid-1989, whose aim was to restructure the economy along the lines of the 'Washington Consensus'. Two distinctive features characterized the Argentine reforms. The first was the adoption of a 'big bang' approach, where sequencing considerations were completely disregarded. The second was the establishment of a convertibility regime *by law*, which requires the central bank (CB) to back the whole monetary base with foreign exchange reserves. Besides, the new CB charter drastically limited the scope of monetary policy and the CB's role as lender of last resort.

In fact, the Argentine liberalization programme tried to transform the whole structure of capital markets by increasing the participation of the private sector in the allocation of loanable funds and in the pricing of risk, and by rapidly eliminating both the distortions existing within each market and the barriers that could limit competition between the different segments of the capital market. Integration with the international capital market was reinforced with the Convertibility Law, which allows contracts to be denominated in any currency. The foreign exchange market was completely deregulated and currently there are no restrictions on buying and selling currencies.

The main purpose of this chapter is to analyse the Argentine experience with financial liberalization after the implementation of convertibility. The approach adopted favours a comprehensive analysis that takes into account as many financial instruments and agents as possible and addresses what has happened with credit generation in terms of quantity, quality (maturity, for example) and allocation patterns.

There are good theoretical and/or methodological reasons for adopting a broad approach in terms of the financial markets considered. First, it is in the tradition of the liberalization literature to adopt a 'debt-intermediation view' to study the problems of financial development (Shaw, 1973), an approach where the process of credit generation is no less important than the process of money creation. Second, the discussions on the virtues and shortcomings of policy packages that followed the first attempts at freeing financial markets showed the need to consider a broader asset menu when analysing, for example, whether liberalization policies induced financial deepening. Thus, there could be an increase in the demand for deposits in the banking system without financial deepening if, after liberalization, there is a substitution between different instruments instead of an increase in their total demand (Taylor, 1983). A richer menu is also important in examining sequencing problems and, especially, the relationship between external and domestic financial liberalization.

Thus, to give a consistent view of the development of the whole structure of intermediation, this chapter will examine: (1) the evolution of the matrix of assets and liabilities (MAL) of the economy after the implementation of liberalization; (2) firms' portfolio decisions on the basis of a sample of firms quoted on the Buenos Aires Stock Exchange; and (3) performance indicators of the banking system.

Although we will define a broader than usual quantitative measure of financial deepening by using the MAL, we have also made efforts to incorporate *quality* measures of both the assets and the institutions that create them. The Southern Cone liberalization failures[2] led to a greater concern about the effects of deregulation on moral hazard, a concern that suggests paying attention to the evolution of the solvency and liquidity of the banking sector and hence to the impact of liberalization on systemic risk. Consequently, we construct a set of indicators to assess the degree of 'excellency' achieved by capital markets after the reform, taking the Basle norms as a first step. However, other indicators, apart from capital adequacy, are necessary, especially in economies where there is an important degree of dollarization in the financial system, while the role and quantitative significance of (non-diversifiable) systemic risk as a determinant of asset returns tends to be much more important than in developed countries.

Another reason for adding quality indicators to assess the degree of financial development has to do with the management of risk and information within the system. A situation is conceivable where there is no increment in the financial assets/GDP ratio, but there is an improvement in the quality of such assets in terms of their efficiency to spread risk or process relevant information. For example, in applying prudential regulation, a particularly conservative central bank will strongly discourage risk-taking by commercial banks. But this may depress the rate of growth of financial assets created by the banking system, thus restraining financial deepening. However, by reducing the degree of systemic risk faced by the system, this behaviour of the regulator could be very friendly to financial development. An additional example has to do with the term maturity of financial instruments. It is a well-known fact that underdeveloped capital markets are characterized by a weak supply of long-term credit. Consequently, a longer term-maturity of financial instruments would be an improvement. However, there might be an increase in the term maturity of assets without an increase in their total supply. This would occur if there were a portfolio shift in favor of assets of longer maturity after liberalization. To detect this kind of improvement it is necessary to analyse the term structure of assets and liabilities in the books of financial intermediaries. A very similar situation would occur were there to be a major substitution of equity shares for bank deposits in the portfolio of agents over time. Such a movement in favour of the equity market and against the banking system would allow improvement in the ability of each agent to manage and diversify risk. But it would appear as a weakening of the financial deepening process as measured by the money/GDP ratio.

Finally, the role of 'informal' markets in the intermediation of funds should be addressed. Given that in Argentina the bulk of the assets thus generated consist of inter-firm credit, the analysis of the firms' balance sheets may help to uncover the effects of financial liberalization on these practices.

The remainder of this chapter is structured as follows. Section 2.2 presents analysis of the changes in the financial structure during the period under study, and Section 2.3 deals with the evolution of the banking system under liberalization; the discussion in each section is organized around a series of salient 'stylized facts'. Section 2.5, the last, reviews the main conclusions and suggests some directions for further research.

2.2 FINANCIAL DEEPENING AND THE CAPITAL STRUCTURE OF FIRMS

Given the close interaction between developments in the financial sphere and the general macroeconomic environment, in what follows we briefly describe the economy's evolution during the period 1991–5.

Table 2.1 Argentina: main macroeconomic indicators

	1990	*1991*	*1992*	*1993*	*1994*	*1995*
GDP at market prices (billions of US dollars)	141.4	180.9	228.8	257.7	281.6	285.0
Real GDP growth (%)	0.1	8.9	8.7	6.0	7.4	–4.4
Annual inflation (CPI)	1343.9	84.0	17.5	7.4	3.9	1.6
Gross domestic investment (% of GDP)	14.0	14.6	16.7	18.4	20.0	18.4
National savings (% of GDP)	16.2	13.8	13.5	15.3	17.1	16.4
Real exchange rate[a]	100.0	75.0	64.2	60.2	59.3	58.4
Current account (billions of US dollars)	1.8	–2.8	–8.3	–8.3	–11.3	–5.3
Capital account	–1.0	4.7	12.6	12.1	11.9	–5.2
Trade account (billions of US dollars)	8.2	3.7	–2.6	–3.7	–5.8	0.9
Exports (billions of US dollars)	12.2	12.0	12.2	13.1	15.8	20.8
Imports (billions of US dollars)	4.0	8.3	14.9	16.8	21.6	19.8
Reserves (billions of US dollars)	4.6	8.0	11.0	15.3	16.0	16.0
M2/GDP (%)	5.5	6.3	8.2	10.8	11.9	10.5
M2*/GDP (%)[b]	7.0	9.6	12.8	17.5	20.3	18.5
Total external debt (billions of US dollars)	62.2	65.4	67.8	76.9	92.3	10.0
Non-finance public sector deficit (% of GDP)	2.7	1.3	0.7	–1.0	0.1	1.0
Primary deficit (% of GDP)	–1.4	–1.7	–2.2	–2.2	–1.0	0.5
Privatization (cash) (% of GDP)	0.5	1.2	0.8	0.2	0.2	0.4
Primary deficit (excl. private.) (% of GDP)	–1.0	–0.5	–1.4	–2.0	0.8	0.9
Unemployment rate[c]	6.3	6.5	7.0	9.6	11.5	17.5

[a] WPI EEUU/CPI Arg.
[b] Includes dollar deposits.
[c] Average of May and October surveys each year.

Source: Elaborated on the basis of Central Bank and Ministry of Economy data.

After the implementation of the CP in March 1991, the economy has undergone two very different phases (see Table 2.1). In the first, inflation was drastically reduced but there was a significant appreciation of the real exchange rate. The period was characterized by a significant growth in GDP, rising trade deficits and capital inflows, financial deepening and increasing tax revenues. In contrast, the second phase, marked by the so-called tequila effect, showed a deterioration in all these aspects and witnessed a financial crisis that put the CP on the brink of collapse. Catastrophe was avoided, but only with the exceptional support of multilateral institutions and after incurring significant quasifiscal costs. On the other hand, the recession greatly accelerated the pace of the required external adjustment.

The Matrix of Assets and Liabilities and the Stylized Facts of Liberalization

On the basis of the MALs in Tables 2.2 and 2.3, we can say there is 'financial deepening' when the sum of the total assets (or liabilities) appearing in each cell of the MAL increases in relation to GDP. This measure takes into account all operations of intermediation carried out in the formal system. In the same way, the level of domestic financial deepening can be calculated by summing up the cells corresponding only to domestically generated assets/liabilities.

The MALs show that there was financial deepening in the period 1991–5, because (re-expressing the MALs in nominal terms) the total amount of assets in the economy rose by $114.8 billion, which implies a rate of creation of new financial assets of 15.1 per cent per year. As a consequence, the total assets/GDP ratio rose from 75 per cent in 1991 to 89 per cent in 1995). Domestic financial deepening also took place, not only in the form of an increase in the quantity of assets and liabilities, but also through a change in the sources of creation of financial instruments in favour of the domestic ones. Thus, while in 1991 foreign debt represented 39 per cent of the 75 per cent assets/GDP ratio, its share dropped to 22 per cent of an 89 per cent assets/GDP ratio in 1994. However, many of the results in terms of higher financial deepening were not robust enough to resist the Mexican shock.

In order to have a more complete assessment of the qualitative aspects of the process in what follows, we present the most relevant stylized facts of the period.

(1) *There was a dramatic change in the process of money creation, which became much more dependent on capital inflows.*

Table 2.2 Argentina: IV. 1991 financial matrix (as a percentage of GDP)

		Central bank	*Financial sector*	*Public sector*	*Private sector*	*Rest of the world*	*Total assets/ liabilities*
(1)	MB	-4.2	1.6		2.6		4.2
(2)	SD$		-1.7	1.0	0.7		1.7
(3)	TD$		-3.1	0.6	2.5		3.1
(4)	SDE		-0.4	0.0	0.4		0.4
(5)	TDE		-3.3	0.0	3.3		3.3
(6)	L$		10.5	-3.4	-7.1		10.5
(7)	LE		6.7	-1.5	-5.2		6.7
(8)	BG$	0.4	0.5	-1.3	0.4		1.3
(9)	BGE	0.6	0.5	-4.1	1.5	1.5	4.1
(10)	FRC	4.4				-4.4	4.4
(11)	FRF	0.0	0.7			-0.7	0.7
(12)	X	-1.9	-3.4	-26.5	-2.9	34.7	34.7
(13)	TA	5.4	20.5	1.6	11.4	36.2	75.1
(14)	TL	-6.1	-12.0	-36.8	-15.2	-5.0	75.1
(15)	NW	-0.7	8.5	-35.1	-3.7	31.1	
(16)	TAE	5.0	7.9	0.1	5.2	36.2	
(17)	TLE	-1.9	-7.2	-32.1	-8.1	-5.0	
(18)	NWE	3.1	0.7	-32.0	-2.9	31.1	

The financial instruments that appear in the rows are: (1) the monetary base (MB); (2) sight deposits denominated in pesos (SD$); (3) savings accounts and term deposits denominated in pesos (TD$); (4) sight deposits denominated in dollars (SDE); (5) savings accounts and term deposits denominated in dollars (TDE); (6) banking credit in pesos (L$); (7) banking credit in dollars (LE); (8) government bonds in pesos (BG$); (9) government bonds in dollars (GBE); (10) foreign reserves of the Central Bank; (11) foreign reserves of the banking system; and (12) foreign debt with foreign banks. The sum of the assets held by all agents of each financial instrument appears in the last column of the matrix.

The agents in the columns are: the central bank, the financial system, the non-financial private sector, the non-financial public sector and the rest of the world. The algebraic sum of the magnitudes appearing in each cell of a column represents the net financial worth (NW) of the agent. The value of NW for each agent appears in row number 15 in the matrix and it is the difference between row 13 (agent's total financial assets, TA) and row 14 (agent's total liabilities, TL). In rows 16, 17 and 18 the TAE TLE AND NWE variables stand for the part denominated in dollars of the agents' total assets, total liabilities and net financial worth respectively.

Source: Elaborated on the basis of Central Bank, Ministry of the Economy data.

Table 2.3 Argentina: III. 1995 financial matrix (as a percentage of GDP)

		Central bank	*Financial sector*	*Public sector*	*Private sector*	*Rest of the world*	*Total assets/ liabilities*
(1)	MB	–4.5	1.0	0.2	3.4		4.5
(2)	SD$		–2.4	0.9	1.4		2.4
(3)	TD$		–4.7	0.5	4.1		4.7
(4)	SDE		–0.3	0.0	0.3		0.3
(5)	TDE		–7.7	0.2	7.5		7.7
(6)	L$		9.3	–1.7	–7.6		9.3
(7)	LE		11.4	–1.3	–10.1		11.4
(8)	BG$	0.0	0.4	–2.4	1.5	0.5	2.4
(9)	BGE	0.6	1.6	–18.1	3.2	12.7	18.1
(10)	FRC	4.5				–4.5	4.5
(11)	FRF	–0.1	1.0			–0.9	0.9
(12)	X	–2.5	–4.6	–7.7	–7.7	22.5	22.5
(13)	TA	5.2	24.6	1.8	21.4	35.6	88.6
(14)	TL	–7.1	–19.5	–31.2	–25.4	–5.4	88.6
(15)	NW	–1.9	5.1	–29.4	–4.0	30.2	
(16)	TAE	5.2	14.0	0.2	10.9	35.1	
(17)	TLE	–2.6	–12.5	–27.2	–17.8	–5.4	
(18)	NWE	2.6	1.5	–27.0	–6.8	29.7	

Source: Elaborated on the basis of Central Bank, Ministry of the Economy and Carteco data.

The strict limits imposed by the new Central Bank Charter (CBC) on the expansion of rediscounts and credit to the Treasury were strictly enforced (until the tequila period), so the higher demand for cash could only be satisfied via accumulation of reserves. In effect, in the period 1991–5, the monetary base increased by $5.2 billion and foreign reserves grew by $4.9 billion, despite the permanent current account deficits. This was possible because of huge surpluses in the capital account. So, capital inflows not only financed the increase in domestic absorption, but also the remonetization of the economy after hyperinflation. Under these circumstances, the Mexican shock – which changed the portfolio preferences of the private sector against peso-denominated assets – led to a 20 per cent drop in the monetary base in 1995, the first fall registered during the CP.

(2) *Demonetization and dollarization characterized the 1980s. After liberalization the former was reversed but at the cost of deepening the latter.*

Although a recomposition in the demand for money is an expected result of a successful stabilization policy (and the M2* (m2 + dollar deposits)/GDP ratio rose from 9.5 per cent to 18.3 per cent during 1991–94), what was specific to the Convertibility Plan was the way in which this recomposition occurred. By granting contracts in dollars full legal status, the government discouraged the intermediation of domestic savings abroad, but this measure gave an additional stimulus to the dollarization process. Thus, while the private holdings of deposits in pesos grew by 200 per cent during 1991–4, those denominated in dollars grew by 248 per cent over the same period. Moreover, the December 1994 shock reinforced the dollarization trend, because it provoked a deeper contraction in peso-than in dollar-denominated deposits.

(3) *There was a marked increase in the amount of credit generated by the banking system and deep changes in both the sources of credit and the allocation pattern*

The increase in demand for deposits in the domestic banking system allowed a remarkable expansion in the supply of credit. In effect, total loans grew by $27.5 billion between December 1991 and December 1995, mainly supported by a $26.7 billion increase in deposits. However, the $6.7 billion rise in foreign liabilities, in the context of easy capital inflows, was also important in credit generation via the financial system.

As a result of the higher degree of dollarization, the increase in the supply of credit denominated in dollars ($20.1 billion) was much higher than the increase in loans in pesos (7.3 billion). Consequently, loans in dollars represented 55 per cent of total loans in the third quarter of 1995.

The reform succeeded in avoiding the crowding out of the private sector in the credit market, which benefited from a 126 per cent rise in its loans against a reduction of 4 per cent in the credit allocated to the public sector. As a consequence, the latter's share in total credit fell from 29 per cent to 14 per cent.

(4) *The public sector produced a complete reorganization of its balance sheet that resembled the reorganization of a firm trying to avoid bankruptcy.*

With a view to reduce the level of systemic risk faced by private economic agents, the authorities advanced on three main fronts to improve the public sector's financial position. The first was the signing of the Brady agreement in late 1992. Second, the massive privatization process, in which more than $17 billion in nominal value of public debt was repaid or rescued via debt – equity swaps. Third, the government consolidated its debt with its suppliers and with retired workers from 1991 on by issuing domestic bonds denominated in dollars ($7.1 billion) and pesos (5.5 billion). Table 2.3 shows the consequences of these three initiatives, particularly the sizeable increase in public bonds, because both the Brady Plan and the consolidation of debt existing prior to the CP implied a rise in its stock. Moreover, the latter explains most of the 30 per cent rise in the total public debt, an increase that did not originate in the accumulation of deficits during the period. The public debt/GDP ratio, in turn, declined from 35 per cent in 1991 to 29 per cent in 1995.

(5) As in previous experiences of liberalization, the economy increased its use of foreign savings.

The rest of the world provided net financing to the other aggregate agents during the period for over $29 billion. In effect, all domestic sectors experienced a decline in their net wealth. It follows that, after liberalization, Argentina increased its use of foreign savings since there was no increase in net domestic financial savings.

As a consequence of this and of the dollarization of domestic portfolios, there was a marked increase in the level of agents' financial exposure to the devaluation risk. However, the evolution of net financial worth in dollars that results from the simultaneous increment in assets and liabilities differs greatly among domestic agents. While the private and public sectors increased their levels of financial exposure in dollar-denominated liabilities, the opposite occurred with both the Central Bank and the financial sector.

The Changes in the Firms' Portfolio Decisions

The above-mentioned changes in the financial environment affected the firms' financial decisions. On the basis of the balance sheets of the firms quoted on the Buenos Aires Stock Exchange,[3] the following stylized facts can be identified.

(1) The capital structure of firms changed. There was a generalized preference for higher leverage ratios after liberalization.

The greater availability of credit following liberalization allowed firms to almost double their leverage levels between 1990 and 1995 (Table 2.4). This is in contrast to the 1980s, when credit rationing forced private corporations to work with leverage ratios that were lower than optimal or desired. Although the rate of growth differs among the groups of firms, leverage levels in 1995 were not too different across them, and the average leverage ratio (67.5 per cent) is similar to that observed in other large economies of Latin America (82 per cent in Brazil and 62 per cent in Mexico (Lopez Larroy *et al.*, 1995)).

(2) There was no improvement in the predominance of short-run financing in the debt structure of firms. Owing to market segmentation, however, the situation of medium-sized firms is much worse.

The short-run/long-run liabilities ratio for the whole sample fluctuated around 67 per cent between the end of hyperinflation and the beginning of 1995 (Table 2.5). This is fully congruent with the stylized facts obtained from the evolution of the MAL. Despite the increase in the leverage ratio and in the availability of credit, the inability of the system to generate long-run financing persisted after liberalization.

However, there is a marked difference between the largest firms (the privatized and holdings in our sample) and the rest; while the leverage ratio is about the same, the former are much less dependent on short-run financing, and there is no tendency for this difference to disappear. This may reflect market segmentation. Indeed, only the largest Argentine firms have easy access to the international capital market and need not rely on the domestic banking system for credit. Thus, banking debt represents 26.4 per cent of total liabilities in the case of large firms and 43 per cent in the case of medium-sized ones (Lopez Larroy *et al.*, 1995).

With regard to the currency composition of debt, the holdings and newly privatized corporations show an increase in the proportion denominated in dollars after liberalization, while the opposite occurs in the remainder of the sample.

Table 2.4 Argentina: leverage[a]

	Total	*Tradable*	*Non-tradable*	*Privatized*	*Holdings*
1990	34.5	36.5	37.0	n.a.	22.9
1991	41.2	43.2	49.7	22.0	27.0
1992	56.8	62.0	54.2	32.2	41.4
1993	72.3	77.3	62.5	50.7	64.2
1994	79.5	80.2	63.0	58.5	66.5
(II) 1995	67.5	70.5	65.5	65.0	64.9

[a] Total liabilities/net worth.

Source: Calculated on the basis of Buenos Aires Stock Exchange data.

(3) *After the implementation of the liberalization programme, there was a huge increment in Tobin's 'q'. However, the analysis of the firms' balance sheets suggests that they privileged the rebuilding of 'working capital' instead of real investment.*

The strong upward trend in Tobin's '*q*' after the implementation of the financial reform is consistent with the evolution of overall investment in the economy, which grew significantly after the convertibility plan and until the Mexican shock. However, the firms' balance sheets show that their privileged item on the asset side was by far 'commercial credit', which recorded the highest growth rate followed by cash. Both phenomena are related to the recovery of financial intermediation after hyperinflation. The increase in cash reflects the recomposition in liquidity, while the increase in 'commercial credit' is due to the need to rebuild 'working capital'. This kind of interfirm credit, which is endogenously generated by supplier/customer

Table 2.5 Argentina: short-run debt/total debt

	Total	*Tradable*	*Non-tradable*	*Privatized*	*Holdings*
1990	66.8	67.4	79.3	n.a.	41.1
1991	68.2	68.8	78.9	62.7	44.7
1992	69.2	73.0	78.7	63.3	32.7
1993	67.0	71.6	79.1	52.0	34.9
1994	62.7	68.6	73.2	48.2	27.7
(II) 1995	67.1	73.2	72.8	51.5	38.0

Source: Calculated on the basis of Buenos Aires Stock Exchange data.

Table 2.6 Argentina: dollar debt/total debt

	Total	*Tradable*	*Non-tradable*	*Privatized*	*Holdings*
1990	46.1	50.9	35.7	n.a.	23.4
1991	50.8	55.8	42.8	41.1	29.2
1992	33.6	34.8	23.3	33.6	38.4
1993	23.8	19.9	12.8	32.9	49.5
1994	24.4	24.1	17.3	32.5	32.4
(II) 1995	22.5	19.5	11.1	66.3	43.0

Source: Calculated on the basis of Buenos Aires Stock Exchange data.

relationships, constitutes the core of the informal financial system in Argentina. To a great extent, working capital was destroyed by hyperinflation, and this had very distortive consequences on the efficiency of firms. As in the case of the leverage ratio, it seems that macroeconomic instability and credit rationing in the 1980s led the firms to operate with a suboptimal amount of working capital. The rapid recovery of inter-firm credit, *pari passu* with the recovery in the availability of credit in the formal system, suggests that there is an important correlation between changes in the supply of loans in the formal market and changes in the informal one.

This leads to two conclusions. First, monetary policy can have a strong impact on the activity level via this channel. Second, the banking system's resort to credit rationing – for example, because an external shock has increased systemic risk – has a powerful impact on the productive sector by drying up commercial credit and, hence, working capital. Notice, moreover, that the lowest rates of growth correspond to the largest companies, which have probably been the least affected by credit rationing in the 1980s.

2.3 THE EVOLUTION OF THE BANKING SYSTEM UNDER FINANCIAL LIBERALIZATION

Despite massive financial distortions induced by high inflation and macroeconomic uncertainty throughout the 1980s, Argentina has not been a typically 'repressed' economy since the liberalization attempt of the late 1970s. In the 1980s interest rates were basically market-determined, credit allocation was increasingly decentralized, and the conventional goals of monetary policy were pursued mainly through indirect policy instruments. After the implementation of the CP some of the distortions remained while others were eliminated. Here the principal stylized facts are as follows.

(1) Argentina's financial system still displays an excessive number of institutions and is physically oversized when compared with the relatively reduced volume of funds it intermediates.

Demonetization has been chronic in the Argentine economy since the late 1950s and deepened dramatically during the debt crisis period. But throughout the CP's initial expansionary phase there was a sustained recovery in the monetization level. However, the level of financial intermediation (relative to the size of the Argentine economy) is still not only well below that of developed countries, but also below that of other economies on a similar level of development. Indeed, all relevant measures of liquidity as a proportion of GDP are at present quite inferior to those reached by Argentina before the financial crisis of the early 1980s.

In contrast, the number of financial institutions and their branches functioning in the domestic system is quite large, despite a steady reduction as from the early 1980s. In fact, prior to the eruption of the most recent financial crisis in late 1994, there were still 205 financial institutions. But the 1995 financial crisis accelerated the process of concentration and by August that year the number of financial institutions had fallen to 166. Because mergers and take-overs predominated (there were just nine liquidations), the number of bank branches was reduced only from 4081 to 4053.

Although the proportion of inhabitants per branch is similar to that in industrialized countries (8000), it is inconsistent with Argentina's lower degree of monetization. In effect, despite their important growth, total deposits per branch were just 11.2 million dollars in late 1994. Indeed, the use of banking services by the Argentine population is very low compared with that of developed countries, and even with that of other Latin American countries with a similar level of development. Thus, while the ratio of sight deposits over M1 (a plausible indicator of the level of 'bankarization') is less than 50 per cent in Argentina, it is 63 per cent in Brazil and about 70 per cent in Mexico and Chile.

(2) The financial crises experienced in the early 1980s and in 1995 strengthened greatly the degree of concentration prevalent in the domestic banking system.

The 1995 crisis reinforced the trend toward concentration in terms of the distribution of deposits and loans that has taken place since the 1980/81 financial crisis. Thus, while the ten largest banks in the system held 40.2 per cent of total bank deposits in 1979, they held 58.1 per cent in July 1995.

Though the degree of concentration is pushed up because of the size of public banks, high level of concentration was prevalent in the private banking sector. In July 1995, the 10 largest banks controlled 61 per cent of total deposits in private institutions and the 20 largest held 78 per cent.

The distribution of bank loans among borrowers also shows a high degree of concentration. In April 1995 the so-called 'principal debtors', that is the debtors with loans that exceeded 250 000 dollars, or who made up the list of 50 major debtors of any single financial institution, concentrated 65 per cent of total bank financing. The financial system's 10 main debtors concentrated 14 per cent of total financing (of which 86 per cent corresponded to public banks and the remaining 14 per cent to private banks).

The high concentration of both deposits and loans is the result largely of a persistently volatile and uncertain domestic financial environment characterized by pervasive imperfections and asymmetries in information, and therefore by an extremely cautious behaviour of depositors and banks. A sharp segmentation between large and small bank customers regarding loan conditions and the access to other financial services appears to be one of the most negative consequences of this predicament.[4]

(3) Public banking retains a key position in the domestic financial system.

Public banks played a decisive role in the period of import-substitution industrialization (ISI), replacing the virtually non-existent domestic capital markets as suppliers of long-term financing, but have been immersed in a deep crisis since the collapse of the ISI in the mid-1970s. The smallest provincial public banks, in particular, are probably technically bankrupt and should be privatized whenever possible, or otherwise liquidated openly.

However, public banks are still very significant in Argentina's financial system. In effect, 4 of the 10 biggest banks are public, including the 2 largest in the system. Prior to the tequila crisis, in November 1994, public banks held 38.8 per cent of total deposits and granted 41.6 per cent of total loans; in July 1995, as a result of the crisis, their share both in total deposits and loans had expanded to 40.9 per cent and 43.2 per cent respectively.

Indeed, the stability of Argentina's immature and volatile financial system, as well as the financial needs of certain activities and regions with very limited access to the private banking system, are still likely to require an active participation of a smaller but efficient public banking sector, including a few strong provincial or regional banks, a national public bank, and probably the national mortgage bank (BHN) and the foreign trade bank (BICE).

(4) Liberalization and increasing competition with other capital markets led to a swift development in universal banking, posing new threats to prudential regulation and supervision.

A permissive regulatory framework, while discouraging the development of specialized banking institutions, made a strong expansion in commercial banks possible. As a result of this policy, investment and development banks have virtually disappeared and there is only one publicly owned mortgage bank left.

Although universal banking protects financial intermediaries from increased instability of interest rates, exchange rates and inflation by allowing wider portfolio diversification, it also poses serious threats to prudential regulation and supervision (particularly in terms of accounting and disclosure provisions), owing to the potencially risky conflicts of interest it raises.[5]

(5) *The adoption of convertibility narrowed greatly the CB's powers regarding both the conduct of monetary policy and banking prudential regulation. As a result, the financial system became more vulnerable to systemic risk.*

The September 1992 CB charter established the CB's autonomy from the executive power. In practice, however, the government's drastic approach to stabilization 'cum' structural reform narrowed greatly the CB's powers regarding both the conduct of monetary policy and the prudential regulation of banking.

Specifically, the new regime stipulated that the CB should maintain freely available reserves in gold and foreign currency to the equivalent of 100 per cent of its monetary base (although up to 33 per cent of reserves can be held in dollar-denominated public bonds). Consequently, the CB was only to finance the national government allowed through the purchase of treasury bonds at market prices, and to provide funding to financial institutions exclusively in situations of transitory illiquidity and only for small amounts.

Another step in the same direction was the virtual elimination of deposit insurance. Although a special limited fund was set up with the voluntary contributions of financial institutions, its meagreness in relation to the deposits in the system discouraged the banks from adhering to it. Moreover, after some institutions chose not to join the proposed scheme, the decision to participate could be interpreted as a sign of weakness by investors, not to mention the burden in terms of additional costs. In practice, therefore, the CP left the financial system with no safety net.

In fact, the absence of both a working deposit insurance scheme and a lender of last resort contributed greatly to propagating the Tequila crisis in Argentina, because it increased the financial system's vulnerability to systemic risk.[6] The authorities claimed that this approach was the proper way to deal with moral hazard problems and as a step forward in the process of financial deregulation. However, the strict application of the Law of Financial Institutions would have forced the liquidation of a large number of banks, and would have made it impossible for the authorities to handle the crisis. In fact, there were no solid theoretical arguments in favour of this stance, which also ran against most of the accumulated international experiences in the field.

In the end, the 1995 crisis forced the government to allow for a greater role of the CB as a lender of last resort, at first *de facto* and later *de jure*, broadening the CB's power to grant rediscounts and advances in both amounts and terms as long as it did not affect the backing of the monetary base specified in the Convertibility Law. The authorities were also prompted to create a compulsory deposit insurance scheme, which had a positive impact on the expectations of small investors.

(6) No matter how significant the improvement in the prudential regulatory framework has been, banking supervision is still weak in Argentina.

While the convertibility regime certainly limited the regulatory powers of the CB, the optimism prompted by the favourable international situation and the progress of structural reform in the early 1990s may have led to the somewhat light approach to supervision and enforcement of banking prudential regulation adopted in Argentina before the Tequila crisis. Thus, given that a systemic financial crisis seemed very unlikely, the monitoring and enforcement capacity of the supervisory authorities were not strengthened as required by the policy regime. With the escalation of the financial crisis, the whole monetary and financial scheme based on the Convertibility Law, the new 1992 Central Bank Charter, and the Law of Financial Institutions (with the 1992 modifications) was put to the test. Reality showed quickly that some of the basic traits of the new scheme could not handle adequately a systemic crisis. Consequently, major modifications had to be made in the regulatory framework.

To be sure, this problem had very little to do with the suitability of the framework itself. On the contrary, in 1992 the Supervisory Board of Financial Institutions was created and stricter norms concerning capital adequacy, diversification of credit risks, provisions for bad loans and minimum auditing standards were adopted.

In some cases these norms became even stricter than those defined in the first version of the Basle Accords.[7] Thus, in the case of solvency provisions, besides taking into account banks' risk-weighted assets, as established by Basle I standards, additional capital requirements were imposed according to their level of immobilizations and that of their lending interest rates (penalizing riskier strategies based on charging loan rates far higher than the market average).

As a result, in December 1994 the stated capital/assets ratio in the Argentine banking system was on average 16 per cent. This means a far lower leverage than that found in the financial systems of most other countries, developed or developing, and is a cost associated with the rigidity of the policy regime, particularly with the lack of a lender of last resort.[8]

In fact, although the high bank reserves were not sufficient, their existence prior to the crisis was important in helping to overcome it. Moreover, the CB modified reserve requirements as of August 1995 based on the experience gathered during the crisis, which suggested reducing the coefficient on checking and savings accounts and increasing requirements on term deposits (the most negatively affected by the bank run). To compensate the banks for the high level of reserves, and given that the CB's charter prevents it from remunerating them, the CB authorized reserves to be held in some (mostly public) financial instruments.

Some improvements were also made regarding the disclosure of more detailed balancesheet information by banks. With a similar purpose, the National Securities Commission (CNV) determined that bonds issued by financial institutions would have to be rated by authorized private agencies in order to go public. The CNV also determined that all deposits made by the recently established private pension funds could go only to banks rated by these agencies.

However, in late 1994, more than three years after the CB became independent, despite the improvements made in the prudential regulatory framework, the supervisory authorities were not yet ready to perform full-scale, regular inspections of financial institutions according to modern international standards.[9] The crisis showed that a significant number of banks were not fulfilling even the most basic prudential regulations, nor were they reporting accurately their actual situation to the CB.

Indeed, some analysts have suggested that stated capital is overestimated, because an important fraction is likely to be eroded by provisions and write-offs of bad loans currently on the books of the banks.[10]

(7) The memories of protracted high inflation and the more recent hyperinflation episodes imposed severe constraints on the performance of the financial system.

In effect, past history matters a great deal in present performance. This is reflected in the following four issues: monetary hysteresis, dollarization, preference for flexibility and portfolio diversification.

After five years of increasing price stability, demand for domestic financial assets and other banking services in Argentina is still significantly lower than before the high inflation period, and much lower than in most other countries with comparable inflation levels. This shows the existence of monetary hysteresis. At the same time, since the beginning of convertibility the banking system has become even more dollarized than in the past. Both developments tend to accentuate the vulnerability of the financial system to macroeconomic shocks, and particularly to volatile capital flows.[11]

Other evidence of the inadequate development of the financial system is the low average term-maturity of deposits. Although there has been a minor improvement in this regard, this average is slightly longer than 30 days. Depositors are still strongly risk-averse, and consequently choose to keep very flexible financial positions.

This extreme preference for flexibility seriously impairs the maturity-transformation role of financial intermediaries. The exceptionally high spreads prevalent in the domestic system partly reflect this situation. Moreover, most of the banks' loan portfolios are also extremely short-term. Overdraft facilities with an average maturity of 1.2 days account for 25.3 per cent of total credit; secured loans with an average maturity of 99 days are equivalent to 33.5 per cent of the total; and personal loans with an average maturity of 208 days represent 13 per cent of the total. On the other hand, medium- and long-term financing is basically channelled through mortgages, which account for just 19.3 per cent of total credit and have an average maturity of only 1470 days, and liens, which represent 8.9 per cent of the total and have an average maturity of 449 days.

Last but not least, the massive capital flight caused by the turbulent macroeconomic environment of the 1980s had a permanent impact on the financial behaviour of domestic agents, leading to a much higher international diversification of domestic portfolios. Thus, it *de facto* integrated domestic financial markets with international ones, drastically limiting the room for autonomy in monetary policy by strongly increasing the sensitivity of portfolio choices to differentials in expected returns between domestic and foreign assets.

(8) Exchange rate overvaluation plus a swift financial liberalization led to overindebtedness and financial vulnerability.

Both the expansion in absorption and the external deficit were primarily financed by massive capital inflows, which were channelled through domestic credit and capital markets, therefore contributing to a fast buildup of private and public indebtedness.

As was the case with many other attempts at rapid financial liberalization, most notably (but not only) the Southern Cone experiences in the late 1970s, the mix of aggressive bank lending with lax supervision once again resulted in a dangerous accumulation of bad loans and a growing fragility in the financial system. This process started well before the tequila crisis.

In fact, the incidence of non-performing loans in total credit for the whole convertibility period presents wide discrepancies between different types of institutions. National public banks registered a considerable reduction in bad loans up until the end of 1994, partly as a result of the restructuring process undertaken by these institutions. Nevertheless, in December 1994 bad loans still amounted to 21.9 per cent of the total. Provincial and municipal public banks were in an even more delicate situation; and the decrease in their bad loans was quite modest, so that in December 1994 these stood at 37.6 per cent. Stated problem loans in private banking, though much lower than in public institutions, showed a slight tendency to increase. Official information on non-performing loans net of provisions relative to net worth offers a fairly similar picture (Table 2.8).

These figures, however, probably conceal the full incidence of problem loans in bank portfolios. For one thing, the information for the period beginning in June 1994 is not strictly comparable with the previous one, because the CB changed the rating of debtors as from that month. For another, there are strong presumptions that bank books systematically underestimated the incidence of bad loans.

In effect, even allowing for the severity of the recent crisis, the incidence of problem loans could not have reached its 1996 levels in just twelve months. Moreover, credit costs for the pre-crisis period strongly suggest a pre-crisis buildup in problem loans, and impressions gained through informal discussions with individual banks point to the same conclusion (Corrigan, 1996).

(9) High operational unit costs and significant credit risks lie behind the simultaneous wide spreads and low profits.

The fact that country risk remained at a high level is one of the key variables explaining the persistence of an appreciable spread between domestic and international interest rates. On the contrary, convertibility has been truly effective in producing a marked fall in expected devaluation.[12] In any case, the Tequila crisis interrupted the declining trend in domestic borrowing rates and prompted a substantial rise both in peso and dollar rates, which extended throughout the first half of 1995.

Borrowing rates exceeding international ones, and intermediation spreads that, though declining, remained extremely large, result in excessively high domestic lending rates, especially in real terms (Table 2.7).[13]

Wide intermediation spreads basically originate from two factors: on the one hand, the high operational unit costs associated with the physical oversize of the financial system, relative to the low level of monetization

Table 2.7 Argentina: interest rates and financial spread annual interest rates on 30-day deposits and loans (%)

		Nominal interest rates		*Real interest rates*		
		Lending (1)	*Borrowing (2)*	*Lending (col. 1/CPI)*	*Borrowing (col. 2/CPI)*	*Financial spread*
1991	March	196.07	135.14	–15.37	–32.79	60.93
1991	December	85.76	52.97	3.27	–16.02	32.79
1992	December	32.12	11.62	11.14	–6.05	20.50
1993	December	24.65	10.17	15.89	2.23	14.48
1994	December	30.00	9.75	25.41	7.15	20.25
1995	January	35.00	10.83	30.23	8.20	24.17
	February	45.00	11.76	39.88	9.11	33.24
	March	65.00	19.51	59.17	16.68	45.49
	April	55.00	19.08	49.53	16.26	35.92
	May	45.00	15.85	39.88	13.11	29.15
	June	35.00	10.81	30.23	8.18	24.19
	July	30.00	9.65	25.41	7.05	20.35

Source: Calculated based on data from BCRA and Carta Económica.

and bankarization of the economy; on the other, the significant credit risks connected with the heavy burden of bad loans in bank portfolios.[14]

Precisely because of the same factors, and despite the above-mentioned wide margins, profitability in the bank system is astonishingly low. The rate of return on equity (total net revenues as a proportion of net worth) showed some improvement from the beginning of convertibility, as a corollary of the growth in financial intermediation, the increment in revenues from service commissions, and the important capital gains accrued by the financial institutions from their holdings of public and private bonds. However, starting from the Mexican crisis in December 1994, this indicator worsened again. Falling deposits, the shrinkage of net income from services, the increment in bad loans, and the capital losses derived from the fall in the prices of securities were all causes of this deterioration.

2.4 CONCLUSIONS

The liberalization process led to significant structural transformations in the capital markets and in the firms' balance sheets. From the 'macro'

Table 2.8 Argentina: non-performing loans net of provisions as a proportion of net worth weighted averages (%)

Type of institutions	*December 1991*	*December 1992*	*December 1993*	*December 1994*[a]	*April 1995*[a]
National public banks	241.27	48.43	30.92	29.87	34.18
Provincial and municipal public banks	109.23	87.24	101.07	140.19	168.23
Private banks in the federal capital	6.35	11.18	12.02	13.95	16.70
Foreign banks	6.37	13.26	19.76	16.15	14.19
Private banks in the interior	17.69	30.64	29.54	32.45	39.99
Total in the system	113.18	39.72	31.75	33.78	38.58

[a] Includes loans in categories 3 to 5 of the new loan rating adopted in June 1994.

Source: Calculated based on data from 'Indicadores del Sistema Financiero', BCRA.

financial point of view, the most positive initial developments were the increase in financial deepening, the reversal in capital flight and the lifting of the foreign credit rationing faced by Argentina in the 1980s. From the 'micro' point of view the most relevant facts were the recomposition of the credit channels between banks and firms and the recovery of inter-firm credit. This enabled the firms to increase their leverage and to rebuild their working capital, which had remained suboptimal following hyperinflation.

However, some developments are giving rise to a concern about the future evolution of financial markets. First, there was financial deepening but, at the same time, dollarization also 'deepened'. On the one hand, the private sector greatly increased its foreign indebtedness. On the other, most of the newly generated domestic credit is denominated in dollars. Second, the quality of the credit generated by the Argentine financial markets is still low. In particular, there was no significant reversal in the term maturity of the assets and/or liabilities generated by the financial system. Besides, because only large firms have access to foreign credit markets, small and medium-sized companies still face a tight credit rationing which constrains their performance and depresses their investment.

The banking crisis triggered by the late 1994 Mexican devaluation made evident not only the fragility of the domestic banking system, but also the rigidity of the current convertibility regime and the lack of a suitable safety net with which to confront a run on deposits. In fact, with the crisis already under way, the government was forced to make urgent legal modifications to set a limited safety net that is consistent with the maintenance of convertibility.

The most important of these changes was the restitution of the CB function as lender of last resort, though on a very modest scale. Another significant step was the CB's recovery of the power to deal with problem banks according to a vast menu of normative alternatives to protect the investors' deposits, thus making it possible to limit the number of liquidations. Although real possibilities of coverage were virtually nil initially, given the meagerness of the Guarantee Fund, the restoration of a partial deposit insurance positively affected the confidence of small investors.[15]

The financial crisis also generated major changes in the structure of the financial system. Wholesale institutions and the small provincial banks, both public and private, were hardest hit. This led to liquidations in some cases, mergers in others, or takeovers by the more solid institutions in most, resulting in a reduction in the number of entities and, hence, a rise in banking concentration. This process, which is far from finished, will most likely deepen the segmentation of the financial market and result in further restrictions on the already insufficient credit support received by the small and medium-sized firms.

At any rate, although some anti-crisis regulatory instruments were recovered and utilized with a certain degree of efficacy, it must be pointed out that overcoming the crisis was only possible thanks to the large volume of external resources obtained principally from the multilateral financial institutions. With these, the government was able to improve expectations on the maintenance of convertibility, the fiscal balance and the soundness of the financial system.

All this tends to support the view that the current economic scheme is extremely dependent on capital movements, and therefore quite vulnerable in the face of external shocks. This has an upward impact on systemic risk, leading to higher intermediation costs in the banking system than under more flexible monetary regimes.

Moreover, even if the financial crisis had significantly subsided by the end of 1995, certain indicators suggest that the system is currently not all that less fragile than before the crisis.

In the first place, according to the increasing weight of bad loans in bank portfolios, the solvency of many institutions has further deteriorated because of the sharp recession induced by the crisis. In the second place, although a deposit insurance regime is in effect, the Guarantee Fund counts on an almost insignificant volume of resources, which makes the efficacy of the instrument pretty doubtful in case it needs to be utilized. In the third place, the monetary authority still has very limited resources with which to fulfill its role as lender of last resort. Finally, the possibility of assistance from the multilateral financial organizations is now very limited, given the profuse use of these resources during the recent crisis.

Therefore, within the tight limits imposed by the convertibility regime, a less vulnerable financial system is likely to require not only very high bank reserves and a much stricter regulatory framework, but also fewer and bigger institutions and a larger participation of foreign banks.[16] There are some signs that the financial system may already be heading in this direction. However, the relevant question of how to ensure that this system is also consistent with a sustained and equitable economic growth remains open.

The Argentinian experience also raises some interesting theoretical questions. The first one involves the modelling of risk. Is the traditional distinction between diversifiable and systemic risk suitable for a capital market like Argentina's? There are two important issues regarding this point. On the one hand, the thinness of the stock market makes domestic diversification difficult. On the other hand, there is not only a 'macro' systemic risk associated with the economic cycle but also a 'macro' systemic risk associated with devaluation, financial crisis and default in a highly dollarized economy.

Second, it is necessary to have a better understanding of how the changes in the money supply originating in the private sector's portfolio decisions affect the financial position of firms. Under convertibility, the changes in the demand for domestically generated assets affect the availability of credit. How does this affect the firms' working capital, their net worth, their cost of capital (the interest rate spread between internal and external finance) and the level of financial fragility?

Third, it is important to consider what the optimal capital structure is for a firm working in an environment characterized by severe imperfections in capital markets (that is, the existence of segmentation, the lack of availability of long-term financing, and the extent of prevalence of dollarization).

Fourth, special attention should be paid to the characteristics of prudential regulation in a dollarized financial system characterized by recurrent uncertainty and volatility triggered by external shocks. In such a context, it is extremely relevant to assess the optimal trade-off between the need to have a safety net for the system (via lender-of-last-resort activities and deposit insurance) and moral hazard in banking.

Finally, thought needs to be given to what kind of indicators should be used by the authorities to distinguish between liquidity and solvency problems when a macroeconomic external shock takes place.

Notes

1. This chapter is a revised version of a paper presented at the final meeting of the project on 'Financial Liberalization in Developing Countries', supported by IDRC (Canada), held at Bilkent University, Ankara, June 1996. We are grateful for the comments received there. Previous research together with L. Bleger, M. Damill and D. Kampel has greatly contributed to this chapter. Remaining mistakes are, of course, exclusively our own.
2. See Diaz-Alejandro (1985).
3. The indicators used in the analysis have been calculated on the basis of balance sheet data from a sample of 68 firms quoted on the Buenos Aires Stock Exchange (BASE). These companies are the largest in Argentina and their capitalization is equivalent to 99 per cent of total market capitalization. For the purpose of analysis the sample was organized into four groups of firms. The first one comprises 38 companies whose main activity is the production and sale of tradable goods. The second group consists of 19 that largely produce and sell non-tradables. A third group includes 4 holding companies, which, because of the diversity of their activities, cannot be

neatly classified as either tradable nor non-tradable producers. The fourth group is constituted by the 7 privatized firms that quote on the BASE.

4. See Stiglitz (1993) on information problems in underdeveloped financial markets.
5. On this issue, see Dewatripont and Tirole (1994).
6. For a theoretical analysis of safety nets in financial systems, see Dewatripont and Tirole (1994).
7. For a detailed description and critical assessment of the Basle Accords, see Davis (1995) and Dewatripond and Tirole (1994).
8. After the Tequila crisis, the CB has even begun to take the necessary steps to include some of the more recent Basle proposals regarding interest rate, liquidity and other market risks in capital requirements.
9. In fact, the CB had only recently begun to consider the implementation of new inspection procedures based on the CAMEL standards. The aim of the programme was initially to rate all financial institutions according to the CAMEL system, and then to take this rating as the basis for capital and other prudential requirements.
10. See Corrigan (1996). From this fact, Corrigan argues that a banking crisis was probably in the making in Argentina even before the tequila effect.
11. Calvo (1995) stresses the vulnerability of the domestic financial situation to volatile capital flows as an important factor behind the recent collapse in Mexico.
12. We take the difference between the IRR of Bonex (a dollar-denominated public bond) and the LIBOR rate as proxy for country risk, and the spread between the average rate of peso deposits and the IRR of Bonex as proxy for expected devaluation.
13. It is worth noting, however, that the cost of credit exhibits strong disparities linked, among other things, to the size and geographical location of borrowers. The most adversely affected are the small and medium-sized firms excluded from international financial markets. The large economic groups, of course, are far less affected because of their access to foreign credit and, to a lesser extent, to the local capital market.
14. Of course, exceedingly high real lending rates have themselves lately developed into one of the causes of the growing weight of problem loans.
15. It is worth stressing the already-mentioned regulatory mechanism of borrowing rates, designed to limit the moral hazard inherent in any deposit guarantee regime. See on this issue Glaessner and Mas (1995) and Dewatripont and Tirole (1994).
16. In fact, these are some of the recommendations proposed in Calvo (1995).

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