
informes y estudios especiales

Financial regulation and supervision in emerging markets: the experience of Latin America since the Tequila Crisis

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Abstract

The paper deals with changes in the regulation and supervision of the Latin American financial sector in the aftermath of the “Tequila Crisis” of 1994-1995. While it finds that both have improved, regulation and supervision cannot resolve all problems; good macroeconomic policy and performance are essential complements. This is especially true because of the procyclical nature of financial activity. The paper presents both regional data for Latin America, contrasting it with other emerging markets, and four country case studies (Argentina, Brazil, Chile, and Mexico). The latter show how individual country characteristics and experiences affect the operation of the financial systems. We close with some policy recommendations.

JEL classification: N26, N46, O54

I. Introduction

The increasing integration of international financial markets poses new challenges to domestic financial markets everywhere, but especially to those in emerging economies. The financial crises of 1994-1995 and 1997-1998 sounded wake-up calls to Latin America and East Asia, respectively, indicating that regulation and supervision needed to be strengthened substantially. Since then, important steps have been taken to improve the rules and ensure their implementation, but financial regulation and supervision do not take place in a vacuum. On the one hand, they must be consistent with domestic macroeconomic policies, and they need a supportive macroeconomic environment in which to operate—as the Argentine crisis that began in 2001 shows only too well. On the other hand, they have to take into account the international rules set by the Bank for International Settlements (BIS), the International Monetary Fund (IMF), and other institutions.

The issue that links this chapter with the others in the WIDER project is that volatility—deriving from international capital flows as well as macroeconomic trends in individual countries—is a leading cause of financial crises. Problems of individual banks can set off chain reactions, both because of the direct links between banks and because of the effects that bank collapses may have on borrowers' capacity to honor commitments. This is the main rationale for the concept of systemic risk. Financial regulation is meant to mitigate systemic risk by imposing restrictions both on the way banks finance their operations and on how they allocate their portfolios. The aim is to insure that they engage in adequate assessment of the risks implied in their activities, make provisions for expected losses, and maintain enough capital to absorb unexpected losses.

There is a good deal of evidence that financial activity is highly procyclical. This problem goes beyond the usual asymmetric information problem and has to do with at least two processes. First, increasing confidence among individual investors tends to generate a self-fulfilling process of change in asset prices. As investors become more optimistic, they try to expand their holdings of such assets at a pace that is far more rapid than that of their supply. Booms in asset prices then tend to corroborate past expectations, leading to further optimism. Individual risk assessment thus changes with the state of collective enthusiasm. Second, banks are also procyclical, even though the chain of reaction is slightly different. Waves of optimism in the banking sector lead to an expansion of lending, which affects the level of aggregate demand and thus the income and cash flow of consumers and the productive sector. In times of expansion, real and financial asset prices increase, and so does the value of collateral. Through these self-fulfilling processes, banks tend to increase their leverage and thus their vulnerability to changes in the variables that affect their risks: economic activity and level of employment (credit risk), borrowing interest rates (liquidity risk), and asset prices (market risk).

This chapter examines financial sector behaviour from the viewpoint of Latin America, although many of the same problems and attempts at solutions can also be found in other emerging economies.¹ Section II begins with a brief look at the structure of the financial sector as a whole, which has changed substantially over the last decade. Despite these changes, banks continue to dominate the sector and so we focus on them in our analysis. In this context, we turn to the regulatory and supervisory systems for the banks and to developments since the Mexican crisis in 1994-1995. We also look briefly at the new international guidelines being proposed by the BIS and the IMF to ask whether they will help shelter the banking systems from the types of shocks they have suffered in the recent past or create additional problems.

In section III, we move to case studies of four of the most important countries in the region: Argentina, Brazil, Chile, and Mexico. Through examination of the experiences of the four, we can get a better idea of how the changes came about and the way in which individual country characteristics affect the operation of the financial systems. These two sections provide evidence that bank regulation and supervision in Latin America have improved in recent years, but much remains to be done. Section IV presents our policy recommendations for the future.

Certainly we are not the first to discuss these topics. On the contrary, over the last few years, there has been a virtual explosion of research on the financial sector in developing countries, including issues of regulation and supervision.² We draw on this literature where relevant, in both its theoretical and empirical dimensions, and bring it to bear on the issues under consideration in the WIDER research project.

¹ See, for example, discussion of these topics in Asia in Masuyama et al. (1999) and ESCAP (1999, 2000).

² The most extensive work has been done by the Development Research Group and the Financial Sector Strategy and Policy Department of the World Bank. It has been summarized in World Bank (2001); background papers can be found on the Bank website. The annual reports and working papers of the BIS are very useful, especially with respect to the issue of cycles (e.g., Borio et al. 2001), as are the publications of the Financial Stability Forum. The IMF annual publication, *International Capital Markets*, contains extensive data and analysis, and the financial sector assessment papers can now be found on the IMF website. On regulation and supervision in Latin America, see Held and Szalachman (1991), Norton and Aguirre (1998), United Nations (1999), and Aguirre (2000).

II. The financial sector in Latin America in the 1990s

A. Liberalization, crisis, and rescue: some stylized facts

The essential background for understanding current developments in the financial sector in Latin America is the financial liberalization process, both domestic and international, which took place in the 1980s and 1990s in most countries. Chile was an important exception, in that both liberalization and crisis preceded those of its neighbours by at least a decade.

Moving from systems where authorities set interest rates, directed credit, and held a large share of bank deposits as required reserves, governments freed commercial banks to make their own decisions on borrowers, loan volume, and prices. At approximately the same time, capital account liberalization enabled local banks to engage in transactions in foreign currencies and allowed foreign institutions to enter local markets. Frequently such changes were made without having in place an adequate regulatory and supervisory system, which compounded problems for bankers without sufficient experience in credit analysis of local borrowers, much less the complexities of international financial markets.

The typical results were credit booms, mismatches between maturities and currencies, and eventually banking crises. As seen in the emblematic Chilean case (but also later in Mexico, East Asia and Argentina), the errors by domestic actors themselves could provide

the basis for such crises; if combined with external shocks, the situation could become far more serious (see Held and Jiménez, 2001).

Government rescues tended to follow a standard package. In the first instance, they involved takeover of non-performing loans, recapitalization of banks, and liquidations and mergers, usually involving foreign institutions. Later, in an attempt to prevent future crises, regulation and supervision were stepped up, greater information and transparency were required, and deposit insurance was sometimes put in place.³ In the process, the characteristics of the sector changed significantly.

B. Characteristics of the new financial sector

The financial sectors in Latin American countries remain bank based, but they have undergone a number of important changes in recent years. First, the size and depth of the financial sector increased in most countries during the 1990s. In part, at least, this was the result of the dramatic decline in inflation throughout the region, such that in most countries prices are now rising at single-digit rates compared to the three or four-digit rates often found in the 1980s. Thus, individuals, households, and firms are more willing to hold money and other financial assets, providing the necessary prerequisite for the development of robust financial systems. Better institutions have complemented the behaviour of individual agents.⁴ Table 1 gives an idea of the extent of the trend toward financial deepening, using M2 as a share of GDP as an indicator. It shows an increase for four of the six Latin American countries during the decade; the prominent exception was Mexico. The biggest increase was in Argentina although Chile had the highest levels. The table also shows data for four Asian countries. The inter-regional contrast is striking in two senses: not only were the levels higher in every case in Asia, but the rate of increase was also higher.

Table 1
MONEY SUPPLY (M2) AS SHARE OF GDP
(Percentage)

	1992	1994	1996	1998	2000
Latin America					
Argentina	14	21	23	29	32
Brazil	n.a.	n.a.	28	31	29
Chile	38	37	43	46	50
Colombia	20	20	20	24	26
Costa Rica	32	32	33	33	35 ^a
Mexico	29	28	26	28	21
Asia					
Republic of Korea	39	41	43	58	80
Malaysia	72	80	92	95	103
Philippines	36	47	56	61	62
Thailand	75	78	81	103	106

Source: Authors' elaboration, on the basis of IMF, International Financial Statistics.

^a Figure for 1999.

Second, the existing banks have been allowed to enter new activities, resulting in the formation of so-called universal banks. In general, this has been a result of deregulation of banking activities, which expanded bank operations into securities trading and insurance and increased their real estate activities as well as allowing banks to own non-financial firms. This is a trend that has

³ This became a common approach in the management of financial crises in both developed and (more often) developing economies in the 1990s; see Fischer (2001).

⁴ On financial institutions, see Burki and Perry (1998) and World Bank (2002).

moved in tandem with events in mature economies,⁵ but unlike some of the latter, securities markets in emerging economies are still very underdeveloped and shallow. Therefore, most bank portfolio diversification has been into short-term securities, insurance, and real estate activities.

Third, foreign institutions have become increasingly significant actors in the financial sector. Their greater role is part of the liberalization process, as new sectors were opened to foreign participation. Three vehicles were used by foreign banks and financial service firms to enter developing country markets: privatizations, mergers and acquisitions, and greenfield investment. Consequently, as can be seen in table 2, foreign assets as a share of total assets have risen substantially in all seven Latin American countries with data available (Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela); the increase for Mexico would be much greater if the recent sale of the country's second largest bank were included in the table. It is interesting to note that similar trends were found in Eastern Europe but not in Asia.⁶

Table 2
FOREIGN BANK ASSETS AS SHARE OF TOTAL BANK ASSETS
(Percentage)

	1994	1999	2000
Latin America			
Argentina	17.9	48.6	49
Brazil	8.4	16.8	23
Chile	16.3	53.6	54
Colombia	6.2	17.8	26
Mexico	1.0	18.8	24
Peru	6.7	33.4	40
Venezuela	0.3	41.9	42
Central Europe			
Czech Republic	5.8	49.3	66
Hungary	19.8	56.6	62
Poland	2.1	52.8	70
Turkey	2.7	1.7	n.a.
Asia			
Korea	0.8	4.3	3
Malaysia	6.8	11.5	18
Thailand	0.5	5.6	12

Source: IMF (2000: 153) for 1994 and 1999; (BIS) (2001: 25) for 2000.

Fourth, there has been a decrease in the number of banks —especially in Latin America and in Asia— as a result of mergers and acquisitions just mentioned, including privatizations (see table 3). What is somewhat surprising is that this process has not resulted in a significant increase in concentration. Indeed, in Asia and Eastern Europe, there appears to have been a decrease in concentration. In Latin America, the share of the largest three and ten banks both rose, but not by a very large amount. The result implies that the institutions that disappeared from the market were the smallest ones.

⁵ On these trends, see Feeney (1994), Blommestein (1995), Fornari and Levy (1999), and BIS (2001).

⁶ The issue of foreign participation in the banking sector of developing countries has been extensively studied in the last few years. See, for example, IMF (2000), Clarke et al. (2001), Litan et al. (2001), and Hawkins (2002).

Table 3
INDICATORS OF CONCENTRATION IN THE BANKING SECTOR
(Share in total deposits)

	1994				2000			
	Number of banks	Largest 3 banks	Largest 10 banks	HH Index	Number of banks	Largest 3 banks	Largest 10 banks	HH Index
Latin America								
Argentina	206	39.1	73.1	756.9	113	39.8	80.7	865.7
Brazil	245	49.9	78.8	1 220.9	193	55.2	85.6	1 278.6
Chile	37	39.5	79.1	830.4	29	39.5	82.0	857.9
Mexico	36	48.3	80.8	1 005.4	23	56.3	94.5	1 360.5
Venezuela	43	43.9	78.6	979.2	42	46.7	75.7	923.1
Asia								
Republic of Korea	30	52.8	86.9	1 263.6	13	43.5	77.7	899.7
Malaysia	25	44.7	78.3	918.9	10	43.4	82.2	1 005.1
Philippines	41	39.0	80.3	819.7	27	39.6	73.3	789.9
Thailand	15	47.5	83.5	1 031.7	13	41.7	79.4	854.4
Central Europe								
Czech Republic	55	72.0	97.0	2 101.5	42	69.7	90.3	1 757.8
Hungary	40	57.9	84.7	1 578.8	39	51.5	80.7	1 241.8
Poland	82	52.8	86.7	1 263.6	77	43.5	77.7	899.7
Turkey	72	40.7	79.1	957.2	79	35.9	72.0	710.2

Source: IMF (2001:11).

Fifth, there has been some diversification of capital markets. This development has multiple causes: the increase in portfolio flows to the region, up until 1998; the privatization of social security and the deregulation of private institutional investors, which led to an increase of investments in securities; and the virtuous circle created by the process of stabilization and securities market expansion in some economies in the region. Table 4 presents one indicator of this trend: the volume of debt securities issued in domestic markets (both in absolute amounts and as a share of the world total) between 1989 and 2000. While it indicates that such issues in Latin America expanded rapidly during the period, more than doubling between 1992 and 2000, the vast majority of the increase was due to a single country (Brazil). Moreover, the region's share of total issues remained miniscule.

Table 4
OUTSTANDING AMOUNTS OF DEBT SECURITIES ISSUED IN DOMESTIC MARKETS
(US\$ billions and %)

	US\$ billions				% of total			
	1989	1992	1997	2000	1989	1992	1997	2000
All issuers	14 149.7	18 713.2	25 572.7	29 951.3	100	100	100	100
OECD (excl. Mexico)	13 790.0	18 231.8	24 631.3	28 852.9	97.5	97.4	96.3	96.3
France	605.8	956.3	1 102.5	1 068.1	4.3	5.1	4.3	3.6
Germany	729.4	1 260.2	1 732.1	1 688.9	5.2	6.7	6.8	5.6
Japan	2 558.5	3 355.5	4 399.3	6 088.8	18.1	17.9	17.2	20.3
United States	6 682.2	8 546.5	12 071.7	14 571.6	47.2	45.7	47.2	48.7
Latin America	101.2	190.5	448.7	446.3	0.7	1.0	1.8	1.5
Argentina	44.7	15.5	27.3	38.5	0.3	0.1	0.1	0.1
Brazil	n.a.	111.0	344.5	297.0	n.a.	0.6	1.3	1.0
Chile	7.0	17.4	36.5	34.9	0	0.1	0.1	0.1
Mexico	49.5	46.6	38.5	72.3	0.3	0.2	0.2	0.2
Peru	n.a.	n.a.	1.9	3.6	n.a.	n.a.	0	0

Source: Authors' elaboration, based on Bank for International Settlements (BIS) data (www.bis.org/publ/qcsvg0203/anx16a.csv).

All of these trends have implications for regulation and supervision. The risks associated with the increasing strength of financial crises, a greater mix of activities, the increasing operational complexity of the activities undertaken by banks, and a bigger foreign presence can all complicate the tasks of regulators and supervisors. A particular danger in recent years has been the increased occurrence of ‘twin crises’: simultaneous crises in the banking and foreign exchange markets. As Kaminsky and Reinhart (1999) argue, when the two crises take place simultaneously, they are far more severe than when they occur in isolation.

As a consequence of these new challenges, regulators and supervisors must be better trained, and in some cases they will need greater support from their respective governments. At the same time, the new circumstances may also offer advantages, if the banks see it as in their collective interest to improve their image and if foreign supervisory institutions provide useful support. Insofar as the local financial sector becomes more sophisticated, there will also be the need for coordination among the regulators of the various components.

C. Regulation and supervision: the state of the art

Drawing on an important new data bank created by the World Bank,⁷ we can sketch out the current situation with respect to regulation and supervision of the banking sector in many Latin American countries at the end of the 1990s.

Table 5 provides a set of indicators on banking regulation in seven Latin American countries, plus the United States as a benchmark. The most widely known indicator is the minimum capital-asset ratio requirement, currently set at 8% by the BIS through the Basle I agreement. While the United States sets its minimum at the 8% level, as do Chile and Mexico, the other Latin American countries have higher ratios with Brazil and Argentina at the top of the list with 11% and 11.5%, respectively. A similar situation is found with the actual risk-adjusted ratio. With the exception of Bolivia, all Latin American countries maintain higher ratios than the 12% found in the United States. Again, Argentina and Brazil have the highest ratios.⁸

Several other indexes are also presented in table 5. The ‘capital stringency index’ includes adherence to the BIS guidelines, but also various measures of the degree to which leverage potential is limited (for precise definitions, see Barth et al. 2001a). With a range from 1 to 6, where 6 is the most stringent and the US benchmark is at 4, only Argentina among the Latin American countries has a score of 6, followed by Bolivia and Peru; Venezuela lags with a score of 2. The ‘capital regulation index’ combines the previous index with one measuring the type of assets that can count toward the capital-asset ratio, with a range of 1 to 9. On this indicator, Argentina and Bolivia represent the highest degree of stringency, followed by Mexico, with Venezuela again at the rear. The ‘activities and ownership index’ deals with types of activities that banks can engage in and restrictions on who can own a bank. This qualitative index ranges from 1 to 4, with the United States at 3. Unlike other indicators, Argentina allows the greatest freedom to banks, while Mexico and Bolivia are the most restrictive.

⁷ See Barth et al. (2001a) for a description of the data base, which was constructed from a survey of bank regulators and supervisors in 107 countries. A companion paper (Barth et al. 2001b) presents a preliminary analysis of the data, which questions the relevance of the regulatory and supervisory guidelines stressed in this paper. We believe that the conclusions reached by Barth et al. owe to the failure to distinguish between developing and developed countries, whose experiences have been quite different with respect to the behaviour of the financial sector. We intend to test this hypothesis in future research.

⁸ ECLAC has often advocated that developing countries should maintain ratios above the international norm, given the extremely high cost of banking crises. See, for example, ECLAC (2000).

Table 5
BANK REGULATION: SOME SELECTED INDICATORS

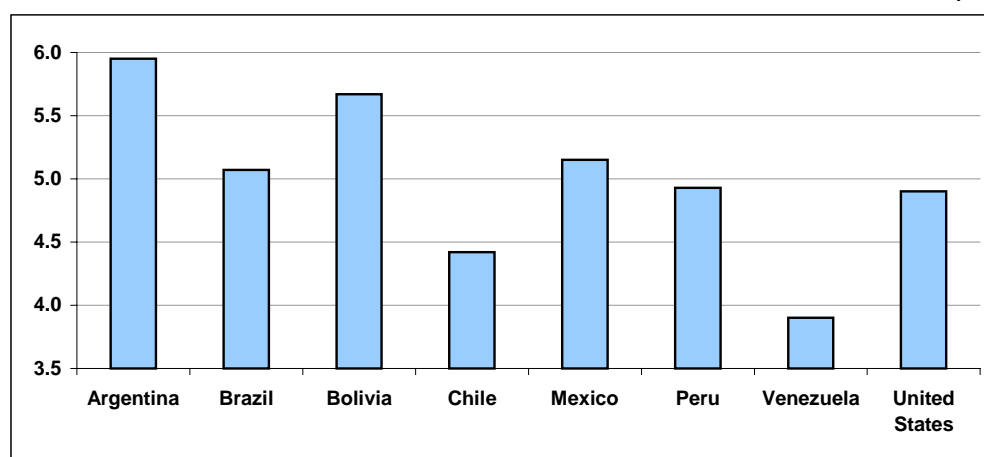
	Argentina	Brazil	Bolivia	Chile	Mexico	Peru	Venezuela	United States
Minimum capital-asset ratio requirement (%)	11.5	11.0	10.0	8.0	8.0	9.1	10.0	8.0
Actual risk-adjusted capital ratio (%)	16.4	15.8	11.4	12.3	13.0	12.7	14.0	12.0
Capital stringency index	6.0	3.0	5.0	3.0	4.0	5.0	2.0	4.0
Capital regulation index	8.0	6.0	8.0	5.0	7.0	6.0	2.0	6.0
Overall bank activities and ownership restrictiveness index	1.8	2.5	3.0	2.8	3.0	2.0	2.5	3.0

Source: Barth et al. (2001a).

It is clear from the data presented in table 5 that regulation has many dimensions, with some countries being stricter on some than on others. Nonetheless, there is some tendency for a cross-country pattern to emerge. As a way of measuring this tendency, we have constructed a summary index (the Overall Regulation Index, ORI), by dividing the values in each row of table 5 by the average of that row and then summing them up by country. Figure 1 presents the result of these calculations.

The figure shows that Argentine regulation is the most strict, followed by Bolivia; Venezuela is the least restrictive. Nonetheless, it is important to note that the United States has a lower level of restrictions than do many Latin American countries. Likewise, Chile, which is commonly regarded as having the best regulatory and supervisory system in Latin America (Held and Jiménez, 2001), does not rank highly on the overall index. It is possible to hypothesize that an inverted U-shaped relationship is involved, whereby banks become more self-regulating after some level of development (and/or some minimal level of experience) is attained. Thus, lower scores do not necessarily indicate poor regulation and supervision. On the contrary, they may indicate that a country has advanced to a point where it can allow individual financial institutions a bit more autonomy with respect to regulation or for market-based regulation to play a larger role. At the same time, it is clear that very strong macroeconomic shocks can undermine even the highest scores and lead to banking crises, as the Argentine situation in 2001-2002 shows.

Figure 1
OVERALL REGULATION INDEX (ORI)



Source: Authors' elaboration, based on table 5; see text for methodology.

Table 6 uses the same data source to examine trends with respect to bank supervision. While more attention is typically devoted to the topic of regulation, the best regulations are of little use if they are not enforced. The number of professional supervisors per bank varies widely, from 0.1 in the United States to 11.5 in Mexico, but there seems to be only a very weak relationship between the number of supervisors and their attributes as measured by the ‘official supervisory index’.⁹ The latter indicator is the summation of 16 measures of supervisory power to deal with abnormal situations encountered and the degree of discretion supervisors have under such circumstances. The less the discretion and the greater the power, the higher the index. With the United States at 14, only Brazil has a higher ranking, while Bolivia and Mexico are the lowest. A subset of the 16 items on the supervisory power index is found in the ‘index of forbearance discretion’. Argentine supervisors have the least discretion, while Chilean and Venezuelan supervisors have the most. The United States is in the middle.

Table 6
BANK SUPERVISION: SOME SELECTED INDICATORS

	Argentina	Brazil	Bolivia	Chile	Mexico	Peru	Venezuela	United States
Professional bank supervisors per institution	2.4	4.0	6.0	3.0	11.5	3.6	1.0	0.1
Official supervisory index	12.0	15.0	11.0	13.0	10.	14.0	14.0	14.0
Prompt corrective action index	n.a.	6.0	n.a.	3.0	3.0	4.0	5.0	5.0
Restructuring power index	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Declaring insolvent power index	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Forbearance discretion index	3.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0
Supervisor tenure index	6.2	15.0	6.0	n.a.	n.a.	13.5	n.a.	7.0
Likelihood supervisor moves into banking index	3.0	2.0	3.0	3.0	1.0	3.0	3.0	1.0
Percentage of top ten banks rated by international credit rating agencies	100	100	20.0	50.0	n.a.	50.0	40.0	100
Professional bank supervisors per institution	8.0	8.0	7.0	8.0	6.0	8.0	6.0	8.0

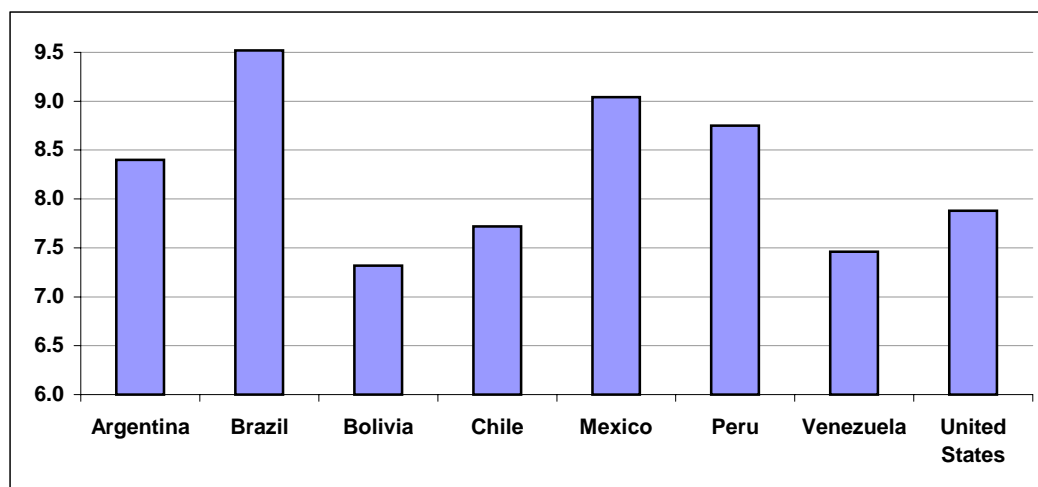
Source: Barth et al. (2001a).

The last two items in table 6 deal with what the World Bank calls ‘private monitoring’. The index on this topic measures whether an external audit is required, the per cent of the ten largest banks that are rated by international rating agencies, the degree of accounting disclosure and director liability, and the lack of an explicit deposit insurance scheme. On a scale of 1 to 8, the United States, Argentina, Chile and Peru score 8, while Mexico and Venezuela are lowest at 6. The percentage of top banks rated by international agencies shows the United States, Argentina, and Brazil at 100%, while the other countries in our sample are between 20% and 50%.

To present a summary view of supervision in each economy, we have created an Overall Supervision Index (OSI), following the same methodology used to construct the ORI. Figure 2 presents the values for OSI across the countries in our sample. Argentina, Brazil and Mexico have the highest ratings (the strictest supervisory standards), with Venezuela at the low end, along with Bolivia (which, paradoxically, has a comparatively high ORI). As with the overall index on regulation, the United States and Chile rank lower than Latin American countries with the highest scores, again suggesting the inverted-U interpretation.

⁹ This result is to be expected, given the differences in the structure of the banking system across countries. In particular, the US banking sector is characterized by a myriad of small local banks, while the Latin American countries have a much smaller number.

Figure 2
OVERALL SUPERVISION INDEX (OSI)



Source: Authors' elaboration, based on table 6; see text for methodology.

The data presented in tables 5 and 6 and in figures 1 and 2 have several problems: they represent only a single point in time; they are overview measures that summarize a large amount of information in a single number; and they give a somewhat mechanical impression of a very complex problem. To get a better idea of some of the details as well as the changes in the regulatory and supervisory systems in recent years, we have to turn to studies of the region per se. We mention two such studies here before turning to our own country analysis.

In one of the most important studies, Aguirre (2000) stresses that significant changes have been made in banking legislation in almost all of the 17 countries he surveyed. In general, he says, these changes have come about as a result of crises or serious problems in the respective banking systems. The author identifies key changes as less public-sector ownership, greater foreign participation, broader scope for banking activities, and improvements in supervisory and regulatory authority. With respect to the latter, he focuses mainly on institutional aspects, such as the agency that performs supervision and the scope of the mandate of such institutions (only banks, or also insurance and securities). He finds a wide difference across countries, but admits that the literature is not conclusive on the relative merits of different systems.

Another study, by Livacic and Sáez (2000), focuses specifically on supervision. Again noting the improvements during the 1990s, the authors emphasize the gap between the rules on the books and the ability of supervisors to enforce them. Examples include loans to 'related' clients and the treatment of overdue loans. They suggest various remedies, including the need for more resources (financial and human) and greater autonomy for supervisors.

D. Basle II and the IMF financial sector assessment programmes

Most of the changes in bank regulation and supervision in Latin America have been a response to events in individual countries or, to some extent, in the region more broadly (especially the Mexican crisis of 1994-1995). Nonetheless, developments at the international level have also played a role. In particular, the BIS and the Basle Committee on Banking Supervision have been influential in putting these issues onto the agenda and homogenizing standards for developed and developing countries. In the current period, however, the international standards themselves are in a state of flux, and the proposed changes pose new challenges to developing country institutions.

The Basle Capital Adequacy Accord (Basle I), introduced in 1988, was a milestone in banking regulation. The 8% minimum capital requirement for internationally active banks, which was adopted by over 100 countries (including most in Latin America), clearly contributed to financial stability. Nonetheless, criticisms began to emerge that the approach was too rigid and simplistic and that it did not correspond to actual levels of risk. Developing countries were especially concerned that the rules provided incentives for short-term over long-term lending.

Basle II was meant to correct the problems identified by introducing more complex alternatives for determining risk, including the use of models developed by individual banks. Experts studying the potential impact on developing countries feared that the new approach could have a negative impact on those economies through two channels. First, the new risk categories would likely lead to a significant decline in lending to developing countries or greatly increase the cost. Second, the new system would be inherently procyclical, increasing the frequency of crises that have an especially negative impact on the developing world. In part because of these criticisms, the implementation of Basel II was postponed to allow further study. (For more details, see Griffith-Jones and Spratt, 2002.)

In a parallel initiative, the IMF and World Bank introduced some 60 standards and codes (ROSCs) to increase financial stability by offering policy benchmarks. These have been incorporated into the IMF surveillance of member countries' economies through the Financial Sector Assessment Programmes. While agreeing that the measures could be helpful, developing country representatives have expressed concern that they have no say in determining the standards and that implementing all of them would be an extremely expensive undertaking. At the same time, they fear that not being able (or willing) to comply would further reduce their chances for obtaining finance. (For a discussion of the codes and standards from a developing country perspective, see IMF Survey, 2 April 2001.)

III. National responses to recent financial crises

A. Financial structure and changes before the Tequila Crisis

Moving beyond regional trends, study of individual country cases can deepen our understanding of the reform process as well as the problems that still remain. The four countries that have been selected —Argentina, Brazil, Chile, and Mexico— have much in common but nonetheless illustrate important differences in timing, operational characteristics, and the macroeconomic environment in which the financial sector operates.

All four economies went through a process of financial liberalization at some point between the 1970s and the 1990s, which resulted in changes in the way banks operated and eventually in banking crises. Chile was the first to embark on the liberalization process, beginning shortly after the military coup in 1973. Changes included freeing of interest rates, eliminating directed credit, reducing reserve requirements, and relaxing regulation and supervision more generally. As in the other three cases, it was followed by a rapid increase in lending and then a banking crisis in 1981-1984. The crisis forced the authorities to take immediate action, restructuring the banking sector through the intervention of 21 private financial institutions, including the two largest banks in the country. Later, 14 of these institutions were liquidated while the rest were rehabilitated and privatized again.

Soon after the crisis, policy-makers introduced changes in regulation and supervision that built on the lessons drawn from the previous experience. The crisis thus led to a modern system of prudential regulation and increased supervisory capacity by the state. A new banking law was promulgated in 1986, encompassing a lower debt-to-capital ratio, reserve requirements according to banks' leverage position, mandatory information disclosure to the public, a partial public guarantee of deposits, restrictions on loans to 'related' clients, and a strict separation between the core business of banks and their subsidiaries. After introducing restrictions, external financial liberalization was implemented gradually, as firms were initially allowed to issue bonds and shares in external markets; later, institutional investors (banks, pension fund managers, and insurance companies) were permitted to hold external assets and capital controls were gradually eased. In 1997, further changes included adoption of the Basle Committee's 8% rule. (For more details see Budnevich, 2000; Held and Jimenez, 2001.)

The other three countries began the liberalization process a decade or more later, as part of a broader economic reform package typical of the region (see Stallings and Peres, 2000). The measures introduced were similar to those in Chile in the 1970s, but each country has individual characteristics that distinguished it from the others.

After a long period recovering from the 1982 banking crisis, Mexico embarked on an ambitious new process of financial liberalization in 1988: interest rates were freed, liquidity requirements were eliminated, credit allocation directives were abolished, and the previously nationalized banks were reprivatized. The response of the banking system was almost immediate. There was a rapid growth of lending (around 30% per year in real terms from 1989 to 1994), and the share of loans to the private sector rose from 10% to 40% of GDP (Yacamán, 2001). But, as admitted by most analysts, the first years of privatization were characterized by 'reckless —sometimes fraudulent— lending' (EIU 2001:7), resulting from poor regulation and supervision, weak credit-analysis procedures, and lack of internal controls. As lending outpaced deposits, banks put themselves in a dangerous position by funding their shortfall through inter-bank borrowing, mainly from foreign banks. As a consequence, non-performing loans increased from around 2% of total loans in 1990 to 9% in 1994, prior to the peso crisis (McQuerry, 1999).

In addition to these micro-level problems, macroeconomic policies also contributed to the build-up of the financial crisis. The use of an exchange rate anchor to control inflation led to overvaluation of the peso, large current account deficits, and strong capital inflows. In the short run, these flows stimulated growth of credit, but when they were reversed, they would set the stage for a twin crisis, as discussed earlier.

The Argentine financial liberalization, which began in the early 1990s,¹⁰ shared some characteristics with Mexico. In particular, liberalization —which lifted most of the controls on domestic and foreign operations of the domestic financial system that had been imposed during the period of high inflation and external constraints— took place in the context of an exchange-rate based stabilization programme (*Plan de Convertibilidad*). The international scenario of the early 1990s, marked by rising liquidity, declining international interest rates, and increased access to the financial markets of industrial countries, led to a surge of optimism in the Argentine markets. Simultaneously, price stability and a fixed exchange rate regime abruptly reduced both inflation and exchange rate risk. These factors created a fertile environment for the rapid growth of financial activity, but also to increasing maturity and exchange rate mismatches.

The Argentine financial sector had an impressive recovery until 1994: deposits and loans grew rapidly, while peso and dollar lending rates fell significantly, although they remained very high in comparison to those found in most developed economies and a significant number of

¹⁰ Argentina had an aborted attempt at financial liberalization in the late 1970s, but it was reversed as part of the overall abandonment of reforms at that time. For an analysis of the earlier attempt, see Studart and Hermann (2001: 34-8).

developing economies. These results were a mix of several important features: (i) a process of monetization—which normally follows price stability—led to a rapid growth of deposits in the banking sector; (ii) an increase of foreign capital inflows, which raised the confidence in the Convertibility Plan, raised banks' propensity to make dollar-denominated loans and borrowers' willingness to borrow in dollars, thus leading to a rapid process of dollarization of both liabilities and assets of the banking sector; (iii) the increase of competition among banks and the improvement of overall confidence reduced banks' liquidity preference, resulting in a rapid expansion of credit. In the case of domestic banks, this increased liquidity pushed them into being less careful in their lending strategies and thus deteriorated portfolio quality.

Brazil also went through significant liberalizing bank reforms before 1994, although beginning from a stronger initial position than the other countries. In this case, the initial liberalization preceded stabilization. Three important regulatory shifts marked the development of Brazil's financial system in the early 1990s: external liberalization and the banking reform in 1988, plus acceptance of the Basle capital-adequacy ratio in 1994. The Brazilian reform had immediate consequences. From 1989, there was a sharp reduction in the number of commercial banks, investment banks, and finance companies, most of which became universal banks. An important step in the process of liberalization had to do with opening the Brazilian market to the expansion of existing foreign financial institutions and the entry of new ones (especially commercial and investment banks). These changes should not overestimate the importance of the reform, whose real significance was due to the fact that it consolidated a trend already underway during the 1980s: the overwhelming dominance of universal banks that operate with a very short time horizon.

B. The Tequila Crisis and its effects on the stability of the banking system

The devaluation of the Mexican peso in December 1994 set off a crisis that severely damaged the country's banking system and had ramifications elsewhere in the region and in the world. Because Mexican regulations limited banks' foreign exchange exposure, the direct problems created by the devaluation were less significant than in other cases (although loopholes enabled banks to get around some of the restrictions; see O'Dougherty and Schwartz, 2001). Several indirect problems were also serious. These included a sharp drop in economic activity, a hike in interest rates, and an increase in demand for dollars. The consequence was a growing inability of debtors to service their obligations and so a further rise in the already high level of non-performing loans. Initially, however, the authorities thought the banking crisis would be limited in scope, because of the restrictions on foreign exchange exposure. In addition, the lack of an established regulatory authority meant that information was scarce. Thus, the approach was incremental, with solutions adopted as new problems appeared (McQuerry, 1999).

As the other country in the region that was particularly affected by the Tequila Crisis, the Argentine banking system was also hit hard. The currency board system in Argentina meant that domestic monetary authorities had no other instrument to face the potential capital outflows but to allow domestic rates to rise in 1995. This rise in interest rates provoked an increase of arrears and defaults, and reduced the confidence of depositors, leading to significant withdrawals of deposits. Even though the Convertibility Plan had been successful for almost five years, depositors expressed their fears of devaluation by withdrawing dollar deposits. Thus, in addition to a liquidity problem, banks had to face increased exchange rate mismatching. The combination of deteriorating quality of assets and loss of deposits pointed to the vulnerable side of the seemingly solid Argentinean system. In order to avoid an open banking crisis, the Argentine Central Bank (BCRA) began injecting liquidity through its discount window, backed by the sale of dollar-denominated bonds—which in turn led to an increasing exchange-rate exposure of the government—and by reducing reserve

requirements for banks. Despite these steps by BCRA, the accumulated losses corresponded to 12% of the banking sector's net worth by the first semester of 1995.

Unlike Argentina, the causes of the 1995 banking crisis in Brazil preceded the Tequila crisis, even though the latter deepened the problems. The fundamental reasons were associated with the abrupt adjustment that the banks had to undertake due to the success of the 1994 stabilization programme (*Plano Real*). During the 1980s, banks earned substantial profits from inflationary gains associated with the peculiar role of double intermediary of the public debt that the Brazilian banks enjoyed during the long period of high inflation and indexation. The abrupt decline of these gains, and the high fixed costs in Brazil's banking sector, led private banks to expand credit, which allowed the boom in consumer demand following the 1994 stabilization programme.¹¹ The rapid and sometimes careless expansion of credit, the high interest rate policy, and the rising unemployment provoked a rise of non-performing loans and arrears. The monetary authorities tried to restrict this expansion by setting very high levels of reserve requirements, which nonetheless failed to constrain credit expansion. In addition, interest rates were maintained at high levels, which created an increasingly dangerous mix of credit expansion and high lending rates. The public banks faced additional problems due to their limited capacity to restructure their portfolios (dominated by state government debt) and their high operational costs (in view of the job stability of many of their employees). The Tequila Crisis was 'the last straw' in a process of increasing bank problems.

Chile was much less vulnerable than the other countries for two reasons. First, its macroeconomic performance was barely affected by the Tequila Crisis, due to its lower levels of external debt, strong trade balance, and sound domestic fundamentals (e.g., high growth and fiscal balance). Second, as explained above, the Chilean banking system had already gone through major changes in supervision, regulation, and structure. As a matter of fact, from 1991 onwards, bank activity started expanding at a rate which was slightly higher than that of GDP, such that the relation between loans and GDP expanded from 45% in 1990 to 66% in 1999—much higher than the peak achieved in 1984. Other indicators also point to an improvement in the efficiency and further consolidation of the banking sector (Ahumada and Marshall, 2001: 46-7).

C. Regulatory changes after the 1994-1995 crisis

The Tequila Crisis unveiled the strengths and vulnerabilities of the banking systems of the four countries. The speed and depth of the changes in regulation and supervision varied with the information available to authorities, their perception of the severity of the problems confronting them, and the instruments they had at hand. In this context, Chile's situation—with almost no impact on the banking sector—stands out as completely different from the other three cases and shows the importance of its earlier steps in cleaning up the banking sector, establishing a modern regulatory and supervisory system, and maintaining comprehensive real macroeconomic balances.

In Argentina, after 1995, given the characteristics of its monetary and exchange rate regime, it became clear that (i) its banking sector was highly vulnerable to changes in domestic interest rates, exchange rates, and depositor confidence; (ii) domestic banks were more vulnerable than the foreign-owned ones; (iii) since the capacity of the monetary authorities to intervene in periods of crisis was very limited under the Convertibility Plan, some additional mechanisms were needed to increase systemic liquidity (especially for dollar deposits). In order to overcome these weaknesses, an initial set of measures was introduced to restructure the sector by injecting more capital, promoting mergers and acquisitions, and creating incentives to the expansion of foreign banks.

¹¹ In the first months of the implementation of the *Plano Real*, Brazil's Central Bank expanded the monetary base very rapidly to accommodate the expansion of the demand for money, which usually occurs after a successful price stabilization programme. This expanded liquidity also increased the reserve base of the domestic banks, permitting them to expand credit.

Among the most important regulatory changes, five should be emphasized. First, the *Fondo Fiduciario de Capitalización Bancaria* represented a full restructuring programme supported by funds of the BCRA and aimed at capitalizing and strengthening the banking sector through incentives for the acquisition of banks in trouble by those with a more solid market position. Second, the *Fondo de Garantía de Depósitos* was a deposit insurance scheme financed by private funds, aimed to increase depositor confidence and the safety net of the banking sector. Third, a new system of reserve requirements was introduced in order to reduce leverage and improve safety. This new system widened the scope of the previously existing policy to encompass all bank liabilities, rather than just sight and saving deposits as was the case earlier. Fourth, the *Programa Contingente de Pases* was an innovative mechanism to increase the systemic liquidity of the banking sector by establishing contracts between the BCRA and international banks in which the former acquired the right to sell to the latter dollar-denominated government bonds and mortgage-based securities. This meant that the participating banks provided a short-term overdraft line that gave the BCRA a lender-of-last resort facility in times of crisis.¹² Finally, measures were introduced to stimulate the continued process of mergers and acquisitions and to expand the share of foreign banks in the domestic market.

The results of these policies initially seemed quite positive in many respects. In the second half of the 1990s, private bank provisions in relation to total credit increased substantially, liquidity within the banking sector rose, and the capital adequacy ratio was maintained at levels far beyond those established by the Basle I guidelines. In addition, foreign banks more than doubled their share of the market between 1994 and 1999. In sum, the banking sector became more solid, which explains why its ability to deal with the emerging market crises that characterized the late 1990s was far superior to what was observed after the Mexican crisis. Nonetheless, macroeconomic policies—and especially the Convertibility Plan—eventually undermined these improvements as the banking sector fell into a severe crisis after the devaluation of 2002. It will clearly take many years to recover.

Brazil also took important steps to strengthen its banking system, but, as mentioned above, these were not prompted by the Tequila Crisis itself. During the first three years of the successful stabilization programme, 40 banks (of the 271 that existed in July 1994) were intervened by the Central Bank: 29 were liquidated, 4 failed, 6 were placed under temporary administration, and 1 continued to operate. A further 32 banks went through restructuring that resulted in mergers and acquisitions, some of them with government support through the bank restructuring programme (PROER), which included fiscal incentives for banks to acquire other financial institutions and promotion of mergers (among domestic banks) and acquisitions (by foreign banks). Another programme (PROES) was directed to the restructuring of the public financial institutions, which were in particular difficulties. This facility was created by the Central Bank to provide bridge loans to federal and state banks to speed up their restructuring and in some cases their privatization or liquidation. In the process of restructuring, foreign banks were allowed to enter the economy. The number and participation of foreign banks increased significantly after 1995, representing a competitive challenge to Brazilian banks.

In addition to the restructuring of the banking sector, a series of complementary regulatory measures was also decreed in late 1995. These included the establishment of a deposit insurance fund guaranteeing up to R\$20,000 per depositor, and increased capital requirements for establishing

¹² This mechanism—designed to deal with *liquidity* problems—did not work during the recent crisis because of the magnitude of the challenges facing the BCRA. That is, since in a currency board the central bank does not act as lender-of-last-resort, the mechanism was a way of mimicking this role in periods of reduced liquidity of specific banks. However, the mechanism was not meant to be an instrument to deal with potential *solvency* problems, as in the case of the recent crisis. In a solvency crisis of the magnitude faced by Argentina, if the mechanism had been used, the international banks would have had to cover a very significant part of total Argentina deposits, increasing the risk to their own assets to unacceptable levels. Thus, it was not used, and the government had to freeze bank deposits to avoid the overall insolvency of the system.

new banks. Separately, new Central Bank regulations aimed to promote accountability and avoid bailouts by insuring that the shareholders of institutions sold or transferred were liable for any previous wrongdoing. Perhaps the most significant of these additional measures was the law giving the Central Bank authorization to preventatively restructure financial institutions that were not meeting system requirements or were demonstrating financial problems. While a form of this law had existed previously, and the Central Bank was authorized to place banks under one of three forms of special regime (temporary system of special administration, intervention, or extra-judicial liquidation), these laws lacked a preventative character. Now the Central Bank was empowered to prescribe preventative remedies (e.g., increased capitalization, transfer of stockholder control, or mergers and acquisitions) for faltering banks, and certain assets of failing banks could be confiscated. An indicator of the effectiveness of the changes was the lack of a serious banking crisis in the face of the devaluation of 1999.

Mexico moved more slowly than Argentina and Brazil in dealing with its financial crisis. Indeed, Mexico has remained in constant banking difficulties since 1995 and is still involved in a costly process of restructuring its banking system. The government set up several programmes to help recapitalize and strengthen the banks. The best known was administered by the deposit insurance agency, FOBAPROA, which involved the purchase of the banks' non-performing loans to clean up their balance sheets. In addition, a number of banks were intervened and later re-sold, leading to a dramatic increase of foreign participation in the banking sector (Graf, 1999).

In December 1998, new financial legislation was approved by the Congress and then implemented. Chief among the changes were: (i) a new deposit insurance system, which ended the de facto unlimited deposit insurance that existed previously and increased the oversight of the deposit-insurance agency; (ii) stricter accounting standards, which increased the transparency of credit operations both for supervisors and the public, imposed stricter standards for handling past-due loans, and substantially increased loan-loss provisions; (iii) a series of measures to improve lending practices and new laws on credit transactions, aimed to speed the process of foreclosing on assets and allow for a wider range of property to be used as collateral, and (iv) stricter rules on capital quality (EIU, 2000). In addition, in order to reduce possible future exchange rate mismatching, the Bank of Mexico lowered the existing ceilings on foreign currency liabilities and imposed compulsory liquidity coefficients in foreign currency (Yacamán, 2001). As an aftermath of the crisis, banking activity as a percentage of GDP declined from 1994 to 1996, and only in 1996 did overall lending start growing again, whereas lending to the private sector only began to rise in 2000.

IV. Conclusions: policy lessons from the Latin American experience

As we have seen through the experiences of Argentina, Brazil, Chile, and Mexico, managing the financial system today is an enormous challenge, especially in developing countries. The inherent fragility of the financial sector is magnified by the volatility of capital flows and the macroeconomic shocks that have been discussed in earlier chapters of the book. The resulting instability mounts as problems of individual banks quickly spread to other institutions and to the real economy as well. While such problems have always existed, new ones are continually arising with the increased integration of international capital markets.

It is important to stress, as we have throughout the chapter, that financial instability is not an isolated problem, but is closely related to macroeconomic policy and performance. The relationship runs in both directions. On the one hand, financial crises undermine attempts to maintain stable growth rates of output and thus to increase employment opportunities and reduce poverty. They are also extremely expensive and can hobble government finances and private-sector viability for years in the future. On the other hand, macroeconomic policy can bring about financial instability or even crises. For example, raising interest rates can create problems for the financial sector, especially if it is already in a weakened condition. Likewise, devaluing the local currency is very risky if the financial sector is heavily indebted in foreign currency.

Among our cases, Chile provides a good example of the way in which a well functioning financial system can be an important asset for an economy. After the significant corrections introduced as a result of the deep financial crisis in the early 1980s, the financial sector became a crucial instrument in maintaining high economic growth for a long period, and it gave policy makers room to follow flexible policies when hard times came. At the other extreme, the Argentine crisis is an especially dramatic example of negative interactions between the two. Despite significant improvements in regulation and supervision during the 1990s, the banking system was kept afloat after the January 2002 devaluation only by tight capital controls and the freezing of deposits.

Based on our analysis, and in the context of these new dilemmas, several policy lessons can be suggested for developing countries. First, it is clear that much remains to be done in the specific areas of regulation and supervision. Some countries are more advanced than others are, but all can do more in terms of institutional development in the supervisory area, greater transparency of regulations, and so on. Nonetheless, it is important to ponder the apparent relationship that emerged whereby the tightest regulations are not necessarily found in the best-performing banking systems. This may mean that very strict regulations are important as the banking system begins to develop, but it may be possible to relax them somewhat in the longer run, if and when banks begin to take greater responsibility for their own behaviour.

Second, even those countries that have made substantial progress in the regulatory and supervisory sphere cannot assume that this is sufficient. The best regulatory and supervisory systems assume a relatively stable macroeconomic environment. The procyclical nature of the banking sector, with its implications for stability, is exacerbated in the case of Latin America due to the nature and sharpness of its recent business cycles. In a situation of strong volatility, whether domestic or international or both, the financial system will become increasingly fragile. Thus, regulation of the financial sector must go hand in hand with adequate fiscal, monetary, and exchange rate policies as well as with measures to prevent external shocks from ravaging local economies.

Third, because of this highly procyclical behaviour, some observers have begun to recommend provisioning rules that take into consideration changes of risk throughout the cycle (see, for example, Ocampo, 2002). Under such a system, like that which is currently in place in Spain, risk is estimated for categories of credit according to the possible loss that a typical asset would experience over the entire cycle. Even though this method aims to provide a cushion for changes in risk throughout the cycle, Ocampo argues that it can also be a countercyclical instrument.

Fourth, there are other problems in the financial sector that have little to do with regulation and supervision —or may even involve tradeoffs with the latter. That is, the main function of the financial sector is to support the development of the local economy. This involves the providing of credit in such volume that production and consumption can grow at an appropriate rate. If regulations are too tight, banks may prefer to hold only the safest assets, whether government bonds or loans to the largest and lowest-risk customers in the private sector. Consideration must be given to these aspects of the financial system and balance them with the obvious need to make the system a safer one.

Finally, a supportive international environment must complement a sound domestic regulatory and supervisory system in developing countries. This includes adequate macroeconomic coordination in industrial countries as well as appropriate regulation of the financial systems in those economies. It also means that any new international regulations must consider the implications for developing countries. It must be recognized that the impact on the financial sector of industrial and developing countries is not the same, and both must be taken into account.

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