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Changing Expectations, Capital Surges and the Banking Sector: Argentina, Brazil, Chile and Mexico in the 1990s

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The financial crises in 1994-95 and 1997-98 in developing economies led to an overall cry for improvements in regulation and supervision of the financial sector, in particularly of the banking sector. In addition, further privatisation and opening of domestic financial markets to foreign banks was recommended as a way to increase both stability and efficiency of credit provision by domestic banks (e.g. Burki and Perry, 1998). In Latin America, several countries followed such recommendations and their financial regulation and supervision have improved significantly.

Despite these changes, the crisis of 2001-02 in Argentina (where after 1994 the strictest bank regulation was introduced) indicates that the Latin American banking sector remains fragile. In addition, the problem of credit stagnation became more acute after 1997-98 (Barajas and Steiner, 2002). Thus it has become evident that additional measures are required to achieve growth and stability of the banking sector in the region – so that the sector can make a significant contribution to the long-term development of the region.

Explaining the fragility of the Latin American banking sector requires an integrated macro- and microeconomic analysis. In the 1990s, the interaction of macro- and microeconomic imperfections

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generated bank crises and resulted in the boom-bust character of credit provisioning in the region. We must consider that financial activity is almost by definition forward-looking, and highly influenced by changes in expectations. Banks tend to be highly pro-cyclical (see e.g. Borio and Lowe, 2000; BIS, 2000), whereas their risk-taking is limited by regulation.[1] Bearing that in mind, the 1990s seem to be a particularly interesting period to examine how the banking sector behaves (and how that behaviour affects macroeconomic performance), because it is a period of profound changes in regulation and in macroeconomic expectations.

This chapter explores in a preliminary manner these issues (with special emphasis on the period after the Tequila crisis). It builds on research currently undertaken in ECLAC and in particular develops some of the issues raised in a recent paper (Stallings and Studart, 2002). Section 1 briefly describes the main changes in the macroeconomic environment and in regulation of the Latin American banks between the end of the 1980s and the beginning of 1990s (particularly in Argentina, Brazil, Chile and Mexico) and their relations with bank performance and crises in the period. Section 2 deals with the regulatory and microeconomic changes after the Tequila crisis. Section 3 shows how banks reacted to the new regulatory and macroeconomic environments. Section 4 summarises our findings and presents our conclusions.

1 Exuberant Expectations, Surges of Capital Flows, Policy Regimes and the Banking Sector in the 1990s

In the first half of the 1990s, there was a spectacular expansion of financial markets in the developed economies.[2] A significant surge of

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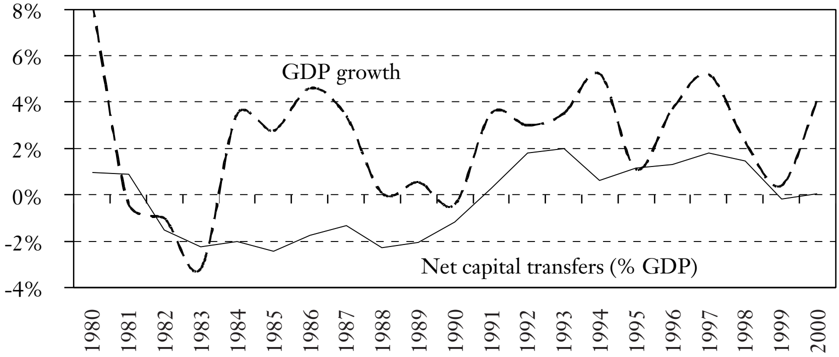
[1] This problem goes beyond the usual asymmetric information problem and has to do with at least two processes: Waves of optimism in the banking sector lead to credit expansion, which increases aggregate demand and affects income and cash flow of consumers and the productive sector. In times of expansion, 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).

[2] For an analysis of the causes and the consequences of the expansion of financial markets in developed economies, see e.g. Fornari and Levy (1999).

Figure 1 Latin America: Net Capital Transfers and GDP Growth
(percentage of GDP)



Source: Elaborated by the author based on data from ECLAC.

capital flows to developing countries followed; capital flows more than tripled from 1991 to 1995.[3] These flows have only been a fraction of those between mature economies, but are large compared to the size of developing economies and their domestic financial markets.

The buoyancy in the international markets certainly influenced economic policy and economic performance in Latin America in the late 1980s and the early 1990s. Almost a decade of balance-of-payments constraints and net negative resource transfers (see Figure 1) had led to very poor macroeconomic performance and high inflation in Latin America. Now, the surge of capital inflows significantly surpassed the needs to finance both the current and the capital account, generating systematic accumulation of reserves, and removing the external constraint for the expansion of domestic demand and imports. Using these exceptional external conditions, many countries in the region adopted some type of exchange-based price stabilisation programmes, including fixed or pegged exchange rates and trade liberalisation – that were effective in reducing inflation (Table 1). Generally, the higher the inflation and the worse

3 Even though country-specific features did affect the distribution of such flows between developing economies, the push factors, related to the changes in financial markets in developed economies, seem to be the most important factor in explaining such growth (Studart, 2001a).

Table 1 Selected Macroeconomic Indicators

	Argentina	Brazil	Chile	Mexico	Latin America
Growth (% GDP)					
1980s	-1.1	1.7	2.9	1.9	
1990s	4.1	3.1	6.6	3.5	
Inflation (%)					
1980s	451	348	20	65	
1990s	9	181	8	18	
Fiscal surplus or deficit (% GDP)					
1980s	-3.4	-8.4	0.3	-8.1	
1990s	-1.1	n.a.	1.4	0.1	
Current account (% GDP)					
1980s	-1.8	-2.0	-6.5	-1.2	-2.0
1990s	-2.6	-2.0	-2.9	-3.6	-2.8
External debt (% GDP)					
1980s	46	37	82	52	50
1990s	40	31	45	38	41
Implicit income elasticity of imports					
1980s	10.5	-0.1	0.5	1.7	0.0
1990s	4.7	5.3	1.6	2.6	3.4

Source: Elaborated by the author based on data from ECLAC.

the economic performance in the 1980s, the more rigid were the exchange rate regimes adopted.

Argentina, for instance, had hyperinflation and negative average GDP growth in the 1980s, and adopted a currency board system. It was effective in breaking down the inflation dynamics mainly by dollarising a significant part of spot transactions and forward contracts. Brazil – with a long history of indexation, high inflation but positive economic growth in the 1980s – adopted a pegged system and an ingenious monetary reform in 1994 (required to break up with the inflation dynamics by dismantling the main mechanisms of indexation of the economy). From 1988 to 1994, Mexico, with much lower inflation rates and slightly higher average growth rates in the 1980s, adopted a managed exchange rate regime, with devaluations that were subsequently much lower than the inflation rate. Chile had already reduced its inflation to reasonable levels in the 1980s, but it still pursued a gradualist anti-inflation programme that relied strongly on overvalued exchange rates.

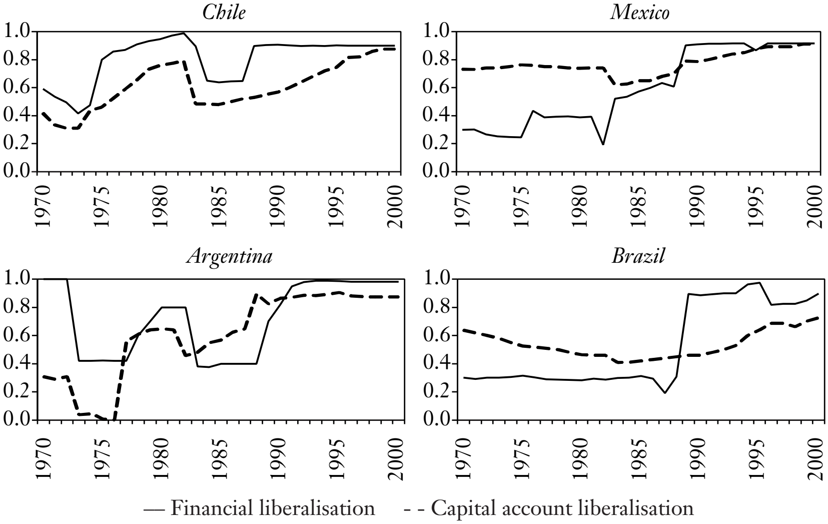
Exchange rate based stabilisation programmes (if associated with trade opening and significant capital inflows) often produce rapid results in reducing inflation, and also lead to positive growth rates – usually associated with rapid expansion of consumers' demand. In Argentina, Chile and Mexico, rapid reduction of inflation and positive economic growth characterised at least the first four years of such stabilisation programmes. The negative facet of exchange rate based stabilisation programmes is usually the deterioration of current account balances and accumulation of external debt, increasing external vulnerability and loss of growth dynamics after the initial years. Thus, reversals of capital flows tend to deeply affect domestic production, as domestic policymakers must respond to such reversals by increasing interest rates or adopting deflationary measures – usually through further fiscal retrenchment.

The fact that macroeconomic recovery in Latin America in the early 1990s was associated with a financial boom in developed economies is, in our viewpoint, crucial for understanding the performance of the banking sector in the 1990s. The international setting of the early 1990s was marked by rising liquidity, declining international interest rates, and increased access to the financial markets of industrial countries. This led to a surge of optimism in Latin American financial markets, and banks in particular. Given that the financial business is forward-looking by nature, changes in expectations can have profound effects on the decisions to expand credit and assume risks. The more unregulated the market, the more pronounced is this pro-cyclical bias. Therefore, in order to have the whole picture of the relation between the surges in capital flows to Latin America in the 1990s, we need to discuss the changes in regulation.

Financial Liberalisation, Credit Booms and Crises Before 1995

Figure 2 presents the financial and capital account liberalisation indexes, constructed using the methodology developed in Morley, Machado and Pettinato (1999) and regularly published in ECLAC's annual *Economic Survey*. Except for Chile, most Latin American economies went through a process of financial liberalisation at some

Figure 2 Financial and Capital Account Liberalisation Index



Note: The reform indexes are calculated by ECLAC using the methodology developed in Morley, Machado and Pettinato (1999).
Source: ECLAC.

point in the end of the 1980s and beginning of the 1990s. The authorities no longer set interest rates, directed credit, and captured a large share of bank deposits as required reserves, and commercial banks became free to make their own decisions on borrowers, loan volume, and prices.

Around the same time, capital account liberalisation enabled local corporations and banks to issue securities in international markets and engage in transactions in foreign currencies. In addition, in the 1990s, barriers for foreign institutions to local markets were levied. These processes of financial liberalisation *cum* capital account opening led to rapid expansion of bank credit, followed by bank and often exchange rate crisis.

We will use Figure 2 as a background for a brief description of these reforms in each of the four economies under analysis.

Chile

Chile was the first to embark on a liberalisation 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 countries, a rapid increase in lending followed the liberalisation process, ending with a banking crisis in 1981-84. The crisis forced the authorities to take immediate action, restructuring the banking sector through the intervention in 21 private financial institutions, including the two largest banks in the country. Later, 14 of these institutions were liquidated while the rest was rehabilitated and privatised again.

Soon after the crisis, policymakers introduced changes in regulation and supervision, built on the lessons drawn. 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 liberalisation 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, while capital controls were gradually eased. In 1997, further changes included adoption of the Basel Committee's 8 percent rule.[4]

Mexico

After a long period of recovering from the 1982 banking crisis, Mexico embarked on an ambitious new process of financial liberalisation in 1988: interest rates were freed, liquidity requirements were eliminated, credit allocation directives were abolished, and the previously nationalised banks were privatised again. The response of the banking system was almost immediate. Lending expanded rapidly (around 30 percent per year in real terms from 1989 to 1994), and the share of loans to the private sector rose from 10 percent to 40 percent of GDP (Yacamán, 2001).

4 For more details, see Budnevich (2000) and Held and Jimenez (2001).

Default rates also increased rapidly in the period – indicating reckless lending practices.[5] Bad lending and unhealthy macroeconomic policies contributed to the build-up of the financial crisis that followed. The use of an exchange rate anchor to control inflation led to overvaluation of the Mexican peso, large current account deficits, and strong capital inflows. A significant part of these flows was intermediated by just deregulated domestic banks. These banks profited from the big differentials between domestic and international interest rates – which in turn stimulated credit growth. But when the capital flows were reversed, the stage for a twin crisis (in the sense of Kaminsky and Reinhart, 1999) was set – and it actually happened in 1994. From 1994 onwards past-due loans ratios soared with the fall of economic activity.

Argentina

The Argentine financial liberalisation began at the end of the 1980s[6] and shared some characteristics with Mexico. Liberalisation took place in the context of an exchange rate based stabilisation programme (Plan de Convertibilidad). It 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. The international financial buoyancy of the early 1990s 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 for increasing maturity and exchange rate mismatches.

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5 As pointed out by EIU (2001) p. 7, the first years of Mexican bank privatisation were characterised by "reckless – sometimes fraudulent – lending as a result of poor supervision and underdeveloped regulations. Poor credit-analysis procedures and few internal controls characterised the sector during this time. Banks put themselves in a precarious position as their lending outpaced their deposits, and they funded the 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).

6 Argentina had an aborted attempt at financial liberalisation 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, pp. 34-38).

Until 1994, recovery of the Argentine banking sector was impressive. 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 developing economies. These results were a mix of several important features: (i) a process of monetisation, which normally follows price stability, led to a rapid growth of deposits in the banking sector; (ii) an increase of foreign capital inflows, which improved 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 dollarisation 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

Brazil also went through financial liberalisation before 1994, but started from a stronger initial position than the other countries. In Brazil, the initial liberalisation preceded price stabilisation. As universal banking became legal since the 1988 reform, a very rapid process of consolidation took place in Brazil's banking sector. From 1989, there was a sharp reduction in the number of commercial banks, investment banks, and finance companies, most of which became universal banks.

Following the successful 1994 price stabilisation programme, the abrupt decline of inflationary gains led banks to search new sources of income, which initially generated a rapid expansion of credit – basically through consumer and business loans. This rapid and sometimes careless expansion, the high interest rate policy, and the rising unemployment provoked a rise of non-performing loans and repayment arrears. The monetary authorities failed to restrict this credit expansion, in spite of setting very high reserve requirements. Credit expansion with interest rates that remained very high became an increasingly dangerous mix.

The Tequila Crisis and 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. The effects were quite different in each of the four economies we are analysing.

The direct problems in Mexico created by the devaluation were less significant than in the other three countries, because Mexican regulations limited banks' foreign exchange exposure (although loopholes enabled banks to get around some of the restrictions; see O'Dogherty and Schwartz, 2001). There were several serious indirect problems, including 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, leading to 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).

Argentina was the country in the region that was particularly affected by the Tequila crisis, and the Argentine banking system was 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 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 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, the accumulated losses of deposits were huge, corresponding to 12 percent of the banking sector's net worth by the first semester of 1995.

The Brazilian banking crisis of 1995 stems from developments in Brazil that happened before the Tequila crisis, but this crisis clearly 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 stabilisation 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 initially led private banks to expand credit, which allowed the boom in consumer demand following the 1994 stabilisation programme. The number of non-performing loans and repayment arrears increased, due to rapid and sometimes careless expansion of credit, high interest rate policy, and rising unemployment. The monetary authorities failed to restrict this expansion, in spite of setting very high levels of reserve requirements. Interest rates were maintained at high levels, which made credit expansion even more dangerous. 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. In fact, from 1991 onwards, bank activity started expanding at a rate that was slightly higher than that of GDP, such that the relation between loans and GDP expanded from 45 percent in 1990 to 66 percent 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: 46-47).

Table 2 Bank Regulation and Supervision - Selected Indicators

	Argentina	Brazil	Bolivia	Chile	Mexico	Peru	Venezuela	US
Regulation								
Minimum capital-asset ratio requirement (%)	11.5	11	10	8	8	9.1	10	8
Actual risk-adjusted capital ratio (%)	16.4	15.8	11.4	12.3	13	12.7	14	12
Capital stringency index	6	3	5	3	4	5	2	4
Capital regulation index	8	6	8	5	7	6	2	6
Overall bank activities and ownership restrictiveness index	1.8	2.5	3	2.8	3	2	2.5	3
Supervision								
Supervisors per institution	2.4	4	6	3	11.5	3.6	1	0.1
Official supervisory index	12	15	11	13	10	14	14	14
% top ten banks rated by international agencies	100	100	20	50	n.a.	50	40	100
Private monitoring index	8	8	7	8	6	8	6	8

2 Regulatory Changes and Bank Performance after the Tequila Crisis

The Tequila crisis set the course for profound changes of regulation and supervision in Latin America – changes which were perceived as a *necessary* condition[7] to avoid future similar bank difficulties (Livacic and Sáez, 2000). The speed and depth of the changes in regulation

[7] We emphasised "necessary" because we want to make the point until the end of this chapter that such improvements in regulation and supervision were necessary, but not sufficient to mitigate the instability problem. In addition, we will argue that in some cases the more stringent regulation made the problem of credit rationing more acute in those economies.

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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. Table 2 provides some indicators, using a database built in 1999 by the World Bank (see Studart and Stallings (2002) for a detailed analysis).

Chile stands out as completely different from the other three countries, because the Tequila crisis had almost no impact on the banking sector. It shows the importance of Chile's 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, it became clear that, given its monetary and exchange rate regime, (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. By 1997, Argentina had one of the strictest regulations in the region.

Brazil also took important steps to strengthen its banking system, but, as mentioned above, these measures were not prompted by the Tequila crisis itself. During the first three years of the successful stabilisation programme, the government promoted an in-depth restructuring of the private sector. Forty banks (of the 271 that existed in July 1994) were intervened by the Central Bank and a further 32 went through restructuring that resulted in mergers and acquisitions. 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 1995. A deposit insurance fund was established, and capital requirements for establishing new banks were increased. Separately, new Central Bank regulations were adopted 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 authorisation to preventatively restructure financial institutions that were not meeting system requirements or were demonstrating financial problems. As a result, 205 financial institutions have been taken over or intervened by the Central Bank since the start of the Real Plan; some 25 percent of those institutions were banks. Overall, 92 percent of these financial institutions were closed, and 65 percent of the intervened banks were closed since mid-1994. An indicator of the effectiveness of the changes was the lack of a serious banking crisis in the face of the devaluation of 1999.

By 1997, Brazil already possessed one of the strictest regulations in the region (see Table 2). An additional effort has been made to comply with the recommendations implicit in the 1988 Basel Accord and its 1995 revisions. By the end of 1994, the Central Bank of Brazil introduced minimum capital requirements along the lines of the Basel Agreement. This led to an increase in the minimum capital requirements, narrower operational limits, and the introduction of the concept of comprehensive consolidated supervision of financial conglomerates, including branches and subsidiaries abroad and non-financial firms linked to bank conglomerates as well.

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 recapitalise and strengthen the banks, 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 up 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, 2001).

In addition, to reduce possible future exchange rate mismatching, the Bank of Mexico established stricter ceilings on foreign currency liabilities (according to banks' capital) and imposed compulsory liquidity coefficients in foreign currency according to both the size and the maturity of these liabilities (Yacamán, 2001). Banking activity declined from 1994 to 1996 (as a percentage of GDP); only in 1996 overall lending started growing again, whereas lending to the private sector only began to rise in 2000.

3 Macroeconomic Adjustment, Changes in Expectations and the Banking Sector in the Second Half of the 1990s

By 1997-98, all four economies had made profound changes towards stricter regulation and supervision. Indeed, as Studart and Stallings (2002) indicate, by 1997, regulation and supervision in the four Latin American economies were significantly stricter than that of the United States (see Table 2). The processes of restructuring and privatisation of the banking sector also led to a much more internationalised and a slightly more concentrated banking sector (see appendix Table A1 and A2).

For many (e.g. World Bank, 2002), these new characteristics of the banking sector in Latin America were indications of greater competition and efficiency – which could lead to a higher supply of credit at lower spreads – and stability. This view proved over-optimistic.

Increasing External Financial Dependencies and Changes in Expectations in the Banking Sector

While regulation became stricter, optimism about Latin America of the early 1990s declined – as is reflected in both key financial flows and prices of Latin American assets (see appendix Figure A1). The changes in expectations were highly influenced by the deterioration of economic fundamentals in the region – deeply associated with inconsistencies created by the policy regimes adopted in the early 1990s. Indeed, using excessive capital inflows and trade opening as tools for growth and stabilisation of prices had important costs, as is well known by now.

Long-term expectations, and thus investment, tended to be highly depressed in the second half of the 1990s, as a result of the macroeconomic uncertainties and competitive pressure put on investors. In addition, consumer credit in the region is highly rationed, due to the characteristics of the domestic financial structure mentioned below. In contrast with investment, consumption responds rapidly to changes in the supply of credit.

Not surprisingly, thus, in most of the economies in the region, the growth dynamics in the 1990s were highly associated with consumption expansion (Chile again being one of the very few exceptions) and with deterioration of the current account – despite the growth of exports.[8] External imbalances increased, resulting in greater external financial dependency. Output and exports were growing at a pace that was lower than needed to solve the created macroeconomic imbalances.

As external dependency grew, so did the constraints on domestic policy. First, to maintain the attractiveness for international investors and domestic borrowers, monetary policy in many countries aimed to keep interest differentials high, whereas fiscal discipline was used as a tool for adding credibility to the stability of exchange rate regimes.[9] Thus, attracting capital flows became a crusade of the policy package, and not only of exchange rate policy.

Second, high levels of interest rates made the process of fiscal adjustment difficult and led to loss of international competitiveness of domestic corporations. It also led to volatile, low levels of economic activity (appendix Figure A2), and volatile changes in unemployment, that had an upward trend in Brazil and Chile. Given the loan structure in most Latin American banking systems, changes in unemployment are likely to affect the levels of past due loans. The level of unemployment is likely to directly affect banks' default rates, but the mere volatility of unemployment rates tends to increase the "perceived default risk" (defined as the expected variance of the levels

8 The problem lies in the rapid increase of the income elasticity of imports (Table 1, last column) caused by abrupt trade liberalisation and exchange rate misalignments.

9 Of course, fiscal discipline was also required for assuring sustainable growth of aggregate demand and supply in a context of low inflation.

of past due loans), leading to a more conservative approach of the banking sector.

Third, with increased international integration of domestic financial markets and the widening of dollar-denominated liabilities and assets in a significant numbers of countries, the process of policy-induced dollarisation was a fact. The case of Argentina was perhaps the most dramatic, as the currency board significantly reduced banks' perceived exchange rate risks and stimulated them to expand their dollar-denominated loans (more on this below).

Thus, as mentioned above, stricter regulation and supervision, in the context of deteriorating macroeconomic fundamentals and expectations, directly affected the expectations and the behaviour of the banking sector – and therefore its performance in the second half of the 1990s.

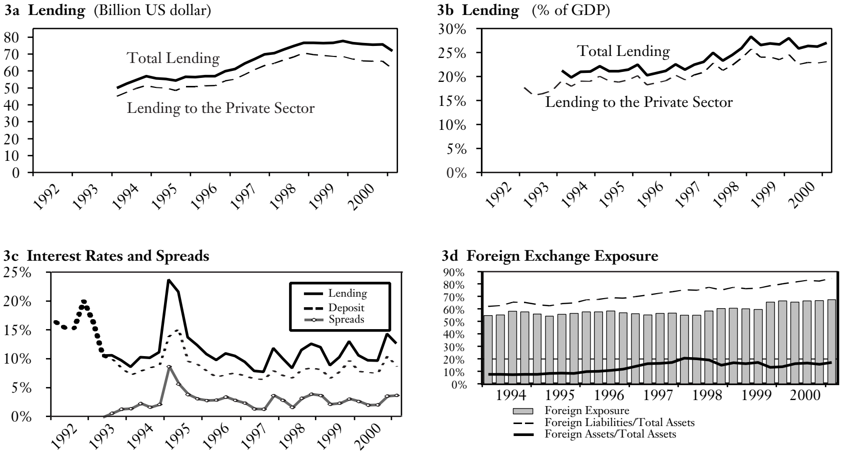
Argentina

In Argentina total lending and lending to the private sector had increased in dollar terms until 1998, but this trend has reversed from 1999 onwards (Figure 3a). Figure 3b indicates an even more worrisome aspect of the performance of the banking sector: total lending to the private sector as a percentage of GDP stagnated at around 20 percent, which is very low. In addition, even though the intermediation spreads were relatively low, lending interest rates remained very high (between 5 and 12 percent) (Figure 3c) – despite the increase in competition, due to the entry of foreign banks and the openness of the banking sector, and the decline of past due loans from 1995 onwards (Figure 3d).

The currency mismatches of the Argentine banking sector, which were already high in 1994-95, continued to rise (Figure 3d).[10] The high exchange rate exposure was at the heart of the bank crisis that happened after the 2002 devaluation of the Argentine peso. It is directly related to the initial success of the currency board and reflects the confidence of both public and bankers in the currency board. It also seems to be related to the increasing share of foreign banks in total assets of the sector. After the Brazilian real devaluation

[10] As measured by the relation between deposits plus other liabilities in US dollars and total assets, the level of foreign currency exposure has been increasing since the early 1990s, culminating in ratios that are over 50% in 2001 (Figure 3d).

Figure 3 Financial Indicators for Argentina



Source: IMF CD-ROM (September 2001).

in January 1999, depositors increasingly turned this confidence into fear of possible devaluations and a search for "exchange rate hedging". As dollar-denominated deposits increased, domestic banks increasingly preferred to lend in dollar in order to maintain exchange rate mismatches under control.

In sum, regulation and supervision in Argentina should have improved the banking sector stability, and the sector has definitively become more efficient after 1994-95. However, the macroeconomic environment has delayed the recovery of banking activity and led to building exchange rate risks and default risks. In this context, the bank crisis that followed the devaluation of the peso was thus highly predictable (see Studart, 2002).

Brazil

The performance of the banking sector of Brazil deteriorated after the Asian crisis. First of all, after the rapid growth of lending in the first half of the 1990s, lending to the private sector almost stagnated from 1997 onwards, and began to shrink in 2000 (see Figures 4a and 4b).

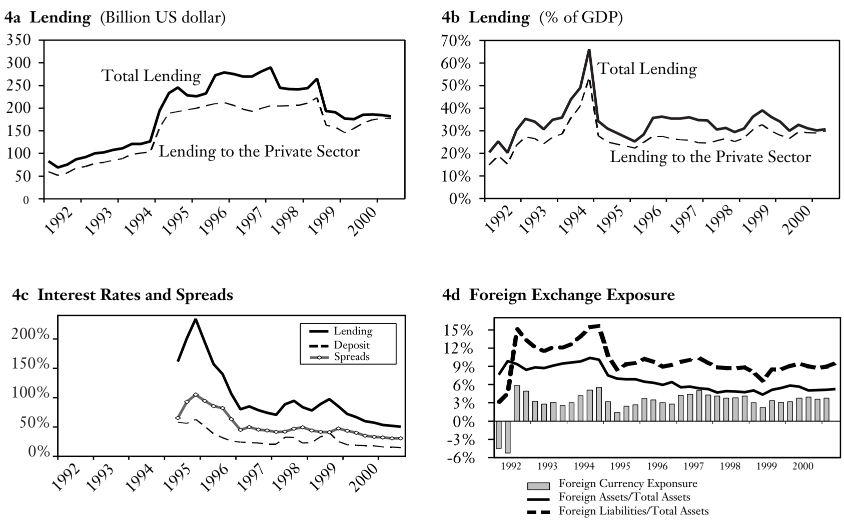
As regards the costs of borrowing, the picture is even more worrisome. Spreads in the Brazilian banking sector were outrageously large before 1994. From 1999 onwards, the Brazilian

Central Bank introduced several measures to reduce these spreads, including a significant decline in reserve requirements, reduction of taxation on bank operations and an increase of the disclosure of interest rates charged by different banks.

In addition to these measures, the Central Bank of Brazil expected that increased participation of foreign banks and stronger competition would further reduce the interest rates.[11] From 1995 onwards, spreads have been reduced significantly (Figure 4c). However, they seem to have stagnated at very high levels (around 30 percent) and recent Central Bank of Brazil reports indicate that they are rising slightly again.

The reasons behind these high spreads are interrelated: the remaining macroeconomic uncertainty and the high levels of past due loans. Indeed, past due loans remained more than 10 percent of total loans of the banking sector, despite the decline of past due loans since 1999 (mainly due to the brief recovery of the economy in the end of 1999 and 2000).

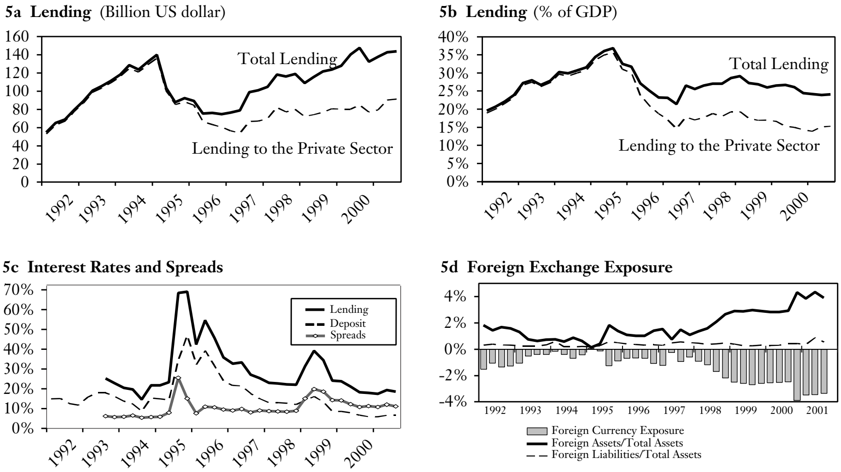
Figure 4 Financial Indicators for Brazil



Source: IMF CD-ROM (September 2001).

[11] For a thorough analysis of the main determinants of spreads in Brazil and the policies introduced to reduce them, see BCB (2000).

Figure 5 Financial Indicators for Mexico



Source: IMF CD-ROM (September 2001).

Mexico

The case of Mexico is, in some aspects, similar to that of Brazil. As mentioned before, after the Tequila crisis, the domestic banking sector has been involved in a costly process of restructuring. Despite the good growth performance from 1996 onwards, lending to the private sector in US dollars declined significantly from 1994 to 1997 (Figure 5a). In addition, from 1994 onwards, there was not only a substantial decline in lending to the private sector as percentage of GDP, but also this percentage stagnated at very low levels (less than 20 percent) until recently (Figure 5b).

As regards the cost of borrowing (Figure 5c), even though the spreads are still very high (around 12 percent) they have declined substantially from 1995 onwards. But the fact is that, despite all the restructuring and increased competition (coming especially from the entry of new foreign banks), spreads remain high and show no clear tendency to decrease since 1999.

At first sight, this seems paradoxical given the rapid decline of past due loans from 1998 onwards. But this paradox vanishes once one takes into consideration that the Mexican economy is again facing a deterioration of its growth performance.

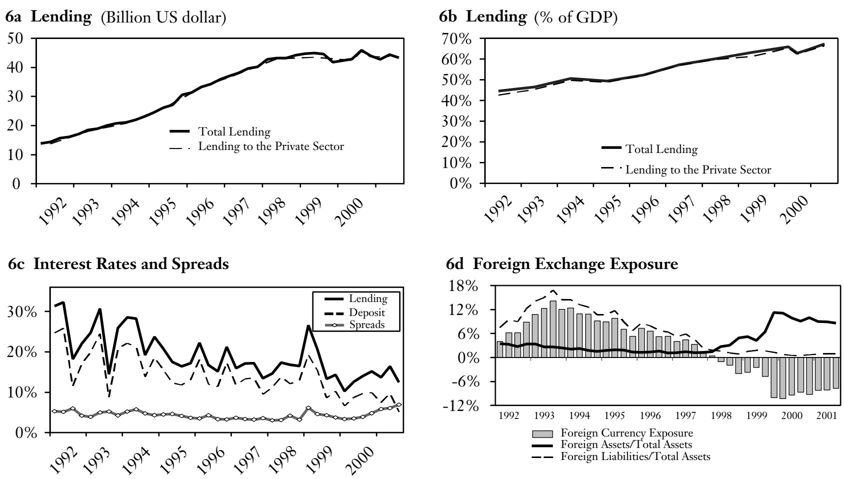
Chile: An Exception?

Out of the four cases, Chile seems to have performed best in the 1990s. As explained above, this had to do with the fact that its macroeconomic performance was barely affected by the Tequila crisis, and that the Chilean banking system had already gone through major changes in supervision, regulation, and structure.

Total lending and lending to the private sector have increased almost steadily from 1991 onwards, both in dollar terms and as a percentage of GDP. Private lending almost equals total lending and increased from US$15 billion in 1993 to around US$40 billion in 2000 (Figure 6a). Figure 6c shows a significant reduction of lending rates, while the spreads remain impressively stableuntil the end of 1998, increasing slightly after 2000.

Despite this good performance in the 1990s, Chile is also suffering from credit stagnation from 1999 onwards (Figure 6a). Furthermore, even though the default rates are still remarkably low, they are rising as a result of increasing unemployment.

Figure 6 Financial Indicators for Chile



Source: IMF CD-ROM (September 2001).

4 Concluding Remarks

Banks are in the business of intermediating deposits and other types of liabilities to fund their assets – which in the case of most Latin American economies are composed of loans to the private sector, very few private bonds and government bonds. As intermediaries, they manage the risks related to the potential changes in the quality of their assets and the maturity and currency mismatches implicit in the process of intermediation.

Changes in bankers' expectations and in the structure of their liabilities tend to change their preferences in terms of the maturities and composition of their assets – and there is a good deal of evidence that banking activity is highly pro-cyclical. Changes in the macroeconomic environment affect both potential access to liquidity and the structure of bank liabilities. Finally, financial regulation sets the limits of banks' risk-taking behaviour – which is directly related to the maturity and exchange rate mismatches between their assets and liabilities.

The story of the Latin American banking sector in the 1990s can certainly be explained by the set of variables described above. The significant surge of capital flows to developing countries in the first half of the 1990s was facilitated by capital account liberalisation and domestic financial liberalisation. This surge of capital flows reduced the external constraints to macroeconomic expansion and permitted the adoption of different types of successful price stabilisation programmes, often anchored on more-or-less rigid exchange rate regimes and trade opening. The improvement of growth performance and the achievement of price stability created a self-fulfilling process of rising expectations.

This rise of expectations, stimulated by optimism of international markets and by economic recovery (and often the loss of inflationary gains), also affected the behaviour of domestic banks. In the four economies under analysis, similar processes of credit expansion took place. Credit expansion combined with high lending interest rates, poor macroeconomic performance (particularly if associated with high and increasing unemployment rates) and poor regulation and supervision are a recipe for bank crises – Argentina, Brazil and Mexico demonstrated the recipe works well.

The Tequila crisis exacerbated the problems that were present previously in the banking sectors of Argentina, Brazil and Mexico, and led to deep economic contraction, and thus higher unemployment and higher levels of past due loans in Mexico, forced abrupt rises in interest rates in Argentina, Brazil and Mexico and caused significant devaluations in Mexico. The crisis was the last straw in a process of mounting financial instability leading to a banking crisis.

The changes in regulation and supervision that followed the Tequila crisis were a response to the problems of stability faced by the bank sector in Latin America after 1994-95. They increased the "potential stability", but to be effective these changes also required a certain stability of macroeconomic variables that directly affect intermediation risks: exchange rate, interest rates and economic growth. The stricter regulatory setting was implemented in a context of a deteriorating macroeconomic environment, which was deeply associated with the volatility of capital flows in 1997-98. As a consequence, domestic banks increasingly assumed defensive strategies as their capacity and willingness to expand credit were significantly reduced. This seems to explain partly the expansion of treasury activities (acquisition of short-term highly paid government bonds), and the credit stagnation that is plaguing these economies – including Chile.

In addition, the stricter regulation and supervision simply could not avoid the bank crisis in Argentina. This has to do again with the fact that financial regulation and supervision often serve as mechanisms to reduce excessive risk-taking by banks – in a context where the variables that determined such risks fluctuate within a narrow band. In the Argentinean case, whereas the economic recession and the high interest rates led to a rise in past-due loans (the default risk) the mere possibility of collapse of its exchange rate regime led to a simultaneous rapid increase of the liquidity risk (dollar deposit drain) and the market risk. When the convertibility collapsed, the process of financial instability that was mounting turned into a bank (solvency) crisis.

Like the Tequila crisis, the Argentinean crisis has once again sounded wake-up calls to Latin America. But this time it indicates the limits of regulation and supervision to prevent crises in a context of highly unstable macroeconomic settings and expectations.

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Appendix

Table A1 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	1220.9	193	55.2	85.6	1278.6
Chile	37	39.5	79.1	830.4	29	39.5	82.0	857.9
México	36	48.3	80.8	1005.4	23	56.3	94.5	1360.5
Venezuela	43	43.9	78.6	979.2	42	46.7	75.7	923.1
Asia								
Republic of Korea	30	52.8	86.9	1263.6	13	43.5	77.7	899.7
Malaysia	25	44.7	78.3	918.9	10	43.4	82.2	1005.1
Philippines	41	39.0	80.3	819.7	27	39.6	73.3	789.9
Thailand	15	47.5	83.5	1031.7	13	41.7	79.4	854.4
Central Europe								
Czech Republic	55	72.0	97.0	2101.5	42	69.7	90.3	1757.8
Hungary	40	57.9	84.7	1578.8	39	51.5	80.7	1241.8
Poland	82	52.8	86.7	1263.6	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).

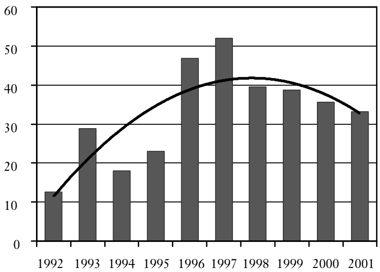
Table A2 Foreign Bank Assets as Share of Total Bank Assets
(percentages)

	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.

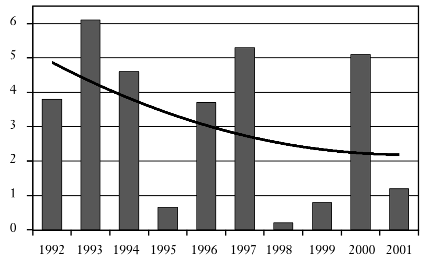
Figure A1 Some Indicators of Changes in Expectations Towards Latin America in the 1990s

Latin America: Issues of Bonds in the International Markets
(US$ billion; polynomial trend line)



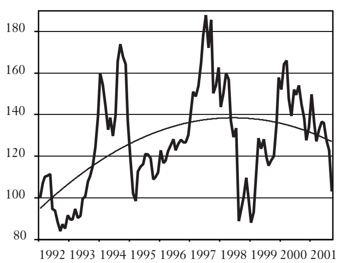
Source: Elaborated by the author based on data from International Financial Statistics (IMF).

Latin America: Issues of ADRs
(US$ billion, trend line)



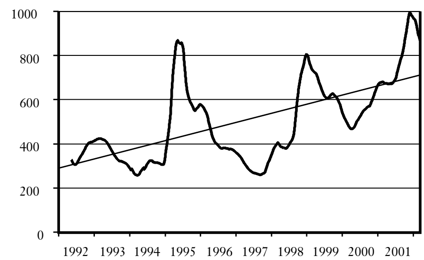
Source: Elaborated by the author based on data from International Financial Statistics (IMF).

Latin America: Stock Exchange Index (31/1/92=100; trend line)



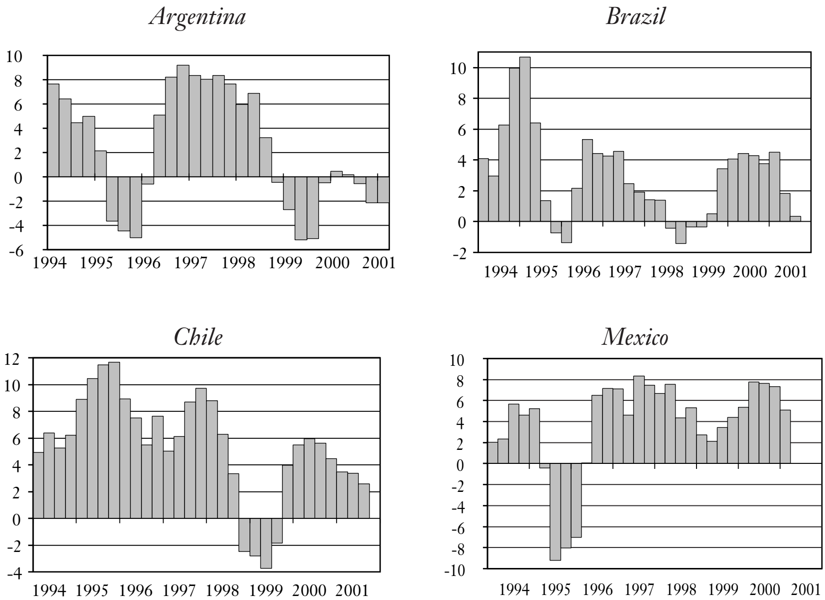
Source: Elaborated by the author based on data from IMF, Emerging Markets Division.

Latin America: Euro-bond Spreads
(90 days average; Basis points over US Treasury bond rates; linear trend line)



Source: Elaborated by the author based on data from JP Morgan.

Figure A2 Growth Volatility after the Tequila Crisis
(GDP growth rates)



Source: ECLAC.

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