

II. Banks and the changing nature of risks in Latin America and the Caribbean

Camilo E Tovar¹

Overview

The Latin America and Caribbean (LAC) region has been more prone to financial crises than other regions of the world (IADB (2004)). This is illustrated by the number of financial crises per country between 1973 and 2004, and the high recurrence of banking crises per country (see Table 2.1). Although banking crises are the ultimate manifestation of a financial system's vulnerability, they have also revealed themselves in the region through limited, costly and volatile credit to the private sector. This vulnerability results from changes in the banking environment due in large measure to financial innovation and liberalisation. As a result, banking sectors in the region have faced a wide and complex range of new risks.

This chapter assesses the evolution of macroeconomic, market, credit and liquidity risks in LAC. It also explores the potential risks associated with changes in the structure of banking sectors. In addition, the chapter provides a brief discussion of the current capacity of banks to manage these risks and the implications that this has for the health of banking sectors.

Macroeconomic risks

Macroeconomic imbalances and external shocks appear to be main sources of banking sector fragility. However, in smaller economies important macroeconomic risks may result from a lack of economic diversification, making the banking systems of these countries highly dependent on the fortunes of the main sectors of the economy and, therefore, even more vulnerable to external shocks than in larger economies. These issues are reviewed below.

Macroeconomic imbalances

Domestic macroeconomic imbalances (eg large fiscal deficits or excessive debt levels) have contributed to the fragility of LAC's banking sectors. Indeed, high monetary growth has often been a leading indicator of bank fragility in the region. Moreover, empirical evidence indicates that high inflation, low GDP growth, high real interest rates, and fiscal deficits are highly correlated with the occurrence of banking crises (Dermigüç-Kunt and Detragiache (2005)). Although such imbalances have been reduced in recent years, the nature of the risks facing banks seems to have changed. On the one hand, better macroeconomic management practices, which have manifested themselves in more transparent and prudent monetary policies or in more appropriate debt management practices, have reduced

¹ The views expressed in this article are those of the author and do not necessarily reflect those of the BIS. I wish to thank Ramon Moreno and Serge Jeanneau for their detailed comments and suggestions. I also acknowledge useful comments by Már Gudmundsson, Gregor Heinrich and meeting participants.

macroeconomic risk.² In particular, flexible exchange rate regimes have helped reduce currency misalignments and created incentives for lower currency mismatches. On the other hand, a greater reliance on market-determined interest and exchange rates in the larger countries has increased market risk, requiring careful and more active risk management. In some smaller economies the change in the exchange rate regime has had other implications. For instance, in Ecuador and El Salvador currency risk has been eliminated as a result of official or “de jure” dollarisation. However, this has raised an important issue. While full dollarisation and fixed exchange rate regimes eliminate short-term volatility, they carry (unless they are fully credible) the risk of a sudden devaluation. Furthermore, currencies fixed (or quasi-fixed) to the US dollar might offer fewer opportunities for diversification.

Table 2.1

**Dates and durations of banking crises
in selected LAC countries, 1980–2005**

Country	Crises
Argentina	1980–82, 1989–90, 1995, 2001–05
Bolivia	1986–88, 1994–97, 2001–05
Brazil	1990, 1994–99
Chile	1981–87
Colombia	1982–85, 1999–2000
Costa Rica	1994–97 ¹
Dominican Republic	2003–05
Ecuador	1995–2005
El Salvador	1989
Guyana	1993–95
Jamaica	1996–2000
Mexico	1982, 1994–97
Panama	1988–89
Paraguay	1995–99
Peru	1983–90
Uruguay	1981–85, 2002
Venezuela	1993–97

Note: Events were defined as crises if one of the following criteria was met: (i) the ratio of non-performing assets to total assets in the banking system exceeded 10%; (ii) the cost of the rescue operation was at least 2% of GDP; (iii) large-scale nationalisation of banks took place; (iv) extensive bank runs took place or emergency measures such as freezes, prolonged bank holidays, or generalised deposit guarantees were enacted by the government in response to events.

¹ Uncertain end-date. Four-year duration assumed.

Source: Dermigüç-Kunt and Detragiache (2005).

² See for instance Jeanneau and Tovar (2006) and IADB (2006) for an analysis of the development of domestic bond markets in Latin America. See Tovar (2005) for an analysis of new sovereign issues denominated in domestic currency in Latin America.

External shocks

Banking sectors in the region have also been vulnerable to external shocks that could produce significant losses or even crises, such as sudden reversals in capital inflows, currency crises or adverse shocks to terms of trade. Research suggests that such vulnerability is often the result of currency and maturity mismatches, which lead to losses when an adverse external shock triggers depreciation or a sudden withdrawal of deposits from the domestic banking system.

There are reasons to believe that open economies today are less vulnerable to external shocks that could impair the functioning of the banking system.

First, countries have adopted more stable macroeconomic policies. For instance, fiscal consolidation has improved significantly across the region. Furthermore, fiscal responsibility laws have also been enacted (eg in Brazil) and rules have been introduced with a view to achieving structural fiscal surpluses (eg in Chile).³ As a result, in 2005 only Colombia, Guatemala and Honduras had primary deficits in LAC (ECLAC (2006)). Macroeconomic stability has also been achieved through the adoption of flexible exchange rates and inflation targeting (IT) regimes (eg in Brazil, Chile, Colombia, Guatemala, Mexico and Peru). Important progress is also being made in some of the smaller economies, as reflected by the slow convergence towards the adoption of floating exchange rates or IT regimes, for instance in Costa Rica, Jamaica or Uruguay.

Second, countries in the region have improved the structure of their debt. In larger economies of the region, such as Brazil, Colombia, Mexico and Peru, this has been the result of deliberate efforts to lengthen the maturity of debt and shift its composition (Jeanneau and Tovar (2006)).

Third, international reserves across the region have increased significantly over the last decade. For instance, during 2004 and 2005 the Caribbean economies accumulated international reserves at rates that exceeded 20% per year.

Finally, the region has observed a sustained improvement in its current account. However, this improvement has been less general than expected. Despite the existence of a regional current account surplus since 2003, most of the smaller economies in the region still exhibit significant current account deficits. In 2005 some countries, such as Costa Rica, El Salvador, Guatemala, Nicaragua and Panama, still had deficits in excess of 4%.

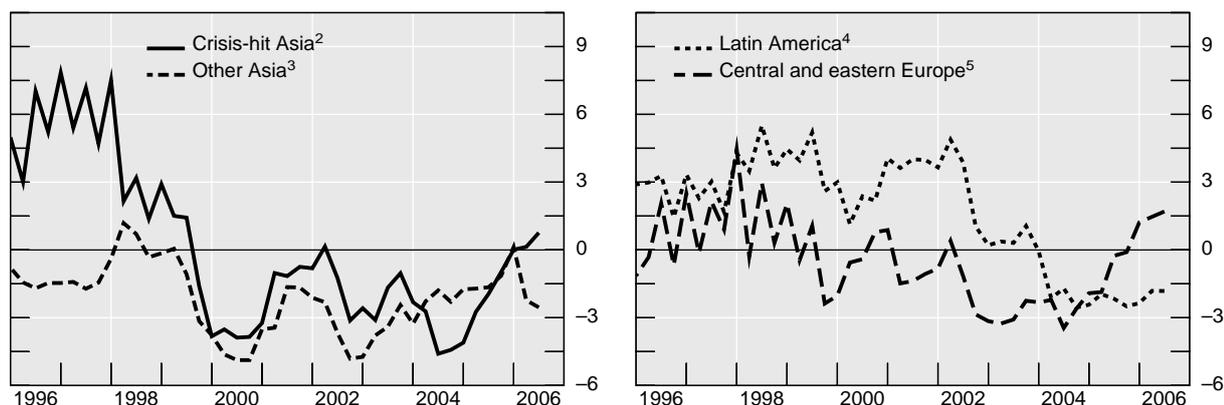
Overall, countries in the region might now be more resilient should the currently favourable international conditions (high international liquidity, strong growth, high commodity prices) come to an end. Indeed, an index incorporating the real effective exchange rate, the current account balance, export growth and three indicators pertaining to external debt (the ratio of international bond and bank debt as a percentage of GDP (level and change in the debt indicator in per cent over two years) and short-term debt as a percentage of foreign reserves shows that the region has moved (with a lag relative to other developing regions of the world) from a situation of high vulnerability in the 1990s and early 2000s to one of low vulnerability in the last few years (Graph 2.1).⁴ This improvement might also explain the sharp improvement of sovereign ratings across the region.

³ In the case of Brazil the fiscal responsibility law strengthened fiscal institutions and established a broad framework for fiscal planning, execution and transparency at the federal, state and municipal levels.

⁴ These indicators are calculated by the BIS following Hawkins and Klau (2000).

Graph 2.1

External vulnerability indices¹



¹ An increase in the index (expressed as a weighted average, based on 2000 GDP and PPP exchange rates of the economies in each group) implies an increase in risk. ² Indonesia, Korea, Malaysia, the Philippines and Thailand. ³ China, Hong Kong SAR, India, Singapore and Taiwan (China). ⁴ Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. ⁵ The Czech Republic, Hungary, Poland, Russia and Turkey.

Sources: IMF; national data; BIS; BIS calculations.

For the region's smaller economies, additional external risks elements need to be considered. On the one hand, their lower degree of financial openness may reduce their vulnerability to capital flow reversals. On the other hand, their economic structure might also make them more sensitive to terms of trade shocks. During the last few years, rising oil prices have caused a sharp deterioration in the terms of trade of LAC's smaller oil importing economies. In some countries, inflation has risen requiring tighter monetary policies; Costa Rica is a case in point. The terms of trade deterioration has also been associated with a worsening of the trade balance. Under such circumstances, progress made in other areas of the economy will determine its ultimate vulnerability.

Another factor that could increase the vulnerability of small open economies and their banking sectors to external shocks is lack of export diversification (Narain et al (2003)). In order to assess the relevance of this argument, the correlations of non-performing loans with GDP growth, export growth in the main sectors of the economy and terms of trade are reported in Table 2.2.⁵ During the last decade, most countries in the region have, as expected, shown a significant negative correlation between non-performing loans and the level of economic activity. Uruguay and Chile show the highest negative correlation. In the case of export growth, the Dominican Republic appears to be the most vulnerable. The correlation between non-performing loans and the terms of trade should in general be negative as an increase in export prices or a decrease in import prices should increase either

⁵ This exercise is in the spirit of Narain et al (2003) for a different sample of developing countries. More generally, the concentration of loan portfolios is an important consideration for credit risk. Although banking supervision in most countries incorporates the risk of large credit exposures to a private borrower or group of closely related borrowers, it often ignores the possibility that a bank may have a concentrated book, that is, one which contains a relatively high proportion of sizeable single exposures, even if none of them is especially large. This kind of risk can be magnified if borrowers are linked to a common economic activity or industry sector. Although real estate is generally a sector that attracts specific exposure limits, in many economies no prudential limits are imposed on other sectoral concentrations (eg the export sector). Risks arising from banks with undiversified loan portfolios occur in many economies but if all banks in the economy have similarly undiversified portfolios, this can create significant systemic risk. In smaller LAC economies, this is a possibility as the return of many assets can be linked to the performance of the main sector(s) of the economy.

profits or real consumption wages. Table 2.2 shows that this is generally the case (only Ecuador, the Dominican Republic, Guatemala, Haiti, Panama, and Uruguay are found to have positive correlations).⁶

Table 2.2

Banking vulnerability and economic volatility

	NPL ¹ correlation ² with ...	Vola- tility ³ of ...	NPL ¹ correlation ² with ...	Vola- tility ³ of ...	NPL ¹ correlation ² with ...	Vola- tility ³ of ...	NPL ¹ correlation ² with ...	Vola- tility ³ of ...
	GDP growth ⁴		export growth I ^{5,6}		export growth II ^{6,7}		terms of trade	
	1996/97 ⁸ –2004							
Oil countries⁹								
Colombia	-0.61	2.4	0.58	35.7	0.60	16.6	-0.82	7.0
Ecuador	-0.41	3.3	0.85	77.6	0.85	59.6	0.40	5.5
Mexico	0.58	2.3	0.42	25.4	0.01	24.5	-0.77	2.5
Venezuela	-0.66	7.8	0.38	75.2	0.15	59.0	-0.16	18.8
Other countries								
Argentina	-0.56	6.5	0.37	90.8	0.43	82.6	-0.28	6.7
Bolivia	-0.42	1.4	-0.00	35.3	-0.00	27.7	-0.23	3.5
Brazil	0.55	1.6	-0.40	13.5	-0.31	16.4	-0.80	6.7
Chile	-0.88	2.4	-0.55	6.5	-0.27	8.6	-0.71	9.3
Costa Rica	-0.43	2.7	-0.34	90.0	-0.36	66.9	-0.54	5.8
Dominican Republic	0.76	3.0	-0.80	414.9	-0.75	218.2	0.87	2.1
El Salvador	0.28	0.9	-0.06	35.8	-0.02	31.4	-0.32	6.9
Guatemala	-0.20	0.9	-0.39	23.0	-0.27	17.4	0.10	7.6
Haiti	0.57	2.2	0.29	128.7	0.19	108.8	0.57	4.7
Honduras	-0.06	2.0	0.26	35.9	0.34	36.3	-0.42	10.5
Nicaragua	-0.20	1.7	-0.66	27.6	-0.73	26.8	-0.30	12.7
Panama	0.26	2.2	-0.28	16.0	-0.01	9.6	0.42	3.3
Paraguay	-0.50	2.4	-0.25	26.9	0.08	21.4	-0.75	8.1
Peru	-0.48	2.4	0.03	21.0	0.06	13.0	-0.74	10.8
Uruguay	-0.91	6.2	0.34	39.1	0.31	30.1	0.19	8.4

¹ Impaired loans as a percentage of total assets. ² Correlation coefficient. ³ Standard deviation over annual data. ⁴ Of real GDP in national currency. ⁵ Most important three-digit SITC export sector. ⁶ Deflated by general export unit values. ⁷ Two most important three-digit SITC export sectors. ⁸ Starting date may differ depending on data availability. ⁹ SITC 333 "Crude petroleum" was the most important export commodity in 2003.

Sources: IMF; UNCTAD; Fitch Bankscope.

⁶ Attempts to establish a relation between these correlations and the degree of trade and financial openness show no clear pattern.

Overall, the region has made important progress in different areas that are likely to reduce its vulnerability to external shocks. However, despite this progress it is still necessary to consolidate it, in particular in the smaller economies. Many countries still remain vulnerable to large real exchange rate fluctuations. Furthermore, large external shocks will still create difficulties given the high debt levels and the persistence of currency and maturity mismatches (in particular in the private sector) in some countries (Goldstein and Turner (2004) and Jeanneau and Tovar (2006)).

Market, credit and liquidity risks

Financial markets are subject to various sources of risk: credit, market, liquidity, operational and legal risks. These risks tend to be more pronounced in the developing world than in developed countries due to a lower level of economic, financial and institutional development. Credit risk tends to be more acute as a result of a lack of highly rated counterparties. Market and liquidity risks are higher due to thinly traded markets. Operational risks may also be exacerbated because of inadequate human resources or the failure of manual, mechanical or electronic systems to process payments. Finally, legal risk may also be part of the environment (for instance, due to the inability to foreclose on collateral). This section highlights some important elements and changes in the nature of risks that are relevant for the region.

Market risk

Market risk reflects the sensitivity of income and balance sheet positions to changes in asset prices. The importance of this risk has evolved through time. To take an example, in the highly regulated systems of the past interest rates did not have a significant allocative function. However, under more liberal regimes interest rates have become more volatile. Banks are therefore becoming more exposed to interest rate risk and are not always well prepared to handle it due to the lack of suitable hedging instruments (Turner (2003)).

Bank credit to the public sector is an important source of market risk. During the last decade, bank credit to the government as a percentage of total bank assets has increased in most countries in the region, for example in Argentina, Brazil, Colombia, Costa Rica and Jamaica (see Graph 2.2 and Table A8). Low risk weights and a perceived lack of other investment opportunities seem to have led banks to build portfolios that rely excessively on government debt. Vargas (2006) illustrates the risks of such large holdings of government securities. A stress test applied to the Colombian financial system reveals that a 100 bp increase in yields across all maturities of government securities (TES) would cause losses close to 17% of the profits obtained by credit institutions and 2.5% of the value of their portfolios as of May 2005. Vargas argues that the financial system is willing to accept a growing exposure to domestic public debt because of the absence of assets with returns that are negatively correlated with this debt, because market risk is underestimated, or because of moral hazard (the expectation of a bailout). Inefficient aggregate and private risk sharing and problems in measuring risk are the main deficiencies that need to be addressed. Aggregate risk sharing, for instance, could be dealt with by allowing greater participation by foreign investors.⁷ The

⁷ Brazil, Colombia and Uruguay have tried to diversify their investor base by the issuance of global bonds denominated in local currency. For a discussion of this issue see Tovar (2005).

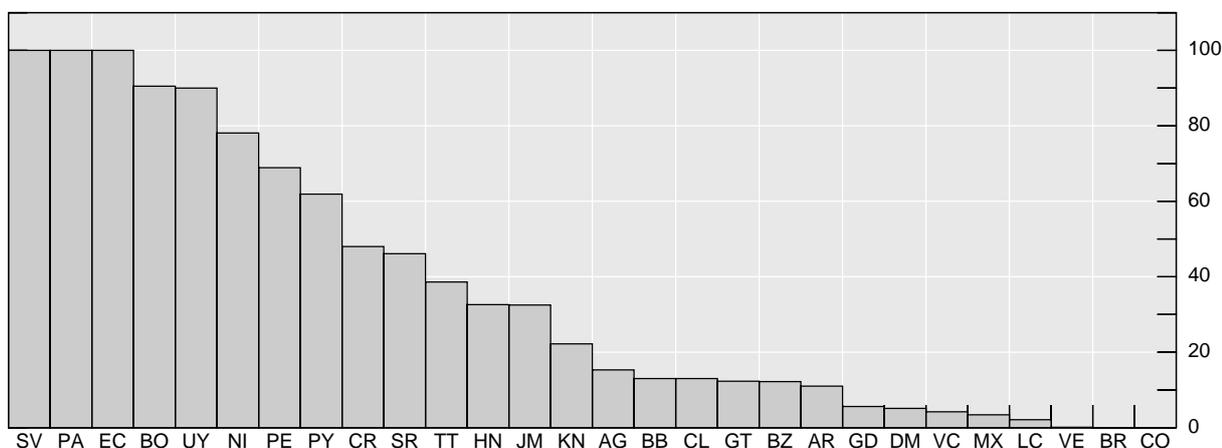
borrowers and if profits in consumer lending proves to be more stable. However, credit risk could rise if banks are lending in new market segments. Second, there is significant credit risk associated with the effects of asset price fluctuations on banking books. One concern in this case is the volatility associated with property prices, a phenomenon that appears to be quite generalised both in EMEs and in LAC, particularly in Colombia and Mexico. Another concern is exchange rate volatility, which can lead to credit risk in financially dollarised economies. We turn to this subject next.

Dollarisation and financial fragility

A key source of credit risk in the region is associated with its high level of financial dollarisation. Currency mismatches increase risks embedded in firms' and banks' balance sheets (Goldstein and Turner (2004)). Graph 2.3 reports a measure of financial dollarisation (calculated as the ratio of total foreign currency deposits in the domestic banking system to total deposits). As can be seen, the level of dollarisation is high across the region, notably in Bolivia, Nicaragua, Paraguay, Peru and Uruguay.

Dollarisation only increases banking sector vulnerability if it leads to currency mismatches (ie unhedged positions in foreign currency). Goldstein and Turner (2004) and IADB (2004) report evidence showing that these mismatches are important in the region, in particular, in Peru, Nicaragua, Bolivia and Costa Rica. However, additional evidence reported by Jeanneau and Tovar (2006) suggests that there has been a decline in currency mismatches over time in the largest economies.

Graph 2.3
Dollarisation ratios¹



Note: For a list of the countries included here, see Graph 2.2.

¹ Total foreign currency deposits in the domestic banking system to total deposits; 2004 data, in per cent.

Source: Moody's Investors Service.

The literature has highlighted the various risks for the region's banking sectors associated with dollarisation. De Nicolo et al (2003) show that highly dollarised banking sectors are characterised by higher insolvency risks and higher deposit volatility, while Domaç and Martinez (2000) find that high levels of dollarisation are positively correlated with the probability of local banks facing systemic crises. In contrast Arteta (2003) fails to find a link between dollarisation and the probability of a crisis. Levy-Yeyati (2005) revisits the issue using two measures of financial dollarisation: the rate of deposit dollarisation and the ratio of local banks' foreign currency liabilities and assets, which captures non-deposit dollarisation in the domestic banking system. He finds that the likelihood that an exchange rate change

will lead to a crisis increases with the degree of financial dollarisation and shows that exchange rate shocks only have a negative impact on financial stability in the presence of financial dollarisation. In particular, his results indicate that the probability of a banking crisis after a 100% devaluation increases by 15 percentage points as a country moves from no dollarisation to full dollarisation. These results highlight the balance sheet link between financial dollarisation and fragility.

Despite this evidence, one should not dismiss the possibility that financial dollarisation may have beneficial effects. A popular hypothesis is that it may foster local intermediation. Empirical evidence on this is scarce but some results, such as those reported by De Nicolo et al (2003), suggest that dollarisation is not necessarily associated with deeper markets. It only seems to have a positive effect in countries with a history of high inflation.

Liquidity risks

There are two main types of liquidity risk. The first is (*market*) *liquidity risk*, which is the risk that a bank will not be able to execute a transaction at a price that is close to the prevailing market price, thus exposing it to risks of losses in its positions. The second is *funding risk*. This is the risk that a bank will be unable to raise the necessary cash to roll over its debt or to meet cash, margin and collateral requirements to counterparties (eg deposit withdrawals). In many cases, this risk is magnified due to the underdevelopment or lack of securities markets.

Why is liquidity risk a concern? As discussed in the next chapter, market liquidity is essential for the smooth functioning of modern financial systems. In LAC, markets tend to be illiquid, and this creates numerous problems. For instance, poor liquidity or a liquidity breakdown under stress can induce large changes in market prices and volatility, leading to substantial losses for market participants who rely on their ability to turn over positions quickly and at favourable prices. Modern risk management systems also depend on adequate levels of liquidity, mainly because they rely on the derivation of accurate benchmark rates for the pricing of portfolios and the smooth functioning of markets for the frequent rebalancing of positions.

Funding risk is a major concern in the region for several reasons: First interbank markets in EMEs tend to be illiquid and quite volatile. Moreover, most transactions tend to take place between banks and central banks rather than between banks themselves. Such features limit the capacity of banks to manage cash flows as well as any other associated risks and therefore expose them to funding risk on a day to day basis. This also implies banks being forced to hold higher levels of reserves.

Given the limited development of interbank and bond markets in the region, it seems natural to think that funding risk may be very relevant. However, assessing its importance is difficult due to the lack of appropriate data. Ideally, we would like to have a measure of, say, the liquidity gap;⁸ that is, the difference, at all future dates, between banking portfolio assets and liabilities. Unfortunately such a measure is not available. For this reason we use as a proxy the deposit to credit ratio. An excess of deposits to credit would be indicative of an excess of funds. Such a situation would of course imply that there is no liquidity risk. However, it would generate interest rate risk, given that the value of the book is sensitive to changes in market rates. Of course, when deposits fall below loans there is a funding deficit and this would be

⁸ To measure liquidity risk one would ideally require a liquidity gap measure capturing the difference between outstanding balances of assets and liabilities over time. At any point in time a positive gap would thus be equivalent to a deficit, which would be measured as a cash amount. With such data it would then be possible to tabulate and/or chart the gap profile.

State and foreign ownership of banks

State ownership is generally considered to be a source of risk for the banking sector as it reduces competition, productivity and economic growth (La Porta et al (2002) and Barth et al (2001)). Some evidence suggests that state-owned banks may even increase the probability of banking crises (Barth et al (2001)). However, despite these disadvantages, state-owned banks may also have a positive effect on risk. Some researchers have found that the credit extended by such banks is less procyclical than that extended by the private sector and that, in some cases, state-owned banks are as efficient as private banks (Mihaljek (2006)).

Foreign ownership is claimed to improve operating efficiency, financial intermediation and long-term growth of the banking sector (Claessens et al (2001)). As a result, foreign banks may also improve the allocation of credit. In particular, by employing better risk management practices, foreign banks are likely to improve risk and return trade-offs. Studies further claim that foreign banks may reduce the volatility of credit (Crystal et al (2001)). Indeed, foreign banks may stabilise local credit in periods of stress given their ability to spread risk, retain local deposits and gain ready access to external funds (IMF (2000)). Some evidence further indicates that foreign banks may reduce the likelihood of banking crises by inducing stronger and less volatile loan growth than that generated by domestic banks (Dages et al (2000)).

Despite these advantages, foreign ownership of banks may entail risks for the host country banking system as foreign banks may be less committed to the domestic banking system (see Chapter IV). An additional disadvantage is that foreign banks may transmit shocks from their home countries. In LAC most international bank lending comes from a narrow range of countries that are also the main consumers of exports from the region.⁹ Therefore, an economic contraction and a downturn in the credit cycle in lending countries could affect LAC not only through a decline of external demand but also through a reduction in local credit, amplifying the regional business cycle. IADB (2004) presents empirical evidence showing that whether foreign banks stabilise or destabilise credit depends on the nature of shocks that affect the economy. Foreign banks increase credit volatility if shocks result from changes in local business opportunities but reduce it if the main source of credit volatility arises from the domestic supply of deposits.

Market consolidation

The process of market consolidation seen in the region (see Chapter I above) has important implications for the degree of competition in the banking sector and risks in banking. Privatisation and mergers have, for instance, been criticised for reducing competition. This process could in turn result in a system dominated by banks that are “too big to fail”. However, the evidence supports the notion that more concentrated banking systems reduce the probability of crises (Levy-Yeyati and Micco (2003)). Equally important, Gelos and Roldos (2002) and Levy-Yeyati and Micco (2003) find no evidence that the reduction in the number of banks translates into less competition. Furthermore, there does not seem to be any evidence indicating that greater competition is damaging to stability (Dermigüç-Kunt and Detragiache (2005)).

⁹ Spanish banks account for about a third of total foreign bank claims on Latin America (both cross-border and local claims), followed by the United States with a share of 22%.

Has the capacity to manage risks improved?

Risk management in the region appears to have improved during the past decade. This change is partly related to the dismantling of financial repression and the greater reliance on market-determined prices. Institutional conditions have also played a key role as many banks were previously state-owned and therefore subject to government guidelines on credit management. In the past, financial systems failed in many cases to show their weaknesses until after significant crises had occurred. For example, in the Dominican Republic, the recent collapse of the third largest bank in the country, Baninter, was the outcome of mismanagement and fraudulent banking practices as well as weak supervision. The banking system was also systemically vulnerable due to a large concentration of loans among a small group of borrowers and the substantial proportion of loans that had been granted to unhedged foreign currency borrowers (IADB (2004)). The high costs associated with financial crises and the persistent losses among public banks have led to significant improvements: banks have been privatised, supervisory and regulatory frameworks strengthened, and transparency and governance enhanced. There has also been a tendency to harmonise accounting standards and practices with international standards to some extent (see Chapter IV).

Banks' recognition of the importance of risk management is reflected, first, in the creation of in-house risk management units and, second, by the fact that risk management issues are now explicitly considered by banks' boards of directors (Moreno (2006)). Furthermore, important technical improvements have taken place, including changes in the approach to valuation, the quantification of risks and the pricing and allocation of credit. Market agents and policy makers are also more aware of the risks associated with dollarisation which partly derives from the crises experienced by the region (eg Argentina, Paraguay and Uruguay). This awareness is reflected today in the market preference for high dollar liquidity, either in the form of higher levels of international reserves or in higher reserve requirements on dollar deposits.¹⁰

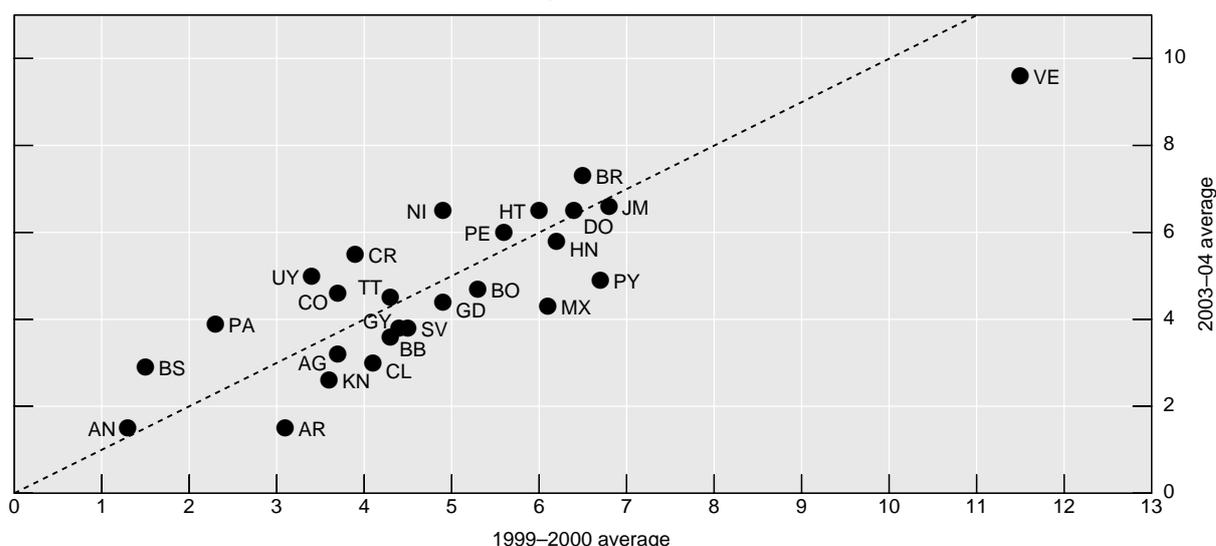
There has also been a shift towards fair value accounting. However, in many countries assets and liabilities are still valued at historic cost rather than at fair value. Despite its significant advantages, fair value accounting presents a number of problems, such as the absence of deep and liquid markets that would allow for an accurate measurement of positions. Some would also argue that the benefits of accounting for unrealised valuation changes are not clear. Such changes could lead to more volatile bank statements, making capital requirements more procyclical.

There have also been improvements in the quantification of risks. Banks in the region are adopting more advanced techniques for risk assessment, such as value-at-risk, stress testing and credit scoring. Several difficulties arise, however, when implementing more sophisticated risk assessment techniques. One of them is the difficulty of obtaining data to calculate default probabilities; another is the lack of suitable techniques for designing and calibrating models to evaluate alternative scenarios. Finally, human capital and infrastructure, such as information technology, may also be lacking.¹¹

¹⁰ Such "liquidity buffers" are costly, which is why some alternatives could be desirable. Ize, Kiguel and Levy-Yeyati (2005) offer an interesting discussion of these issues and, in general, on managing liquidity risk in highly dollarised economies.

¹¹ For a more detailed discussion of these issues, see BIS (2006).

Graph 2.5
Net interest margin of banks' profitability¹



Note: For a list of the countries included here, see Graph 2.2.

¹ As a percentage of total average assets.

Sources: Fitch Bankscope; BIS calculations.

A key concern for the region has been the existence of very high intermediation margins over extended periods. This questions the extent to which better bank management is reflected in improved pricing. Graph 2.5 and Table A9a and A9b present evidence of such concerns by comparing several indicators of bank profitability for the period 1999-2000 with those for 2003-04.¹² Although net interest margins show a modest decrease in most countries between the two periods, they have remained relatively high in several countries.¹³ Indeed, such is the case in Brazil, the Dominican Republic, Haiti, Jamaica, Nicaragua and Venezuela. Evidence (not reported) also shows that there is no visible trend in interest rate spreads, which in some cases remain quite high. For example, in Brazil, Paraguay and Haiti spreads have averaged 39.7%, 28.4% and 23.3%, respectively.

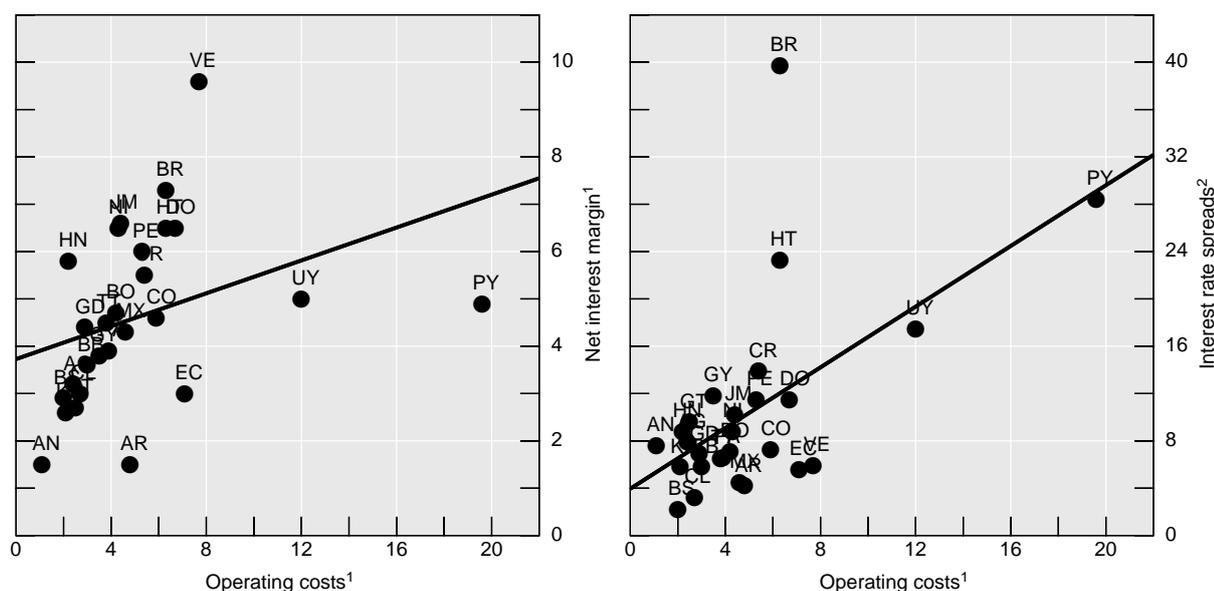
Better management practices and reduced operating costs could lead to lower interest rate spreads or margins; operating costs appear for instance to be highly correlated with net interest margins or spreads (Graph 2.6). Other factors that may have important effects on pricing are those related to changes in market structure and growing competition, concentration risk and connected lending, government restrictions and deficiencies in the legal framework (Moreno (2006)).

¹² Graph 2.5 must be interpreted with care as only the (limited) data available are reported.

¹³ Net interest margins are defined as the difference between interest income and interest expenses, and are usually expressed as a percentage of average earning assets.

Graph 2.6

Banks' operating costs, net interest margin and interest rate spreads¹



Note: For a list of the countries included here, see Graph 2.2.

¹ As a percentage of total average assets; 2003–04 average. ² Spread between lending and deposit rates; 2004, in per cent.

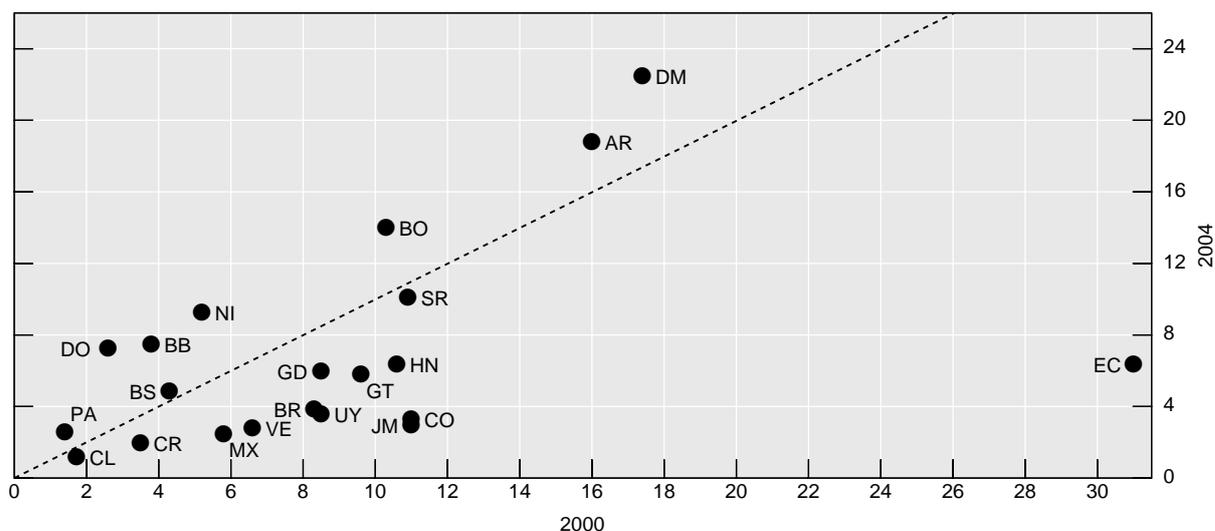
Sources: IMF; Fitch Bankscope; BIS calculations.

As is well known, the effectiveness of risk management also depends on the ability to hedge or transfer risks. An important issue in this respect is the lack of depth in asset and risk transfer markets in LAC. Markets for interest rate risk hedging in the region are either very recent or not available. In fact, yield curves for local currency fixed-rate government issues generally remain very short in most of the smaller economies of the region (see the discussion in Chapter III in this volume and Jeanneau and Tovar (2006)).

Has the health of the banking system improved?

The financial soundness of the banking system, as captured by indicators of banking performance, has improved in most countries of the region during the last decade. For example, the return on average assets has generally risen, although not in the Caribbean (Tables A10 and A11). Capital asset ratios have also increased in many countries in the region, although here the pattern is less generalised (Table A12). Furthermore, non-performing loans have also experienced a significant decline in a large number of countries, as shown in Graph 2.7.

Graph 2.7
Non-performing loans¹



Note: For a list of the countries included here, see Graph 2.2.

¹ As a percentage of total loans.

Source: IMF GFSR and Article IV.

A key problem with the indicators mentioned above is that it is not clear how current measures of “good health” would fare over a cyclical downturn. Some perspective on this can be gained by examining the behaviour of bank ratings that exclude support, as presented in Tables A13 and A14. Table A13 shows the weighted average of Fitch individual banking ratings by country.¹⁴ The indicator assigns a value of “0” for the lowest possible average and 100 for the highest possible average rating. In almost all the countries for which data are available the indicator improves over the time period studied. Only countries that have experienced a severe crisis show a decline (eg the Dominican Republic or Venezuela). Similar results are obtained using Moody’s financial strength index, which has the advantage of providing a broader country sample (Table A14).

Concluding remarks

Overall, the banking sector of LAC has made important progress in dealing with the different and constantly changing risks with which it is faced. Risk management across the region

¹⁴ See Fitch Ratings (2004). According to Fitch, individual ratings are only assigned to banks. These ratings, which are internationally comparable, attempt to assess how a bank would be viewed if it were entirely independent and could not rely on external support. They are designed to assess a bank’s exposure to, appetite for, and management of risk. They thus represent Fitch’s view on the likelihood of the bank running into difficulties such that it would require support. The principal factors Fitch uses to evaluate banks and determine these ratings include profitability and balance sheet integrity (including capitalisation), franchise, management, operating environment, and prospects. Finally, consistency is an important consideration, as is a bank’s size (in terms of equity capital) and diversification (in terms of involvement in a variety of activities in different economic and geographical sectors). Individual ratings range from A to E. In addition, gradations may be used among the five ratings: ie A/B, B/C, C/D and D/E.

appears to have improved and the indicators of banking health are favourable. However, many challenges still lie ahead, including the implementation and adoption of better supervisory and regulatory frameworks (see Chapter IV). Furthermore, countries should continue to take advantage of the favourable international environment to improve the resilience of banking systems to adverse external and domestic shocks.