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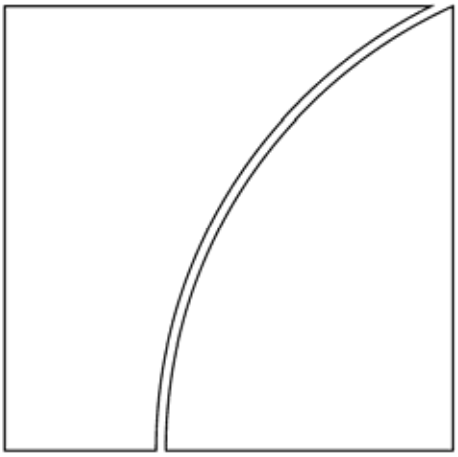

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Evolving banking systems in Latin America and the Caribbean: challenges and implications for monetary policy and financial stability

Monetary and Economic Department

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Contents

Foreword

On 26 and 27 January 2006, the BIS, in collaboration with the Bank of Jamaica, hosted a meeting for senior central bankers in Kingston, Jamaica, under the broad theme "Evolving banking systems in Latin America and the Caribbean: challenges and implications for monetary policy and financial stability". The meeting was chaired by Már Gudmundsson, Deputy Head of the Monetary and Economic Department of the BIS, with the purpose of discussing how the smaller economies of Latin America and the Caribbean (LAC) have dealt with the transformation of their financial system during the last decade.

The meeting in Kingston was the first held in the Caribbean but the third of its kind since the inauguration of the BIS Representative Office for the Americas in Mexico City in November 2002. This series of meetings focuses on issues of particular interest to central banks in small open economies of the region, with the benefit of occasional participation by central banks from some of the larger economies that have expertise in a given area. Previous meetings, held in Mexico City in 2003 and Antigua, Guatemala, in 2005 focused respectively on fiscal policy and central banks, and the implications of financial globalisation for monetary policy and financial stability.

Four main issues related to structural changes in the banking system were discussed in Kingston: first, their effects on banking sectors and credit availability; second, their implications for the management of financial risk; third, their implications for the conduct of monetary policy; and, finally, their implications for prudential policies.

Given the general interest in these topics and the difficulty of finding data and information on the smaller countries of the region, we are publishing, for the first time, the background notes prepared for the meeting in this *BIS Papers* series.

We would like to thank all participants in the meeting for their valuable contributions to the discussions and for the extensive data they provided in order to make this publication possible. In particular, we would like to thank the Bank of Jamaica, without whose dedicated staff and generous hospitality the meeting would not have been possible.

Már Gudmundsson
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Introduction

Banks play a key role in the allocation of economic resources and, therefore, in economic development. This is particularly true in LAC because the banking sector has historically dominated the region's financial landscape. However, this sector has been characterised by significant shortcomings, such as the limited depth and narrow focus of intermediation, low efficiency and limited economies of scale and diversification. Furthermore, the banking systems of many countries in the region have experienced sharp boom and bust cycles and frequent crises which have done their part towards exacerbating economic fluctuations. Idiosyncratic features, such as the high level of dollarisation prevalent in a number of countries, have further aggravated fluctuations.

In recent years, the banking sectors of many LAC countries have undergone rapid structural change. As discussed in Chapter I, an important underlying determinant of such change has been the drive by countries to improve the efficiency and resilience of their financial systems through deregulation, the development of domestic capital markets, the privatisation of state-owned financial entities and the encouragement of foreign bank entry. Another determinant has been a market-driven process of consolidation, regional financial integration and overall financial innovation. As a result of this evolution, market forces have come to play a greater role in credit allocation and the underlying structure of financial systems has often undergone significant transformation. These changes have been accompanied by a revival of credit growth, in particular in the consumption and housing segments, as banking sectors have returned to a measure of health on the back of stronger economic activity.

While the changes just discussed are helping countries move to a better allocation of financial resources, Chapter II argues that they have also brought new and more complex risks. With interest rates and financial flows being more closely determined by the interplay of demand and supply, both domestically and internationally, financial systems may have become more vulnerable to market risks. This is an issue of particular relevance for smaller economies, for which limited economic and financial diversification may have complicated the management of financial market volatility or shocks. The introduction of new products, rules and market structures has also influenced the evolution and distribution of lending across economic agents and sectors, leading to the emergence of new credit, liquidity and market risks. A key issue in this context is whether financial institutions now have a better capacity to cope with this new constellation of risks. Risk management appears to have improved in most sub-regions as a result of the introduction of new approaches to the allocation of credit as well as better measurement and pricing of the various risks. These improvements appear to have strengthened the health of the region's banking sectors. However, as will be discussed in Chapter IV, weaknesses persist.

The transformation of the banking industry and, in particular, the shift to a more market-determined process of intermediation has also had implications for central banks to the extent that it has affected the effectiveness of monetary policy instruments, the relative importance of the different transmission channels and/or their ability to react to non-policy shocks. Chapter III highlights two key developments: first, that the transformation just noted has been accompanied by a shift from direct to market-based instruments; and second, that there is tentative evidence of a decline in monetary control as reflected in a weaker transmission mechanism. However, further research will be required in order to reach a more decisive conclusion on this matter. In this context, a key issue for monetary policy is whether central banks should adapt operating procedures to the transformation of the financial sector or lead the change by adjusting their procedures beforehand. Although there is no clear consensus on this issue, it is possibly the case that in some economies in the region, in particular the smaller ones, proactive adjustments to operating procedures are leading those brought about by structural change.

Chapter IV examines how the development of the banking sector, and in particular foreign bank entry, has affected a wide range of prudential issues. In recent years, for instance, bank

supervisors in some of the most advanced countries have developed sophisticated approaches to monitoring banking systems and made strong efforts to enhance the quality of supervision. In others, however, the improvement to the regulatory environment has been less impressive. In a number of countries, progress in implementing the Basel Core Principles for Effective Banking Supervision (BCPs) has been limited and much effort is still required in areas such as consolidated banking supervision, measures of bank performance and capital adequacy, and overall quality of risk management. Compliance with the BCPs would do much to address such weaknesses. In fact, the Basel Committee on Banking Supervision (BCBS) has stated that one of the key conditions for successful implementation of Basel II will be compliance with the BCPs.

This publication provides an overview of the issues discussed at a meeting of central banks in Kingston, focusing on the open economies of LAC. As such, the intention is not to provide an exhaustive analysis but rather to flag relevant issues and views. During the preparation of this document a large amount of data on financial systems were collected. Such data are often not easy for policy makers and researchers to assemble and, for this reason, they are being made available to a larger audience in the form of tables attached at the end of this document. Hopefully, they will be of use to anyone interested in the financial evolution of smaller banking and financial systems in LAC.

The chapters in this volume were edited by Ramon Moreno. We would like to thank all participants at the meeting for their comments and overall feedback, including those central banks that provided responses to a short questionnaire. We are greatly indebted to Susana Filipa-Lima, Pablo Garcia, Marc Klau, Marjorie Santos and Gert Schnabel for their excellent research assistance. We would like to thank Stephan Arthur, Alejandra Gonzalez, Henrietta Illingworth and Rodrigo Mora for their help in updating and revising this document. Many thanks are also due to Estela Bolaños of the BIS Representative Office for the Americas, who carefully organised the meeting in Kingston. Blaise Gadanecz and Gregor Heinrich provided helpful comments. Finally, Már Gudmundsson deserves special recognition for encouraging us to publish what we hope will be a useful contribution to the monetary and financial stability issues surrounding the evolution of banking systems in LAC.

Serge Jeanneau, Camilo E Tovar and Ramon Moreno

I. Banking systems: characteristics and structural changes

Serge Jeanneau[1]

This chapter provides an overview of banking systems in Latin America and the Caribbean (LAC), with a particular focus on those of smaller countries. The first section of the chapter looks at the main features of banking systems in the region. The second surveys the main structural changes in banking systems and analyses the implications of these changes for financial intermediation. A box on page 13 discusses recent trends in bank lending.

Main features of banking systems

Banks play an essential role in the allocation of economic resources. They are key players in the provision of capital and, hence, in stimulating economic development. In fact, bank credit and GDP per capita are highly correlated. Although the direction of causality is the subject of some debate, emerging market economies (EMEs) with large banking sectors tend to have a higher level of economic development than those with smaller banking sectors (IADB (2004)), and the LAC region is no exception to this relationship, as shown in Graph 1.1.

However, there is a great deal of heterogeneity across countries in terms of the depth of banking markets (see Table 1.1). This heterogeneity is not simply related to the economic size of a country or to its GDP per capita since some countries have larger banking sectors than would be implied by these features. As shown in Graph 1.1, this is particularly true for Caribbean countries with large offshore financial centres (OFCs). By contrast, some of the larger economies, such as Argentina and Mexico, have smaller banking systems than would be implied by their level of economic development (reflecting the lingering impact of severe financial crises over the past decade or so).

Aside from the features just discussed, banking systems in the region show a number of common characteristics.[2]

Limited depth and narrow focus of financial intermediation

In most countries of the developing world, financial intermediation is dominated by commercial banks for two main reasons. First, banks continue to have an advantage in the processing of information and the diversification of risk, which are central elements in financial intermediation (Singh et al (2005)). Second, many countries lack an adequate infrastructure for the development of securities markets as alternative sources of financing.

In LAC, although banks are dominant, banking sectors remain shallow. Outside of Chile, Panama and the Caribbean countries, credit to GDP ratios are well below 50% in several countries (see Graph 1.1 and Table 1.1). The average ratio of credit to GDP for the region is also lower than that of the industrialised world, and of some other regions of the developing world (see Table 1.1).

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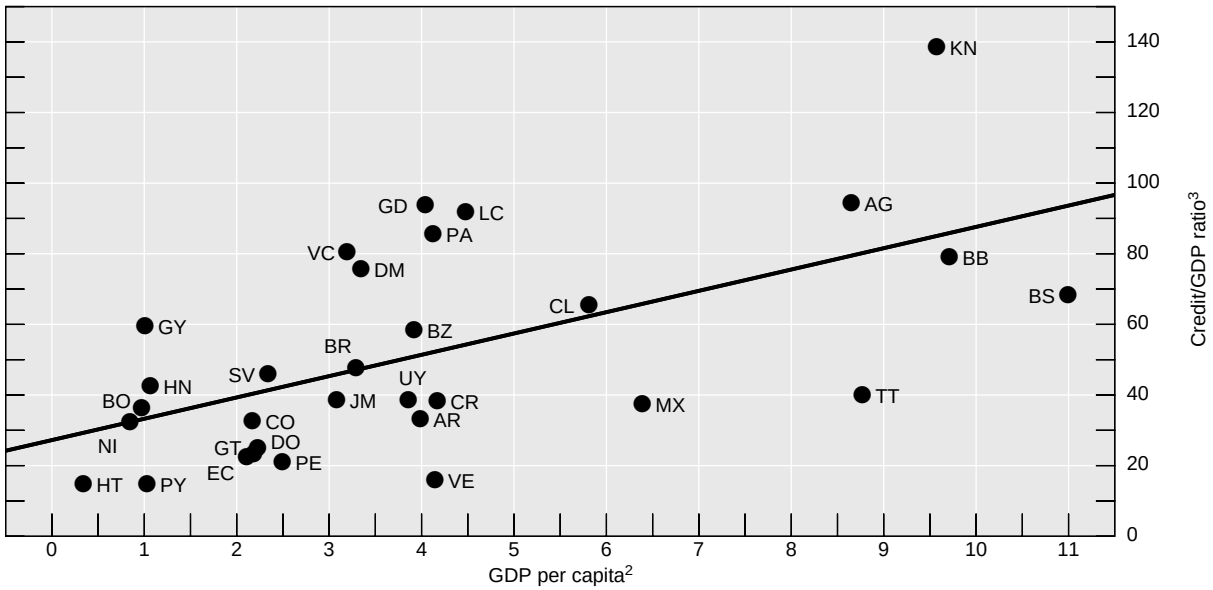
[1] The author is grateful to Angus Butler, Már Gudmundson, Gregor Heinrich, Madhu Mohanty, Ramon Moreno and Camilo Tovar for extensive comments. The views expressed are those of the author and do not necessarily represent those of the Bank for International Settlements.

[2] See Moguillansky et al (2004) for a more detailed discussion.

Graph 1.1

Bank intermediation and per capita income in 2004[1]



AG = Antigua and Barbuda; AR = Argentina; BB = Barbados; BO = Bolivia; BR = Brazil; BS = Bahamas; BZ = Belize; CL = Chile; CO = Colombia; CR = Costa Rica; DM = Dominica; DO = Dominican Republic; EC = Ecuador; GD = Grenada; GT = Guatemala; GY = Guyana; HN = Honduras; HT = Haiti; JM = Jamaica; KN = St Kitts; LC = St Lucia; MX = Mexico; NI = Nicaragua; PA = Panama; PE = Peru; PY = Paraguay; SV = El Salvador; TT = Trinidad and Tobago; UY = Uruguay; VC = St Vincent and the Grenadines; VE = Venezuela.

[1] Or earlier, if 2004 figures not available. [2] In thousands of current US dollars. [3] Domestic credit of deposit money banks.

Sources: IADB (2004); BIS.

Table 1.1

Financial depth by region, 1990s

Region	Number of countries	Credit to private sector (percentage of GDP)	Credit and market capitalisation (percentage of GDP)	GDP per capita, 1995 US dollars
Developed countries	24	84	149	23,815
East Asia and the Pacific	10	72	150	2,867
Middle East and North Africa	12	43	80	4,416
Latin America and the Caribbean	20	28	48	2,632
Eastern Europe and Central Asia	18	26	38	2,430
Sub-Saharan Africa	13	21	44	791
South Africa	6	20	34	407

Note: Values are simple averages for the regions for the 1990s.

Source: IADB (2004).

Aside from the negative impact of a series of economic crises since the early 1980s, this low depth of bank intermediation has been attributed to structural factors, such as a lack of information on potential borrowers, which is itself the result of inadequate auditing and accounting standards or the absence of credit information bureaus, and poor enforceability of creditors' rights in the event of delayed payment or default.

Given the relatively low level of per capita incomes and the large number of small family-owned businesses, lending by the commercial banking sector has also been narrowly focused. In spite of regulatory action to prevent the concentration of risks in bank portfolios, such as quantitative limits on lending to a single borrower/related parties or on holdings of securities, lending remains concentrated. It has generally been limited to the largest companies and the middle class in urban areas. Moreover, it has often been made to well connected entities.

In many countries bank portfolios also include a high proportion of government securities, which has probably induced some crowding out of the private sector. This is particularly true in the larger countries, such as Argentina, Brazil, Colombia, Mexico and Venezuela, as well as in some of the smaller economies, such as Barbados and Jamaica. This phenomenon owes its existence to a number of factors. In the case of public sector banks, recapitalisation in the second half of the 1990s often involved the replacement of non-performing loans by government securities. In the case of private sector entities, the series of financial crises and the consequent increase in default rates led to a shift of bank portfolios to "safer" government securities. In some cases, liquidity requirements forced banks to hold a certain proportion of their assets in the form of government debt. In others, regulations allowing banks to value bonds at face value created an incentive for them to hold government debt. Such large holdings of government debt have been an important source of market risk for banks.

Low efficiency of financial intermediation

The low level of development of the region's banking sectors is partly reflected in the high cost of banking services. LAC countries have high interest margins; these averaged about 8.5% in 1995-2002, compared with 5.1% in East Asia and the Pacific and 2.9% in developed countries (IADB (2004)).[3] Overhead costs as a percentage of assets averaged 4.8% over this period, compared with 2.3% in East Asia and the Pacific and 1.8% in developed countries.

The prevalence of high inflation in the past often meant that banks could earn high returns on government debt indexed to overnight rates (deposit rates were often lower and re-priced less frequently), which blunted their incentives to implement cost reduction measures. This may have been particularly the case in Brazil, where, in spite of a substantial reduction in inflation, intermediation spreads remain high. The issue of bank profitability is further discussed in Chapter II. Despite the relatively high spreads, bank profitability (as measured by returns on assets, etc) remains low because of high operating costs and the relatively high risks of bank lending in the region (Singh et al (2005)).

Limited economies of scale and diversification

The banking systems of smaller countries in LAC exhibit a number of specific features. First, banks in such economies are limited by the extent to which they can reap economies of scale (see Birchwood (2003) for evidence on the Caribbean). In particular, it appears that the

[3] However, as shown in Table A1, the spread between deposit and lending rates is not simply related to the size of a country or to its level of GDP per capita. Even within the three largest economies, namely Argentina, Brazil and Mexico, this spread varies widely.

small size of banks often prevents them from introducing complex new technologies. This is often a constraint on their competitiveness. Second, in a number of countries the oligopolistic structure of banking markets limits competition, so that banks can maintain their profitability without innovating or improving their efficiency. Third, the narrow economic base of smaller economies, and particularly of their export sector, leaves them vulnerable to the economic cycle of their main trading partners and to swings in terms of trade, increasing the vulnerability of the banking sector (Birchwood and Nicholls (1999) and Narain et al (2003)).[4] Limited diversification and higher economic risks have constrained their access to international financial markets, as reflected in the higher risk premia often attached to their international liabilities. Fourth, even in the case where a small country hosts a large OFC, the financial activities related to that centre may not benefit the domestic financial sector given that regulations often separate the two market segments (Williams et al (2005)).[5] Progress in financial integration would be one way of reaping economies of scale in the region (see the sub-section on intra-regional financial integration).

Boom and bust cycles in lending

Credit growth in the region has been marked by boom and bust cycles, particularly in countries that have a low level of bank credit relative to GDP. Credit expanded sharply in the early 1990s but declined equally sharply after the banking crises of the mid-1990s.[6] It then remained subdued for many years and has begun to recover only recently (see Graph 1.2, right-hand panel and Chapter II).[7] Domestic financial liberalisation, the removal of capital account restrictions and the ensuing large capital inflows have all combined to generate strong lending booms. However, poor bank management and weak prudential regulation and supervision have exacerbated the problems faced by domestic banking sectors. In periods of easy credit availability, credit was often extended without adequate risk assessment. Overall, the volatility of credit growth has owed as much to macroeconomic imbalances and shocks as to a lack of instruments to prevent or deal adequately with the boom and bust pattern.

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[4] The problems created by lending to the volatile export sector have been compounded by the granting of foreign currency loans to the non-tradable sector, resulting in additional vulnerability in countries with floating exchange rates.

[5] OFCs generally target non-residents and this means that the volume of non-resident business substantially exceeds that of resident business. Traditionally, OFCs have capitalised on a favourable fiscal status, banking secrecy and less stringent prudential norms. These advantages have supported the rapid expansion of wholesale market activities, such as securitisation operations conducted through special purpose vehicles and the trading operations of hedge funds. Of course, international pressure has now led many OFCs to take measures to deal with these deficiencies.

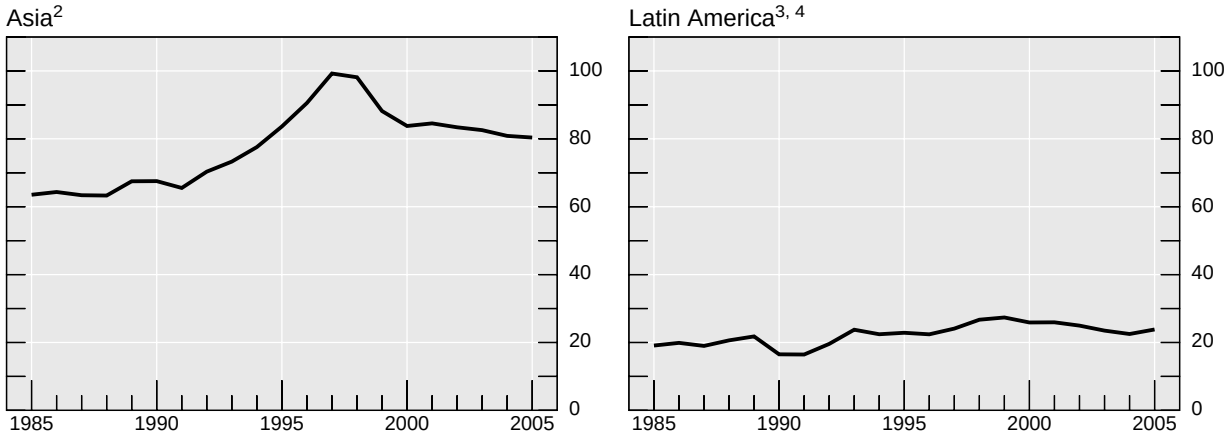
[6] Compared with other regions of the developing world, LAC countries display the highest average number of crises per country (IADB (2004)). However, the incidence of crises has been lower in the Caribbean.

[7] In Mexico, non-bank intermediation partly compensated for the weakness of bank intermediation. In Chile, a longer history of financial stability and early financial sector reform combined to create a more stable pattern of credit growth.

Graph 1.2

Bank credit to the private sector[1]

As a percentage of GDP



[1] Simple average of country data. [2] Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand. [3] Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. [4] Moving average of current and previous year private credit levels to current year GDP.

Sources: IMF; BIS calculations.

Several factors have favoured the recovery of bank lending in Latin America, including strong economic growth, easier global monetary conditions and progress in bank restructuring. In the region, the strong growth in nominal credit and the containment of inflationary pressures has led to an acceleration in real credit growth, which picked up from a year-on-year rate of 7% at the end of 2004 to almost 13% at the end of the first half of 2005. Credit growth was particularly strong in Argentina and Brazil, reaching over 20% in 2005, and also accelerated in several Caribbean countries. In spite of this acceleration, the ratio of credit to GDP remains below the level reached in the mid-1990s in a number of countries, including Bolivia, the Dominican Republic, Ecuador, Mexico and Paraguay (see Graph 1.1 and Table 1.1).

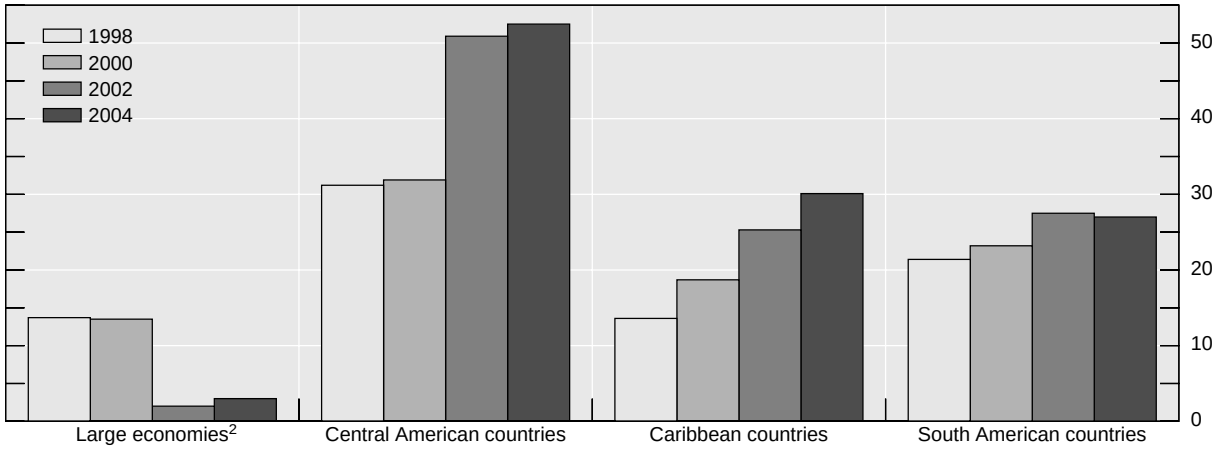
High level of dollarisation

The banking systems of most countries in Latin America are characterised by relatively large shares of bank deposits and loans denominated in dollars (see Graph 1.3 and Table A2). In some countries, such as Bolivia, Nicaragua, Paraguay, Peru and Uruguay, more than half of deposits and loans are denominated in dollars. In Ecuador and El Salvador, there has been a move to formal dollarisation. In other countries, dollarisation has resulted from a market-driven process of currency substitution (Bolivia, Paraguay, Peru and Uruguay). By contrast, a number of countries (Brazil, Chile, Colombia and Mexico) have countered dollarisation, either by a prohibition on most holdings of foreign currency deposits or by prudential constraints on such holdings. These restrictions have sometimes led to a shift of deposits and loans to OFCs. The financial crises in Argentina and Uruguay have made policy makers aware that dollarisation can add to the vulnerability of the financial system by increasing liquidity and

solvency risks and by limiting the scope for an independent monetary policy.[8] Issues related to dollarisation are discussed in further detail in Chapters II and III.

Graph 1.3

Dollarisation ratios [1]



[1] Ratio of total foreign currency deposits to total deposits, in the domestic banking system, in per cent. [2] Argentina, Brazil and Mexico.

Source: Moody's Investors Service.

In many countries there has been a steady rise in dollarisation in spite of a generalised reduction in inflation and a shift in some countries to formal central bank independence. Views on the effect of dollarisation on the depth and structure of domestic banking systems diverge (Del Negro et al (2001) and De Nicolo et al (2003)). Nevertheless, in most countries where dollarisation has been a market-driven process, it appears to have encouraged residents to keep their savings in the domestic financial system. In the few countries that have moved to full dollarisation, there is some evidence that the resulting elimination of currency risk has also encouraged financial deepening.[9] It is difficult to quantify the extent to which this has been the case in Ecuador given the economic strains the country was facing when official dollarisation was introduced. However, in El Salvador the legal certainty pertaining to dollar-denominated transactions and the reduction in currency mismatches that followed the move to official dollarisation appear to have reduced the perception of risk in doing business with Salvadorean residents, with the result that the ratio of bank deposits to GDP has increased. Greater confidence in the solidity of the financial sector also appears to have reduced the attraction of offshore bank deposits. However, dollarisation may have provided a competitive advantage to foreign banks with cheaper access to dollar funding.

Structural changes in financial systems

Although commercial banks remain the most important source of credit supply in LAC countries, there have been significant changes in the structure of credit markets in recent

[8] The balance sheet effects of dollarisation have posed a significant threat to the stability of the financial system given that high dollar liabilities held by local currency earners create a significant exposure of the financial sector to default risk from exchange rate movements (Jeanneau and Tovar (2006)).

[9] Panama, of course, has one of the deepest banking sectors in the region owing to its long-standing status as an OFC.

years. These include the development of capital markets, deregulation, privatisation and foreign bank entry, the declining role of state-owned banks, market concentration and intra-regional financial integration.

Development of capital markets

The move to a more stable financial environment and the recent reforms to pension systems have helped to support the development of capital markets in the largest/most advanced countries in the region. Issuance of government bonds, particularly in local currency, has been strong in Brazil, Chile, Colombia, Mexico and Peru (Jeanneau and Tovar (2006)). The corporate sector is also turning to securities markets, although this process is much less developed than is the case for the government sector. In spite of these advances, however, the overall scale of bond and equity financing remains relatively small and markets are illiquid when compared with those of large and advanced economies. The lack of comparable cross-country data on smaller securities markets makes it difficult to compare the relative size of such markets in the region. However, available numbers on stock market capitalisation (see Table A3) show that outside of Barbados, Chile, Jamaica and Trinidad and Tobago, the ratio of stock market capitalisation to GDP remains below that observed in the United States, Japan and the euro area (114%, 85% and 57%, respectively).

Deregulation of banking systems

The banking sector in EMEs has traditionally been a highly protected industry. However, global competitive forces and banking crises in the 1990s forced market participants and the authorities to deregulate the industry and open it to domestic non-banks and foreign intermediaries. The removal of restrictions, such as ceilings on deposit rates, has led to a progressive switch to market-based monetary policy techniques that have made it easier for central banks to signal their intentions, guide the economy and better respond to shocks (Archer (2006)). It has also been a catalyst for stronger market competition and efficiency (Hawkins and Mihaljek (2001)). However, the process of deregulation has been followed in many countries by major banking crises. Poor bank management and supervision encouraged a rapid expansion of credit which was ultimately followed by mounting loan losses, an erosion of bank capital and an eventual collapse of financial institutions (Kaminsky and Reinhart (1999) and Demirgüç-Kunt and Detragiache (2005)).

Privatisation and foreign bank entry

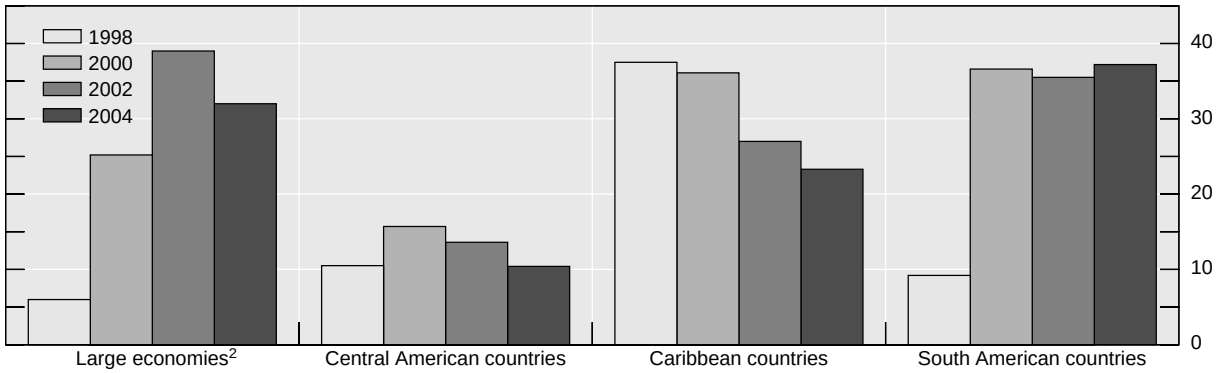
One of the most important consequences of the banking crises was a significant change in the structure of bank ownership. Fears of bank runs or of the collapse of banking systems led governments to intervene, either by nationalising the banks in trouble and then turning them over to private ownership or by encouraging domestic bank mergers or foreign takeovers. The entry of foreign banks was seen as a means of recapitalising weakened banking systems. Faced with limited growth opportunities in their home markets, banks from industrial countries quickly expanded their business in EMEs. This was particularly the case in Latin America in the years following the Mexican financial crisis of late 1994. Foreign direct investment in Latin America rose sharply afterwards and remained high until 2002 (CGFS (2004)). In many countries foreign banks became the main actors in local financial systems. In Argentina, Chile and Peru, foreign banks now account for more than 40% of domestic banking assets and in Mexico they account for more than 90% of such assets (see Graph 1.4

and Table A4).[10] In the Caribbean, by contrast, the increase in foreign bank penetration has tended to be less pronounced than in Latin America. The financial systems of most CARICOM territories have always tended to be quite open to foreign penetration, particularly in the OFCs, and foreign bank ownership already equalled or exceeded 50% in most countries in the 1990s.

The growing importance of foreign banks has raised crucial questions about their impact on local financial systems. Empirical evidence on this subject for LAC countries is limited (IADB (2003) and IADB (2004)). What is available suggests that exposure to global competition has led to an increase in financial sector competitiveness and efficiency (CGFS (2004) and Moreno and Villar (2005)). Generally, host countries have benefited from a transfer of technology that has been applied to both products and processes. In several countries, including Chile and Mexico, foreign banks have played an active role in the development of local financial markets, particularly in the areas of securities issuance and derivatives trading, which has enabled them to gain market share in the corporate sector. Foreign banks have also exerted demonstration effects on local institutions, often inducing them to reassess their business practices. This has resulted in better risk management, more competitive pricing and a more efficient allocation of credit by the financial sector as a whole. Of course, the beneficial role of foreign banks has varied with the degree of sophistication of local financial systems, with foreign banks probably playing a more useful role in less sophisticated markets (Levine (1996)).

Graph 1.4

Foreign bank credit[1]



[1] As a share of total domestic credit, in per cent. Credit in local currency granted by foreign-owned banks (includes cross-border credit and domestic credit to banks). For Brazil, Chile, Mexico (2004) and Panama, also includes credit in foreign currency granted by foreign-owned banks to the domestic non-banking sector. [2] Argentina, Brazil and Mexico.

Sources: IMF; BIS.

It is not entirely clear at this stage whether the greater efficiency induced by foreign banks has also been accompanied by a broader allocation of credit to the various sectors of the economy. Foreign banks have tended to enjoy lower overheads and have therefore been able to function with narrower intermediation margins, which may have translated into a better ability to extend cheaper credit to local borrowers. On the other hand, the emphasis of foreign banks on standardised credit evaluation models rather than on soft information

[10] This has been a general trend across the various regions of the emerging market world (Domanski (2005)). Foreign banks have become heavily involved in lending through domestic affiliates since the mid-1990s. The ratio of foreign banks' local claims in local currency to total foreign claims (international claims and local claims in local currency) has increased sharply in all regions. In Latin America, this ratio had risen to about 60% by the end of 2004.

criteria or long-term customer relationships may have altered the composition of lending towards sectors for which risk and return considerations can be more precisely established and/or managed, such as the retail and large corporate sectors (CGFS (2004)). Lending by foreign banks to small and medium-sized enterprises (SMEs) may have been affected to the extent that such firms have tended to be less transparent from an informational point of view (Berger et al (2001) and CGFS (2005)). From this vantage point, such behaviour would be indicative of shortcomings in the audit or legal infrastructure and should be of equal concern to both foreign and domestic banks. One significant impact of foreign bank entry, however, is that the incidence of connected or related-party lending has been reduced.

Declining role of state-owned banks

In part because of the low depth of banking markets and the narrow focus of lending, the state has tended to play a significant role in the financial sectors of EMEs. In the early 1990s, state-owned banks often accounted for over 50% of total banking assets in such economies. For most countries, the active role of such banks was usually justified by the need to deal with market failure, promote economic development or finance socially valuable activities. The financing of projects of importance to the national interest was also a significant consideration. However, it is not clear that state intervention was always the most appropriate means of addressing the problems identified by policy makers.

Views on the role of state-owned banks changed considerably during the 1990s. Governments came to realise that the existing governance structure was in large measure responsible for the poor performance and frequent collapse of such banks. In addition, there was a growing perception that the heavy weight of public sector financial entities was tending to hold back financial sector development. This perception was supported by empirical studies showing that the presence of state-owned banks was indeed associated with a lower level of financial development (Barth et al (2001) and IADB (2004)).[11] As a result, many governments embarked on a drive to privatise such institutions. By the end of the decade, the average share of state-owned banks in total credit had declined substantially in the region (Hawkins and Mihaljek (2001)).

State-owned banks have also adapted their lending strategies to compete more effectively with private and foreign-owned banks. In the past, such banks did not lend much to households, except in some cases under subsidised housing schemes. However, as competitive pressures increased and as public sector financial institutions became more business-orientated, they increasingly turned to the household sector, providing both consumer and housing loans. However, state-owned banks still lend disproportionately to the government. From a governance point of view, one might argue that the lack of independence of state-owned banks from their owners is similar to connected lending practices in the private sector and in principle would have to be sanctioned by independent supervisory authorities (Hawkins and Mihaljek (2001)).

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[11] IADB (2004a), in particular, presents fairly negative evidence concerning the role of public sector banks in the economy. It finds that state-owned banks do not play a useful role in expanding credit availability or directing it towards sectors that require it the most. Focusing on access to credit by different sectors, the evidence provided suggests that the gap between small and large firms in their ability to access credit is higher in countries having strong participation by state-owned banks than in countries with low participation. Moreover, the presence of public banks seems neither to facilitate access to credit for SMEs, nor to favour access to mortgage credit. However, there is some evidence that state-owned banks provide cheaper and more stable credit than domestically owned private banks. A more positive recent view of state-owned banks is offered by Mihaljek (2006). He notes that foreign banks have contributed to the increase in lending to households and improved corporate governance practices.

Bank consolidation

Consolidation involving both domestic and foreign banks has led to a reduction in the number of banks in the largest countries in Latin America (Levy-Yeyati and Micco (2003)). In the Caribbean, by contrast, consolidation has proceeded at a slower pace. One of the reasons for this is that banking systems already had an important foreign component early on and that banking crises have been less frequent there than in the larger countries of the hemisphere.[12]

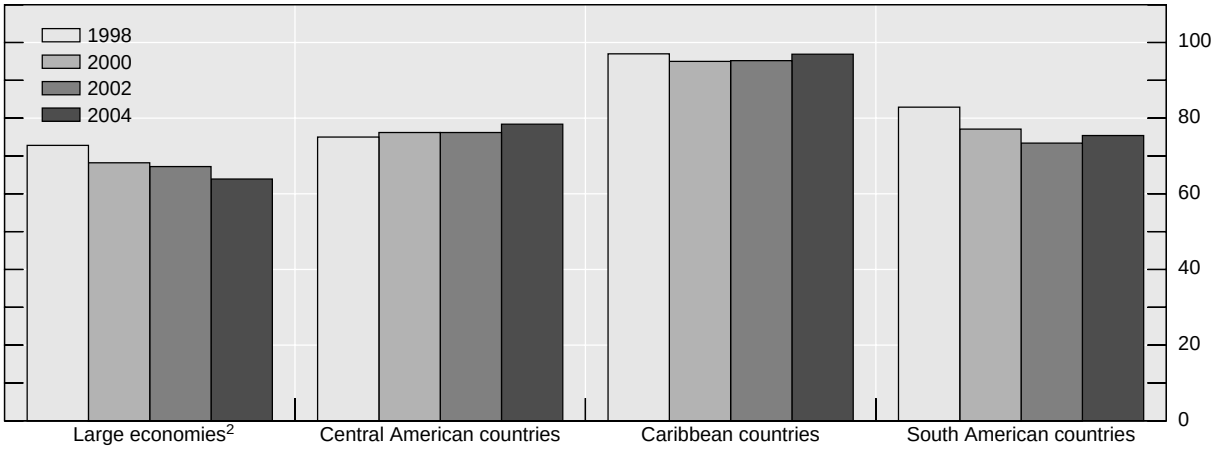
Some banking systems are now highly concentrated, with the five largest institutions accounting for between 57% and almost 100% of all banking assets (see Graph 1.5 and Table A5). There have been concerns that larger banking groups may have exploited their market power to pay lower rates on their deposits and charge higher rates on their loans. This concern is not entirely without foundation given the reportedly high costs of bank financing in the region. However, empirical work conducted by the IADB (2004) tends to indicate that there is no significant statistical relationship between concentration and bank profitability. In studies focusing on Latin America, Gelos and Roldos (2002) and Levy-Yeyati and Micco (2003) found no evidence that the reduction in the number of banks translated into less competition. The increase in concentration was largely due to technological innovation and financial liberalisation. The ensuing reduction in barriers to entry appears to have prevented an increase in market power, with the result that the cost of credit was apparently largely unaffected.

Concern has also been expressed about the impact of market consolidation on credit availability over the business cycle. According to some theoretical views, collusion could result in higher mark-ups during bad times, amplifying business cycle fluctuations (Rotemberg and Saloner (1986)). By contrast, other views suggest that low competitive pressures could help stabilise credit in bad times because banks could more easily afford to hold on to unprofitable business in the short term in the hope that such business might become more attractive again in the long term. In addition, some have argued that large banks are likely to be better diversified and therefore less affected by domestic shocks than their smaller counterparts. This would also help stabilise credit in bad times. Evidence gathered by the IADB (2004) shows that countries with more concentrated banking systems tend to enjoy less volatile credit.

[12] The number of banks in the CARICOM territories remained stable for much of the 1990s. However, it declined by 11% between 1998 and 2003 (Birchwood (2003)). This reduction resulted principally from mergers and acquisitions, including between the subsidiaries of foreign banking groups. Part of this activity was also encouraged by governments as a means of dealing with troubled banks, as in Jamaica after the crisis of 1996 and the Dominican Republic after the crisis of 2003.

Graph 1.5

Concentration of the banking system[1]



[1] Share of total assets held by the five largest banks in each country; unweighted average, in per cent. [2] Argentina, Brazil and Mexico.

Source: Fitch Bankscope.

Recent credit demand in emerging market countries

Strong household credit demand

Household sector credit demand has been unusually strong in several of the largest emerging market economies (see Table A6). Several demand and supply forces have been at work here. First, strong growth has not only boosted current household income, it has also countered the pessimistic expectations of future income that prevailed in the late 1990s. As predicted by the life-cycle model, this shift has been accompanied by a rise in the share of household expenditure in current income and in household demand for bank credit (see Table 1.2).

Moreover, in several countries recent financial liberalisation has involved the removal or substantial dilution of restrictions on bank lending to housing and consumer sectors. With household borrowing constraints thus relaxed, latent demand materialised.[1]

Second, the significant easing of monetary policy in a number of countries, combined with the progress made in reducing inflation, has brought down real short-term interest rates. In Latin America, in particular, real rates have been very low by historical standards (see Table A7). In turn, this drop in nominal and real rates has been accompanied by a reduction in lending margins charged to households. This reduction has been driven by several reinforcing developments. With inflation declining and becoming more stable, both inflation expectations and the inflation risk premium have fallen. This lower cost of credit has attracted potential homeowners to the mortgage market, not only by reducing initial debt servicing payments relative to income but also by increasing the affordability of housing for low-income segments of the population.

Lastly, governments have taken steps to encourage residential investment and borrowing-led household consumption as part of a strategy to revive domestic demand. Such incentives have taken several forms: preferential tax treatment of mortgage interest payments and capital gains from property transactions, temporary increases in loan-to-value ratios and the establishment of various housing subsidy schemes to promote low-cost dwelling units.

[1] Industrial countries witnessed a similar surge in demand for consumer and residential credit following financial liberalisation in the 1980s and 1990s leading to substantial relaxation of credit constraints facing households; see Bacchetta and Gerlach (1997).

Recent credit demand in emerging market countries (cont)

Weak corporate credit demand

The corporate sector in many emerging market countries appears to have reduced its demand for bank credit over the past few years. In Latin America, the stock of outstanding corporate loans in the seven largest economies declined by about 10 percentage points of GDP over the 1997-2003 period.

Table 1.2

Composition of bank credit[1]

	Housing credit			Consumer credit			Business credit		
	1994	**1999**	**2004**	**1994**	**1999**	**2004**	**1994**	**1999**	**2004**
Latin America									
Chile	13	17	21	8	9	12	79	74	67
Colombia		7	11		15	14		56	39
Mexico	17	16	9	7	4	13	62	36	28
Venezuela		4	1		18	7	44	55	47
Asia									
Hong Kong SAR	7	15	15	2	3	3	86	76	73
India			10			12		7	7
Indonesia		5	6		7	18		60	37
Korea		9	33		18	17		69	47
Malaysia	10	18	28		8	16		64	45
Thailand	9	7	10	4	3	6	64	71	68
Central Europe									
Czech Republic[2]		10	16		4	5		41	37
Hungary		3	17		6	8		62	46
Poland		2	10		21	23		44	35
Israel	0	0	8	15	10	9			
Turkey	0	0	2	2	3	6	76	58	39

[1] Commercial banks. As a percentage of total domestic credit granted by commercial banks. [2] The data in the 1999 columns refer to 2002.

Source: National data.

One explanation for weak demand for corporate credit is that overly indebted firms have sought to reduce their leverage as part of the restructuring process that followed the crises of the late 1990s and early 2000s.[2] Another is that firms have been diversifying their financing sources by issuing bonds and equities. There is some evidence in support of this hypothesis in Brazil, Colombia, Mexico and Peru. Moreover, with corporate profits rising, firms have been financing a large part of their investments through retained earnings. Easier external financing conditions have also encouraged firms to access the international syndicated loan and bond markets.

Sustainability of current trends

Can the recent rapid pace of lending growth to households be sustained? There are reasons to believe that household borrowing can continue to grow at a fast rate over the next few years. On the demand side, growing household income and the structural changes highlighted above can be expected to sustain demand for consumer and residential credit.

[2] See IMF (2000) and IMF (2004a).

Recent credit demand in emerging market countries (cont)

Also, credit to GDP ratios remain low in Latin America, particularly in comparison to Asia. On the supply side, the sustainability of household credit could be helped by the fact that residential and consumer lending provides banks with important diversification opportunities and higher returns. Some have argued that retail lending will increasingly become the main business line of banks in years to come, driven partly by financial diversification and partly by growing foreign bank penetration. Another positive factor has been the recent trend towards securitisation of household debt through the growth of mortgage-backed securities in a number of countries (Jeanneau and Tovar (2006)).

Nevertheless, the strength of the forces supporting the demand for and supply of household credit are such as to raise questions about the sustainability of its growth. Although household borrowing and real estate prices in the region are not yet considered to have reached levels at which they would represent a systemic threat, the experience of other regions that have seen a rapid rise in household credit, such as Asia, underlines the need for close monitoring of markets by prudential authorities, especially given the relative inexperience of borrowers and lenders with the performance of new financial instruments over the cycle.

Intra-regional financial integration

Advances in formal financial integration in the region have been limited given that most initiatives have focused on trade in goods rather than trade in services (IADB (2003)). The best known effort involving financial services is NAFTA (the North American Free Trade Agreement), which came into force in 1994. NAFTA contains a number of principles to enhance financial market access. In addition, the members of CARICOM agreed to create a single market and economy entailing the removal of obstacles to trade in goods and services, the end of restrictions on capital movements and greater coordination in macroeconomic policies. Some CARICOM countries (Barbados, Jamaica and Trinidad and Tobago) have moved towards a regional stock market, with cross-listing and trading in securities on existing exchanges. The Organisation of Eastern Caribbean States, part of CARICOM, shares a common currency and central bank.

Despite the limited nature of advances in formal financial integration, there has nevertheless been some evidence of de facto intra-regional integration in Central America and the Caribbean. In Central America, a number of financial institutions that originally focused on the home market have expanded throughout the region by establishing new offices, branches or subsidiaries (Rodlauer and Schipke (2005)). Cross-border expansion has also taken place through informal ownership relations, such as parallel banks.[13] The percentage of assets held by regionally operated banks is particularly high in El Salvador, Nicaragua and Panama. In the Caribbean, where local banks have been able to hold their own in the face of competition from foreign banks, indigenous banking groups from the larger economies have managed to expand their cross-border activities. For example, banks headquartered in Trinidad and Tobago have carried out acquisitions in the sub-region.

This process of intra-regional integration could generate important benefits for the banks involved. Larger entities will be able to enjoy economies of scale and diversify their portfolios

[13] Entities that have the same beneficial owners and consequently often share interlinked businesses, although they are not part of the same financial group for regulatory consolidation purposes (see BCBS (2003a,b)). The existence of such structures contributes to deeper integration than would be implied by a simple consideration of the most common forms of establishment.

across countries. However, it could also bring new risks as banks enter into markets that have different risk characteristics and regulatory regimes (Rodlauer and Schipke (2005)). Moreover, this process has also created some concerns for bank supervisors to the extent that one of the motives for cross-border expansion has been the exploitation of regulatory arbitrage opportunities. Cross-country differences in capital, reserve and liquidity requirements are sufficiently large to make arbitrage enticing. Differences in prudential requirements could also encourage adverse selection to the extent that weak banks could opt to establish holding companies in less well supervised jurisdictions. Such developments could limit the capacity of countries to regulate their financial systems and would warrant increased cooperation between regulators along with a greater harmonisation of supervisory rules.

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

Camilo E Tovar[1]

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.

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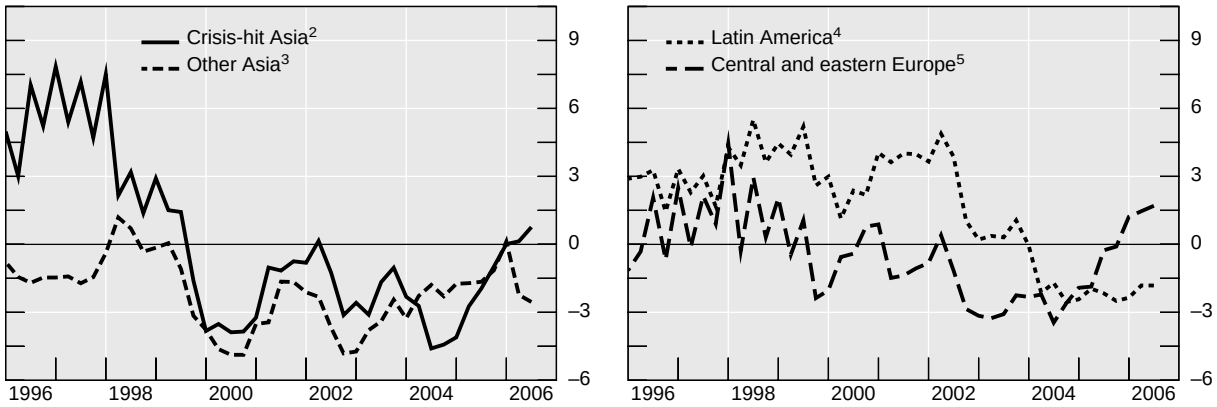
[3] In the case of Brazil the fiscal responsibility law strengthened fiscal institutions and established a broad framework for fiscal planning, execution and transparency at the federal, state and municipal levels.

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

Graph 2.1

External vulnerability indices[1]



[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 …	Volatility[3] of …	NPL[1] correlation[2] with …	Volatility[3] of …	NPL[1] correlation[2] with …	Volatility[3] of …	NPL[1] correlation[2] with …	Volatility[3] of …
	GDP growth[4]		export growth I[5, 6]		export growth II[6, 7]		terms of trade	
	1996/97[8]–2004							
Oil countries[9]								
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)).

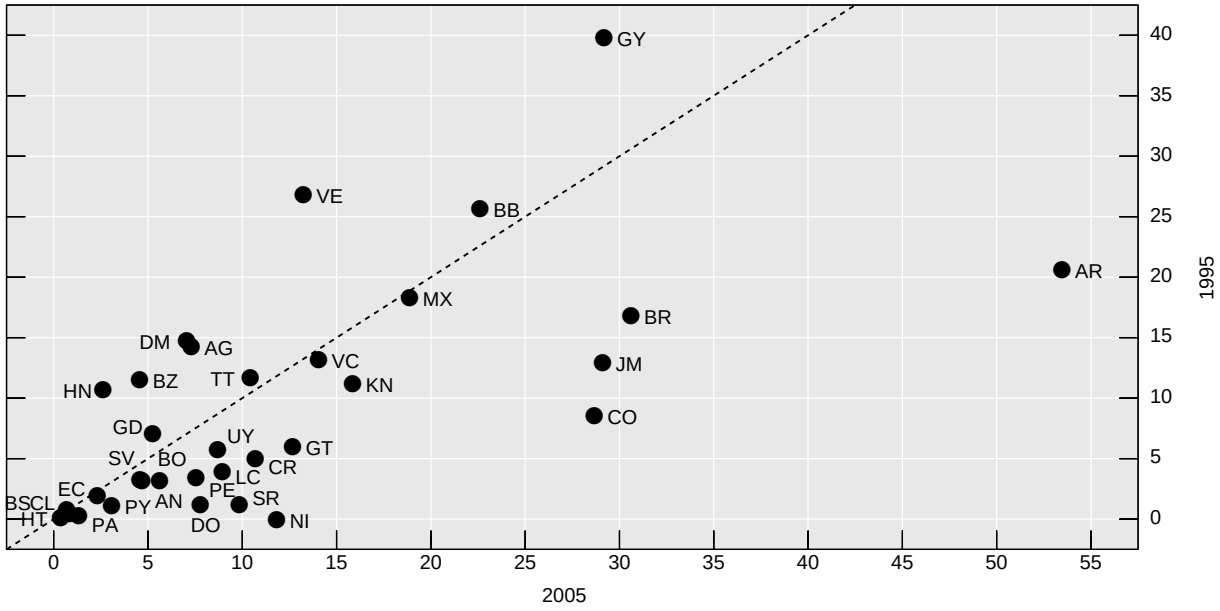
Bank credit to the public sector is an important source of market risk. During the last decade, bank credit to the government as a percentage of total bank assets has increased in most countries in the region, for example in Argentina, Brazil, Colombia, Costa Rica and Jamaica (see Graph 2.2 and Table 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).

insufficient level of individual risk sharing appears to be associated with the lack of legal protection for the holders of guarantees, which is inhibiting the development of liquid repo and securities lending markets, the incomplete regulation of securities lending and the lack of a benchmark to price short- and long-run forward rate agreements.

Graph 2.2

Bank credit to the government[1]



AG = Antigua and Barbuda; AN = Netherlands Antilles; AR = Argentina; BB = Barbados; BO = Bolivia; BR = Brazil; BS = Bahamas; BZ = Belize; CL = Chile; CO = Colombia; CR = Costa Rica; DM = Dominica; DO = Dominican Republic; EC = Ecuador; GD = Grenada; GT = Guatemala; GY = Guyana; HN = Honduras; HT = Haiti; JM = Jamaica; KN = St Kitts; LC = St Lucia; MX = Mexico; NI = Nicaragua; PA = Panama; PE = Peru; PY = Paraguay; SR = Suriname; SV = El Salvador; TT = Trinidad and Tobago; UY = Uruguay; VC = St Vincent and the Grenadines; VE = Venezuela.

[1] Deposit money banks' claims on the government as a percentage of total bank assets.

Source: IMF.

Credit risk

The risk that a debt issuer will default is known as credit risk; this is typically the most important form of risk for commercial banks. In assessing credit risk, an institution needs to consider three issues: default probabilities over the horizon of the obligation, credit exposure (ie how large the obligation is when the default occurs) and the recovery rate (ie what part of the exposure may be recovered through bankruptcy proceedings or some other form of settlement).

Credit risk in LAC is often difficult to assess due to the lack of information on the credit history and financial position of borrowers, inadequate accounting practices and standards that make it difficult to evaluate credit exposures, macroeconomic volatility and deficiencies in the institutional environment (eg political instability). Weak enforcement of creditor rights may also contribute to uncertainty regarding recovery rates. Although many of these factors have been improving in recent years, progress in some cases is slow.

Moreno (2006) highlights two key issues related to credit risk that are relevant for emerging market economies (EMEs). First, the distinct increase in the share of credit to the household sector that has been observed in a number of countries could lower credit risk if the concentration of bank assets fell, if consumer credit diversifies risk among a larger number of

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.

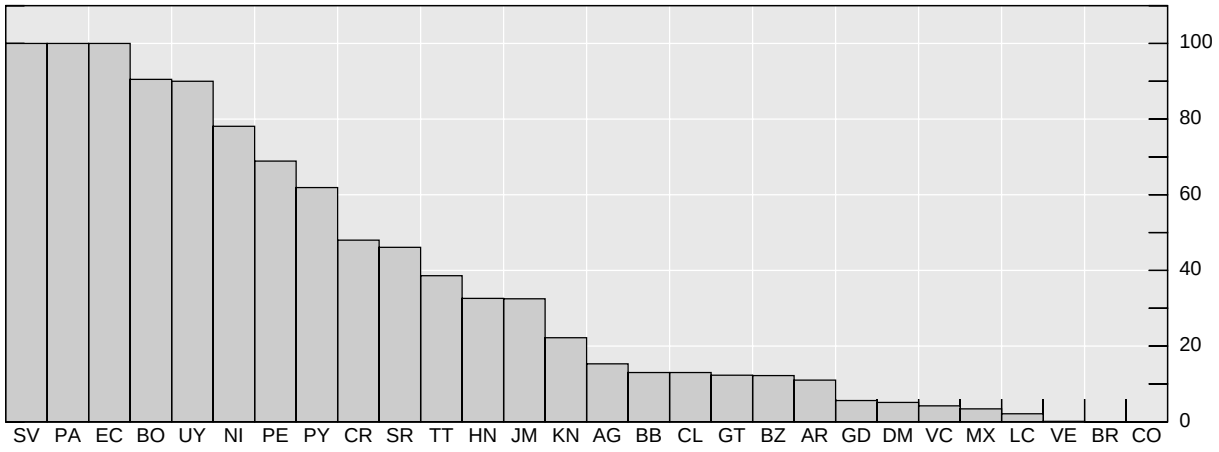
Dollarisation and financial fragility

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 ratios[1]



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.

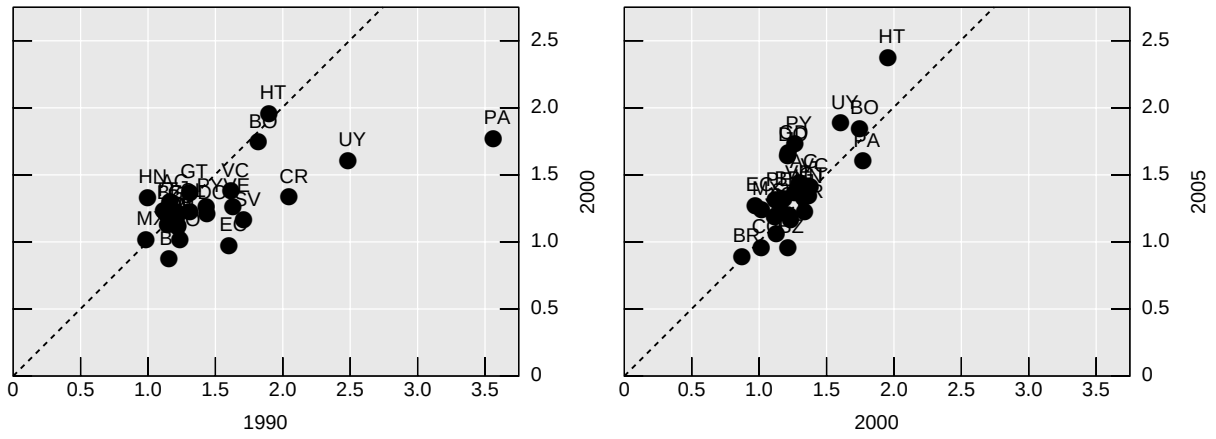
Given the limited development of interbank and bond markets in the region, it seems natural to think that funding risk may be very relevant. However, assessing its importance is difficult due to the lack of appropriate data. Ideally, we would like to have a measure of, say, the liquidity gap;[8] that 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.

indicative of problems for the bank as its long-term commitments would not be funded by its existing operations. At the end of 2005 all countries in the region had an excess of deposits over credit, thus suggesting a higher exposure to market than to liquidity risk (see Graph 2.4). However, as illustrated in the same graph, this ratio appears to have been relatively stable across time, with most changes taking place during the 1990s.

Graph 2.4

Deposit/credit ratio[1]



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

[1] Ratio of domestic deposits of deposit money banks (IFS, lines 24–26) to domestic credit of deposit money banks (IFS, lines 22, 22...).

Source: IMF, *International Financial Statistics* (IFS).

One important aspect to keep in mind when assessing liquidity risk in the region is that liquidity is likely to change significantly with the business cycle and the evolution of risk aversion. A particular concern is the possibility of boom and bust cycles in which periods of ample liquidity are followed by periods of retrenchment and financial stress, with possibly adverse systemic implications. In fact, liquidity has often taken centre stage in recent crises (eg those in Argentina, Bolivia, the Dominican Republic, Ecuador, Jamaica, Paraguay and Uruguay).

Although the risks entailed by the high degree of financial dollarisation in the region have already been highlighted, it is worth stressing that liquidity and solvency risks are magnified by such a phenomenon. For instance, this occurs when there is inadequate backing for the dollar liabilities of banks. In such cases, an increase in country or banking risk may lead depositors or other creditors to convert their deposits or lines of credit into dollar cash or transfer them abroad. Unless banks have sufficient dollar assets abroad, they may run out of liquid dollar reserves and drain the central bank's reserves. The Uruguayan crisis of 2002 is a good example of such fragilities in a highly-dollarised economy (De Brun and Licandro (2006)). In fully dollarised economies, such as Ecuador and El Salvador, systemic liquidity runs could also be a problem for the financial system in particular, given that the central bank is no longer a lender of last resort.

The implications of market structure for risks

Risks in the banking sector have also changed as a result of the evolving structure of the market. In this regard, an important issue is how risks are affected by bank ownership (state and foreign) and market consolidation.

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.

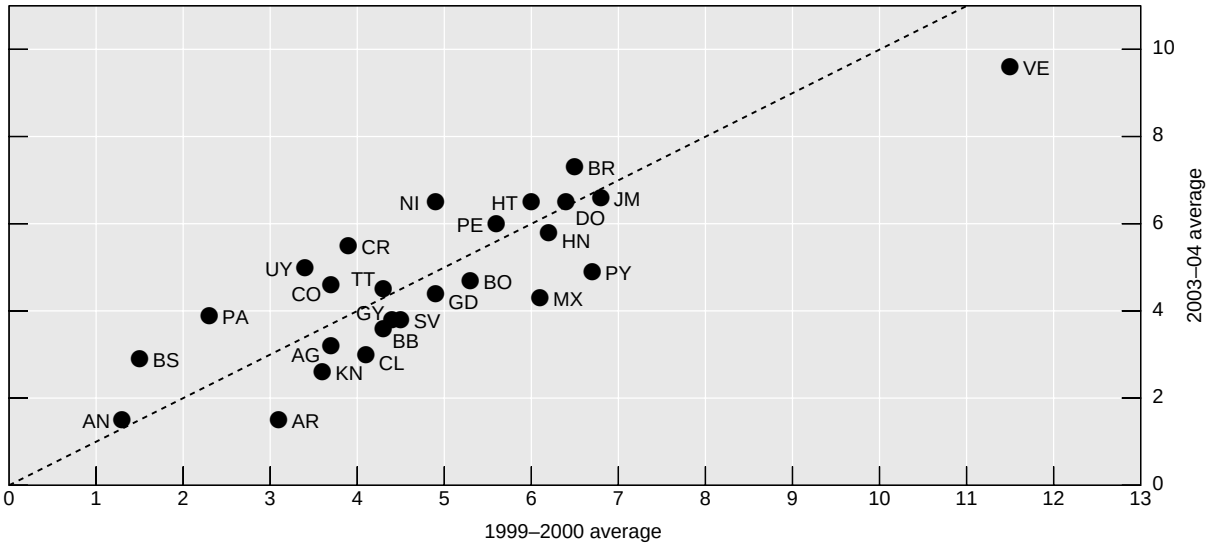
There have also been improvements in the quantification of risks. Banks in the region are adopting more advanced techniques for risk assessment, such as value-at-risk, stress testing and credit scoring. Several difficulties arise, however, when implementing more sophisticated risk assessment techniques. 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' profitability[1]



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.

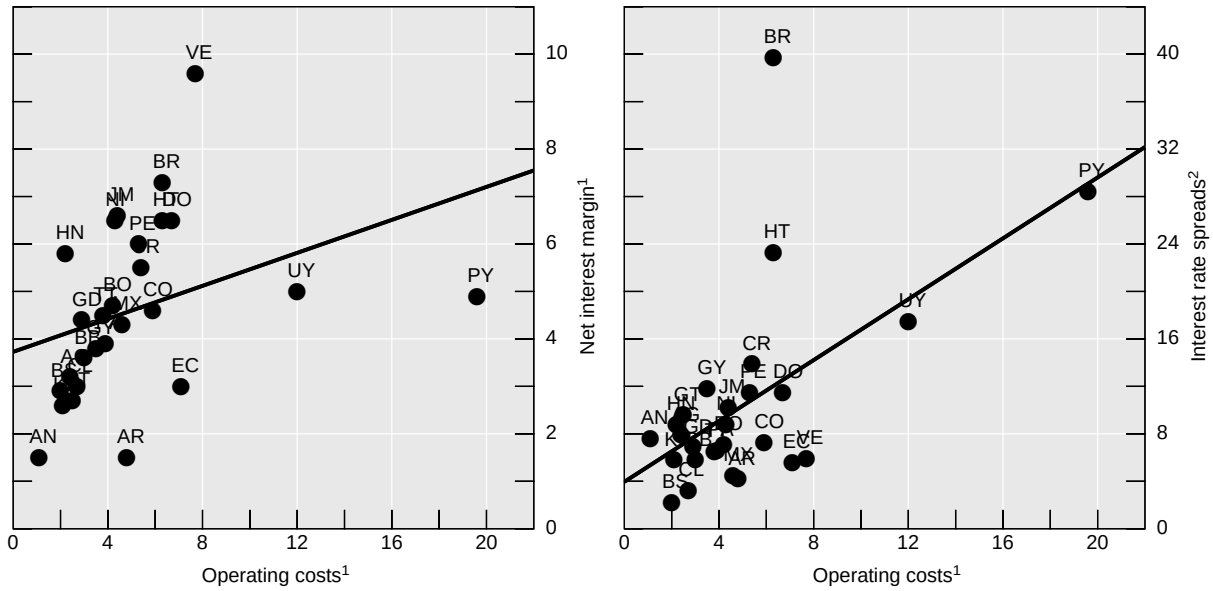
Better management practices and reduced operating costs could lead to lower interest rate spreads or margins; operating costs appear for instance to be highly correlated with net interest margins or spreads (Graph 2.6). Other factors that may have important effects on pricing are those related to changes 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 spreads[1]



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.

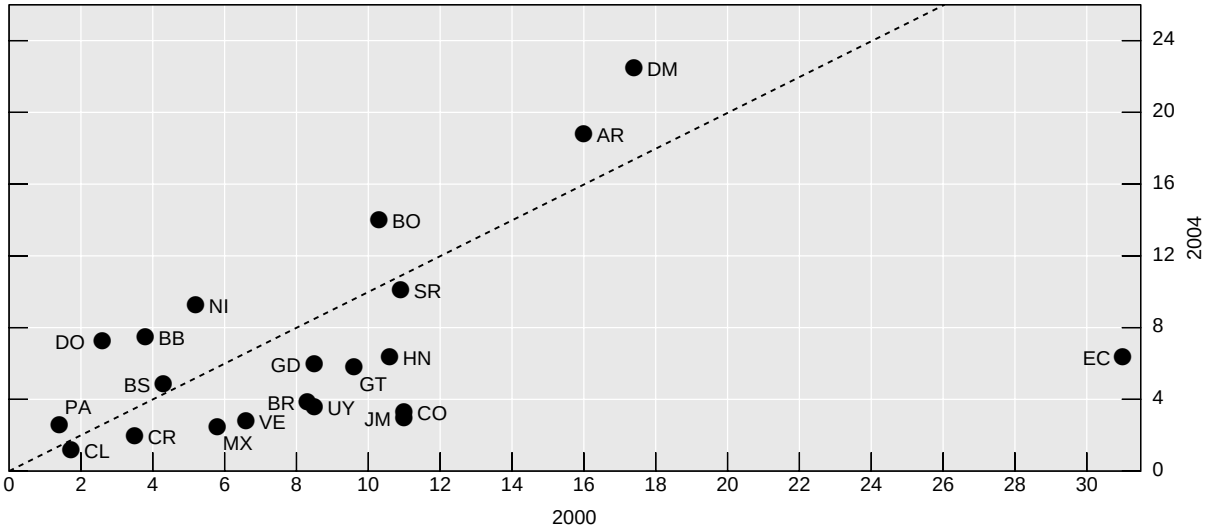
As is well known, the effectiveness of risk management also depends on the ability to hedge or transfer risks. An important issue in this respect is the lack of depth in asset and risk transfer markets in LAC. Markets for interest rate risk hedging in the region are either very recent or not available. 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 loans[1]



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.

III. Structural transformation of financial systems and its implications for monetary policy in Latin America and the Caribbean

Camilo E Tovar[1]

Overview

The structural transformation of financial markets in Latin America and the Caribbean (LAC), may have altered the degree of competition and efficiency of these markets and affected how short-term interest rates, reserve aggregates or the money stock respond to policy actions and non-policy disturbances. As a result, it seems natural to ask whether such transformation has affected the manner in which monetary policy is conducted or the strength and relevance of the different transmission channels through which it operates.

It could be argued that the development in the structure of financial systems responds to changes in central bank operating procedures,[2] rather than the opposite (Archer (2006)). In this case, it is possible that changes in operating procedures could help develop a liquid interbank market, which could in turn reduce interest rate volatility. Furthermore, bank intermediation may also respond endogenously to monetary policy through changes in the level of reserve requirements or in their remuneration.

In general, it is difficult to make any assessment of the causality involved in the relationship between monetary policy operating procedures and the structure of the banking sector. In fact, such a relationship is likely to run in both directions. To disentangle some of these issues, this chapter provides an overview of the use of instruments for monetary control and operating procedures with a focus on smaller economies and on how the transmission of monetary policy may have changed during the last decade.

Monetary control, instruments and operating procedures

Traditionally, monetary authorities in emerging market economies (EMEs) have relied heavily on direct or non-market instruments for the conduct of monetary policy. Such instruments include interest rate controls, credit guidelines, reserve requirements and lending through the

[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 for his detailed comments and suggestions. I also acknowledge useful comments by Már Gudmundsson, Gregor Heinrich, Serge Jeanneau and meeting participants.

[2] Walsh (2003) defines operating procedures as the collective set of rules, traditions and practices required for the implementation of monetary policy. As such, operating procedures differ according to the actual instrument the central bank uses in its daily conduct of policy, the operating target over which control is achieved over short horizons, the conditions under which instruments and operating targets are automatically adjusted in light of economic developments, the information set about policy and the types of announcements the monetary authority might make, its choice of variables for which it establishes targets (eg money-supply growth or the inflation rate) and whether these targets are formal or informal. See Borio (1997) for a very useful discussion on monetary policy implementation in industrial countries.

discount window.[3] Heavy reliance on direct controls has a number of potential disadvantages.[4] First, it can lead to a misallocation of resources, with possibly significant economic costs. Second, it can impair the supply of financial services; for example, high reserve requirements function as an implicit tax on the banking sector. Also, credit is often denied to certain sectors (eg small and medium-sized enterprises) that could potentially add to domestic output and employment. Third, controls are often circumvented by informal or offshore financial sectors that operate in parallel to the formal domestic sector.[5] As a result, monetary management can become a very complicated exercise.

The structural transformation of financial markets, and the process of globalisation have induced changes in policy targets, operating procedures and instruments. Indeed, though some central banks in the region still conduct monetary policy through the use of direct instruments, there has been a gradual evolution towards greater use of indirect instruments that seek to affect overall monetary and credit conditions through the demand or supply of liquidity.[6]

Table 3.1 offers an overview of different operational tools employed worldwide by central banks. It is evident that developing and EMEs still rely on the use of credit and interest rate controls and liquid asset ratios, both of which have largely been phased out in developed countries. Furthermore, all developing countries in the sample rely on the use of reserve requirements. Open-ended standing facilities and discretionary market-based instruments are part of the standard toolkit for the conduct of monetary policy in developing and EMEs. However, the key difference with developed countries is that they are part of a broader set of tools that indicate the presence of important market and institutional shortcomings in these economies.

Table 3.1

Use of monetary instruments at various stages of development

In per cent of the countries in the sample

	Developing countries	Emerging economies	Developed countries
Credit and interest rate controls	4	22	0
Liquid asset ratio (LAR)	65	30	9
Reserve requirements	100	96	70
Open-ended/standing facilities	96	96	100
Discretionary/market-based tools	96	96	100

Note: Data relate to 23 countries in each of the three categories.

Source: IMF (2004).

[3] See Central Bank of Trinidad and Tobago (2005) for a representative summary of interest and credit ceilings and reserve requirement measures used over the decades in a Caribbean economy. Arena et al (2006) provide a good summary of reserve requirements in the region during the last decade.

[4] For a more detailed discussion of the rationale behind the use of direct instruments see Van 't Dack (1999), Agénor (2004) and Hawkins (2005).

[5] For instance, in Ecuador controls were reportedly circumvented by offshore financial institutions, which partially justified the explicit dollarisation of the economy.

[6] For instance several countries in the Caribbean still rely on quantitative instruments (eg Aruba, the Bahamas, Belize and Trinidad and Tobago).

In Table 3.2 we report the current use of operational tools for a selected number of countries in LAC (details are provided in the table's footnote). As shown, credit and interest rate controls have been phased out, Brazil being an exception. However, requirements for a bank to hold minimum amounts of specified liquid assets are more widespread. Table 3.3 also confirms that reserve requirements are a common instrument for the conduct of monetary policy in the region. This is also true of money market operations that is, operations used at the discretion of the central bank and bearing an interest rate linked to market conditions (eg OMOs). Less common is the use of standing facilities (ie monetary instruments used at the initiative of commercial banks and bearing a pre-specified interest rate). However, in economies with fixed exchange rates or currency unions, such as the Eastern Caribbean Currency Union (ECCU), standing facilities can influence banks' lending rates and, therefore, economic activity. Of course, for this to be the case, it is necessary to have a discount rate lower than the rediscount rate for Treasury bills.[7]

The inefficiencies cited earlier suggest that market-based instruments should in principle be a superior alternative. However, the use of such instruments typically requires the existence of developed financial systems that offer monetary authorities a choice of markets in which to operate and guarantee that actions in one market will spread effectively to other markets. In many countries in the region, financial markets are only at an early stage of development and are often incomplete or segmented.[8] Furthermore, they often lack the depth and liquidity necessary for adopting market-oriented monetary policies. In some countries, other factors such as the lack of a stable macroeconomic environment and sound fiscal policies together with a low degree of central bank autonomy have also limited the success of reliance on money market operations for the conduct of an efficient monetary policy (IMF (2004b)).

The underdevelopment of financial markets is reflected in the degree of market segmentation, the lack of securities at longer maturities (resulting in the absence of a full developed yield curve) or the general lack of depth and liquidity in financial markets. In smaller economies, market segmentation has constrained economic development as well as the conduct of monetary policy.

Only recently have the largest economies in the region begun to extend the local currency fixed-rate yield curve to the longer end (Graph 3.1) and there is still room for progress. Furthermore, the lack of liquidity that characterises most of these markets raises questions about the information content provided by yield curves in the region (Jeanneau and Tovar (2006)).

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[7] The ECCB conducts monetary policy through standing facilities by employing discount and rediscount rates, setting differential rates and ceilings for various classes of transactions, determining priority areas for credit distribution in cooperation with member governments, and by establishing a schedule of reserve requirements varying on the type of deposit. See IMF (2004b).

[8] The main focus of this chapter relates to the formal sector. However, the importance of informal and unregulated parallel markets should be kept in mind when assessing the challenges and risks faced by central banks when conducting monetary policy in these countries.

Table 3.2

Use of monetary instruments in selected economies of Latin America and the Caribbean

	Argen-tina	Brazil	Ecuador	Jamaica	Paraguay	Dominican Republic	Uruguay
Credit and interest rate controls	No	Yes[3]	No	No	No	No	No
Liquid asset ratio (LAR)	No	No	Yes[7]	Yes[10]	No[13]	No	Yes[18]
Reserve requirements	Yes	Yes[4]	Yes[8]	Yes[11]	Yes[14]	Yes[15]	Yes[19]
Open-ended/ standing facilities	Yes[1]	Yes[5]	No	No	No	Yes[16]	Yes[20]
Discretionary/ market-based tools	Yes[2]	Yes[6]	Yes[9]	Yes[12]	No	Yes[17]	Yes[21]

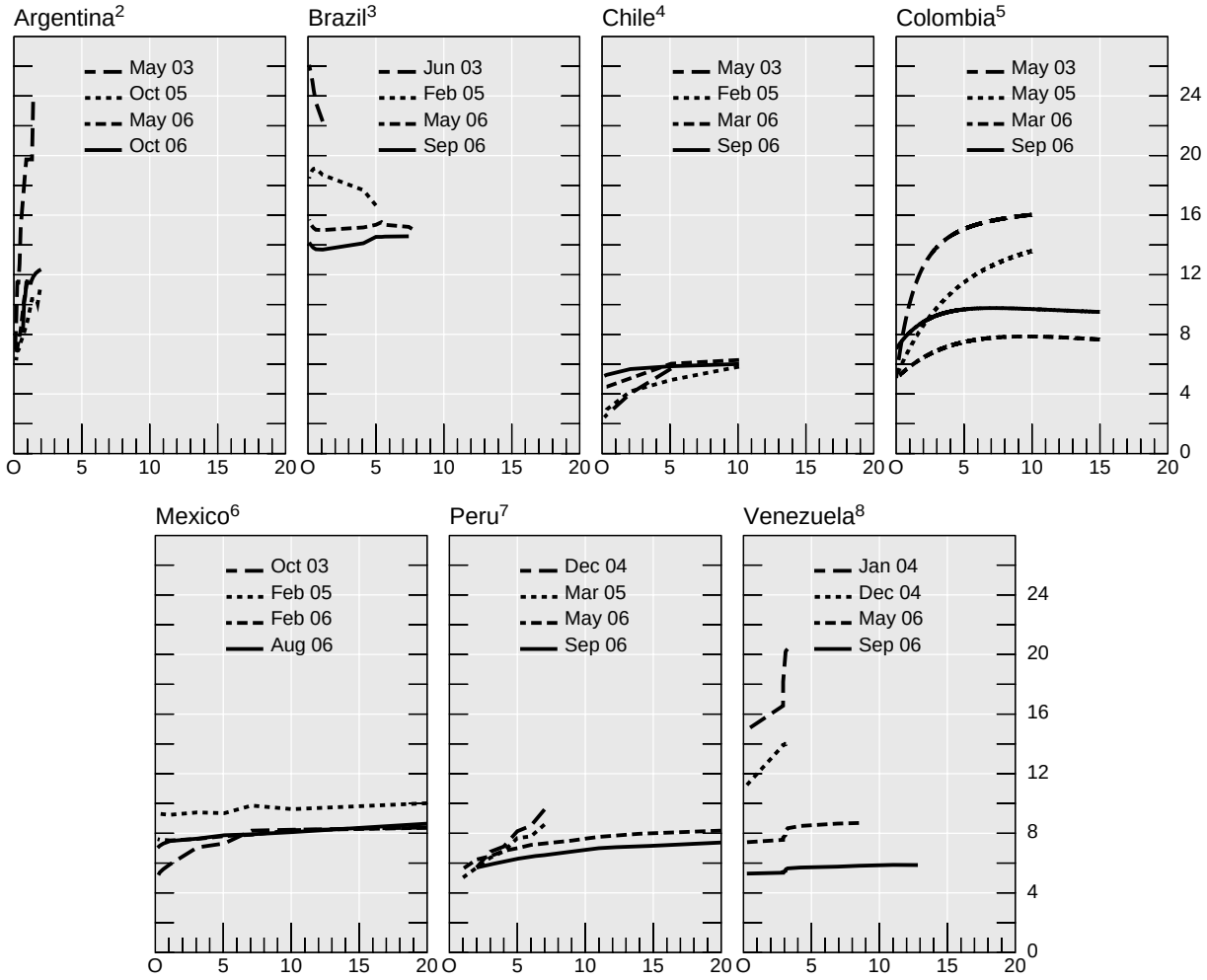
[1] Buying/selling assets under a repurchase agreement. [2] Primary market issuance of central bank securities, buying/selling assets on the secondary market. [3] Shares of demand deposits are to be used on agriculture and micro-credit sectors. Part of savings account deposits is directed either to agriculture or to house financing. Ceilings on interest rates apply. [4] On demand deposits (cash, non-remunerated), time deposits (government bonds) and savings accounts (cash, remunerated). [5] Automatic one-day repo at the end of the day at banks' request. Almost never used given its high cost. Since 2001 there has also been the option to conduct short- and medium-term operations, but this standing facility has never been used. [6] Open market operations (outright, repo, and reverse repo operations on the secondary market - government bonds as collateral). [7] The bank and insurance supervisor requires financial institutions to keep an index of structural liquidity ("índice estructural de liquidez", IEL). This is calculated based on the ratio of liquid assets and callable liabilities in the short run. The minimum IEL will be the greatest value between: the equivalent to 2.5 times the weighted average volatility of the main sources of funding for the institution, or the amount needed to cover 50% of the hundred largest deposits with a maturity up to 90 days (this amount may be adjusted based on the methodologies capturing the deposit concentration index). Financial institutions not meeting the IEL minimum criteria for two consecutive weeks, or within a period of 90 days, will not be allowed to increase the lending balance using own funds or make transactions that affect this indicator. The product of their improvements will be used to reestablish the IEL to its minimum level and, additionally, they will be asked to submit a contingency plan to the supervisor that will include corrective actions. The IEL is used as a prudential regulation but not as a monetary policy instrument. [8] According to the law (articulo 14 de la Codificación de la Ley Orgánica de Régimen Monetario y Banco del Estado), financial institutions operating in the country under the Banks and Insurance Regulator, excluding savings and loans institutions, must keep reserves on deposits and collections according to the judgment of the central bank. This reserve, called the "encaje", will be kept under deposit at the central bank and marginally in cash by the financial institutions themselves. The board of the central bank has determined a unique percentage of the reserve requirement (4%) for all deposits and dollar-denominated deposits and collections raised by public and non-public banks and other financial institutions subject to the control of the Banks and Insurance Regulator. [9] The board of the central bank can authorise the institution to conduct OMOs, with charge to reserves and as a medium to raise liquidity. This is to be done under the following procedures: i) issuance of central bank notes with maturities of less than 360 days; ii) issuance of central bank bonds with maturities of more than 360 days; and iii) repo operations in US dollars, with banks subject to the reserve requirement, and exclusively with securities issued or guaranteed by the state through the Ministry of Economy and Finance. These operations will be exclusively executed with banks with a constituted net worth that exceeds at least the technical net worth required by law and a maturity of less than 90 days. [10] 23% of liabilities. [11] 9% of cash (part of LAR). [12] Open market operations. [13] Indirectly controlled by the National Rating Bank, called CADEF. This is the rating system of the Superintendency of Banks and it is based on the capital, asset, liquidity, management and earnings ratios. [14] Local currency: demand deposits, 15%, 2- to 360-day deposits, 7%, deposits with maturity of 541 days or more, 0%. Foreign currency: demand deposits, 26.5%, 361- to 541-day deposits, 16.5%, 541- to 1,080-day deposits, 6.5%, and deposits with a maturity of 1,081 days or more, 1.5%. [15] 20% on banks' deposits in USD and DOP. [16] Overnight rate at 8% (deposits) and Lombard rate at 18% (loans). [17] Fixed rate central bank certificates for the public and zero coupon auctions for financial intermediaries and institutional investors. [18] Banks have requirements in terms of a percentage of deposits that has to be maintained either in cash, in vaults or at the central bank. Rates are different according to terms and currency of denomination. [19] For foreign currency, a percentage has to be held at the central bank. [20] There is an overnight deposit facility at the central bank (currently with a rate of 0%) and a Lombard rate (currently 10%). [21] The central bank conducts open market operations to regulate the monetary base, normally based on auction techniques over monetary instruments.

Source: Central Banks.

Graph 3.1

Yield curves of domestic fixed rate local currency government bonds[1]

In per cent



[1] Remaining maturities in years (O = overnight). [2] Lebac. [3] Swap rates; long-term government bonds (NTN-F). [4] Central bank issues. [5] Zero coupon yield curve. [6] Cetes and government bonds. [7] Government bonds, secondary market. [8] Government bonds (Vebonos and TIF); last auction in the month.

Source: National data.

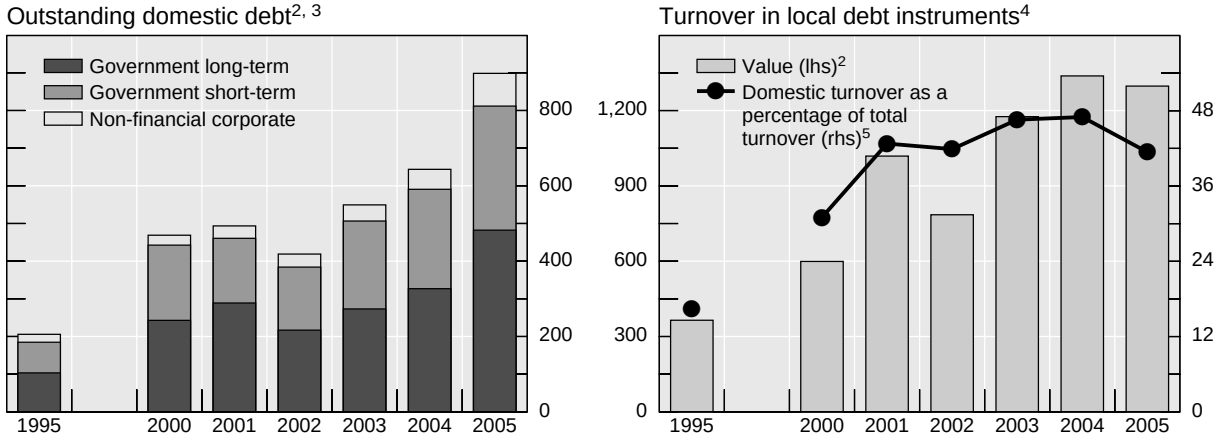
As is well-known, market liquidity is essential for the smooth functioning of financial systems and also for the response of market rates to monetary policy actions. Poor liquidity or a liquidity breakdown under stress can induce large changes in market prices and, in general, complicate the conduct of monetary policy due to its impact on financial stability. In extreme situations, such as those seen in Brazil in 2002 and Colombia in 1998 and 2002, it can lead to the temporary transformation of tradable assets into non-marketable loans, or require government intervention to keep markets functioning.[9]

[9] For instance, in Colombia during the second half of 1998, the yield on government paper (TES) reached 35% compared with 23.6% at the beginning of the year. A similar problem was experienced during 2002, leading to the so-called “mini-TES” crisis. During this period, the government was unable to tap the market for several

In the larger economies of the region, secondary market trading in domestic bonds, a common measure of liquidity, has also expanded in recent years (Graph 3.2, right-hand panel) but it still remains low relative to mature markets (Table 3.3). According to the Emerging Markets Trading Association (EMTA), yearly trading by its member banks in the domestic instruments of the region's seven largest countries amounted to USD 1.3 trillion in 2005, or 1.6 times the outstanding stock of government securities. Within Latin America, moreover, there is considerable variation in secondary market activity. While annual turnover in Mexican securities is five times the outstanding stock, that in Peruvian and Venezuelan securities is less than the outstanding stock (Jeanneau and Tovar (2006)).

Graph 3.2

Domestic debt in Latin America[1]



[1] Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. [2] In billions of US dollars. [3] End of period. [4] Annual total. [5] Domestic and international transactions.

Sources: EMTA; national authorities.

In the Caribbean, only Jamaica and Trinidad and Tobago are considered to have genuine secondary markets. However they are unsophisticated by developed country standards (Ramlogan (2004)).[10] A number of important initiatives have been undertaken to foster financial market development.[11] For instance, the Eastern Caribbean Central Bank (ECCB) highlights that in the early 1990s the rudimentary issuance of shares by public firms and Treasury bills and bonds by ECCU member governments induced a highly fragmented financial system with eight separate markets. In an effort to remedy this situation, the ECCB promoted the implementation of a capital development programme. In 2002 a regional government securities market was launched, aimed at strengthening and developing the

months due to the high costs of financing. In 2002, the Brazilian government issued securities indexed to foreign-currency to counter growing illiquidity in the foreign exchange market.

[10] As a reference, in the first nine months of 2005 there were 16 placements totalling $4.7bn in the bond market of Trinidad and Tobago. All but five bonds were of a 10-year maturity and the remaining securities had maturities of between 9-20 years.

[11] Notwithstanding, some authors such as Nelson-Douglas (2004) used three indicators of financial depth (broad money to GDP, the average and standard deviation of real interest rates on domestic currency deposits in the banking system) to claim that the Jamaican economy's financial development surpasses to some extent those of other Latin American economies. However, these results need to be taken with caution given the imperfect nature of such measures as indicators of financial depth in securities markets.

existing primary market for Treasury bills and bonds, and promoting the development of secondary market for these securities. Also, in October 2001 important changes were introduced to the interbank market to facilitate the market determination of fund rates and contribute to increase interest rate flexibility in the ECCU (ECCB (2003)). In other smaller economies important initiatives have also been taken to develop financial markets.

Table 3.3

Indicators of secondary market liquidity in local government securities markets in 2005

	Annual turnover		Bid-ask spread	Average size of transaction related to bid-ask spread
	Billions of US dollars	Percentage of outstanding securities		
Argentina	91.5	187	10-50 bp on fixed rate and inflation-indexed bonds	USD 1m
Brazil	433.0	79	5 bp on fixed rate bonds	BRL 10-50m
Chile	26.0	98	5 bp on fixed rate bonds	CLP 100m
			5-10 bp on inflation-indexed bonds	UF 100,000
Colombia	45.0	132	3-5 bp on fixed rate bonds	COP 2bn
Mexico	696.7	494	3-5 bp on fixed rate bonds	MXN 50-100m
			5-15 bp on inflation-indexed bonds	MXN 5-10m
Peru	2.6	46	10-20 bp on fixed rate bonds	USD 1m
Venezuela	2.8	39	50-100 bp on floating rate bonds	VEB 2.4bn
Total	1,297.6	160	...	...
Memo:				
United States	*138,756.0*	*2,186*	*0.8-1.6 bp on fixed rate bonds*	*USD 25m*

Note: Annual turnover data for Latin American countries correspond to secondary market transactions reported by major dealers and money management firms to EMTA. Annual turnover for the United States is based on daily inter-dealer transactions in US Treasury securities as reported in the Statistical Supplement to the *Federal Reserve Bulletin*.

Source: Jeanneau and Tovar (2006).

There is no consensus on the extent to which policy makers and, in particular, central banks should foster the development of financial markets. One view is that monetary policy instruments and procedures should accommodate themselves to the level of development of financial markets. An alternative view is that, even if such markets are little developed, central banks should be ready to set the pace of financial development. Based on questionnaire responses provided by central banks in emerging countries, Archer (2006) found that waiting for institutions to evolve before adopting market-based mechanisms may be a less successful strategy than promoting that evolution by adopting such mechanisms as part of a modernisation programme.

In either case, a long period of transition in which market-oriented instruments coexist with quantitative controls is frequently necessary. The sequencing and speed of this transition need to be carefully assessed so that policy makers have enough room to learn about the new environment and financial institutions are able to cope with greater interest rate volatility.[12] Furthermore, it must be recognised that the inherited institutional structure might not be appropriate to a market-driven environment. This is a factor, for instance, when state-owned banks continue to play a significant role or if savings are channelled through national savings institutions.

Among smaller economies in the region, Jamaica is a good example of the challenges associated with the transition from direct towards market-based instruments. The Bank of Jamaica has played a key role in developing the secondary market by holding and trading government bonds of different maturities. However, central bank officials indicate that the process was slow because market participants were not willing to take new risks and, in some cases, asked for explicit guarantees. Transition to market-based instruments made it more difficult to manage liquidity in the economy (in particular, in the context of opening up the economy). It was only when reverse repurchase agreements were introduced that the capacity to manage liquidity was enhanced (Nelson-Douglas (2004)).

The evolution of operating procedures

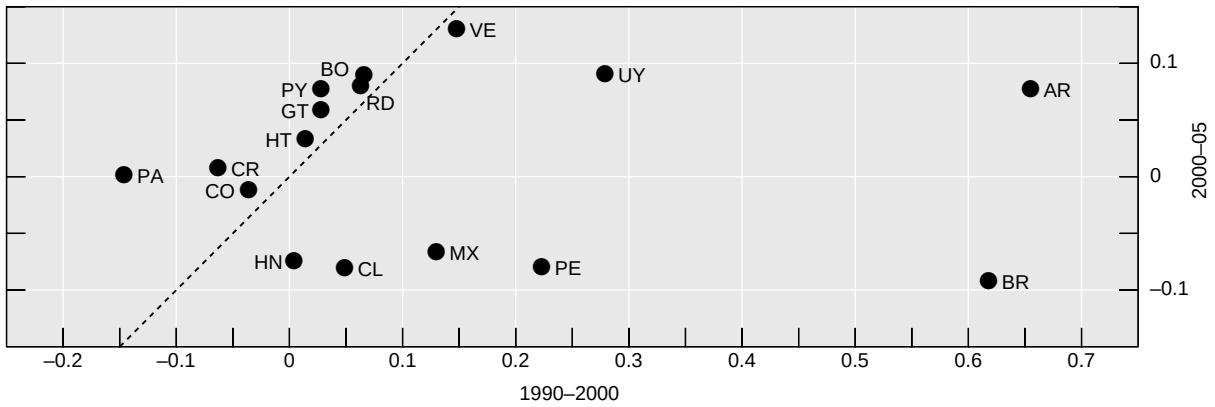
The changes highlighted in the previous section imply that countries that have adopted indirect instruments still need to ensure that such instruments operate in an efficient and effective manner. Some perspective on this can be obtained by examining the evolution of central bank operating procedures.

Over the last 15 years, as central banks have gained more independence, operational procedures have evolved, altering the dynamics of financial transmission. Experience suggests that countries first established monetary targets, with weights that varied significantly over time. Then, with the advent of financial deregulation and innovation, central banks relied less on monetary targets (due to the sharp decline in the correlation between money and inflation (Graph 3.3)) and switched to operating procedures that targeted interest rates.

[12] IMF (2004b) identifies four stages in the development of money markets: (i) Post-conflict countries. Financial reforms involve reestablishing key functions in areas where a central bank has responsibilities; (ii) Developing financial intermediation. Monetary policies rely on rules-based instruments (eg reserve requirements or deposit or refinance facilities available to the banks on demand); (iii) Fostering interbank market development. Money market operations are to be introduced at this stage, but rules-based instruments remain relevant. Economies with limited market participation (eg due to small economic size) may not go beyond this point; and (iv) Diversification of markets. Liquidity management can now start to fully rely on money markets.

Graph 3.3

Correlation between inflation and money[1]



AN = Netherlands Antilles; BB = Barbados; BO = Bolivia; BR = Brazil; BS = Bahamas; CL = Chile; CO = Colombia; CR = Costa Rica; DM = Dominica; DO = Dominican Republic; EC = Ecuador; GD = Grenada; GT = Guatemala; GY = Guyana; HN = Honduras; HT = Haiti; JM = Jamaica; KN = St Kitts; LC = St Lucia; MX = Mexico; NI = Nicaragua; PA = Panama; PE = Peru; PY = Paraguay; SV = El Salvador; TT = Trinidad and Tobago; UY = Uruguay; VC = St Vincent and the Grenadines; VE = Venezuela.

[1] Annual percentage changes in monthly consumer prices and narrow money (M1).

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

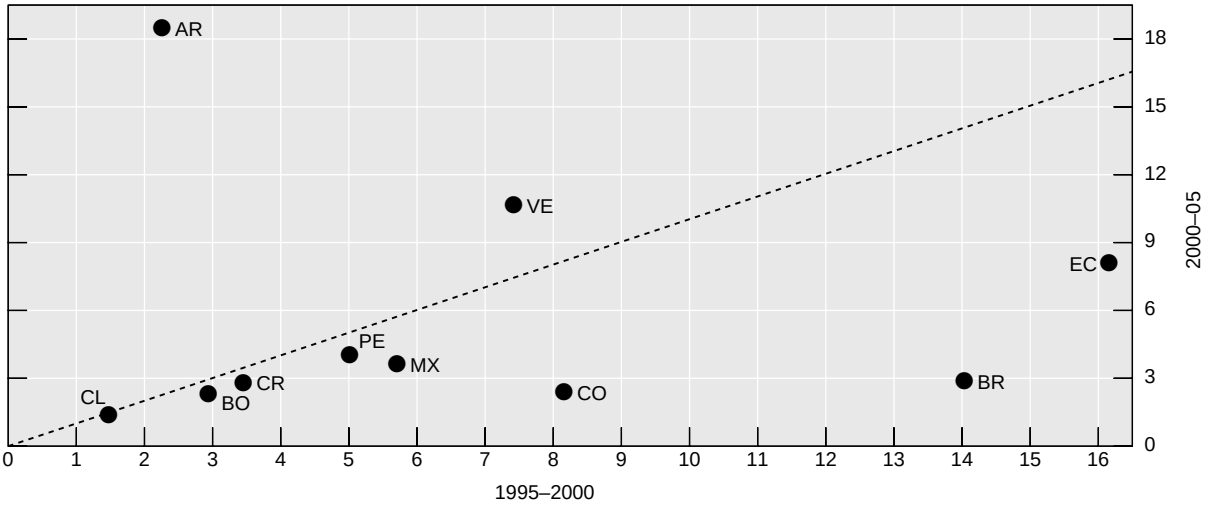
In LAC, changes in operating procedures have been closely related to the exchange rate regime in place. In the 1990s, many central banks targeted the exchange rate, surrendering their capacity to conduct monetary policy. However, the crises and the subsequent adoption of flexible exchange rates[13] encouraged a number of central banks in the region (Brazil, Chile Colombia, Guatemala, Mexico and Peru) to implement inflation targeting (IT) schemes, which also implied the adoption of alternative monetary policy frameworks. IT is consistent with the use of a short-term interest rate as the principal instrument of monetary policy and the adoption of transparent policy rules to send signals to the market about the monetary policy stance (Carstens and Jácome (2005)). Central banks that have adopted IT now employ overnight interest rates rather than quantity variables as their operational or policy variable (Mexico has been an exception). This facilitates the task of the central bank since such rates are, in principle, easier to control. In fact, as shown in Graph 3.4, interest rate volatility has declined across the region in the last few years. To maintain interbank interest rates, central banks engage in outright open market operations or use repos and reverse repos. However, due to the volatility of interbank interest rates, most central banks have opted for an IT scheme with an interest rate corridor to reduce such volatility.[14] With the adoption of short-term money market rates as an operational target, central banks seek to influence the behaviour of longer-term interest rates and the exchange rate. In turn, this influences aggregate demand and supply.

[13] Only a few countries, mainly in Central America, have kept the exchange rate as the nominal anchor.

[14] The floor of the corridor is typically the overnight rate applicable to a deposit facility for intermediaries that for some reason were unable to place their excess liquidity in the interbank market at the end of the day. The ceiling is usually the rate charged by the central bank to financial intermediaries for overnight lending. This practice this is similar to that of some developed economies such as the European Central Bank.

Graph 3.4

Interest rate volatilities[1]



Note: For a list of the countries included here, see Graph 3.3.

[1] Measured as standard deviations. For Argentina, seven-day interbank rate; for Bolivia, Costa Rica and Ecuador, discount rate; for Brazil, SELIC overnight rate; for Chile, monetary policy rate; for Colombia, interbank overnight middle rate; for Mexico, bank funding rate; for Peru, interbank rate; for Venezuela, monthly average interbank rate.

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

The conditions required for IT to be put in place are: (i) an appropriate legal framework that identifies price stability as the central bank's primary objective; (ii) the empowerment of the central bank with operational independence to achieve such objectives; and (iii) the establishment of rigorous accountability and transparency mechanisms. In addition, any other primary goals or targets must be made secondary to the inflation objective. Fiscal dominance must also be eliminated and the financial system must be strengthened.[15] However, this is not always easy to achieve in practice. In Jamaica one of the obstacles in moving towards IT has been fiscal dominance. In Bolivia and Paraguay the problem has been the high degree of dollarisation. However, Peru offers an interesting case study of how IT can be successfully implemented in a highly dollarised economy (this is discussed later in the text). Finally, in Paraguay and Trinidad and Tobago the obstacle has been the prevalence of excess liquidity in the banking system, which has eroded the role of the policy rate as a signalling device.

The challenges that arise when there is limited pass-through from repo rates to key market rates (eg interbank rates and commercial bank lending rates) are well illustrated by Trinidad and Tobago. As reported in its 2005 *Central Bank Monetary Policy Report*, two thirds of the commercial bank loans outstanding in 2004 were contracted below the prime lending rate. To deal with the lack of pass-through from repo rates to market rates, the central bank has

[15] As discussed in Zoli (2005) there are several channels through which fiscal policy can affect monetary policy. One is fiscal dominance, which is a situation in which a monetary tightening leads to an increase of the government''s debt service. The resulting increased deficit is financed through money growth resulting in higher inflation. A second channel is through its direct effect on aggregate demand. Finally, and related to the second channel, is the fiscal theory of price level. According to it a tax cut that reduces the present discounted sum of future primary balances will increase real household wealth. The resulting boost on aggregate demand will determine the price level.

recently adopted new steps to absorb the excess liquidity in the economy and improve conditions for the transmission of interest rate signals. In particular, in addition to open market operations and the more rapid increase in repo rates, the central bank has increased the sale of foreign exchange. Moreover, compulsory deposit facilities for commercial banks and a temporary secondary reserve requirement have been established.

In many countries in the region bank reserves or a broad concept of the monetary base continue to serve as the operational focus of monetary policy (see Table 3.4). For instance, Argentina and Uruguay are among those countries that have put in place a policy of monetary base targeting.[16] One reason for relying on such targeting is that bank reserves may have a reliable and predictable influence on the broader aggregates. Another is that price signals are less reliable in illiquid and volatile financial markets than in more stable ones. This was the rationale for the continued use of a liquidity target, the "corto", as the main operating target in Mexico.[17] However, other countries, as mentioned above, have continued to rely on monetary aggregates due to the difficulties involved in successfully implementing an IT regime or to the presence of dual goals (eg inflation and exchange rate).

The use of interest rates has become more relevant with financial deregulation and liberalisation. The issue, however, is which interest rate the central bank should focus on as the main or subsidiary target. Van 't Dack (1999) points out that, from a practical point of view, it should be the overnight rate. However, it has proven very difficult for some countries (eg Uruguay) to conduct certain operations that are common in other countries, such as reverse repos, due to the lack of liquid markets. In others, such as Costa Rica, the overnight rate has only recently been adopted with the expectation of setting a floor on short-term interest rates. However, its effectiveness still needs to be tested.[18]

The problem with targeting overnight rates is that they can experience sudden changes resulting from temporary technical pressures, which the central bank may not always want to counteract. In addition, the financial system may be so underdeveloped that the overnight rate simply plays no major role in the monetary transmission mechanism. An alternative is for central banks to rely on interest rates that have a longer maturity than the overnight rate as their operating target (eg South Africa employed a seven-day repo when the new operating target was introduced in 1998, and Thailand until recently targeted a 14-day rate). However, there are drawbacks to this approach. The impact on liquidity will be smaller than in a market for bank reserves, given that the central bank will have limited influence on either the supply or the demand side. In addition, targeting longer-term interest rates may make it difficult to determine how market expectations influence rates at the relevant horizon.

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[16] In Uruguay the monetary policy committee (Copom) has recently decided to move from a monetary base growth target to an M1 growth target, which is considered to be more closely associated with inflation, and which could eliminate the volatility associated with the monetary base multiplier. The Central Bank of Uruguay is expected to continue to follow a policy of monetary base targeting until the right conditions are in place to consider alternatives, such as a system of formal inflation targeting combined with a floating exchange rate.

[17] After the 1994-95 devaluation, the Bank of Mexico faced strong criticism regarding the lack of transparency in the conduct of monetary policy, which led to the use of a visible anchor: a monetary growth target. However, concerns about the risks of using interest rates as an instrument of monetary policy prompted the central bank to use borrowed reserves (the "corto") as its main policy instrument (Martinez et al (2001)).

[18] Under the current macroeconomic conditions, this floor is expected to limit speculative capital inflows and stimulate investment in longer-term securities.

Table 3.4
Monetary policy framework

	Exchange rate anchor				Monetary aggregate	Inflation target	IMF supported or other monetary prog[2]
	Dolla-rised[1]	Currency board	Fixed pegs	Crawling pegs			
Central America							
Belize			X				
Costa Rica				X			
El Salvador	X						
Guatemala						X	
Honduras				X			X
Nicaragua				X			
Panama	X						
Caribbean countries							
Antigua & Barbuda		X					
Bahamas			X				
Barbados			X				
Dominica		X					
Dominican Republic							X
Grenada		X					
Haiti							X
Jamaica					X		
St Kitts & Nevis		X					
St Lucia		X					
St Vincent & the Grenadines		X					
Trinidad & Tobago							X
South America							
Argentina					X		
Bolivia				X			
Brazil						X	
Chile						X	
Colombia						X	
Ecuador	X						
Mexico						X	
Peru						X	
Venezuela			X				
Guyana					X		
Paraguay							X
Suriname					X		
Uruguay					X[3]		

[1] Another currency is legal tender. [2] May imply floors for international reserves and ceilings for the central bank's net domestic assets, and consequently also indicative targets for reserve money. [3] Gradually moving to an inflation target.

Source: IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions*, 2005.

The transmission mechanism of monetary policy

The transformation of the financial sector and operating procedures may have altered the transmission mechanism of monetary policy in two ways.[19] First, it may have changed how instruments directly under the central bank's control (eg short-term interest rates or reserve requirements) affect the financial conditions faced by corporates and households (loan rates, deposit rates, asset prices and the exchange rate). Second, it may also have changed the link between financial conditions and the spending decisions of households and firms. Some of the relevant aspects here are the extent of leveraging, the composition and currency denomination of assets and liabilities, and the degree of dependence on external financing sources, as well as the emergence of new market segments (eg credit cards).

This transformation comes about in part because bank intermediation becomes less dominant as financial markets develop. This is reflected in households placing their savings outside the banking sector, enterprises relying on non-bank sources of financing and banks exploring new markets. Also, the setting of commercial bank rates becomes more dependent on financial market conditions. Furthermore, privatisation and the subsequent reduced presence of state-owned banks also have a bearing on the transmission mechanism. The presence of state-owned banks may complicate monetary policy because such entities enjoy implicit or explicit deposit guarantees or bailout promises. Their deposit and lending rates may thus reflect goals that are incompatible with market conditions and, under some conditions, could be less responsive to policy rate actions by the central bank.

The empirical evidence suggests a change in the transmission mechanism in some economies in the region in recent years. For instance, Gaytán and Gonzalez (2006) find a major structural break in the transmission mechanism of monetary policy in Mexico at the beginning of 2001 coinciding with the introduction of the IT regime. In their paper, they find a stronger response of the real exchange rate and the rate of inflation to movements in the interest rate. Although Gaytán and Gonzalez conclude that IT was the main factor explaining the change in transmission, another possibility was the development of financial markets per se and possibly also a strengthening of bank intermediation in the economy. In fact, in 2000 the government introduced a market-making scheme for government debt and began following a clearly defined public debt management strategy. The result has been impressive growth in fixed income markets since 2000, when fixed rate bond issues were first introduced.[20] The recovery of the banking sector has resulted in a gradual but sustained increase of credit to new market segments, which continues to this day.

Allen and Robinson (2005) also recognise that there has been an important change in the transmission mechanism in Jamaica. Although they do not explicitly test what the nature of change has been about, they acknowledge that it has been driven mainly by the transformation of the financial sector and a progressive opening to trade and capital flows. Robinson and Robinson (1997) argue that monetary policy could not ignore the weakness of the financial sector and an inefficient production structure, and these elements indeed appear to have played a central role in policy making. Allen and Robinson (2005), on the other hand, tend to emphasise the role of expectations for the conduct of monetary policy. Valle (2006) also reports an important structural break in the transmission mechanism in Guatemala in 1997 and 2000, which appears to have been associated with macroeconomic

[19] For a more detailed discussion, see Kamin et al (1998).

[20] For a discussion of the development of domestic government bond markets in Mexico, see Jeanneau and Pérez Verdia (2005).

imbalances that nearly pushed the country into a balance of payment crisis and which also led to the adoption of the new IT framework.

While changes in the transmission mechanism are associated with the adoption of new policy frameworks, less emphasis has been placed on the immediate and lagged effects of financial crises. For instance, credit supply and demand elasticities to interest rates can be greatly affected by such events. After a crisis an expansionary policy may not induce more bank lending due to weakened firm and household balance sheet positions. Furthermore, worsened balance sheet positions may also induce a shift of resources into government debt, as has recently occurred in Colombia.[21]

In what follows, we discuss how the key monetary transmission channels identified in the literature are affected by banking sector developments.[22] We focus on the interest rate, the credit channel (including balance sheet and credit availability effects)[23] and the exchange rate channel. Finally, how dollarisation may affect the control of monetary policy is also discussed.

The interest rate channel

Two issues are relevant here. The first is whether the transformation of the banking sector has made aggregate spending more or less sensitive to interest rates. Given the prevalence of low credit to GDP ratios in some economies, a significant direct impact of interest rates on aggregate spending is unlikely. However, the recent upsurge in credit growth in some market segments or sectors, such as the household sector, may change the responsiveness of aggregate demand to interest rates.

The second issue is whether structural changes in the banking sector have strengthened the impact of monetary policy on short-term interest rates. The evidence seems to suggest that in the smaller economies of the region, the interest rate channel may be less relevant than in the larger ones. A study by Ramlogan (2004) argues that in countries where capital markets are less developed the interest rate channel is unlikely to play a major role. Her econometric analysis for Barbados, Guyana, Jamaica and Trinidad and Tobago confirms the second order nature of this channel. These results are in line with the limited pass-through from repo rates to key market rates (eg inter-bank rates and commercial bank lending rates) in Trinidad and Tobago (discussed earlier). In other economies, such as Guatemala, evidence supports the growing role of the interest rate channel (Valle (2006)). This appears to be also true for the most financially advanced economies in the region. For instance, Amaya (2006) has found evidence for Colombia supporting a high and quick pass-through of policy rates to commercial bank rates (CDs and credit rates) between 1996 and 2004. Nevertheless, his evidence does not allow for an evaluation of how the effects are transmitted into consumption and investment decisions. Evidence for Chile reported by Espinosa-Vega and Rebucci (2004) find a pass-through similar to that of advanced economies (the United States or Canada). Furthermore, they find no evidence of differences in the interest rate pass-

[21] In some cases, such as Colombia, this may explain the large exposure of banks to government paper, which created a financial stability problem ex-post (see Vargas (2006)).

[22] This note does not review these transmission channels in detail. For a more detailed treatment, readers are referred to Kamin et al (1998), Agénor (2004) and Archer (2006).

[23] Other channels, such as the asset price channel, are not discussed here. The strength of the asset price channel depends to a large extent on the operation of a long-term fixed rate bond market, which in most cases is still not present in the region.

through among nominal or inflation indexed instruments. The study for Mexico by Gaytan and Gonzalez (2006) also suggests a strengthening of this channel in the most recent years.

Specific structural changes, such as deregulation or consolidation, can also have an impact on the interest rate transmission channel. Although deregulation can take many forms it is possible to illustrate its impact by considering the effect of a removal of interest rate ceilings. In economies with more developed financial markets, it would lead to a greater role for interest rates in allocating credit The evidence for advanced economies, such as the US, supports this view (Sellon (2002)). However, such an impact for emerging or developing countries has not been studied.

A special Group of Ten report (G-10 (2001)) argued that consolidation resulting in market concentration may affect the interest rate transmission channel in several ways. First, it may lead to more variable margins between borrowing and lending rates. Second, it may influence the lags in the transmission mechanism. In particular, the lags could be reduced if bigger firms can process information faster. Alternatively, the lags could increase if bigger firms are able to exploit customer inertia when official rates change. Unfortunately, the evidence on the pass-through of policy rates to market rates is scarce and inconclusive, even for advanced economies. This is not surprising given that in practice many factors affect the pass-through of policy rates to market rates, such as the introduction of new technologies by financial intermediares, the development of new financial instruments, the reduction in barriers to entry in some financial markets, and the greater integration of capital markets across countries. Therefore, even if consolidation were to affect the interest rate channel, central banks would have to adjust their policy settings over time in response to the observed changes in pass-through, without needing to identify the precise reasons for those changes.

Whether openness and liberalisation of the financial system have strengthened the interest transmission mechanism is also relevant. Archer (2006) finds that liberalisation does not automatically translate into a more powerful interest rate transmission mechanism in EMEs. Indeed, estimates of pass-through of money market rates to commercial lending rates show that the cumulative response of loan rates to a one percentage point rise in money market rates after 12 months did not significantly increase between 1990-94 and 2000-04 (the coefficient only increased from 0.82 to 0.84) for the less advanced economies in his sample (Indonesia, Malaysia, the Philippines and Thailand). Although the explanation for this is not straightforward, one possibility is that increased capital mobility has limited pass-through by strengthening the international convergence of long-term interest rates. Another possibility is that unhealthy financial systems have kept pass-through from rising. For instance, good loans may be crowded out in countries where accounting practices allow bad loans to be hidden, thus limiting the stimulatory effect of lower interest rates. Finally, another possibility is that unhealthy banks do not lend and instead invest most of their funds in government securities.

The credit channel

Monetary policy is likely to have a larger impact if it affects the supply of credit as well as interest rates. Although empirical evidence supporting the existence of a credit channel is limited, some studies suggest that such a channel may be more relevant for emerging economies.[24] This may be particularly true in countries which have less developed financial

[24] Identifying the importance of the credit channel is complicated in practice because it is not easy to distinguish between tight credit conditions arising from a decline in bank liquid reserves and those arising from a deterioration in the creditworthiness of potential borrowers.

markets or which are subject to direct controls. In general, it is unclear whether the development of the banking sector has strengthened or weakened the credit channel (Archer (2006)). On the one hand, it may have strengthened it because more developed and stronger banks can increase credit to households and firms. On the other hand, it could have weakened it due to agents gaining access to more liquid and deeper securities markets, both onshore and offshore. In addition, financial development may weaken the credit channel if bank access to the interbank market improves. Banks with limited access to this market (because of actual or perceived weakness in their balance sheet) are forced to rely on the central bank for liquidity. These banks are likely to be very sensitive to changes in interest rates. Furthermore, they may attempt to "muddle through" by lowering their credit standards.

In some economies, the lack of development of domestic financial markets has led to the emergence of informal "curb" markets for credit (Kamin et al (1998)) that have a bearing on the credit channel. If these markets are sufficiently segregated from the formal banking sector, the impact of monetary policy may be weakened. This may be the case because policy decisions that affect the formal economy may not be transmitted to the informal market. However, if there is some degree of integration among these markets the transmission mechanism may become even more complex, as resources may shift from one market to the other. For instance, an increase in the policy rate may shift savings from the curb market to the formal banking sector, generating a disruptive decline in credit in the curb market.

A number of studies (Ramlogan (2004) for the Caribbean, Valle (2006) for Guatemala and Allen and Robinson (2005) for Jamaica) highlight the relevance of the credit channel as a key transmission mechanism in the region. However, these studies do not differentiate between the "lending channel" or the "balance sheet" channel as they fail to consider the role of imperfect information and other frictions in credit markets. Thus, these studies fail to capture the amplification effects of direct monetary policy changes on interest rates, say through the finance premium (see Bernanke and Gertler (1995)).

Two studies provide evidence on the lending channel for the region. The first is a study by Alfaro et al (2004) for Chile. This study finds that less liquid banks are forced to curtail the supply of credit following a monetary policy shock, that the access to households and small and medium enterprises to external financing is severely restricted following the drop in the supply of bank credit and, finally, that this decline in bank credit is unevenly distributed due to flight-to-quality effects, thus having a major impact in macroeconomic activity. The second is a study by Arenas et al (2006). This study takes advantage of structural changes in the banking sector to identify the importance of the lending channel in emerging markets, including those of Latin America. They show that loan and deposit growth are highly sensitive to economic activity, in a manner that does not differ significantly across domestic and foreign banks. Some evidence indicates that in Latin America deposits at foreign banks are less sensitive to monetary conditions; this suggests that foreign banks play a stabilising role.

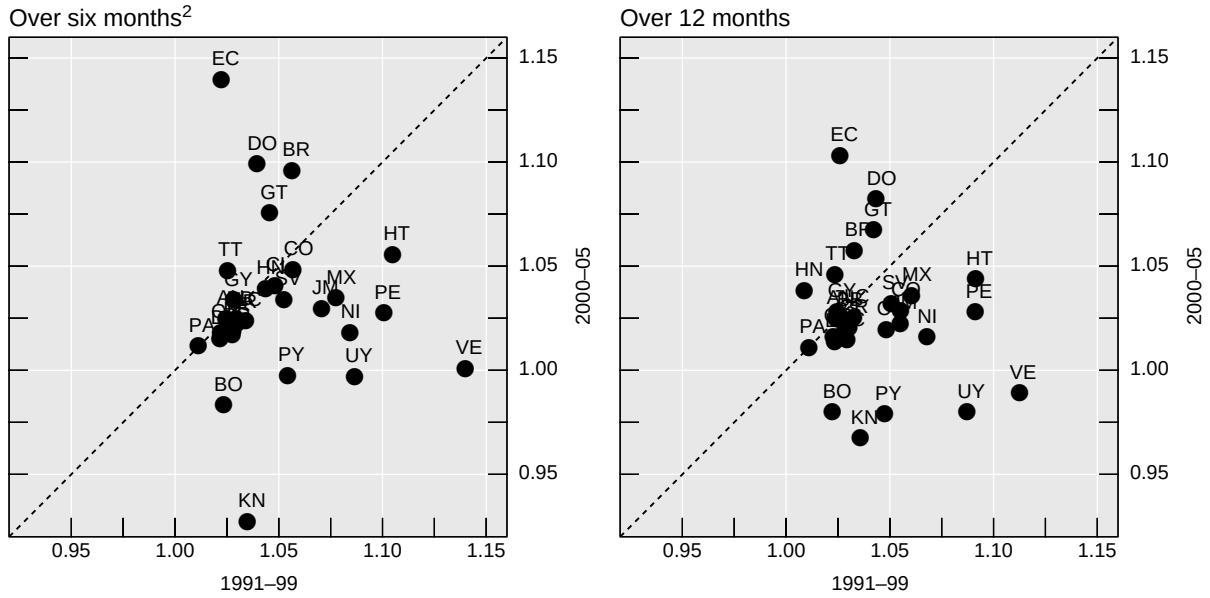
The exchange rate channel

Financial and structural reforms (including the opening of the economy to trade and financial flows) can increase the volatility of exchange rates, generating pressures for exchange rate intervention. In many EMEs, the exchange rate is an important policy variable, whether the country has explicit exchange rate objectives or pursues inflation targeting (eg Colombia,

Guatemala or Peru).[25] The weight policy makers assign to the exchange rate can be influenced by many factors, such as the pass-through to domestic inflation, the source of shocks, the volatility of capital flows or financial and structural reforms.[26]

Graph 3.5

Exchange rate pass-through[1]



Note: For a list of the countries included here, see Graph 3.3.

[1] Measured as the ratio between the change in consumer prices and the change in the exchange rate (national currency/US dollar); simple mean of the ratios for the periods indicated. [2] At an annual rate.

Source: IMF.

Structural changes at the national and international levels have apparently lowered the pass-through of exchange rate changes to inflation in LAC (see Graph 3.5). However, some exceptions remain (Brazil, Ecuador and Guatemala). The decline in pass-through poses challenges for central banks as the effects of exchange rate movements on expected inflation may be misperceived. This could lead policy makers to overreact to exchange rate developments.

In smaller economies the exchange rate channel may be particularly relevant. For instance, Allen and Robinson (2005) find this to be the most important channel for the transmission of monetary policy in Jamaica. They argue that this is the case because even with monetary base targeting, the monetary base may not convey enough information about current monetary conditions. Exchange rate fluctuations may be more informative.

The exchange rate can also play an important role for the transmission of monetary policy if it affects balance sheets due to financial dollarisation or currency mismatches. For instance, if firms' debts are denominated in foreign currency, while their revenues are denominated in

[25] The exchange rate plays a role in several dimensions. First, the nominal exchange rate can have a role as a shock absorber. Second, exchange rate volatility can affect central bank operating procedures. Finally, it plays a role in determining the monetary policy stance. Of course, this is likely to depend to a large extent on the monetary framework in place.

[26] For a more detailed discussion of these issues, see Amato et al (2005).

local currency, a currency devaluation could result in a deterioration of their balance sheets. This in turn would make it hard for firms to roll-over their debts, which could reduce investment. The adverse effect of a currency devaluation could be amplified if the deterioration in firms' balance sheets raises the cost of new financing.

Tovar (2006) reports evidence on the relevance of the balance sheet effect for Chile, Colombia and Mexico. He shows that devaluations explicitly induced by the central bank are expansionary; expenditure-switching tends to dominate the balance-sheet effect. In contrast, depreciations associated with sudden stops in capital flows are associated with declines in output. The relationship between output and the exchange rate thus depend on the type of shocks that hits the economy.

Implications of dollarisation

The development of banking systems could reduce dollarisation and its relevance for monetary policy. In a number of EMEs dollarisation affects the choice of assets that should be included in the monetary aggregates. Also, in the cases where dollarisation reflects a high degree of currency substitution, monetary aggregates may become more sensitive to sudden shifts in interest and exchange rates. Moreover, dollarisation can be associated with significant currency mismatches, which can force central banks to intervene in the foreign exchange market under certain circumstances (Calvo and Reinhart (2002)). Dollarisation may also affect the choice of exchange rate regime. For instance, a high level of dollarisation may induce high currency volatility under a flexible exchange rate regime, which may be undesirable for a small open economy with an undiversified production structure.

Another strand of literature highlights the fact that dollarisation can weaken the central bank's capacity to conduct monetary policy by reducing the costs of switching to foreign currency, thus increasing the volatility of money demand. A similar argument can be made regarding the dollarisation of domestic savings. As the flight to foreign currency assets becomes less costly (eg due to financial integration), the demand for reserve money in a dollarised economy should be more sensitive to either a monetary expansion or fluctuations in the exchange rate. Levy-Yeyati (2005) finds that in developing countries the elasticity of inflation to changes in the monetary aggregate increases as dollarisation deepens. While these results could imply that financial dollarisation makes monetary policy less effective, they also imply that a reduction in the rate of money growth would have a stronger stabilising effect. This, he argues, is supported by the fact that most developing economies experience a steady decline in inflation despite high and persistent financial dollarisation.

Peru is the only known case of a highly dollarised economy with an IT scheme. As discussed by Armas and Grippa (2006), under such circumstances monetary policy requires special design and implementation. First, the inflation target needs to be low (Peru's is currently at 2.5% +/– 1%, the lowest in Latin America) so that the currency is able to compete with the dollar as a unit of account and a means of payment. Second, forecast models must carefully consider the risks of financial dollarisation. For these reasons it is necessary to implement de-dollarisation policies, internalise the risks of financial dollarisation and limit the vulnerability of the financial system, including the smoothing of exchange rate fluctuations, while allowing a certain degree of flotation. Overall, the Peruvian experience appears to confirm that, with appropriate policy implementation, dollarisation should not impair the effectiveness of monetary policy in achieving low and stable inflation rates. Another interesting lesson from the Peruvian experience is that shifting from a monetary aggregate to an interbank interest rate has contributed to establishing a more predictable and transparent monetary policy. In addition, it has favoured the issuance of long-term financial instruments, thus helping reduce financial dollarisation.

Concluding remarks

Most countries in LAC are in the transition towards market-based mechanisms for monetary policy implementation. This has led to a change in the manner in which monetary policy affects the financial system and the economy. Although the transformation in the financial structure of the economy could lead to changes in the operating procedures for monetary policy, the reverse may also be true. In line with this, evidence from Jamaica suggests that changes in the monetary policy framework can induce a transformation in the structure of financial markets.

A question of interest is whether market-based mechanisms have strengthened monetary control. Evidence concerning the region is limited, but it appears that in the last few years there has been a weakening of the transmission channels of monetary policy, as the pass-through from policy rates to interest rates has remained broadly stable, while the pass-through of the exchange rate to inflation has declined. However, most of these changes are unlikely to be driven exclusively by the transformation of the banking sector.

IV. Some prudential issues

Serge Jeanneau[1]

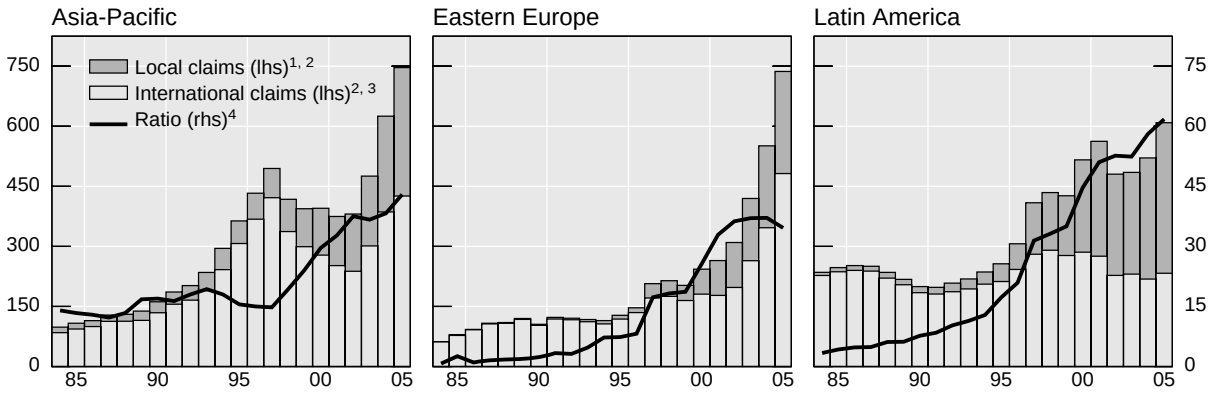
Overview

This chapter looks at two sets of prudential issues of relevance to Latin America and the Caribbean (LAC). The first set analyses the implications of foreign bank entry. Building on the work of Hawkins and Mihaljek (2001), it addresses four specific issues pertaining to such entry. First, it looks at the various forms of foreign bank entry and the implications that this has for banking supervision. Second, it considers whether market consolidation resulting from foreign bank entry poses new risks for systemic stability. Third, it analyses the impact of foreign bank entry on market transparency. Fourth, it discusses whether foreign banks should be incorporated into lender of last resort schemes and official safety nets. The second set is related to the planned implementation of Basel II. It discusses some of the concerns raised by supervisors in implementing the new framework in emerging market economies (EMEs). It also looks at the potential impact of Basel II on international bank lending to EMEs.

Graph 4.1

BIS reporting banks' foreign claims on emerging markets

By residence of immediate borrower



[1] Claims on local residents denominated in local currencies and booked by reporting banks' local affiliates. [2] In billions of US dollars. [3] Cross-border claims in all currencies plus claims on local residents denominated in foreign currencies and booked by reporting banks' local affiliates. [4] Local claims as a percentage of foreign claims.

Source: BIS International Banking Statistics.

[1] The author is grateful to Angus Butler, Juan Carlos Crisanto, Mar Gudmundsson, Steven Friedman, Gregor Heinrich, Jeffrey Miller, Dubravko Mihaljek, Ramon Moreno and Camilo Tovar for extensive comments. The views expressed are those of the author and do not necessarily represent those of the Basel Committee on Banking Supervision or the Bank for International Settlements.

Foreign banks and supervision

An important trend in EMEs has been the growing participation of foreign banks in domestic banking markets (Moreno and Villar (2005)). As shown on Graph 4.1, such an evolution has been particularly evident in Latin America, where heavy foreign investment in local entities has been followed by a rapid increase in local lending in local currency. This expansion of local lending has been a positive development for systemic stability to the extent that it has helped reduce currency mismatches. Greater foreign penetration has also contributed to improving the efficiency of financial intermediation. However, greater foreign participation in domestic markets has also raised questions concerning financial stability and supervision.

Licensing and supervision of foreign banks

The entry of foreign banks has brought to the fore the issue of whether such banks should be licensed as branches or subsidiaries. In this respect, country practices vary considerably across the region (see Table 4.1).

Table 4.1

Approaches for foreign bank entry, selected countries in Latin America

Subsidiary or branch	Subsidiary	Branch
Argentina	Costa Rica	Guatemala
Aruba	Mexico	Paraguay
Bahamas		
Bolivia		
Brazil		
Chile		
Colombia		
Ecuador		
El Salvador		
Peru		
Venezuela		

Source: IADB (2004).

Some countries tend to favour branches because of a number of perceived advantages. Branches do not have to be separately capitalised; they are less likely to engage in connected lending; they are subject to consolidated oversight by home country supervisors;

and they are more likely to obtain support from parents.[2] However, branches also face some drawbacks. A significant weakness is that they are often restricted in their operations. Such restrictions usually take the following forms: constraints on domestic deposit taking, limits on expansion and requirements for some capital to be held in the domestic market in the form of so-called "endowment" capital. An additional drawback is that branches are more difficult to sell to third parties when problems of solvency arise.

By contrast, other countries favour subsidiaries because they are perceived to be easier to supervise and manage in periods of distress. In general, subsidiaries are regulated by host country authorities as legally separate entities and, hence, require their own capital within the host country.[3] This structure in principle makes the foreign bank more accountable to host country supervisors. To ensure that parent institutions stand behind their subsidiaries, host country supervisors often ask parent banks (and sometimes parent country supervisors) to provide "comfort letters". Even without such measures, parent banks monitor the activities of their subsidiaries closely in order to ensure the solidity of their operations and forestall any difficulties that could damage their good name. The incentive to monitor the activities of subsidiaries is strengthened by the fact that the courts can at times hold the parents liable in the event of difficulties.

Some argue that, given the more open nature of financial systems, the issue of branches versus subsidiaries may be less relevant. What matters most in practice is that, regardless of the legal form of their presence, foreign banks be initially licensed to carry out those activities that host country supervisors are familiar with and able to monitor properly. At the same time, licensing rules should be reasonably flexible and supervisors should continuously upgrade their capacity to monitor banks' activities.

Supervisory authorities in banking systems dominated by foreign-owned banks have sought to cooperate more closely with home country authorities. In many cases, formal channels of communication have been established with the framework for cooperation set out in bilateral memoranda of understanding.[4] Yet some central banks have expressed scepticism about overly legalistic modes of communication among supervisors. Moreover, some host country authorities have not always been fully informed about the domestic implications of operations at the global level (eg how global risk management could affect a domestic operation) or the situation of parent banks in home countries. One issue that arises is what would happen if a systemically important foreign-owned subsidiary ran into problems. There have been cases where a parent company has helped its subsidiary immediately without asking host country authorities for assistance. But there have also been some cases of parents abandoning their subsidiaries. This was the case in Argentina in 2002, where a few foreign banks explicitly abandoned their Argentine branches or subsidiaries (Del Negro and Kay (2002) and Lacoste (2005)).

An important consideration in LAC is the extent to which the existence of poorly regulated or unregulated offshore financial institutions (OFIs) presents a potential risk to the financial systems in which they operate (Singh et al (2005)). In some countries, particularly in Central

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[2] Under Basel II, branches of banks incorporated in highly rated countries will be able to obtain cheaper funding because they will be subject to lower capital weights than subsidiaries incorporated in host countries that are lower-rated.

[3] Although they are also regulated by home country authorities that practice consolidated supervision.

[4] Areas of cooperation typically cover: exchange of information on operations of foreign-owned banks in host and home countries; exchange of information on management of foreign-owned banks; joint consultations; and visits to foreign-owned banks. In spite of the development of these forms of cooperation, the establishment of a closer working relationship has been complicated by the different legal treatment of confidential data and information in various jurisdictions.

America, non-regulated OFIs operate effectively as parallel banking structures that are part of larger financial entities. These entities may increase systemic vulnerability by exploiting regulatory arbitrage opportunities, such as the dumping of impaired assets from regulated to non-regulated entities. Focusing only on the regulated bank could lead to erroneous conclusions about the risk exposure of the banking system. The problem may be exacerbated if a regulator is not aware of the links between a regulated and an unregulated financial entity or does not have the legal capacity to supervise one of them. In Ecuador, for instance, the banking crisis of 1998-99 was exacerbated by the fact that apparently sound onshore banks turned out to be much weaker than expected when supervisors audited their closely linked but poorly regulated OFIs.

In order to minimise the risks associated with OFIs, supervisors in the region have sought to impose conditions or restrictions on them to facilitate more adequate supervision. A number of jurisdictions have legislation that allows supervisors to refuse authorisation to banks with corporate structures that cannot be supervised. For example, in Brazil and Panama banks will in general not be granted licences if they are chartered in jurisdictions where local supervisors are not able to perform consolidated supervision. In Guatemala, where OFIs account for 30% of private banking activity, new regulations introduced in 2002 prohibit the operations of OFIs not formally associated with locally licensed financial conglomerates. There has also been growing recourse to consolidated supervision. For example, the Brazilian and Salvadorean authorities are now conducting consolidated supervision of their banks. To further strengthen the supervision of parallel banking structures operating in several jurisdictions, it may be necessary to appoint a lead supervisor to deal with multinational entities on a consolidated basis.

Market transparency and discipline

The acquisition and subsequent delisting of subsidiaries on local stock exchanges can adversely affect the quality of financial information available to market participants and host country supervisors (CGFS (2004) and Domanski (2005)). For one, delisting dilutes the available pricing signals on the profitability of domestic banking business. Another effect is that local financial analysts usually abandon their coverage of banks that become foreign subsidiaries. As local analysts may have an informational advantage over their international counterparties, this may diminish the quality of available information.[5]

As an example, delisting has been a major issue in Mexico. During 2000-05, five of the largest institutions in that country, representing almost 80% of total bank assets, were acquired by foreign-owned banks. All of these five institutions were subsequently delisted from the Mexican stock exchange. As these banks represented 15% of total stock market capitalisation at the time of acquisition, their delisting led to a considerable loss of market information and scrutiny by independent analysts.[6] The disclosure of timely and meaningful information about developments in institutions accounting for much of Mexico's banking sector was impaired, making it necessary to significantly improve information flows from parent banks to markets and from home supervisors to host authorities.

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[5] Information requested by supervisors can to some degree substitute for information provided by markets.

[6] Domanski (2005) also notes that after the foreign acquisition of Mexico's two largest banks, the correlation of the prices of the remaining domestic banks and newly acquired banks dropped significantly, which is consistent with the view that the share price of foreign-owned banks reflects less information about domestic financial conditions.

Market concentration

Consolidation resulting partly from foreign bank entry has been associated with a sharp increase in market concentration since the early 1990s (see Chapter I). Many countries follow policies that limit concentration but views differ as to what should be the maximum desirable market share for a single bank or a small group of banks. The issue of market power appears to have been less of a concern in small open economies, perhaps because collusion is more difficult to maintain in such economies. Moreover, there may be some intrinsic advantages in allowing the formation of larger banking groups. Larger banks can benefit from economies of scale, are better able to diversify their activities and can deploy superior risk management techniques.

Nevertheless, mergers between foreign parent institutions have led to a lively debate in some host countries because of concerns that the larger entities would result in greater systemic risk. In Chile, for example, the merger of the Spanish parent banks of two domestic banks led to the single ownership of nearly 30% of banking system assets. Although the two Chilean entities continued to be run and managed separately after the merger, many in the industry were concerned that the newly acquired institutions had become too big to fail and asked themselves whether their large presence in the banking system posed systemic risks. The Chilean authorities responded to those concerns by requiring banks exceeding a market share of 20% to meet higher capital adequacy and liquidity ratios and to reduce their exposure to the interbank market. To increase competition, new bank licenses were issued and banks were allowed to offer interest on deposit accounts. Chilean companies were also allowed to borrow on international capital markets.

Another concern is that changes in business strategy or risk appetite at the parent level could affect the resources allocated to specific countries. Global financial institutions increasingly manage their affiliates in emerging market countries as part of portfolios that respond to evolving risk-adjusted investment criteria. Changes in credit allocation across countries, which may even include a complete retrenchment of activities from a given country, could have a significant impact on the availability of credit in a host country, particularly if the foreign ownership of domestic claims is relatively important. Foreign ownership, therefore, exposes local banking systems more directly to changes in global market conditions.

Official safety nets

An important supervisory issue is to determine whether depositors in foreign banks should receive the same degree of protection as depositors in domestic banks. Some have argued that because foreign banks have the backing of their parents, they may not require lender of last resort arrangements nor participate in deposit insurance schemes. Arrangements giving depositors priority in the event of the winding up of a foreign bank or empowering the central bank to take over an impaired foreign bank may be hard to apply in practice.

Moreover, a strong argument in favour of extending deposit insurance to all banks is that all depositors should receive the same degree of protection. If foreign banks did not have to pay deposit insurance premia, they would enjoy an unfair advantage over domestic banks and therefore have an incentive to finance riskier activities with deposits collected in the host country. In practice, virtually all EMEs require foreign banks to participate in deposit protection arrangements on the same basis as domestic banks (see Table A15).

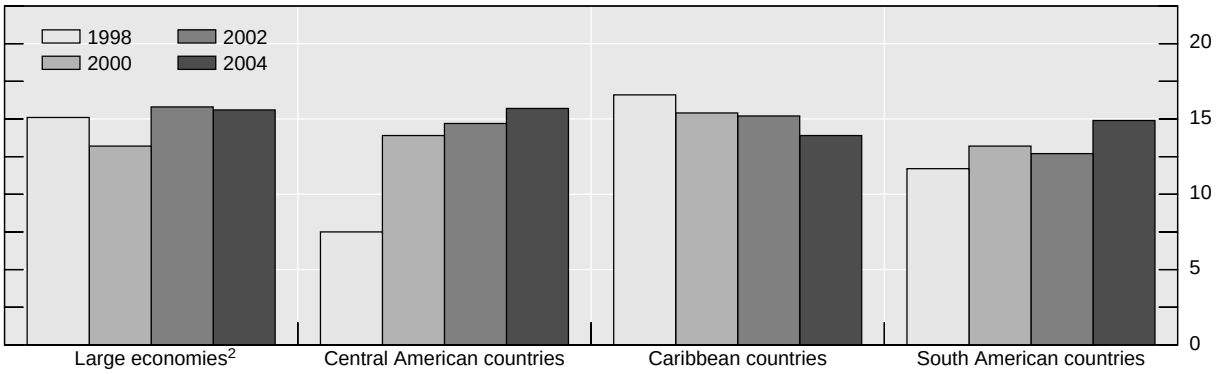
Prudential policies and Basel Core Principles

Many EMEs have taken steps in recent years to enhance banking regulation and supervision and a number have already developed sophisticated approaches to monitoring their banking systems. However, in some countries improvements in the regulatory environment have been limited. Recent assessments under the International Monetary Fund/World Bank Financial Sector Assessment Programs (FSAPs), which focus in part on progress in implementing the Basel Core Principles for Effective Banking Supervision (BCPs), suggest that significant weaknesses in banking supervision remain in a number of EMEs.[7] Three issues may be cited:

The first is the absence of effective consolidated supervision in some countries. This is thought to be of particular relevance in Central America, where reportedly few countries have implemented it yet (ASBA (2006)). This increases the risk that subsidiaries of banking institutions could experience financial difficulties which are not readily detectable, adversely affecting the financial sector and the economy.

Graph 4.2

Regulatory capital to risk-weighted assets[1]



[1] In per cent. [2] Argentina, Brazil and Mexico.

Sources: IMF; BIS calculations.

A second issue is the measurement of bank performance and capital adequacy. Most countries in LAC claim that their banks calculate capital requirements on the basis of the current Basel Accord methodology (IADB (2004)). The general focus on Basel I, as well as efforts to address the BCPs, apparently have had a positive impact on capital adequacy ratios across the region (see Graph 4.*2* and Table A16) and promoted the development of better risk management methodologies. However, such ratios can give a misleading picture of risks to the financial system. For example, capital adequacy ratios are sometimes not calculated on a consolidated basis and risk weightings are inadequate because of a lack of appropriate measurement.

A third concern has to do with deficiencies in risk management. Many countries have not succeeded in instilling a culture of risk management in banking institutions and, thus, compliance with banking regulations tends to be largely mechanical. By the same token,

[7] The BCPs, which were introduced in 1997, are mainly intended to help countries assess the quality of their prudential and supervisory systems, and to support supervisory reform. An updated document was released in October 2006 (BCBS (2006a)).

regulations on large credit exposures and on connected lending are not seen as being strict enough. This is an issue of particular concern in Central America. In some countries, such as Chile and Panama, there is also insufficient attention to market risk. In addition, banks in many countries have made great strides recently in implementing robust frameworks for managing operational risk but this is not universally the case due to resource constraints that have forced them to focus first on enhancing their management of credit risk.

Remedial supervisory measures are also commonly deficient, reducing the incentives for diligent risk management. Such deficiencies include undue forbearance,[8] lack of supervisory capacity or authority for timely intervention, and lack of reasonable protection against legal action. While there have been improvements in bankruptcy legislation in some countries problems in enforcing creditor rights remain significant (see Arrieta and Luy (2002)).

Compliance with the main guidelines contained in the BCPs would do much to address most of these weaknesses. The BCBS has stated that one of the key conditions for a successful implementation of Basel II will be compliance with the BCPs (see BCBS (2006a,b)). In fact, some countries, would benefit from devoting scarce resources to ensuring their compliance with the BCPs first, in particular in the areas of consolidated supervision and capital adequacy calculations, before turning their attention to implementing Basel II.

A snapshot of Basel II

Basel II consists of three mutually reinforcing pillars: Pillar 1, regulatory capital requirements; Pillar 2, the supervisory review process; and Pillar 3, market discipline.

The new framework will allow for a more risk sensitive determination of capital requirements. For credit risk, the various alternatives include: the standardised approach, which relies on external credit assessments for determining credit risk weights, and the foundation internal ratings-based (IRB) and advanced IRB approaches, which rely to varying degrees on banks' own internal rating systems and estimates of underlying risk parameters. The framework also contains options regarding risk mitigation techniques and securitisation. In addition, there will be an explicit capital charge for operational risk which will be based on three alternative measurement methods. Countries will have to decide whether to stay with the current framework or move to Basel II, which will require banks to adopt one of the available options for credit and operational risks.

In order for required capital adequacy ratios to truly reflect the capacity of the banking system to absorb shocks, other elements of the prudential and supervisory framework will need to be strengthened. This is why a successful implementation of the first pillar of Basel II will require the parallel introduction of the other two pillars. The introduction of Pillar 2 aims at ensuring that banks have an adequate process for the assessment of their overall capital adequacy in relation to their risk profile and risk management strategy, and that supervisors have a robust framework for assessing banks' internal processes. Pillar 3 contains a set of disclosure requirements that will promote market discipline by allowing market participants to assess key pieces of information related to Pillars 1 and 2.

[8] The willingness of regulators to postpone action when certain thresholds are breached.

Planned implementation of Basel II in EMEs

In 2004 and 2006, the Financial Stability Institute (FSI) conducted surveys on implementation of Basel II in non-BCBS member countries (see FSI (2004 and 2006)). The objective of the surveys was to identify Basel II implementation plans and determine corresponding capacity building needs in the non-BCBS supervisory community. In the most recent survey, 82 non-BCBS jurisdictions responded that they would adopt Basel II between 2007 and 2009. Taking into account the 13 BCBS member countries, close to 100 countries worldwide could therefore be implementing Basel II over the next few years.

Table 4.2

Adoption of Basel II

Regions	Countries surveyed	Countries that responded	Countries intending to adopt Basel II	Percentage
Asia	18	16	16	100
Africa	25	17	12	71
Latin America	16	14	12	86
Caribbean	8	7	4	57
Middle East	9	8	8	100
No-BCBS Europe	39	36	30	83
Total	*115*	*98*	*82*	*84*

Source: FSI (2006).

According to the FSI surveys, one of the major drivers in moving to Basel II in non-BCBS jurisdictions is the intended local implementation of this framework by foreign controlled banks or local branches of foreign banks. This is particularly the case in non-BCBS Europe, the Middle East and Latin America, where in the latter case foreign institutions hold roughly a third of banking assets expected to be moving to Basel II. The role of foreign players is also important in the Caribbean, where foreign owned or controlled financial institutions account for a large share of banking assets in some countries.

The surveys revealed that Basel II was set to apply to approximately 95% of banking assets in Latin America but to a lesser 25% of such assets in the Caribbean.[9] However, the implementation of Pillar 1 in the region shows some variation. In the case of Latin American countries, banks controlling close to 50% of banking assets intend to apply the foundation IRB approach between 2007 and 2009. During the same period, banks controlling a third of bank assets plan on implementing the simplified standardised approach. In the Caribbean, banks controlling a majority of banking assets intend to apply the simplified standardised approach between 2007 and 2009, although a few responding countries indicated that some of their banks would also implement the advanced IRB approach. It should be noted,

[9] However, the FSI noted that if the country with the largest banking system in the region was removed, the amount of assets covered by the new framework would increase to close to 100%.

however, that anecdotal reports gathered by the BCBS indicate that progress in implementing Basel II may be slower than suggested by the responses to the FSI surveys.

With respect to Pillar 2, the FSI surveys highlight that Basel II will necessitate the existence of a solid supervisory infrastructure, including operational autonomy of the supervisory authority, an adequate supply of resources for supervision, clearly defined normative and disciplinary competences and an adequate legal framework. At the same time, solid accounting standards will be required to ensure that capital ratios accurately reflect a bank's capacity to absorb risk. One of the particular challenges highlighted in the FSI surveys in the implementation of Pillar 2 relates to acquiring and upgrading the human and technical resources necessary for the review of banks' responsibilities under Pillar 1.[10] An additional challenge is coordination by home and host supervisors in the cross-border implementation of Basel II. The freedom of national supervisors to conduct a tailoring of rules to the specific circumstances of each country will prevent the implementation of fully consistent rules across countries. Efforts will therefore be required to reduce such inconsistencies.[11] Concerning Pillar 3, the development of financial indicators that would ensure a proper functioning of market discipline also depends on compliance with the BCPs. A significant challenge identified by the FSI surveys will be to align supervisory disclosures with international accounting standards.

Appropriateness of Basel II for EMEs

Beyond the practical issues related to the implementation of Basel II, the broader question of the extent to which the new framework is appropriate for EMEs remains. One of the key issues is whether risk weights taken from a framework designed by industrialised countries can be successfully adapted to economies that differ in their economic structure and are generally more vulnerable to financial shocks (Goldstein (1997)). Prima facie, there would be a case for banks in emerging economies to hold greater capital if there is greater risk of loss, associated for example with greater macroeconomic volatility and a greater incidence of macroeconomic or financial disruptions (Villar (2006)). Several countries have already adjusted the Basel I framework to account for their specific needs. A number of countries have imposed higher capital adequacy ratios on their banks than the mandated minimum or have adapted their risk-weights for different categories of assets.

Basel II and lending to EMEs

The introduction of the new capital framework constitutes an important topic of discussion concerning the evolution of international bank lending to EMEs over the next few years. As noted above, an important objective of Basel II is to ensure that the regulatory capital held by international banks becomes a more accurate reflection of the credit quality of their loan portfolios. Some commentators (Griffith-Jones and Spratt (2001) among others) have argued that this increased risk sensitivity will lead to a curtailment in the supply of capital to EMEs.

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[10] In response, the FSI introduced a new online training facility ("FSI Connect").

[11] Supervisors of the BCBS member countries have worked closely through the Accord Implementation Group (AIG) to achieve a high degree of consistency. Members of the AIG have also worked with supervisors of the non-BCBS countries through the Core Principles Liaison Group (CPLG) to share information and points of view concerning implementation in non-BCBS countries.

However, there are reasons to think that Basel II will not have the dramatic impact that these commentators have suggested. The main one is that banks do not price their loans on the basis of regulatory capital charges but rather on the basis of economic capital, which is the capital set aside as a buffer against unexpected losses (Hayes and Saporta (2002)). This economic capital is linked to the credit quality of bank assets. In turn, the level and cost of economic capital determine the pricing of bank loans and other assets. In practice, the level of economic capital should not be directly affected by a change in regulatory capital requirements. In fact, Basel II intends to align the determination of regulatory capital more closely with the methods used to determine economic capital. This should mean that the introduction of Basel II will not change the way banks evaluate the risk of lending to EMEs (Caruana (2005)).

Moreover, the existence of better capitalised banks that manage and price risks more efficiently over an appropriate time horizon should lead to the emergence of a more stable and resilient financial system, therefore reducing the probability of abrupt changes in lending conditions. The more formal risk evaluation methodologies contained in Basel II should facilitate an earlier detection of inappropriate lending strategies, which should help in introducing corrective actions at an earlier stage, again reducing the probability of sharp adjustments in lending decisions (Caruana (2005)). Overall, Basel II may therefore not have a pronounced impact on lending flows to EMEs and may even contribute to reducing their volatility and procyclicality.

Nevertheless, three features of Basel II are likely to have some bearing on the pricing or volume of loans to EMEs.

First, Basel II relates the capital charges for credit risk to explicit indicators of credit quality, measured either externally or internally. This stands in contrast to the current framework, under which capital charges against sovereign and interbank loans are based on whether the borrower belongs to the OECD or not. The experiences of Korea, Mexico and Turkey show that OECD members can also be vulnerable to financial crises and the removal of this arbitrary distinction should lead to a more rational determination of regulatory capital. Quite clearly, some borrowers will gain from this transition, while others will lose. Capital charges on lending to countries that enjoy a relatively high credit standing will generally be reduced, while charges on lending to countries that are of a low credit standing will tend to rise (see Table 4.3). In the case of countries for which capital charges may increase, the key issue is whether the new minimum requirement will substantially exceed the economic capital that banks would otherwise hold, in which case a rise in loan pricing would likely ensue.[12]

Second, Basel II may also have an impact on the maturity of loans to EMEs. Under the current framework, lending to non-OECD borrowers carries a full capital charge of 8% for loans with maturities longer than one year, compared with a charge of 1.6% for shorter-term claims. This preferential treatment of short-term loans is considered by some to have encouraged short-term lending to EMEs in the early 1990s (see the discussion in BCBS (1999)). Although there are some reasons for imposing a lower capital charge for short-term loans, the more gradual increase in the charge along the maturity spectrum contained in Basel II should help in reducing maturity biases in lending.

[12] Assessing the extent to which this will be the case is not straightforward since it depends on the method used to calculate economic capital, the precise composition of a bank's portfolio and a host of other competitive factors that determine loan pricing.

Table 4.3

Current versus new risk weights for selected sovereigns

	Rating	OECD	Risk weight (%)[1]	
			Current	New
Argentina	B–	No	100	100
Brazil	BB–	No	100	100
Chile	A	No	100	20
China	A–	No	100	20
Colombia	BB	No	100	100
Czech Republic	A–	Yes	0	20
Greece	A	Yes	0	20
Hungary	A–	Yes	0	20
Indonesia	B+	No	100	100
Israel	A–	No	100	20
Korea	A	Yes	0	20
Malaysia	A–	No	100	20
Mexico	BBB	Yes	0	50
Peru	BB	No	100	100
Poland	BB	Yes	0	100
Russia	BBB	No	100	50
Singapore	AAA	No	100	0
South Africa	BBB+	No	100	50
Thailand	BBB+	No	100	50
Turkey	BB–	Yes	0	100
Venezuela	B+	No	100	100

[1] The 100% risk weighting implies a capital charge of 8%.

Sources: Standard & Poor's; BIS.

Third, Basel II could affect the flows of credit within EMEs. The impact of the new framework will depend on the treatment of domestic and foreign banks located in EMEs. Many domestically owned banks are likely to adopt the standardised approach, under which minimum capital charges are unlikely to change much. Indeed, the majority of corporate exposures in EMEs are likely to fall into the "unrated" category, which will attract an 8% charge. The impact of Basel II on the local operations of foreign banks is the subject of a more intense debate. Foreign bank participation in certain EMEs is concentrated in a few internationally active banking groups, which are generally sufficiently sophisticated to adopt the IRB approach. One concern is that foreign banks operating on the IRB approach will

enjoy a competitive advantage over domestic banks operating under the standardised approach. However, according to some analysts this outcome is unlikely because foreign banks on the IRB approach will be facing higher capital charges for low credit quality business than domestic banks operating on the standardised approach (Hayes and Saporta (2002)).[13]

[13] Moreover, the adoption of the most advanced approaches will not automatically reduce capital requirements. In fact, the move to a closer approximation of capital requirements to actual risks could lead to an increase in capital requirements for banks having a higher level of credit risk than that prevailing under the Basel I framework. In addition, regulators will have the freedom to impose more stringent capital requirements than those of Basel I or Basel II.

Annex tables

Table A1

Interest rate spreads

Spread between lending and deposit rates

	In per cent				
	1990	**1995**	**2000**	**2002**	**2004**
Large economies	**.**	**14.5**	**22.7**	**27.9**	**21.9**
Argentina	.	6.0	2.8	.	4.2
Brazil	.	.	39.6	43.7	39.7
Mexico	.	19.6	8.7	4.4	4.5
Central America	**7.3**	**11.2**	**8.7**	**10.6**	**10.1**
Belize	5.9	6.3	8.3	8.6	6.5
Costa Rica	11.4	12.8	11.5	15.0	13.9
El Salvador	3.2	4.7	4.7	.	.
Guatemala	5.1	13.3	10.7	10.0	9.6
Honduras	8.2	14.9	10.9	9.0	8.8
Nicaragua	12.5	8.8	7.3	10.5	8.8
Panama	.	.	3.4	5.6	6.6
Caribbean countries	**5.6**	**11.9**	**9.2**	**9.6**	**11.1**
Antigua & Barbuda	3.7	8.7	7.0	7.0	7.9
Bahamas	2.4	2.6	1.9	1.8	2.2
Barbados	5.1	4.9	5.2	5.8	5.8
Dominica	5.5	7.3	7.8	7.1	5.6
Dominican Republic	.	.	9.2	9.5	11.5
Grenada	3.5	7.4	7.4	7.7	6.9
Haiti	.	.	13.2	17.4	23.3
Jamaica	6.6	20.4	11.7	9.9	10.2
Netherlands Antilles	4.3	9.2	6.4	6.5	7.6
St Kitts & Nevis	4.5	6.4	6.8	6.9	5.8
St Lucia	4.6	8.3	8.3	8.3	8.1
St Vincent & the Grenadines	8.0	6.7	6.9	7.2	6.4
Trinidad & Tobago	6.9	.	8.4	7.7	6.5
South America	**353.1**	**12.1**	**9.6**	**9.3**	**7.9**
Bolivia	18.0	32.2	23.6	11.1	7.1
Chile	8.5	4.4	5.6	4.0	3.2
Colombia	8.8	10.4	6.7	7.4	7.3
Ecuador	–6.1	12.4	7.8	9.6	5.6
Guyana	3.6	6.3	8.6	11.8	11.8
Paraguay	8.1	12.8	11.1	15.8	28.4
Peru	2,334.9	11.5	14.6	10.5	11.5
Suriname	.	.	.	13.2	12.1
Uruguay	16.3	35.4	27.8	55.8	17.5
Venezuela	7.7	15.0	8.9	7.6	5.9

Source: IMF, *International Financial Statistics*.

Table A2

"Dollarisation" ratio[1]

	In per cent			
	1998	**2000**	**2002**	**2004**
Large economies	**13.7**	**13.5**	**2.0**	**3.0**
Argentina	58.4	66.6	2.9	11.0
Brazil	0.0	0.0	0.0	0.0
Mexico	8.0	5.6	4.7	3.4
Central America	**31.2**	**31.9**	**50.9**	**52.5**
Belize	11.4	11.8	12.4	12.2
Costa Rica	44.4	44.9	48.0	48.0
El Salvador	7.8	8.9	100.0	100.0
Guatemala	0.0	0.0	7.7	12.3
Honduras	25.1	26.6	31.8	32.6
Nicaragua	71.3	72.4	76.7	78.1
Panama	100.0	100.0	100.0	100.0
Caribbean countries	**13.6**	**18.7**	**25.3**	**30.1**
Antigua & Barbuda	6.4	19.2	19.2	15.3
Bahamas	.	.	.	.
Barbados	13.0	9.7	15.8	13.0
Dominica	2.3	2.2	3.3	5.1
Dominican Republic	9.2	16.2	26.1	.
Grenada	5.2	7.5	6.9	5.6
Haiti	.	.	.	.
Jamaica	25.5	26.7	30.2	32.5
Netherlands Antilles	.	.	.	.
St Kitts & Nevis	20.8	25.1	21.3	22.2
St Lucia	0.8	0.7	1.7	2.1
St Vincent & the Grenadines	1.7	5.9	3.4	4.2
Trinidad & Tobago	24.5	29.3	25.6	38.6
South America	**21.4**	**23.2**	**27.5**	**27.0**
Bolivia	93.1	93.8	92.1	90.5
Chile	6.2	10.0	11.5	13.0
Colombia	0.0	0.0	0.0	0.0
Ecuador	.	.	100.0	100.0
Guyana	.	.	.	.
Paraguay	47.5	61.6	68.5	61.9
Peru	76.5	76.9	73.2	68.9
Suriname	21.0	46.4	46.7	46.1
Uruguay	90.6	91.6	93.6	90.0
Venezuela	0.0	0.1	0.2	0.1

[1] Total foreign currency deposits in the domestic banking system/total deposits in the domestic banking system.

Source: Moody's.

Table A3

Stock market capitalisation as a percentage of GDP[1]

	1990	1995	2000	2004
Large economies				
Argentina	2.3	14.6	58.4	30.6
Brazil	3.6	21.0	37.6	54.6
Mexico	12.5	31.6	21.5	25.4
Central America				
Belize	…	…	…	…
Costa Rica	5.5	6.6	14.6	10.4
El Salvador	…	4.4	15.5	16.7
Guatemala	…	0.8	1.2	…
Honduras	1.3	8.5	8.7	…
Nicaragua	…	…	…	…
Panama	3.4	10.5	24.0	24.7
Caribbean countries				
Antigua & Barbuda	…	…	…	…
Bahamas	…	…	…	…
Barbados	16.5	26.6	65.6	133.0
Dominica	…	…	…	…
Dominican Republic	…	0.9	0.8	…
Grenada	…	…	…	…
Haiti	…	…	…	…
Jamaica	19.8	21.9	48.3	179.5
St Kitts & Nevis	…	…	…	…
St Lucia	…	…	…	…
St Vincent & the Grenadines	…	…	…	…
Trinidad & Tobago	13.7	21.0	53.1	135.9
ECSE[2]	*…*	*…*	*…*	*0.1*
South America				
Bolivia	…	1.4	19.2	22.7
Chile	44.9	113.3	80.0	124.4
Colombia	3.5	19.4	11.4	25.9
Ecuador	0.6	13.0	4.4	8.5
Guyana	…	…	…	16.2
Paraguay	0.3	1.6	5.5	3.0
Peru	3.1	22.0	20.0	29.4
Suriname	…	…	…	…
Uruguay	1.7	0.9	0.8	2.5
Venezuela	17.2	4.7	6.9	5.6

Note: … = not available.

[1] Some numbers refer to the nearest year for which data are available. [2] Estimate for 2005 for the Eastern Caribbean Securities Exchange; the ECSE was established in 2001 by the Eastern Caribbean Central Bank (ECCB) and covers Anguilla, Antigua and Barbuda, Dominica, Grenada, Montserrat, St Kitts and Nevis, St Lucia, and St Vincent and the Grenadines.

Sources: World Bank, *World Development Indicators*; IMF; Eastern Caribbean Securities Exchange.

Table A4

Foreign banks' credit[1] as a share of total domestic credit

	1990	1995	2000	2002	2004
Large economies	**2.9**	**6.0**	**25.2**	**39.0**	**32.0**
Argentina	4.1	5.3	23.6	19.5	18.1
Brazil	3.8	6.6	16.9	17.5	12.9
Mexico	0.7	4.4	45.8	81.7	92.2
Central America	**11.9**	**10.5**	**15.7**	**13.6**	**10.4**
Belize	36.0	20.1	35.8	11.5	11.9
Costa Rica	0.0	2.4	2.8	2.1	1.1
El Salvador	0.7	2.1	7.2	4.2	3.2
Guatemala	1.6	0.9	8.7	9.1	5.0
Honduras	3.7	3.5	2.7	3.8	3.0
Nicaragua	0.0	0.0	0.0	0.0	0.0
Panama	31.2	31.8	35.4	33.3	26.9
Caribbean countries	**25.0**	**37.5**	**36.1**	**27.0**	**23.3**
Bahamas	47.4	98.6	65.1	45.5	34.7
Barbados	44.5	50.0	70.8	19.6	18.2
Dominica	23.2	28.6	42.5	21.2	19.1
Dominican Republic	13.6	8.6	6.4	5.5	6.5
Grenada	10.1	12.3	32.3	15.5	15.0
Haiti	20.7	19.7	9.3	7.5	6.6
Jamaica	53.3	60.9	78.3	94.2	78.5
Netherlands Antilles	13.6	14.6	27.7	14.6	19.7
St Lucia	46.7	42.4	60.6	17.1	14.2
St Vincent & the Grenadines	34.8	32.5	54.1	73.9	11.1
Trinidad & Tobago	3.0	15.0	24.3	27.8	25.4
South America	**5.7**	**9.2**	**36.6**	**35.5**	**37.2**
Bolivia	0.2	0.7	10.2	3.8	1.6
Chile	14.3	20.5	53.7	59.2	49.0
Colombia	0.5	2.6	18.9	17.1	18.1
Ecuador	5.1	1.7	1.0	2.5	3.5
Guyana	0.0	2.0	6.5	12.2	10.5
Paraguay	15.8	12.3	40.4	44.0	55.6
Peru	0.0	8.3	22.9	19.2	28.2
Suriname	0.0	0.1	0.0	0.0	0.0
Uruguay	3.8	5.5	15.9	9.5	11.9
Venezuela	1.3	2.1	59.7	45.1	80.6

[1] Credit in local currency granted by foreign-owned banks (includes cross-border credit and domestic credit to banks). For Brazil, Chile, Mexico (2004) and Panama, also includes credit in foreign currency granted by foreign-owned banks to the domestic non-banking sector.

Sources: IMF; BIS.

Table A5

Concentration of the banking system[1]

	1998		2000		2002		2004	
	N	**Top 5**	**N**	**Top 5**	**N**	**Top 5**	**N**	**Top 5**
Large economies	**131**	**72.8**	**166**	**68.2**	**209**	**67.2**	**180**	**63.9**
Argentina	48	63.2	58	58.3	71	60.2	62	57.2
Brazil	59	70.2	79	61.6	106	60.3	86	60.0
Mexico	24	84.9	29	84.6	32	81.2	32	74.6
Central America	**88**	**75.0**	**118**	**76.2**	**142**	**76.2**	**139**	**78.4**
Belize	1	100.0	3	100.0	3	100.0	2	100.0
Costa Rica	16	68.9	17	72.0	21	73.8	39	79.5
El Salvador	6	97.9	11	92.3	12	87.0	12	86.2
Guatemala	24	47.4	28	47.5	29	60.6	27	63.1
Honduras	10	83.4	13	79.6	15	73.4	16	71.8
Nicaragua	9	66.0	7	88.2	8	93.5	6	96.4
Panama	22	61.3	39	54.0	54	45.1	37	52.0
Caribbean countries	**41**	**97.0**	**63**	**95.0**	**87**	**95.2**	**61**	**96.9**
Antigua & Barbuda	3	100.0	3	100.0	5	100.0	2	100.0
Bahamas	10	88.3	14	76.3	19	84.1	11	91.6
Barbados	2	100.0	2	100.0	3	100.0	2	100.0
Dominica	1	100.0	1	100.0	1	100.0	.	.
Dominican Republic	7	91.6	23	81.2	28	82.0	25	87.1
Grenada	2	100.0	2	100.0	2	100.0	2	100.0
Haiti	2	100.0	2	100.0	2	100.0	1	100.0
Jamaica	.	.	1	100.0	7	98.0	6	97.3
Netherlands Antilles	4	100.0	4	100.0	7	97.7	2	100.0
St Kitts & Nevis	2	100.0	2	100.0	2	100.0	2	100.0
St Lucia	.	.	.	.	.	.	.	.
St Vincent & the Grenadines	.	.	.	.	.	.	.	.
Trinidad & Tobago	8	90.0	9	87.0	11	85.5	8	92.9
South America	**97**	**82.9**	**176**	**77.1**	**198**	**73.4**	**198**	**75.4**
Bolivia	12	71.1	12	70.4	12	71.0	13	69.3
Chile	17	76.9	19	71.4	21	73.7	24	75.5
Colombia	19	59.1	24	51.1	26	49.3	26	53.7
Ecuador	.	.	29	73.0	34	69.0	33	67.9
Guyana	3	100.0	3	100.0	3	100.0	2	100.0
Paraguay	14	75.3	14	75.1	14	66.3	14	63.0
Peru	8	89.3	12	89.9	12	89.9	12	90.0
Suriname	2	100.0	2	100.0	2	100.0	1	100.0
Uruguay	11	90.8	20	74.2	30	55.7	31	70.3
Venezuela	11	83.6	41	65.9	44	59.3	42	64.1

[1] Number of banks included in the Bankscope database (N) and share of total assets held by the five largest banks in each country (Top 5), in per cent. Regional sample size and share of top five banks are respectively the sum and the average of country numbers.

Source: Fitch Bankscope.

Table A6

Real bank credit to the private sector[1]

	1990-94	1995-99	2000	2001	2002	2003	2004	2000-04	2005 Q2
Latin America									
Argentina	18.8	5.7	–3.1	–16.5	–38.1	–18.5	8.8	–15.0	13.2
Brazil	24.3	0.9	–1.8	1.3	–0.8	4.1	4.4	1.4	20.7
Chile	10.4	8.8	8.0	4.8	6.1	4.5	11.2	6.9	13.7
Colombia	10.0	5.2	–4.3	3.4	4.4	2.3	6.2	2.3	7.7
Mexico	27.6	–11.7	–1.4	–13.6	17.7	–5.7	3.0	–0.5	18.8
Peru	49.3	21.1	–6.8	–4.3	–2.0	–7.0	–3.7	–4.8	9.8
Venezuela	–18.9	6.0	11.7	6.4	–25.9	–12.3	75.1	6.2	26.2
Asia									
Hong Kong SAR	5.0	–4.5	–4.5	–1.4	3.4	3.4	6.9	1.5	–12.7
India	3.9	6.9	15.9	3.9	17.8	5.7	25.8	13.5	13.1
Indonesia	9.7	12.3	15.4	10.8	16.3	5.3	–1.6	9.0	3.6
Korea	9.0	–12.9	8.3	–2.0	8.1	13.1	19.0	9.1	17.3
Malaysia		12.6	4.6	5.2	3.0	3.1	25.0	7.9	24.4
Philippines	12.2	12.3	–0.5	–3.7	–0.7	2.8	0.4	–0.4	–5.8
Singapore	10.3	9.4	3.7	16.3	–9.0	4.7	2.9	3.4	3.8
Thailand	19.2	3.5	–16.9	–10.2	14.4	4.7	2.7	–1.7	1.3
Central Europe									
Czech Republic		–1.2	–10.5	–24.3[3]	–9.2	7.1	13.0	–5.7[3]	17.9
Hungary	–15.6	2.9	19.4	9.1	12.4	24.5	11.9	15.3	4.0
Poland		14.6	7.9	3.7	2.5	6.4	–0.4	4.0	10.3
Israel	9.1	0.8	12.4	9.1	–5.3	–1.4	–9.5	0.7	–15.6
Russia		–6.6	27.7	25.2	13.8	27.7	31.6	25.1	7.7
Saudi Arabia		4.0	6.5	7.8	9.3	16.3	34.1	14.4	37.5
South Africa	4.5	7.6	7.7	17.0	–6.6	26.0	7.0	9.7	4.2
Turkey	–0.8	8.2	15.7	–31.1	–0.4	15.7	40.4	5.2	40.6
Memo:									
United States	*0.4*	*5.6*	*7.8*	*2.5*	*2.4*	*6.4*	*6.5*	*5.1*	*9.5*
Japan	*0.2*	*0.5*	*–1.2*	*–1.1*	*–4.7*	*–3.6*	*–2.4*	*–2.6*	*–4.2*
Euro area	*2.4*	*5.5*	*7.9*	*5.8*	*1.7*	*3.6*	*4.1*	*4.6*	*7.9*
China[4]	*10.6*	*16.0*	*9.8*	*9.7*	*17.7*	*17.0*	*8.6*	*12.5*	*10.2*

[1] Annual changes, in per cent; referring to commercial banks (questionnaire). Where not available from the questionnaire, data have been taken from IMF, deposit money banks, l.22c+d. [2] Change against end-2004 annualised. [3] Affected by bank restructuring (Czech Consolidation Bank was removed from the banking system). [4] Credit to the non-government sector.

Sources: IMF; national data.

Table A7

Real short-term interest rates[1]

	1990	1995	2000	2002	2004
Large economies					
Argentina	–33.0	8.2	9.3	10.6	–1.7
Brazil	211.5	–8.3	9.5	9.9	8.3
Mexico	3.0	3.6	–1.1	–1.2	–1.9
Central America					
Belize			7.0	4.0	4.2
Costa Rica	1.8	0.6	2.2	2.1	–2.5
El Salvador	–4.8	3.9	6.9		
Guatemala	–16.3	–0.5	4.0	–1.0	–3.0
Honduras	–11.8	–13.5	4.4	5.6	2.8
Nicaragua	–98.6	0.2	–0.7	3.6	–3.4
Panama			5.5	3.7	2.0
Caribbean countries					
Bahamas	1.8	2.1	2.4	2.0	2.8
Barbados	3.1	3.2	2.5	2.5	1.1
Dominica	1.8	2.8	3.0	2.8	1.0
Dominican Republic			9.2	10.8	–20.0
Grenada	4.2	0.6	2.0	2.5	
Haiti			–1.6	–1.5	–9.8
Jamaica	1.6	2.8	3.2	1.4	–5.0
Netherlands Antilles	1.2	0.9	–2.1	3.2	1.5
St Kitts & Nevis	3.4	1.5			
St Lucia	1.8	–1.1	1.0	2.6	–1.5
St Vincent & the Grenadines		2.6	4.3	3.5	0.3
Trinidad & Tobago	–4.6		4.4	0.6	–0.9
South America					
Bolivia	5.7	7.9	6.1	8.6	2.9
Chile	11.4	5.1	5.2	1.3	0.9
Colombia	5.7	9.8	2.7	2.4	1.8
Ecuador	–3.3	16.6	–44.7	–6.2	1.3
Guyana		0.6	2.4	–0.8	–1.9
Paraguay	–10.4	6.9	6.2	11.2	0.7
Peru	–66.5	4.1	9.2	4.0	–0.7
Suriname				–5.7	
Uruguay	16.5	10.8	12.9	42.6	–2.7
Venezuela	–9.1	–22.0	0.1	5.4	–7.5

[1] Deposit rate (IMF, *IFS*, line 60l) adjusted for contemporaneous annual change in consumer prices (IMF, IFS, line 64).

Source: IMF.

Table A8

Bank[1] credit to the government[2]

	1990	1995	2000	2002	2005
Large economies	**24.0**	**18.0**	**29.5**	**31.4**	**30.6**
Argentina	31.8	20.7	24.7	56.3	53.5
Brazil	13.5	16.9	33.2	30.3	30.6
Mexico	35.2	18.3	26.7	20.2	18.9
Central America	**6.7**	**4.7**	**5.6**	**7.2**	**8.4**
Belize	14.0	11.5	9.6	5.7	4.6
Costa Rica	10.9	5.0	8.2	12.3	10.7
El Salvador	3.4	3.3	3.8	4.7	4.6
Guatemala	3.8	6.0	7.7	8.6	12.7
Honduras	21.8	10.7	1.1	2.0	2.6
Nicaragua	0.0	0.0	7.0	8.3	11.8
Panama	1.7	0.3	0.7	1.3	1.3
Caribbean countries		**4.7**	**6.3**	**9.9**	**9.4**
Antigua & Barbuda	12.2	14.3	13.0	11.0	7.3
Bahamas	0.5	0.8	0.6	0.4	0.7
Barbados	21.7	25.7	23.9	23.6	22.6
Dominica	8.7	14.8	14.5	12.0	7.1
Dominican Republic	3.1	1.2	3.9	7.7	7.8
Grenada	10.7	7.1	6.9	7.0	5.3
Haiti		0.1	0.7	0.2	0.4
Jamaica	9.8	12.9	17.3	33.1	29.1
Netherlands Antilles	0.4	3.2	2.5	3.8	4.7
St Kitts & Nevis	15.1	11.2	18.4	14.6	15.9
St Lucia	4.7	3.9	7.1	6.5	8.9
St Vincent & the Grenadines	9.7	13.2	11.2	13.2	14.1
Trinidad & Tobago	9.1	11.7	9.7	11.5	10.4
South America	**9.1**	**8.8**	**10.5**	**14.7**	**14.1**
Bolivia	0.1	3.2	3.2	5.9	5.6
Chile	0.4	0.5	0.9	1.1	0.8
Colombia	5.9	8.5	16.8	24.5	28.7
Ecuador	0.7	2.0	6.4	7.0	2.3
Guyana	39.6	39.8	25.6	22.2	29.2
Paraguay	0.0	1.1	3.7	4.5	3.1
Peru	33.5	3.5	7.5	10.0	7.5
Suriname	11.8	1.2	14.5	9.1	9.8
Uruguay	7.1	5.8	4.0	8.7	8.7
Venezuela	7.3	26.9	15.8	20.9	13.2

[1] Deposit money banks. [2] Claims on government (lines 22a, 22b) as a percentage of total bank assets. Regional averages based on 2000 GDP and PPP exchange rates.

Source: IMF.

Table A9a

Profitability of banks

	Number of banks[1]	Pre-tax profits	Provisioning expenses	Net interest margin	Operating cost
		As a percentage of total average assets			
	Average 1999-2000				
Large economies	**130**	**1.4**	**1.4**	**5.7**	**6.0**
Argentina	46	0.8	1.3	3.1	4.6
Brazil	61	1.5	1.4	6.5	6.8
Mexico	23	1.7	1.5	6.1	5.7
Central America	**27**	**1.5**	**0.8**	**4.2**	**3.5**
Belize	.	.	.	.	.
Costa Rica	2	2.0	0.4	3.9	3.8
El Salvador	5	1.1	1.3	4.5	3.0
Guatemala	.	.	.	.	.
Honduras	7	1.5	1.0	6.2	4.6
Nicaragua	7	1.7	0.8	4.9	4.1
Panama	6	1.0	0.6	2.3	2.2
Caribbean countries	**33**	**3.1**	**0.6**	**2.4**	**2.6**
Antigua & Barbuda	2	0.7	0.6	3.7	3.8
Bahamas	6	2.5	–0.1	1.5	1.5
Barbados	2	1.8	0.1	4.3	4.1
Dominica	1	2.6	0.5	5.8	2.7
Dominican Republic	9	2.3	0.9		
Grenada	2	1.9	0.4	4.9	4.0
Haiti	2	1.2	0.5	6.0	7.0
Jamaica	1	12.3	–0.1	6.8	8.3
Netherlands Antilles	1	0.8	0.4	1.3	0.8
St Kitts & Nevis	1	2.8	0.5	3.6	1.8
St Lucia	.	.	.	.	.
St Vincent & the Grenadines	.	.	.	.	.
Trinidad & Tobago	6	2.5	0.3	4.3	3.9
South America	**117**	**–0.3**	**2.3**	**5.7**	**7.9**
Bolivia	12	0.4	2.2	5.3	3.8
Chile	17	1.0	0.9	4.1	3.4
Colombia	21	–3.2	3.7	3.7	11.3
Ecuador	.	.	.	.	.
Guyana	2	1.7	1.2	4.4	3.4
Paraguay	14	2.1	1.3	6.7	5.9
Peru	10	0.5	2.4	5.6	5.6
Suriname	1	1.2	1.5	5.8	7.0
Uruguay	9	–0.6	1.5	3.4	4.7
Venezuela	31	2.8	1.4	11.5	9.6

[1] The banks included are those for which profitability data are available.

Sources: Fitch Bankscope; BIS calculations.

Table A9b

Profitability of banks

	Number of banks[1]	Pre-tax profits	Provisioning expenses	Net interest margin	Operating cost
		As a percentage of total average assets			
		Average 2003-04			
Large economies	**159**	**1.6**	**0.7**	**5.3**	**5.5**
Argentina	57	–1.4	–0.1	1.5	4.8
Brazil	77	2.3	1.0	7.3	6.3
Mexico	25	2.1	0.6	4.3	4.6
Central America	**70**	**1.7**	**0.6**	**4.3**	**3.5**
Belize	.	.	.	.	.
Costa Rica	16	1.9	0.5	5.5	5.4
El Salvador	9	1.0	1.0	3.8	2.7
Guatemala	1	1.2	0.4	2.7	2.5
Honduras	13	1.6	0.8	5.8	2.2
Nicaragua	6	3.4	0.9	6.5	4.3
Panama	25	2.1	0.7	3.9	3.9
Caribbean countries	**41**	**2.2**	**1.4**	**5.7**	**5.4**
Antigua & Barbuda	1	1.3	0.8	3.2	2.4
Bahamas	4	1.7	0.3	2.9	2.0
Barbados	2	1.8	0.4	3.6	3.0
Dominica	.	.	.	.	.
Dominican Republic	19	1.9	2.3	6.5	6.7
Grenada	1	2.4	0.4	4.4	2.9
Haiti	1	1.6	0.7	6.5	6.3
Jamaica	5	3.7	0.0	6.6	4.4
Netherlands Antilles	1	1.7	0.2	1.5	1.1
St Kitts & Nevis	1	1.2	0.1	2.6	2.1
St Lucia	.	.	.	.	.
St Vincent & the Grenadines	.	.	.	.	.
Trinidad & Tobago	6	3.0	0.3	4.5	3.8
South America	**169**	**2.4**	**0.8**	**5.2**	**6.1**
Bolivia	12	0.5	1.3	4.7	4.2
Chile	20	1.5	0.6	3.0	2.7
Colombia	26	2.8	0.8	4.6	5.9
Ecuador	26	–0.8	1.0	3.0	7.1
Guyana	1	0.8	1.2	3.8	3.5
Paraguay	14	1.3	0.7	4.9	19.6
Peru	11	2.3	1.0	6.0	5.3
Suriname	.	.	.	.	.
Uruguay	21	0.2	1.2	5.0	12.0
Venezuela	38	5.0	0.8	9.6	7.7

[1] The banks included are those for which profitability data are available.

Sources: Fitch Bankscope; BIS calculations.

Table A10a

Return on average assets (ROAA)

IMF GFSR and Article IV consultations

	In per cent			
	1998	**2000**	**2002**	**2004**
Large economies	**0.6**	**0.9**	**–1.0**	**1.4**
Argentina	.	0.3	–10.3	–0.3
Brazil	0.6	1.1	1.9	1.8
Mexico	0.6	0.9	–1.1	1.5
Central America	**1.2**	**1.2**	**1.3**	**1.6**
Belize	.	.	.	.
Costa Rica	0.9	1.7	1.8	2.0
El Salvador	.	0.3	1.1	1.0
Guatemala	.	1.1	0.8	1.4
Honduras	1.7	0.9	0.8	1.2
Nicaragua	.	1.9	1.8	2.8
Panama	.	1.6	2.0	1.9
Caribbean countries	**1.8**	**1.9**	**2.4**	**1.9**
Antigua & Barbuda	.	0.8	1.2	.
Bahamas	.	3.4	2.6	2.0
Barbados	2.6	2.5	.	.
Dominica	.	.	.	.
Dominican Republic	1.7	1.6	2.3	1.8
Grenada	.	2.5	2.3	0.5
Haiti	.	.	.	.
Jamaica	.	1.7	2.9	2.7
Netherlands Antilles	.	1.5	1.1	.
St Kitts & Nevis	.	.	.	.
St Lucia	.	.	.	.
St Vincent & the Grenadines	.	0.8	1.2	.
Trinidad & Tobago	.	2.5	3.0	.
South America	**2.5**	**0.9**	**1.1**	**2.9**
Bolivia	0.7	–0.9	0.1	–0.1
Chile	0.9	1.0	1.1	1.2
Colombia	.	.	2.7	4.1
Ecuador	0.8	–2.8	1.5	1.6
Guyana	.	.	.	.
Paraguay	.	1.4	1.0	1.7
Peru	.	0.3	0.8	1.2
Suriname	.	1.4	1.5	1.5
Uruguay	.	.	–35.2	–0.2
Venezuela	4.9	2.8	5.3	5.9

Sources: IMF; BIS calculations.

Table A10b

Return on average assets (ROAA)

Fitch Bankscope

	In per cent			
	1996	**2000**	**2002**	**2004**
Large economies	**9.4**	**1.0**	**0.5**	**1.3**
Argentina	–0.7	0.2	–7.8	–0.3
Brazil	0.9	1.2	2.9	1.7
Mexico	29.3	1.2	0.6	1.4
Central America	**1.8**	**1.6**	**1.2**	**1.6**
Belize	.	4.6	5.6	5.4
Costa Rica	2.0	2.4	1.6	1.9
El Salvador	2.3	1.0	1.1	1.0
Guatemala	2.2	1.2	0.7	1.2
Honduras	1.2	1.3	1.0	1.4
Nicaragua	0.7	2.1	1.8	2.8
Panama	1.3	1.5	1.2	2.1
Caribbean countries	**2.0**	**2.7**	**2.0**	**2.0**
Antigua & Barbuda	1.9	0.6	1.5	1.4
Bahamas	4.0	4.8	1.3	3.1
Barbados	.	1.9	1.8	1.9
Dominica	3.0	2.0	0.8	.
Dominican Republic	.	2.4	2.4	1.9
Grenada	.	1.9	2.2	0.9
Haiti	0.7	1.1	0.6	0.5
Jamaica	.	7.4	2.6	3.1
Netherlands Antilles	.	0.5	0.9	1.9
St Kitts & Nevis	.	2.1	2.0	1.4
St Lucia	.	.	.	.
St Vincent & the Grenadines	.	.	.	.
Trinidad & Tobago	2.8	2.3	2.5	2.6
South America	**2.8**	**–0.4**	**1.2**	**2.1**
Bolivia	.	–0.8	0.1	0.1
Chile	.	1.1	1.2	1.3
Colombia	.	–1.9	0.8	2.6
Ecuador	.	–9.7	–0.5	–3.4
Guyana	1.9	1.0	0.6	1.0
Paraguay	5.8	1.9	1.8	1.9
Peru	.	0.3	0.9	1.4
Suriname	1.2	0.8	0.6	1.7
Uruguay	0.5	–0.9	–10.3	0.6
Venezuela	.	2.6	5.0	5.7

Note: The banks included are those for which data are available.

Sources: Fitch Bankscope; BIS calculations.

Table A11a

Return on average equity (ROAE)

IMF GFSR and Article IV consultations

	In per cent			
	1998	**2000**	**2002**	**2004**
Large economies	**7.2**	**10.2**	**–3.6**	**13.2**
Argentina	.	3.1	–74.0	–2.5
Brazil	7.4	12.7	21.8	18.7
Mexico	6.9	10.4	–10.4	12.9
Central America	**12.3**	**12.3**	**12.8**	**17.5**
Belize	.	.	.	.
Costa Rica	8.4	16.3	17.1	20.7
El Salvador	.	3.2	12.2	9.8
Guatemala	.	12.0	8.5	15.3
Honduras	20.2	7.6	8.2	14.9
Nicaragua	.	27.1	23.9	34.9
Panama	.	.	.	.
Caribbean countries	**22.9**	**23.6**	**22.0**	**21.2**
Antigua & Barbuda	.	.	.	.
Bahamas	.	.	.	.
Barbados	.	.	.	.
Dominica	.	.	.	.
Dominican Republic	22.9	26.1	22.0	21.3
Grenada	.	.	.	.
Haiti	.	.	.	.
Jamaica	.	17.0	24.5	20.5
Netherlands Antilles	.	.	.	.
St Kitts & Nevis	.	.	.	.
St Lucia	.	.	.	.
St Vincent & the Grenadines	.	.	.	.
Trinidad & Tobago	.	17.9	20.0	.
South America	**5.1**	**–0.9**	**12.9**	**22.1**
Bolivia	8.0	–9.5	0.7	–1.2
Chile	11.5	12.7	14.4	16.7
Colombia	–19.2	–20.7	9.6	23.2
Ecuador	5.3	–21.3	15.3	14.2
Guyana	.	.	.	.
Paraguay	.	12.4	9.0	18.3
Peru	8.4	3.1	8.4	11.3
Suriname	.	24.7	19.3	27.6
Uruguay	7.3	4.6	–45.4	.
Venezuela	41.4	23.1	35.6	45.2

Sources: IMF; BIS calculations.

Table A11b

Return on average equity (ROAE)

Fitch Bankscope

	In per cent			
	1996	**2000**	**2002**	**2004**
Large economies	**11.8**	**11.8**	**2.1**	**13.6**
Argentina	–5.3	5.6	–64.8	–4.2
Brazil	7.3	12.5	21.9	19.5
Mexico	29.3	13.8	1.9	13.5
Central America	**18.3**	**18.1**	**14.1**	**18.1**
Belize	.	40.8	52.7	32.9
Costa Rica	14.4	17.4	14.8	19.2
El Salvador	19.6	11.1	11.6	10.2
Guatemala	22.0	13.2	12.0	17.0
Honduras	17.5	13.1	9.4	14.3
Nicaragua	18.1	33.1	28.4	34.8
Panama	15.2	34.1	12.0	20.0
Caribbean countries	**37.1**	**23.5**	**20.9**	**19.7**
Antigua & Barbuda	6.5	9.2	23.8	19.4
Bahamas	104.3	35.1	39.3	17.4
Barbados	.	15.8	15.4	15.8
Dominica	15.1	9.8	4.0	.
Dominican Republic	.	25.0	22.5	20.5
Grenada	.	21.2	21.6	7.9
Haiti	14.7	18.6	9.7	11.0
Jamaica	.	30.2	23.8	27.3
Netherlands Antilles	.	3.6	5.6	18.8
St Kitts & Nevis	.	24.3	17.1	11.5
St Lucia	.	.	.	.
St Vincent & the Grenadines	.	.	.	.
Trinidad & Tobago	37.3	21.9	22.3	21.3
South America	**13.4**	**3.0**	**12.8**	**22.6**
Bolivia	.	–9.0	–0.7	2.3
Chile	.	15.6	14.8	16.3
Colombia	.	–14.8	6.1	24.9
Ecuador	.	12.3	13.6	16.7
Guyana	14.1	12.0	6.9	13.1
Paraguay	26.4	14.3	16.0	19.1
Peru	.	3.4	10.7	14.4
Suriname	31.8	14.6	14.5	40.1
Uruguay	1.1	2.0	–10.5	7.1
Venezuela	.	20.4	32.6	43.3

Note: The banks included are those for which data are available.

Sources: Fitch Bankscope; BIS calculations.

Table A12

Total capital ratio

Fitch Bankscope

	1996	2000	2002	2004
Large economies	**14.6**	**14.8**	**15.7**	**16.5**
Argentina	18.6	17.5	.	.
Brazil	13.2	14.7	16.9	18.2
Mexico	.	13.6	13.8	14.0
Central America	**11.5**	**11.6**	**14.1**	**14.6**
Belize	.	.	.	.
Costa Rica	.	.	.	.
El Salvador	11.5	13.0	14.7	13.2
Guatemala	.	.	13.2	13.6
Honduras	.	.	.	.
Nicaragua	.	.	18.4	.
Panama	.	9.5	12.4	18.8
Caribbean countries	**31.2**	**12.7**	**14.8**	**15.0**
Antigua & Barbuda	.	4.5	9.9	6.8
Bahamas	27.3	12.9	.	10.2
Barbados	.	21.3	22.2	15.5
Dominica	.	.	.	.
Dominican Republic	.	11.5	11.6	13.1
Grenada	.	.	.	.
Haiti	.	.	.	.
Jamaica	.	.	24.8	22.2
Netherlands Antilles	.	.	.	.
St Kitts & Nevis	.	.	.	.
St Lucia	.	.	.	.
St Vincent & the Grenadines	.	.	.	.
Trinidad & Tobago	33.1	15.4	19.1	19.0
South America	**6.6**	**13.7**	**14.9**	**14.1**
Bolivia	.	13.4	11.5	.
Chile	.	13.2	16.7	12.5
Colombia	.	12.0	11.3	13.0
Ecuador	.	16.7	12.1	12.1
Guyana	.	22.0	25.8	32.5
Paraguay	.	.	.	.
Peru	.	12.5	.	14.1
Suriname	6.6	4.8	3.5	3.9
Uruguay	.	.	.	.
Venezuela	.	17.5	22.1	19.1

Note: The banks included are those for which data are available.

Sources: Fitch Bankscope; BIS calculations.

Table A13

Fitch banking system indicator[1]

	1998		2000		2002		2004	
	N	**Indiv**	**N**	**Indiv**	**N**	**Indiv**	**N**	**Indiv**
Large economies	**26**	**33.5**	**24**	**36.0**	**18**	**33.5**	**23**	**37.9**
Argentina	4	46.9	5	42.5	4	0.0	4	0.0
Brazil	16	42.2	13	41.3	8	40.6	11	43.2
Mexico	6	12.5	6	25.0	6	37.5	8	48.4
Central America	**.**	**.**	**2**	**50.0**	**6**	**32.6**	**7**	**35.6**
Belize	.	.	.	.	.	.	.	.
Costa Rica	.	.	.	.	.	.	.	.
El Salvador	.	.	.	.	4	25.0	4	31.3.
Guatemala	.	.	.	.	.	.	.	.
Honduras	.	.	.	.	.	.	.	.
Nicaragua	.	.	.	.	.	.	.	.
Panama	.	.	2	50.0	2	43.8	3	41.7
Caribbean countries	**.**	**.**	**.**	**.**	**9**	**29.9**	**7**	**15.3**
Antigua & Barbuda	.	.	.	.	.	.	.	.
Bahamas	.	.	.	.	.	.	.	.
Barbados	.	.	.	.	.	.	.	.
Dominica	.	.	.	.	.	.	.	.
Dominican Republic	1	62.5	.	.	5	27.5	3	8.3
Grenada	.	.	.	.	.	.	.	.
Haiti	.	.	.	.	.	.	.	.
Jamaica	.	.	.	.	.	.	.	.
Netherlands Antilles	.	.	.	.	.	.	.	.
St Kitts & Nevis	.	.	.	.	.	.	.	.
St Lucia	.	.	.	.	.	.	.	.
St Vincent & the Grenadines	.	.	.	.	.	.	.	.
Trinidad & Tobago	.	.	.	.	4	40.6	4	40.6
South America	**13**	**39.3**	**16**	**34.6**	**14**	**34.5**	**15**	**43.4**
Bolivia	.	.	.	.	.	.	.	.
Chile	3	70.8	4	65.6	4	71.9	4	71.9
Colombia	1	25.0	1	25.0	2	18.8	2	43.8
Ecuador	1	25.0	1	0.0	.	.	.	.
Guyana	.	.	.	.	.	.	.	.
Paraguay	.	.	.	.	.	.	.	.
Peru	.	.	1	25.0	1	25.0	1	25.0
Suriname	.	.	.	.	.	.	.	.
Uruguay	.	.	.	.	.	.	.	.
Venezuela	8	40.6	9	40.3	7	33.9	8	28.1

Note: Figures in the table refer to December of the corresponding year. Regional sample size (N) and rating (Indiv) are respectively the sum of country numbers and the weighted average using PPP valuation of each country's GDP.

[1] Weighted average of Fitch individual bank ratings by country. "0" indicates the lowest possible average rating and "100" indicates the highest possible average rating.

Source: Fitch.

Table A14

Moody's bank financial strength by country[1]

	1998		2000		2002		2004	
	N	**BFS**	**N**	**BFS**	**N**	**BFS**	**N**	**BFS**
Large economies	**40**	**26.2**	**38**	**25.3**	**37**	**25.9**	**38**	**26.2**
Argentina	9	27.8	10	25.0	9	0.0	9	0.0
Brazil	23	32.6	21	31.3	20	24.8	22	24.3
Mexico	8	15.6	7	16.7	8	38.8	7	41.5
Central America	**2**	**25.0**	**2**	**25.0**	**2**	**25.0**	**2**	**27.4**
Belize	.	.	.	.	.	.	.	.
Costa Rica	.	.	.	.	.	.	.	.
El Salvador	.	.	.	.	.	.	.	.
Guatemala	.	.	.	.	.	.	1	25.0
Honduras	.	.	.	.	.	.	.	.
Nicaragua	.	.	.	.	.	.	.	.
Panama	2	25.0	2	25.0	2	25.0	1	33.3
Caribbean countries	**.**	**.**	**.**	**.**	**1**	**33.3**	**2**	**13.7**
Antigua & Barbuda	.	.	.	.	.	.	.	.
Bahamas	.	.	.	.	.	.	.	.
Barbados	.	.	.	.	.	.	.	.
Dominica	.	.	.	.	.	.	.	.
Dominican Republic	.	.	.	.	1	33.3	1	8.3
Grenada	.	.	.	.	.	.	.	.
Haiti	.	.	.	.	.	.	.	.
Jamaica	.	.	.	.	.	.	.	.
Netherlands Antilles	.	.	.	.	.	.	.	.
St Kitts & Nevis	.	.	.	.	.	.	.	.
St Lucia	.	.	.	.	.	.	.	.
St Vincent & the Grenadines	.	.	.	.	.	.	.	.
Trinidad & Tobago	.	.	.	.	.	.	1	33.3
South America	**29**	**37.5**	**30**	**26.6**	**26**	**25.5**	**26**	**27.0**
Bolivia	.	.	1	25.0	1	8.3	5	0.0
Chile	10	50.8	10	48.3	8	52.2	6	57.5
Colombia	5	41.7	5	23.3	5	23.8	4	24.4
Ecuador	2	25.0	2	4.2	1	8.3	.	.
Guyana	.	.	.	.	.	.	.	.
Paraguay	.	.	.	.	.	.	.	.
Peru	4	31.3	4	20.8	4	23.1	2	25.0
Suriname	.	.	.	.	.	.	.	.
Uruguay	2	29.2	2	29.2	2	0.0	5	0.0
Venezuela	6	27.8	6	22.2	5	14.7	4	8.3

Note: Figures in the table refer to December of the corresponding year. Regional sample size (N) and bank financial strength (BFS) are respectively the sum and the weighted average using PPP valuation of country GDP numbers.

[1] Country BFS constructed according to a numerical scale assigned to Moody's weighted average bank ratings by country. "0" indicates the lowest possible average rating and "100" indicates the highest possible average rating.

Sources: Fitch Bankscope; Moody's Investors Service.

Table A15

Deposit insurance regimes in Latin America and the Caribbean

Country	Explicit?	Date of creation	Type of institution	Type of participation	Maximum amount insured[1]	Deductible	Uniform or differentiated by risk premium
Argentina	Yes	1995	Private	Mandatory	10.3	No	Differentiated
Bahamas	Yes	1999	Public	Mandatory	50	No	Uniform
Barbados	No						
Belize	No						
Bolivia	Yes	Pending	Public	Mandatory	10		Uniform
Brazil	Yes	1995	Private	Mandatory	5.7	No	Uniform
Chile	Yes	1986	Public	Mandatory	2.8		Does not apply
Colombia	Yes	1985	Public	Mandatory	6.9	Yes	Differentiated
Costa Rica	No						
Dominican Republic	Yes	Pending	Public	Mandatory	23.6	No	Uniform
Ecuador	Yes	1999	Public	Mandatory	8	Yes	Differentiated
El Salvador	Yes	1999	Mixed	Mandatory	7	No	Differentiated
Guatemala	Yes	2002	Public	Mandatory	2.6	No	Uniform
Guyana	No						
Haiti	No						
Honduras	Yes	2001	Mixed	Mandatory	8.9	No	Uniform[2]
Jamaica	Yes	1998	Public	Mandatory	5.9	No	Uniform
Mexico	Yes	1999	Public	Mandatory	130	No	Differentiated
Nicaragua	Yes	2001	Public	Mandatory	20	No	Differentiated
Panama	No						
Paraguay	Yes	2003	Public	Mandatory	10.2	No	Uniform
Peru	Yes	1992	Mixed	Mandatory	19.5	No	Differentiated
Suriname	No						
Trinidad & Tobago	Yes	1986	Public	Mandatory	7.9	No	Uniform
Uruguay	Yes	2002	Public	Mandatory	[3]	No	Differentiated
Venezuela	Yes	1995	Private	Mandatory	7.1	No	Uniform

[1] Values are in thousands of US dollar equivalents. [2] Can be changed annually. [3] The exact amount has not yet been specified.

Source: IADB (2004) based on World Bank (2003).

Table A16

Regulatory capital to risk-weighted assets

IMF GFSR and Article IV consultations

	In per cent			
	1998	**2000**	**2002**	**2004**
Large economies	**15.1**	**13.2**	**15.8**	**15.6**
Argentina	.	10.4	13.9	10.7
Brazil	15.6	13.8	16.6	18.2
Mexico	14.4	13.8	15.5	14.1
Central America	**7.5**	**13.9**	**14.7**	**15.7**
Belize	.	.	.	.
Costa Rica	.	16.7	15.8	18.1
El Salvador	.	11.5	12.2	13.0
Guatemala	.	13.9	14.9	14.5
Honduras	7.5	12.3	12.9	14.5
Nicaragua	.	14.3	18.0	14.3
Panama	.	13.5	14.5	19.6
Caribbean countries	**16.6**	**15.4**	**15.2**	**13.9**
Antigua & Barbuda	.	17.2	18.6	.
Bahamas	.	19.9	29.1	.
Barbados	16.6	15.9	18.8	17.9
Dominica	.	30.8	34.1	23.0
Dominican Republic	.	12.1	12.0	13.1
Grenada	.	13.5	15.6	14.9
Haiti	.	.	.	.
Jamaica	.	25.6	18.5	15.9
Netherlands Antilles	.	8.9	8.2	.
St Kitts & Nevis	.	.	.	.
St Lucia	.	.	.	.
St Vincent & the Grenadines	.	17.2	18.6	.
Trinidad & Tobago	.	20.2	21.3	.
South America	**11.7**	**13.2**	**12.7**	**14.9**
Bolivia	11.6	13.4	16.1	14.9
Chile	12.5	13.3	14.0	13.6
Colombia	.	13.2	12.6	14.0
Ecuador	11.2	13.1	14.4	14.9
Guyana	.	.	.	.
Paraguay	.	17.2	17.9	20.5
Peru	11.2	12.9	12.5	14.2
Suriname	.	10.1	17.6	9.2
Uruguay	11.2	11.7	-5.0	29.8
Venezuela	.	.	.	.

Sources: IMF; BIS calculations.

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