Latin America in Better Conditions to Face the Global Crisis: Financial Regulations in Argentina, Brazil, Chile, Colombia, Mexico and Peru.

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Abstract

This paper seeks to make a comparative analysis of the current financial regulations prevailing in Argentina, Brazil, Colombia, Chile, Mexico, and Peru, with focus on the regulations related to the stability of the financial system. Particular attention is given to regulations linked to those factors that in the past played a decisive role in banking crises in Latin America. Among them, the institutional framework and functions of each central banking and supervision agency, the dollarization of intermediation in each case, the dealing of public debt in banks portfolios, credit management, the availability of last resort loans, and insurance deposit schemes. The paper also studies financial regulations in light of the reaction of Latin American banking systems to the global financial crisis started in 2007. In fact, this crisis can be considered as a test of the financial rules of the six countries analyzed. Additionally, the text considers some regulations that currently are the object of the international debate on regulatory reform, such as banking capital, loss provisions, and rating agencies.

Resumen

Este artículo presenta un análisis comparativo del estado de las regulaciones financieras en Argentina, Brasil, Colombia, Chile, México y Perú, con énfasis en las regulaciones que se vinculan con la estabilidad del sistema financiero. Se presta particular atención a las regulaciones relacionadas con los factores que, en el pasado, jugaron papeles decisivos en las crisis bancarias en América Latina. Entre ellas, se revisa el marco institucional y las funciones de cada banco central y de cada agencia de supervisión, así como otros aspectos, incluyendo la dolarización de la intermediación financiera en cada nación, el tratamiento dado a la deuda pública en los portafolios de los bancos, el manejo del crédito, la disponibilidad de préstamos de última instancia y los esquemas de seguro de depósitos. El artículo también estudia las regulaciones financieras a la luz de la reacción de los sistemas bancarios de la región frente a la crisis global que estalló en 2007. Ciertamente, esta crisis puede ser considerada una prueba de las reglas financieras vigentes en los seis países aquí examinados. Adicionalmente el artículo analiza algunas normas que son actualmente objeto de debate internacional en materia de reforma regulatoria, como los requerimientos de capital, las provisiones por pérdidas y el papel de las agencias calificadoras de riesgos.

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I. Introduction.

Between 1945 and 2008, financial crises were frequent in Latin America. The region became one of the most financially unstable on the planet.[2] This was especially true for its largest economies. During this period, Argentina went through four banking crises, Brazil suffered three and Mexico two. Other countries were not exempt from financial distress: Colombia experienced two crises, as well as did Chile, and Peru suffered one.

Latin America's banking crises resulted from the manner in which the region entered the financial globalization process and from the domestic macroeconomic policies of the period (Frenkel, 2003). The predominance of insufficient financial regulations during this period deepened the negative impact of macroeconomic disequilibria on both the banking system and the entire economy. These inadequate financial regulations amplified—through different channels—the dimensions of the banking crises and the depth of the recessions associated with them.

There were two waves of financial liberalization and deregulation in Latin America (Frenkel and Simpson, 2003). The first, known as the Southern Cone experiments, was executed in Argentina, Chile, and Uruguay in the mid-seventies. The second wave took place fifteen years later, through neoliberal models originated in the Washington Consensus Decalogue.

Policies in the first of such waves had two key objectives. The first one was to increase financial intermediation. The financial repression previously in place was successfully repealed by deregulating interest rates. The second target was to replace the public sector's role in the allocation of credit with market friendly mechanisms.

In Latin America, however, the liberalization of interest rates and credit assignment mechanisms occurred within very deficient regulatory and banking supervisory frameworks. Substantial weaknesses, particularly in the credit assignment area, allowed the build-up of significant risk concentrations, the disbursement of loans to too many people or related parties, and insufficient guarantees*.* These resulted in numerous cases of fraud and bank failures that threatened banking stability. Additionally, the coexistence of total freedom for credit allocation and unregulated interest rates, compounded with a free-of-charge

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[2] See Reinhart & Rogoff, 2008.

unlimited deposit guarantee scheme, generated pervasive incentives with harmful consequences on banking solvency.

The severity of the banking crises in the early eighties, especially in Argentina and Chile, led to amendments of the weak regulatory structures. Some of its more flagrant inconsistencies were mitigated or eliminated during the following years. A new deposit insurance scheme was introduced. It required adopting stricter limits on large exposures to individual's counterparties or to groups of connected counterparties as well as increases in capital. Improvements were also made in banking supervision, with *in-situ* examinations of debtors' files and guarantees' documentation. Despite these changes, the regulatory framework remained partially flawed, as will be discussed ahead.

Renewed deregulating pressures surged in the early nineties. This new process took place within a context of deeper integration into the international financial system, fostered by the entrance of important international banks to the local banking systems. Other factors also helped modify the financial features of the region: the adoption of Basle capital norms, the privatization of state-owned institutions, the creation of private pension funds that replaced public retirement systems and the impulse of capital markets.

Subsequent financial crises tested the resilience of the region's banking systems. With the exception of Chile, the L.A. countries considered here faced at least one banking crisis between 1997 and 2005. The impact on each system was different, depending on factors such as the existence of prior credit booms fostered by capital inflows, the prevailing exchange rate regime, the degree of dependence from short-term foreign funding, the level of dollarization in the domestic financial intermediation, and the evolution of country risk premiums.

There were also important regulatory differences, both at the micro and the macro prudential level. Disparities in the quality of these regulations help explain the depth of national banking crises and their spillovers onto the real economy. At the macro prudential level, regulations related to financial dollarization, the treatment of sovereign debt, and the deposit insurance schemes differed among countries. At the micro level, norms on capital requirements, liquidity and credit risk management, and loan losses provisions, were also different.

Despite these precedents, Latin America faced the global financial crisis started in 2007 without a single case of domestic banking crisis. Given its previous record, it is undoubtedly a very auspicious fact. This global financial crisis originated in the midst of the financial world, and its depth and extension have been particularly acute. Improvements in macroeconomic policy, which led to the decline in the vulnerability of the external sector, are crucial in explaining the positive outcome in Latin America. Progress in liquidity requirements, as well as solvency ratios conditions and other aspects of financial regulations also played a key role.

Advances in regulations came after the post-Tequila banking crises uncovered many deficiencies in the liberalizing approach. The severity of the Latin American banking crises of the 1990s and 2000s, with their important consequences on production and employment, lead public opinion and national leadership to review existing regulations, improve banking supervision, and strengthen the local institutions in charge of these tasks. Risks assumed by the banks had to be restricted, and incentives for financial institutions had to be at least partially lined up with those of society as a whole. The enormous costs derived from light regulation and extreme liberalization had to be avoided.

This paper seeks to make a comparative analysis of the current financial regulations prevailing in Argentina, Brazil, Colombia, Chile, Mexico, and Peru. We focus on the regulations related to the stability of the financial system, rather than on those related to financial development. We fully understand that there is a close link between stability and financial development but, in view of our objectives, it is more suitable to set apart the norms related to each of these aspects. We pay particular attention to regulations linked to those factors that in the past played a decisive role in banking crises in Latin America. Among them, the institutional framework and functions of each central banking and supervision agency, the dollarization of intermediation in each case, the dealing of public debt in banks portfolios, credit management, the availability of last resort loans, and insurance deposit schemes.

We also study financial regulations in light of the reaction of Latin American banking systems to the latest global financial crisis. In fact, the recent crisis can be considered as a test of the financial rules of the six countries analyzed. Additionally, we reference some regulations that currently are the object of the international debate on regulatory reform, such as banking capital, loss provisions, and rating agencies.

This document is organized as follows: Section II describes the main characteristics of the financial system in each of the six countries under study. Section III contains a comparative analysis of financial regulations, including the institutional framework, the scope of the regulation, the safety nets, banking capital requirements, risk management, accounting norms, information requirements, and the audit regime. Finally, Section IV includes some conclusions as well as reflections on further research on this particular matter.

II. The Characteristics of Latin American Financial Systems.

When compared to either developed countries or other emerging economies, Latin America presents a low level of financial deepening. The six countries under study, however, are highly heterogeneous. For example, as shown in Table 1, total credit/GDP in Chile is 74.7%, in Brazil 41.2%, in Colombia 37.1% and in Peru 33.1%. Contrarily, such ratio is strikingly low in Argentina (20.4%) and Mexico (14.7%). In the latter cases, the level of financial deepening is much lower than in other countries with similar GDP per capita.

In all cases but Argentina, loans to the private sector represent a very high proportion of total credit (Table 1). In Argentina, banking loans to the public sector are of some significance. In the remaining countries, the public sector debt is mostly channeled through bond issuing. Brazil perfectly reflects this case.

As in most emerging economies, credit to the private sector—measured as a percentage of GDP— has grown significantly in the last few years, particularly between 2003 and 2007. The mean credit to the private sector/GDP ratio jumped from 5% in 2001 to 20% in 2007***,*** in spite of Argentina and Peru not registering major increases during this period***.*** At the peak of the global financial crisis, in 2008, the same ratio fell to 15%.

The dollarization of financial activity is very high in Peru: 55% of the loans and 43.3% of deposits are denominated in foreign currency. It is also slightly significant in Chile (13.4 and 13.8%) and in Mexico (3.8% and 12.2%). In contrast, it is very low in Argentina (1.7% and 2.2%) and nonexistent in Brazil and Colombia (Table 1).

Table I
Key indicators of the financial system (2008)

	Argentina	Brazil	Chile	Colombia	Mexico	Peru
Financial System						
Loans						
Total Loans / GDP	20,4%	41,2%	74,7%	37,1%	14,7%	33,1%
% denominated in foreign currency	1,7%	-	13,4%	-	3,8%	55,1%
Loans to the private sector/ GDP	11,9%	40,4%	72,8%	34,9%	13,2%	24,5%
from which:						
Non-banking institutions						
Total Loans / GDP	0,5%	4,6%	-	-	-	3,4%
Loans to the private sector/ GDP	0,5%	-	-	-	-	2,3%
Deposits						
Total deposits / GDP	19,5%	76,2%	63,2%	33,3%	17,4%	29,7%
% denominated in foreign currency	2,2%	0,1%	13,8%	0,0%	12,2%	43,3%
Private sector deposits / GDP	14,0%	74,5%	-	-	-	-
Mutual Funds Assets / GDP	1,8%	33,5%	15,8%	-	7,9%	2,3%
Pension Funds Assets / GDP	8,9%	17,0%	62,5%	14,3%	8,9%	17,9%
Capitalization of the stock market / GDP	13,8%	63,9%	118,0%	50,3%	34,5%	50,4%
Domestic government bond market						
Amount outstanding/GDP	58,8%	42,2%	10,0%	27,9%	23,5%	6,0%
Corporate bond markets						
Amount outstanding/GDP	3,7%	8,6%	11,4%	0,4%	3,0%	90,0%

Source: Rennhack (2009).

During the last few years, some of these countries, especially Argentina, have adopted measures that reduce the degree of dollarization in financial intermediation. In fact, dollarization has generally decreased in Latin America, even in countries where dollarization was stronger, such as Bolivia, Paraguay, and Peru. The de-dollarization process has nevertheless suffered a minor drawback because of the 2008 global financial crisis.

In Latin America, banks dominate the financial sectors (non-bank firms in the region are rare or inexistent, see Table 1). In most cases, banks are the only institutions with guaranteed access to liquidity mechanisms and other components of the financial safety net set up by each central bank. Additionally, international banks have a strong presence in the region. Their branches and subsidiaries finance their activities through deposits captured within their operative area. They do not depend on foreign funding for their credit activities.

Latin American banks' balance sheets have improved over the course of the last few years. Funding for loan portfolios of domestic banks currently comes from a base of stable deposits. These deposits were barely exposed to the toxic assets that played a leading role in the global financial crisis. In cases where banks intensely trade with stocks and derivatives, such as Brazil and Chile, the risks are limited. Yet, Argentina is particularly fragile since the banks hold a considerable amount of public bonds, which trade at an elevated risk premium.

In Latin America, liquidity levels are high. In August 2008, at the peak of the international financial crisis, liquid assets still represented 20% of total assets and 40% of the short-term liabilities. Net positions in foreign assets are either positive or balanced, even if dollar denominated required reserves are excluded. Foreign assets are mainly invested abroad through deposits in foreign countries (IMF 2009).

In the six countries under analysis, most banks, particularly those of systemic importance, portray a healthy net worth situation. The levels of solvency and profitability are above institutions operating in emerging Asia and in many developed countries. The capital/assets ratio has increased during the last decade, reaching a 15% level. This ratio is well above the level recommended by Basle Committee (8%) and above the ratio showed by both advanced and emerging countries. The average ratio of nonperforming loans to total loans is 3%. This ratio has gone down systematically over the last few years, after reaching 10% in 2001, and is similar to that of other countries. Profitability over assets has gone up to 2%, which was 1% in 2000.

Although capital markets in the region are smaller than in the developed world, as well as in other emerging economies, countries such as Brazil, Colombia, Chile, and Mexico have well-established stock and corporate bond markets. Their growth has been very important in recent years. The market capitalization to GDP ratio is 118% in Chile, 63.9% in Brazil, 50.4% in Peru, 50.3% in Colombia, 34.5% in Mexico and 13.8% in Argentina. The volume of outstanding corporate debt is important only in the cases of Chile (11.4% of GDP) and Brazil (8.6%). The volume of outstanding public bonds is significant, although there are differences among the countries. The cases of Brazil and Argentina clearly stand out (see Table 1 for details).

In the nineties, the creation and development of pension funds largely drove capital markets in Latin America. Although each regime differs, in all cases their size grew significantly, along with the collection of forced or voluntary contributions. Pension funds are currently active market participants in stocks and bonds exchange, promoting in turn the issuance of new instruments. The size of pension funds has reached 62.5% of GDP in Chile, 17.9% in Peru, 17.0% in Brazil, 14.3% in Colombia y 8.9% en Mexico (See Table 1). In Argentina, the state took over private pension funds, which represented 8.9% of GDP in the first semester of 2008.

The financial systems in the six countries have followed a pattern of increased globalization. As has been mentioned, international banks have a very important presence in the region. Some large domestic banks also have branches abroad, including representation in tax heavens*.* Private and public sectors are active in the international market by placing debt instruments and making investments. Banks and large corporations operate in international markets for debt, stocks, foreign exchange, and derivatives. A growing number or large firms list their stocks in global financial centers. Finally, many investment funds and even some pension funds have added foreign assets into their portfolios.

III. Financial Regulations.

III.1 Institutional Framework: Core Legislation, Central Banking, and Supervisory agencies.

All six countries analyzed have a core body of financial legislation that set the basic rules for financial activity, but significant differences exist among them. Some of the financial legislations are very general, and delegate most regulation to the central bank (such as in Argentina and Brazil). Contrastingly, countries like Mexico and Peru have extremely detailed legislations. As a result, some countries' reforms require congressional approval while others have wider margins for regulatory changes. The countries with wider margins adopt reforms through resolutions issued by their respective central banks and other supervisory agencies.

In all countries, their respective central banks are largely responsible for preserving financial stability. Surveillance agencies might carry additional complementary tasks. Mexico is a particular case, where the institutional structure is more complex than in other countries. The Treasury Secretary (SHCP) has important normative power. In this case, The IMF has criticized the existence of multiple regulatory bodies and the lack of an agency that controls and monitors all banking activities, despite having recognized the efficient cooperation among the several existing agencies (IMF, 2006).

As World Bank research on regulation and banking supervision shows (Caprio et al., 2008), when more than one supervisory body exists, the chief agency is the one that grants and revokes authorizations. Thus, in Argentina, Brazil, and Colombia, the most important agency is the Central Bank. In Chile and Peru, their respective Bank Superintendencies assume the leading role. In Mexico, as stated above, the Treasury Secretary (SHCP) holds this role. These differences reflect the peculiarities of the different institutional arrangements and the relative weight of each body. In Brazil, there is no separate supervisory agency and the BACEN is responsible for such tasks. In Argentina, the Superintendency of Banks functionally depends on the president of the Central Bank and is integrated into its structure. In Mexico, the Banking and Exchange Commission (*Comisión Nacional Bancaria y de Valores*) operates under the umbrella of the SHCP. The Superintedencies of Colombia, Chile, and Peru all have greater autonomy and a broader capacity for regulation.

Differences also exist in the integration or division of supervisory activities. Colombia, Mexico, and Peru each have a unique body that supervises the financial system, while in Argentina, Brazil, and Chile two separate agencies divide the responsibility. Certainly, there is no international consensus regarding which institutional structure is more efficient. A unique body that includes the banking system and the stock market allows for a better control of all bank activities and financial conglomerates. This structure, however, discourages the specialization of supervisors.

The divided approach has the opposite advantages and weaknesses. It is probable that greater integration and sophistication of financial markets tends to unify supervisory agencies. However, a growing consensus agrees tightened coordination and collaboration among different existing agencies is essential. This cooperation formally exists in Chile through the Financial Sector Superintendents Committee (*Comité de Superintendentes del Sector Financiero*).

III.2 The *Perimeter* of *Financial Regulation.*

The lack of regulation and supervision of financial institutions, products, and markets was a key factor in the development of the 2007/8 global financial crisis (Brunnermeier, 2009 and Stiglitz et al., 2009). Regulation primarily focused on banks, where deposits were guaranteed by the existence of insurance mechanisms and access to a lender of last resort. In contrast, new market actors (such as investment banks, hedge funds, other structured trusts, and certain segments of the insurance activity, specifically, credit derivatives) run under inexistent or very light regulations. These new actors influence and create risks in the regulated segments of the market.

Latin America’s less sophisticated financial system proved to be an advantage during the global financial crisis. Regulation and supervision in the six countries analyzed focused primarily on banks, which was sufficient since it kept the main and relevant actors accountable. However, the regulatory perimeter must be dynamic, so new actors entering the financial markets cannot behave recklessly. In the last decade, the financial markets experienced large growths and new or previously irrelevant actors emerged with great strength. For example, the Brazilian stock market is one of the largest among emerging economies; Mexican currency is extremely liquid; trade in derivatives is very intense in Brazil, Chile, Mexico, and Colombia, and investment funds intermediate large resources, both in Brazil and Chile. A dynamic regulatory perimeter could better protect Latin American financial markets as they evolve.

Table II

Regulatory Perimeter /1

	Argentina	Brazil	Chile	Colombia	Mexico	Peru
Institutions						
Systemic 2/						
Banks	*	*	*	*	*	*
Non-systemic						
Finance companies	*	*	-	*	*	*
Savings banks	-	*	-	*	*	-
Off-shore Banks	*	*	*	*	*	*
Other non-bank intermediaries	*	*	*	*	*	*
Insurance	*	*	*	*	*	*
Brokerage houses	*	*	*	*	*	*
Mutual funds	*	*	*	*	*	*
Pension funds 3/	*	*	*	*	*	*
Microfinance	*	*	-	*	*	*
Cooperatives	*	*	*	*	*	*
Hedge funds	*	*	-		*	*
Financial services 4/	*	*	*	*	*	*
Securitization companies	*	*	-	*	*	*
Other unregulated					Sofoles	

1/* => subject to regulation;* => for Cooperatives, it implies subject to regulation only if above certain size; for Off-shores, it implies that they are not explicitly licensed in the country, but the legislation poses restrictions on them through
jurisdiction requirements, consolidated supervision, and parent bank's risk exposure;
- => Not available in the respective country.
2/ The systemic classification is based mainly on size, and depicts an average case for the region.
3/ In Argentina, the private pension system was nationalized in November 2008.
4/ Includes warehouses, trust companies, credit card entities, leasing and factoring corporations, rating agencies, and other entities providing support in financial activities.

Source: Rennhack (2009).

III.3 Bank Participation in Non-banking Activities.

Regulation must also contemplate risks derived from banks engaging in strictly nonbanking activities. The banks' participation in nonfinancial activities differs among the countries analyzed. Mexico has more flexible norms than the rest, and banks can participate in the previously mentioned business segments (capital markets, insurance, real-estate activity, and own non-financial firms) with low restrictions. Greater limitations exist in the other countries, with the real estate being most severely limited.

III.4 Financial Conglomerates.

Similarly to developed financial markets, Latin America's markets tend to produce conglomerates or financial groups. This tendency reinforces certain risks: there can be exposures to intra-group losses as well as contagion among the different members of a particular group. The emergence of conglomerates and financial groups also creates a challenge for supervision: a real level of risk concentrations and the degree of exposure towards third parties must be established, since the solvency of the entire holding becomes threatened if regulatory arbitrage is allowed. In the six countries analyzed, an individual stockholder can participate in the capital of a financial entity without any limits. In Mexico, a non-financial firm may own an unrestricted amount of banks' stocks. In Argentina, Brazil, Chile, and Peru, their respective central banks must approve non-financial firms seeking to become stockholders. Colombia directly forbids it. Conglomerates or financial groups have a significant presence in the six countries analyzed. The corporative structure may differ: one controlling firm (holding) and subsidiaries, among which there is one financial entity, may form it or, alternatively, a set of linked –related- firms headed by a banking institution. Members of a financial group are mostly financial entities, and others such as stockbrokers, pension funds, insurance companies, leasing firms, factoring, credit card issuers. Regulators require the submission of information and consolidated accounting balances. In certain cases, different agencies supervise the members of the conglomerates, although the banking superintendence usually heads the consolidated supervision. Colombia's regulation emphasizes information on the composition of financial conglomerates. In Brazil, an advanced scheme of consolidated supervision reduces regulatory arbitrage possibilities, especially when banks use off-balance Special Purpose Vehicles.

III.5 Regulation of Foreign Banks.

International banks have an important presence in the financial markets of the six countries analyzed. Loans from foreign banks in this region are conceded through two different modalities: either directly from the parent bank (cross-border lending) or indirectly through the domestic activities of international banks with branches in Latin America.

During the last few years, the composition of total loans from international banks to Latin America has favored loans disbursed through local affiliates, which already represent two thirds of foreign banks' total loans (IMF, 2009). Lending by international banks' domestic affiliates is mostly denominated in domestic currency. Their lending capacity originates directly from deposits taken in the domestic markets. International banks in Latin America reoriented their global strategy in the early nineties when they began acquiring important private domestic banks.

The relevant presence of the international banks represents a significant challenge for banking regulation in the host countries. For some authors (BIS, 2007), the presence of international banks supposes an advantage at the regulatory level, since branches or domestic affiliates form part of a broader organization, which is subject to a higher quality of supervision. According to this approach, the presence of international banks is the equivalent of importing regulation and supervision ability at a low cost. However, supervision in the most advanced markets does not always consider the activity of their financial institutions in other markets. Moreover, operative relationships of overseas branches and affiliates with their headquarters might facilitate regulatory arbitrages within the group, which in turn, can affect the solvency and liquidity of the institutions located in the host country.

Reform proposals for the global regulatory architecture contemplate the introduction of intensive cross border consolidated supervision, especially in cases where global banks hold systemic importance. This proposal seeks to limit the opportunities for regulatory arbitrage and risks of contagion. Another proposal suggests the creation of task groups formed by all regulatory agencies, with the objective of sharing information, harmonizing rules, and clearly assigning responsibilities among all the regulatory agencies involved (Rennhack, 2009).

We next review the current regulations regarding the operation of foreign banks in the six countries analyzed.

All countries in Latin America authorize the presence of branches or subsidiaries of international banks within its borders. Except in Brazil, Bilateral Investment Treaties (BITs) regulate and protect their presence. In Brazil, the entrance of new foreign institutions is constitutionally restricted and requires an exceptional authorization from the country's president for each case. In the six countries analyzed, the acquisition of local entities by foreign institutions is permitted. Usually, even for branches, it is required the effective incorporation of the resources established in minimum capital norms. New entries, acquisitions, and changes of stockholders that involve international banks, are subject to strict authorization processes by the corresponding authority. Legislations contemplate the equal treatment principle for domestic and foreign banks. BITs usually reinforce this principle. Brazil applies the same restrictions to foreign banks as it does to Brazilian banks. Peru's constitution allows reciprocal measures to be taken when giving authorization to new institutions. In Chile and Colombia, the participation of foreign entities in the domestic financial systems is subject to consolidated supervision in its home country. Chile also requires the reciprocal exchange of information between the supervisory agencies of both countries. Argentina forces foreign banks to clarify in their publicity the type of backup that their parent company concedes to deposits taken by their local branches or subsidiaries.

In Chile and Mexico, supervisory agencies communicate with the supervisors of parent banks. Mexico has already signed 12 Memorandums of Understanding with supervisors from other countries. Representatives from the US, Canada, and Spain visit annually Mexico's CNBV to discuss issues of common interest. If a Memorandum of Understanding exists and the institution is previously notified, Mexican rules allow joint inspections (along with foreign supervisors) of foreign banks' branches in Mexico.

III.6 Deposit Insurance

A deposit insurance regime exists in all of the six countries analyzed. Some of these regimes were implemented during a banking turbulence, with the purpose of preventing, or attenuating, a mass withdrawal of deposits. In others, the regime was established after a financial crisis uncovered weaknesses in the previous safety net. Both Chile and Colombia set up a deposit insurance scheme during the eighties and the remaining countries did so a decade later. Table 3 summarizes the key features of the current schemes. Brazil, Chile, Colombia, and Mexico publicly administer their deposit insurance, while Argentina and Peru have a joint operation between the public and private sectors. In Argentina, however, the Central Bank has a decisive influence over its business. In the six countries, none of the institutions that manage deposit insurance schemes have the power to put a specific institution into receivership or revoke its license.

Table 3
DEPOSIT INSURANCE REGIMES IN LATIN AMERICA AND THE CARIBBEAN

	Argentina	Brazil	Chile	Colombia	Mexico	Peru
Explicit Regime	Yes	Yes	Yes	Yes	Yes	Yes
Date of creation	1995	1995	1986	1985	1999	1992
Type of institution	Mixed	Public	Public	Public	Public	Mixed
Type of participation	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
Maximum amount insured (USD)	$ 7.600	$ 33.700	$ 20.000	$ 20.000	$ 120.000	$ 22.000
Uniform or differentiated by risk premium	Diff.	Uniform	Diff.	Diff.	Diff.	Diff.

Sources: IDB (2005) and our own elaboration.

All of the six countries mandate financial entities to participate in the deposit insurance scheme, but the maximum amount covered by this guarantee for depositors varies: $7,600 in Argentina; $20,000 in Chile; $22,000 in Colombia, $22,000 in Peru; $33,700 in Brazil, and $120,000 in Mexico (all expressed in current U.S. dollars). All values indicate, except in Mexico, the insurance exclusively aims to protect small savers. Mexico's high amount is probably influenced by its economically larger neighbor (deposit insurance in the U.S. used to guarantee up to 100,000 dollars and was later raised to 250,000 dollars during the 2007/8 financial crisis).

Two of the countries analyzed have a co-insurance scheme. In Chile, the insurance covers 90% of the amount of any term deposit below the established maximum value. In Colombia, the guarantee reaches 75% of such value. In all countries except Colombia, the insurance also covers foreign currency-denominated deposits, if such deposits are approved. In all countries but Chile, the financial entities fund—at least partially—the deposit insurance scheme. In every country except Brazil, payment ratios by banks differ according to the entities' risk grading. Brazil has a uniform ratio for all banks. In Argentina, Mexico, and Peru, the institutions in charge of the deposit insurance scheme may reorganize and wind-up credit institutions, mainly by purchasing the assets of stressed banks.

III.7 Lender of Last Resort .

Central banks mainly use the provision of liquidity to preserve financial stability. This instrument showed its importance during the recent international financial crisis when central banks around the world decisively and pragmatically employed a broad menu of tools to overcome liquidity constraints. Central banks, especially in developed countries, extended their policies beyond the traditional boundaries. These new policies included previously excluded institutions into the safety net, expanded the menu of assets that banks could use as collateral for loans, and the purchase of outstanding debt instruments to finance directly the private sector (Campos, 2008).

The central bank's role as lender of last resort usually generates tensions with policies that aim to reduce the inflation rate. The central banks' organic charts treat differently the latent conflict between preserving the currency's value and maintaining financial stability. The extreme positions that prevented central banks from providing any assistance to the financial system were impractical when banking problems surged (as was the case during the Tequila crisis under the Convertibility regime in Argentina (Rozenwurcel & Bleger, 1997)) and these positions no longer exist in current legislation.

In Argentina, Chile, and Colombia, the central banks are in charge of preserving financial stability. Instead, Brazil lays this responsibility on the Finance Minister, although the Central Bank must monitor the soundness of the financial system. Mexico has a highly segmented regulatory system and diverse institutions share the responsibility of maintaining financial stability. These institutions include the finance ministry, the Central Bank, the bank superintendence, and the deposit insurance unit. In Peru, the financial superintendence is in charge of preserving financial stability. However, even in cases where the primary responsibility lays outside the central bank, CBs are authorized to assume the role of lender of last resort.

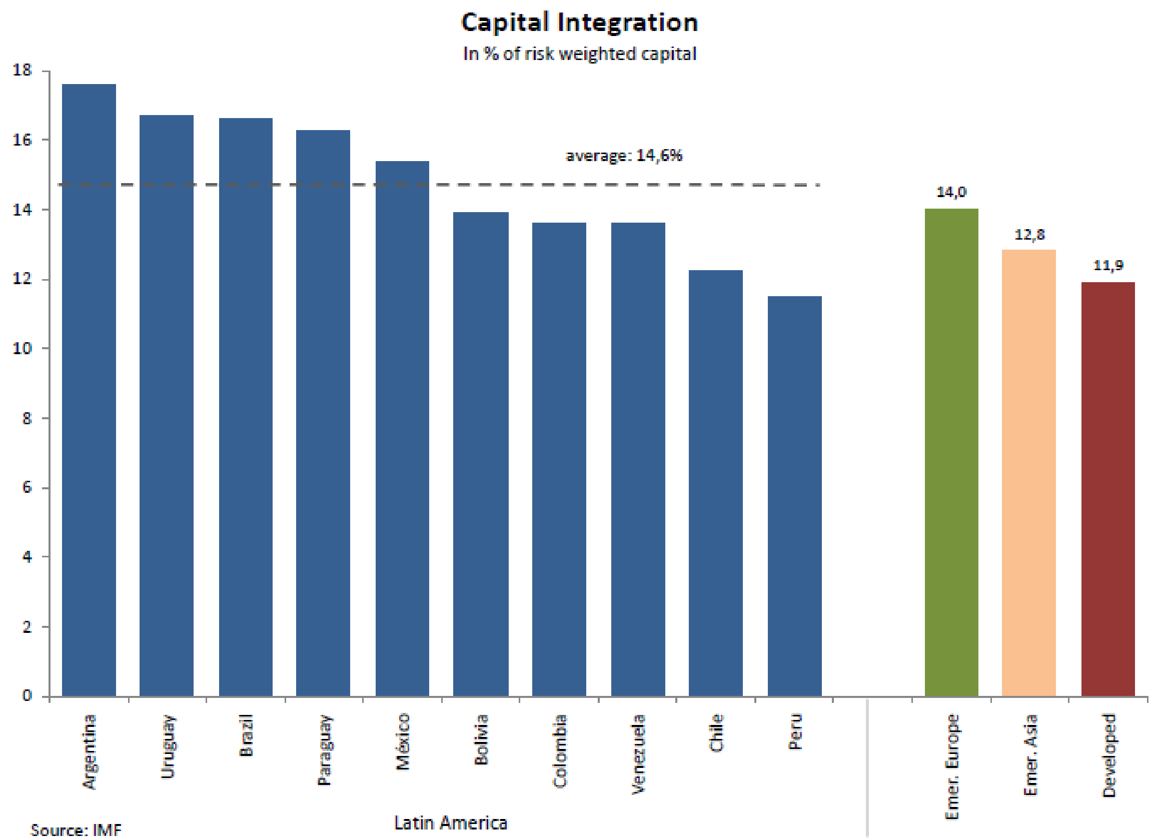
III.8 Minimum Capital.

In Latin America, the integration of capital as a percentage of risk-weighted assets is on average 14.6%. It exceeds the ratios registered in developed countries (11.9%), emerging Asia (12.8%), and emerging Europe (14.0%). Capital/assets ratio is 17.8% in Argentina, 16.6% in Brazil, 15.3% in Mexico, 13.9% in Colombia, 12% in Chile, and 11.8% in Peru (Figure 1). In light of the recent global financial crisis, Basle capital norms are the current object of intense review and debate (Brunnermeier et al., 2009). Its pro cyclicality remains very disputable. The Basle II accord further stressed this bias since it established a closer link between regulatory capital and portfolio risk (Manuelito et al., 2009).

The role given to internal risk-valuation models is another contentious point in the Basle II accord. The recent crisis revealed serious flaws in measuring risks and risks assumed by financial institutions.

All countries have implemented the new capital framework from 2004 (Basel II) and have established schedules which are at different stages. While some countries have opted for the Standard Model (either simplified or not) for Pillar I, others have chosen Internal Ratings-based (IRB) Approach, either basic or advanced. Brazil applies the simplified standardized approach to most entities, reserving the IRB for larger ones. As for the integration of capital, all six countries allow financial institutions to compute subordinated debt as part of the regulatory capital.

Figure 1.



III.9. Risk Management.

III.9.1. Liquidity.

External factors that produced liquidity constraints caused many of Latin America's banking crises. Sudden stops in external capital inflows, influenced by contagion and other failures in the international financial system's operation, led to bottlenecks in bank liquidity: falls in deposits, difficulties in renewing foreign debts, and reduced liquidity in the public and private securities market.

Internal factors also added further tension in bank liquidity: maturity mismatches between assets and liabilities, a marked short-termism of the deposits, currency mismatches, and a limited depth in the interbank and securities markets. The following paragraphs describe the regulatory schemes that aimed to moderate liquidity risks.

Rules on liquidity risk management differ between the countries analyzed. Legal reserve ratios broadly vary. Some central banks establish different requirements for domestic and foreign currency denominated deposits, as well as different ratios according to the maturity ratios in term deposits. Peru uses marginal reserve requirements as a more refined tool to regulate individual and systemic liquidity. Only Brazil uses reserve requirements to direct credit to activity sectors or geographic priorities. Usually, reserves deposited in banks' accounts with central banks receive some sort of remuneration. All six countries analyzed tend to use reserve requirements as a monetary tool. Both Argentina and Peru commonly use this practice. Chile and Colombia require banks to adopt strategic plans of liquidity management for both normal and crisis scenarios.

III.9.2. Foreign Exchange Risk.

In Latin America, the partial dollarization of the financial activities brought up important challenges for prudential regulation and the preservation of financial stability. Threats to bank solvency appear after abrupt changes in the exchange rates, as banks and debtors face currency mismatches. Liquidity risks are increased when suddenly banks and borrowers face restricted access to foreign currency sources. And once the problem has triggered, solvency and liquidity issues have significant feedback on each other. Often, banks' attempts to limit their foreign exchange risk exposure induced by high exchange rate volatility lead them to greater credit risk exposure. In particular, this happens when they grant foreign currency loans to domestic clients whose cash flows are in domestic currency, but the banks retain the credit risk resulting from the borrowers' currency mismatch that could affect their capacity to repay the loan (Cayazzo et al., 2006). Furthermore, the scarce depth and high counterparty risks prevent banks from appropriately hedging against these risks.

The risks associated with financial dollarization are exacerbated during a global financial crisis. First, sharp devaluations that usually take place during turbulent scenarios enhance problems caused by currency mismatches, for both financial institutions and borrowers. Second, sudden stops in capital flows make harder to refinance debts since access to foreign sources for banks and large companies becomes more difficult. Finally, capital outflows reduce bank funding from lower foreign (and domestic) currency denominated deposits.

During the last few years, some countries -notably Argentina- have adopted measures to reduce the level of dollarization of their financial systems. As shown in Table 1, the dollarization degree is high in Peru, moderate in Chile and low (or directly inexistent) in Argentina, Brazil, Colombia and Mexico. Main regulations related to foreign currency operation in the six analyzed countries are described next.

Argentina, Chile, Mexico and Peru support the acceptance of foreign currency denominated deposits by banks, while Brazil and Colombia do not. Argentina, Brazil and Mexico are more restrictive for active operations while guidelines in Chile, Colombia and Peru are more flexible. All countries impose limits on currency mismatches as a percentage of the bank's net worth. Colombia also sets a limit to maturity mismatches between foreign currency denominated assets and liabilities. Brazil and Peru impose capital requirements associated with the foreign exchange risk. Table 4 shows some of the prudential regulation rules applicable on foreign currency transactions and currency mismatches. Banks possibilities of hedging their foreign exchange risks are scarce in most analyzed countries: only in Brazil there is a wide availability of financial instruments. In other analyzed countries, only the future exchange rate market is reasonably deep. In Chile and Colombia, banks are allowed to hedge their currency exposures using derivatives.

Peru, which has a highly dollarized financial system, has established additional regulations related to foreign exchange risk management. There is a high marginal reserve requirement for foreign currency denominated liabilities. Institutions must constitute higher provisions for loans in foreign currency. Banks should: issue a handbook on Policies and Procedures for risk management; have a responsible unit for such management and design and use a model to measure the exchange risk in addition to the one established by the Superintendence.

Table 4
PRUDENTIAL REGULATION AND CURRENCY MISMATCHES IN LATIN AMERICA

	Argentina	Brazil	Chile	Colombia	Mexico	Peru
Does regulation impose restrictions on foreign currency deposits?	No	Yes	No	Yes	Yes	No
Does regulation impose restrictions on foreign currency loans?	Yes	Yes	No	No	Yes	No
Does regulation impose restrictions on banks' currency mismatches?	Yes	Yes	Yes	Yes	Yes	Yes
Does prudential regulation provide explicit guidelines for different provisions or capital requirements for dollar-denominated assets vis-à-vis local currency denominated ones?	No	No	No	No	n.a.	No
Does regulation deal with borrowers' mismatches?	Partially	Partially	Partially	Partially	No	Partially

Source: IDB (2005).

Regulation related to credit risk induced by borrowers' currency mismatch has registered a moderate improvement. In Argentina, regulation strongly restricts the uses of foreign denominated credit in order to avoid mismatches in debtors' positions. Supervision in Argentina, Chile and Peru induces (but does not require) banks to assign a higher risk rating to borrowers whose ability to pay is sensitive to movements in the exchange rate. However, the analyzed countries establish neither capital requirements nor specific provisions related to the foreign currency induced credit risk (Cayazzo et al., 2006).

III.9.3. Credit Risk.

III.9.3.1. General Norms.

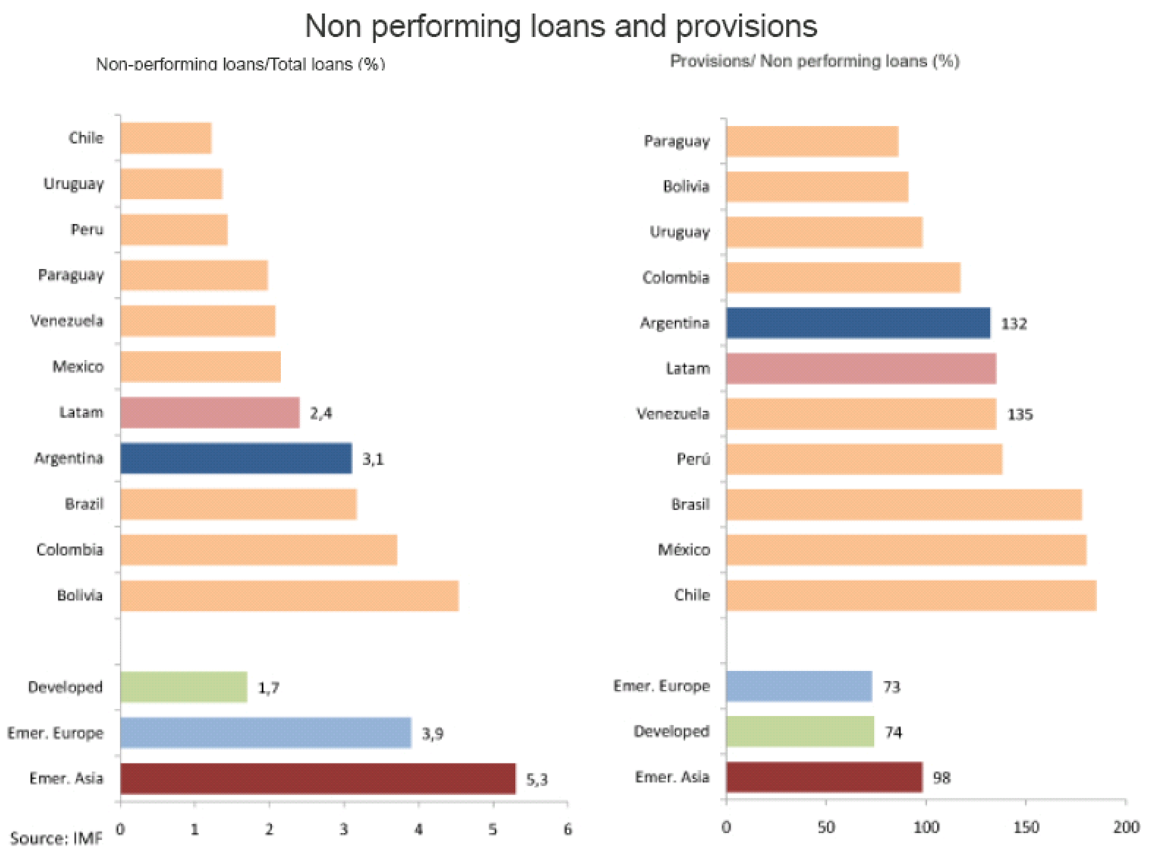
The six countries have a relatively demanding set of regulations for credit risk management. Such legislation includes funding limits by debtor in order to avoid risk concentration, and a ceiling on loans and guarantees that a financial institution can grant to related customers or firms. Additionally, some countries cap the maximum amount of financing an institution can grant to its largest debtors. In all cases, the maximum limits are set as percentages of the entity's regulatory capital. Such limits may be increased when the debtor offers special collateral. In Mexico, limits can be increased if a financial institution registers larger capital adequacy ratios. Different mechanisms across the six countries require banks to state explicitly their policies and procedures for evaluating and controlling these risks. An institution's board of directors and its management are responsible for managing credit risk. The Colombian Credit Risk Management System (SARC) stands out because of its ample scope and depth.

In recent years, central banks have developed models to diagnose individual and systemic vulnerability to private credit risk. Supervisors are increasingly using these stress tests to assess the total impact on profitability and the level of capitalization in a macroeconomic crisis. For example, the Central Bank of Argentina (BCRA) uses a structured method that is able to reconstruct the credit risk loss distribution for each entity and type of debtor. Distribution enables the Central Bank to compare the current portfolio quality with its potential deterioration, and it can contrast it with the implicit loss absorption potential of a bank's profits and capital. The BCRA also uses another approach that enables the modeling of losses that would be observed in specific scenarios and estimates the corresponding losses from credit risk in each of them (BCRA, 2009).

III.9.3.2. Loan Loss Provisions.

Non-performing loans, about 2.4% of the total in Latin America, are slightly above the figures in developed countries, but below emerging Europe and emerging Asia. Among the six analyzed countries, the lowest ratio is found in Chile, followed (in increasing order) by Peru, Mexico, Argentina, Brazil and Colombia. Latin America also shows a high hedging of non-performing loans with provisions, which reach to 135%, well above the level observed both in developed and emerging countries. Again Chile exhibits the best performance, followed by Mexico, Brazil, Peru, Argentina and Colombia. In all cases, provisions exceed total non-performing loans (Figure 2).

Figure 2.



In Argentina, the classification of commercial loans is based on the borrowers' future cash flow and repayment capacity while consumer and mortgage loans are rated on payment compliance. Evaluation of commercial financing usually involves considering liquidity, financial structure, repayment behavior, governance and management standards, information technology systems, outlook for the main activity sector of the borrower firm, its legal status, and the existence of refinancing procedures or write-offs. In order to facilitate lending to SMEs it was established that commercial loans under 750,000 pesos (190,000 dollars) can be classified, at the lender's option, using the more flexible parameters employed for consumption loans. The ratings of borrowers with amounts exceeding 2.5% of the bank's regulatory capital and related customers must be approved by the institution top authority.

Commercial loans are classified into the following categories: normal, special follow-up, with problems (substandard), with high insolvency risk and unrecoverable. Mortgages and consumption loans are classified as either low, medium or high risk. Admitted payments arrears for the normal category in commercial loans are 31 days. Admitted payments arrears for the low risk category in mortgages and consumption loans are 90 days. The minimum required provisioning for collateralized loans is 1% if they are classified as "normal", 3% for the "special follow up" segment, 12% for "loans with problems"; 25% for "high risk of insolvency" and 50% for the "unrecoverable" category. The Superintendent may require additional provisions if it considers insufficient the level hold by the financial institution. Full provisioning must be assigned for interest accrued from loans classified in the higher risk categories. Financing fully covered by top quality collateral is subject to the provision rules established for normal debtors.

In Brazil, banks must classify loans according to two groups of variables: one group is related to the debtor conditions while the other group refers to the characteristics of the loan itself. The former group comprises: the economic and financial situation, level of indebtedness, capacity for generating profits, cash flow, timely repayment, contingencies, management standards, internal control, and the evolution of the borrower activity sector. On the other hand, the latter involves nature and purpose of the loan, the quality and sufficiency of the collateral, the level of liquidity, and the total amount of the credit line. Classification procedure of individuals should also consider income, net worth and other relevant information. Classification of multiple credit transactions of the same customer or economic group is determined by the operation that represents the greatest credit risk to the financial institution.

The credits must be classified into a nine-category system based on the number of days past due. Credit transactions with over 36 months maturity duplicate the time limits for each category. For debts below 50,000 Reals (18,000 dollars), banks are allowed to use internal credit scoring systems. Non-performing loans are established in line with international criteria, i.e. arrears over 90 days. Financial institutions are required to constitute a minimum provision of 0-0.5% for debt without past due payments; 1% for loans with 15 to 30 days overdue, 3% when payment is 31 to 60 days behind schedule, 10% for 61 to 90 days of delay, 30% if it remains unpaid after 91 to 120 days; and finally reaching for outstanding debt after 180 days.

In Chile, the previsions regime takes into account Basel II proposals, contemplating a large number of categories. Individual assessment of the debtors is necessary when dealing with companies that, due to their size, complexity or level of exposure with the financial institution, require a detailed analysis focused on their repayment capabilities, taking into account, among other factors, collaterals, maturity, interest rates, currency denomination and so on. As a result of individual analyses, borrowers and loans have to be classified into 7 risk categories. Banks must have formalized procedures for risk classification purposes, considering activity sector, business outlook, management standards, financial situation and repayment capacity and behavior. The use of the 7 categories does not prevent banks using more detailed own-produced rating scales, in which case an equivalence has to be made to the normatively established standard.

In order to compute the amount of provisions, banks must apply the estimated loss percentage (set by the probability of default (PI) and the loss given default (PDI)) to the entire exposure net of collateral recovery subject to provisions established for each category. The probability of default corresponds to a scale ranging from 0.04% to 25%. For nonperforming loans, provisions should be constituted in a scale from 0.5% to 90% based on the likelihood of estimated losses.

In Colombia, the Credit Risk Management System (SARC) stipulates that in order to estimate losses entities may choose between using internal developed models or the reference model set up by the Superintendence. These models can be applied to some or to all loan portfolio (commercial loans, consumption loans, mortgages and micro-credit). Estimation of losses must take into account the degree of borrowers' exposure, the probability of default and estimated loss in the event of default. Besides, the provisions regime must explicitly contemplate countercyclical adjustments for those models. In this way, in high growth periods with high assets values will result in higher-than-necessary provisions which may compensate (at least partially) provisions in periods of low growth and asset deflation. Countercyclical provisions seek to cover changes in borrower's ability to pay due to changes in the economic cycle. Both, the reference model and internal models designed by banks must calculate these provisions based on available information on nonperforming loans during a crisis context. The Superintendence determines, at its sole discretion, the current phase in the cycle of the financial system.

In the Superintendence's reference model, the commercial portfolio was segmented into loans for large, medium, small and single-owned firms. In order to estimate the default probability, credit quality transition matrices were used with information available since 1995. The model contemplates 5 categories of risk depending on payment arrears: the lowest risk category corresponds to arrears up to 29 days while the highest risk category belongs to arrears over 120 days.

In Mexico, the classification of commercial loans over 4 million UDIs – inflation adjusted investment units- (equivalent to US dollars 17.6 million) must be done individually, while debts for lesser amounts can be done according to repayment behavior. When using the individual method, banks must segregate their loan portfolios into 9 categories with corresponding provision ranging from 0.5% to 100%. Financial institutions may ask the National Commission on Banking and Securities (CNVB) authorization to use its own designed methodology to classify their commercial portfolio and estimate losses. The consumption loans are categorized according to the borrowers' repayment history. A specific method is used for credit card financing.

Peru introduced in 2010 new regulations for the debtor evaluation and classification provision requirements. This recent set of rules demand forecast classifies loans into 8 different categories: corporate credit; large, medium, small and micro firms credit; consumption (revolving) credit, consumption (non-revolving) credit and residential mortgages. They are further graded into five categories to determine loan loss provisioning requirements: normal; potential problems; deficient; doubtful; and loss. Minimum provisions range on a scale of 0.7%-1% up to 100%. Provisions can be reduced according to the quality of collateral.

The new regime also includes the creation of countercyclical provisions, which are activated when the rate of economic growth exceeds pre-established thresholds. The scheme adds a variable component (between 0.4% and 1.5% depending on the type of loan) to the previous provision requirement for the normal risk category. The counter-cyclical component is activated by any of following situations:

a) The average annualized percentage change in GDP growth in the last 30 months goes from below 5% to above 5%;

b) The average annualized percentage change in GDP growth over the past 30 months is above 5% and the average annualized rate of growth for the last 12 months exceeds in at least 2 percentage points to the indicator corresponding to one year earlier;

c) The average annualized percentage change in GDP over the past 30 months is above 5% and the pro cyclical requirement has been inactive during the last 18 months.

The variable component is deactivated when the opposite to a) occurs or when the average annualized percentage change of GDP for the last 12 months is 4 percentage points below to the indicator registered one year earlier. When the variable component is deactivated, provisions made during the active period are added to rest of provisions. The generation of profits as a reversal of the countercyclical provisions is not admitted under any circumstance. The countercyclical component was activated for the first time in December, 2008.

In short, Latin America has been implementing in recent years advanced methodologies for debtor classification and loan loss provisioning. In the six analyzed countries there is a combination of one classification method based on payments' arrears with one more sophisticated based on the individual borrower estimation of default probabilities. The former is mostly used for mortgages and consumption loans while the latter is used for larger commercial loans. Chile and Colombia admit the use of internally designed rating models and estimation of losses, but they need prior approval by the Superintendence. Colombia implemented a Credit Risk Management System (SARC), which includes benchmarks for the provisioning. Chile allows banks to use their own methodologies, approaching the Basel II criteria. Colombia and Peru require additional provisioning in order to counter the business cycle. The Peruvian scheme is more sophisticated, both in its provisioning requirements as by the definition of the macroeconomic conditions that trigger or deactivate the variable component.

III.9.3.3. Market Risks.

The activity of financial institutions is exposed to market risks, which may arise through different channels. In Latin America, the high macroeconomic volatility and the limited depth of capital markets determine, along other concurrent factors, wide variations in the price of financial assets. In recent years, as it was already mentioned, some of the capital markets in the region gained volume and complexity. These developments have opposing effects on the banking system. On the one hand, it gets easier to obtain risk coverage and assets price volatility tends to be attenuated. On the other hand, the expansion of banking operations in capital markets rises the exposition of the financial sectors to risks. These risks stem from the holding of securities in the institutions' portfolio and the activity that banks and affiliated companies develop in capital markets. Regulation of securities markets is subject to frequent changes, as regulators must deal with new products and operations after only a limited experience. Regulation failures in capital markets became palpable during the recent global crisis (Brunnermeier et al., 2009).

The rules in Argentina, Chile and Brazil include risk-market regulations for determining capital adequacy. In Chile, the issue is addressed in an integral way, forcing financial institutions to design and adopt a market risk management policy. Such policy must be appropriately formalized, allocating responsibilities to the board of directors and setting limits (in terms of net worth) for the institution's exposure to the different market risks. Also, there were advances in the application of market risk stress tests on the institutions' solvency. In Brazil, such tests were run by the Superintendence. In Chile, they were run by the financial institutions themselves but monitored by the authorities.

III.10. Derivatives.

The expansion of derivative products and the deficiencies in their regulation have been decisive factors in triggering the recent global financial crisis. Derivatives allow economic agents to leverage, increasing both individual and systemic risks. Derivatives have become more complex and opaque, and are traded in insufficiently regulated markets. Within these instruments, the explosive growth of derivatives where the underlying asset is corporate and sovereign debt must be highlighted. For the investor, credit derivatives do not eliminate exposure to counterpart risks, but such risks are transferred from the issuer of the underlying asset to the derivative issuer. Governments of countries where the main financial centers are located had to allocate enormous resources to prevent the dire systemic consequences that a default by the main issuers of these instruments (banks and insurance companies) would have caused.

In Latin America, the derivatives markets have seen a remarkable growth in recent years, particularly in Brazil, Chile, Colombia and Mexico. Futures, options and swaps related to the exchange rates and to interest rates are the most traded products. On the other hand, credit derivatives have a very small volume.

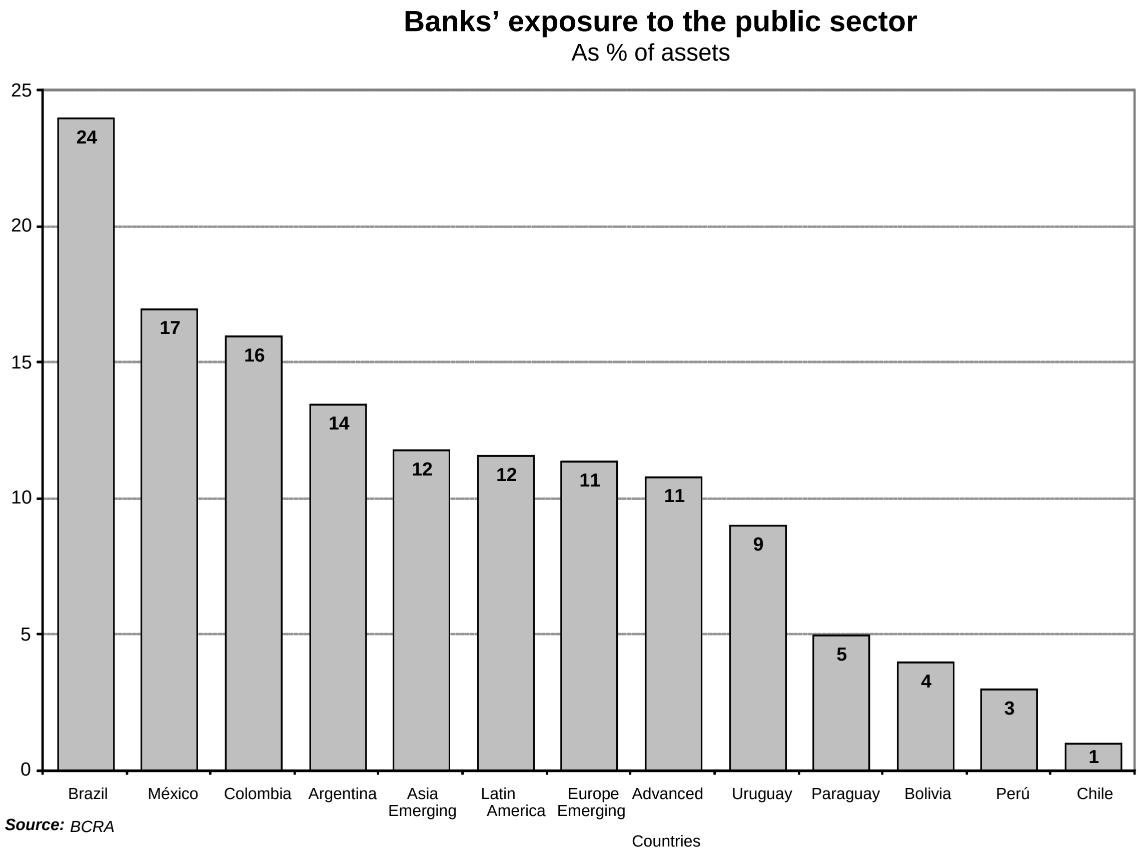
In Brazil, banks may operate in derivatives (including credit derivatives), both on its own account as well as on behalf of its customers. Financial institutions are required to disclose in the explanatory notes to the institution´s financial statements detailed information about each traded securities. All this information must be available for the Central Bank and for independent auditors.

The six analyzed countries allow banks to operate with derivatives, although in all cases regulators set guidelines to reduce and control the risks involved in these operations. The transactions are usually done on organized markets although Chile, Colombia and Mexico have high volume of OTC operations. The revision of the governing rules for these markets shows that regulators were aware of the high risks involved in trading derivatives, even before the recent global crisis. For credit derivatives, Chile prohibits banks from issuing such instruments and trade with them, while Colombia imposes tougher requirements. Supervisory agencies request for allowing operations with derivatives an application asking for authorization as well as the existence of the necessary technological infrastructure, skilled personnel, risks handbooks, the allocation of responsibilities to the board and senior management, and detailed information of the operation and its results as a note to the balance sheet of the firm.

III.11. Sovereign Risk.

In the mid 90's, the public debt in bank portfolios in Latin America amounted to 9% of total assets. After the Asian crises, this ratio grew in average to 16%, but it reach particularly high levels in Mexico (46%), Argentina (40%) and Brazil (33%) (IDB, 2005). In recent years, such proportion registered a declining trend and currently represents, on average, 12% of total banking assets. This ratio is similar to emerging Asia, emerging Europe and developed countries. Individually, exposure to public sector as a percentage of total bank assets is 24% in Brazil; 17% in Mexico; 16% in Colombia, 14% in Argentina, 3% in Peru 3% and 1% in Chile (Figure 3).

Figure 3.



Source: *BCRA*

In Latin America, the use of bank credit in order to finance the public sector has been a common feature during periods of fiscal imbalances, as the '80s and '90s. Governments are financed by the voluntary (sometimes compulsory) placement of government securities, required reserves, and non-withdrawable deposits. During economic downturns and recessions, both the weakness in the private credit demand and the financial institutions' increased caution on granting new loans to the private sector often result in increases in the participation of public sector debt in bank portfolios, even though public sector solvency in that context tends to deteriorate. Also, bailouts of financial institutions funded with public resources during financial crises expand the weight of public obligations in assets portfolios.

From the second half of the '00 decade, the positive evolution of fiscal accounts and the consequent improvement in sovereign bonds ratings for most countries in the region had a positive impact on the solvency of the banking systems. This situation has also expanded L.A. governments’ policy space allowing extraordinary measures aimed to assist financial institutions and certain bank debtors during the 2008 crisis.

Basel rules consider there is no credit risk associated with sovereign bonds. These norms were designed for developed countries, where governments have generally very good credit ratings. However, fiscal fragility is a common phenomenon in Latin America and public securities’ credit risk may reach very high levels, negatively affecting banks’ solvency.

Some countries have specific rules for setting limits to bank financing to the public sector. For example, in Argentina, consolidated monthly lending to the public sector may not exceed 35% of total assets of an institution. This ceiling increases by 50 percentage points when funds are applied to financial assistance or holding of debt instruments issued by trust funds. The total value of public sector bonds cannot exceed 7.5% of total assets, admitting an additional 7.5% when those securities where received in exchange or as payment in kind, by the financial institution.

IV. Conclusions.

Latin America has historically been a region prone to banking crises. From the early ‘80s to the early ‘00s many countries (including the largest ones within the region) experienced one or more banking crises. The latest of such episodes was the deep Argentine financial crisis of 2001-2002. But none of these countries suffered a banking crisis amidst the global financial crisis that started in 2007.

During the last three decades, the predominant factors in the origin of banking crises in Latin America were rooted in both the characteristics of its insertion in the financial globalization process and the traits of macroeconomic policies implemented in the region. Besides, the two waves of financial deregulation (Southern Cone experiments in the ‘70s, neoliberal policies in the ´90s) implemented with varying degree of intensity in different countries of the region amplified banking problems and the depth of financial disruptions.

The significant economic and social costs associated with banking crises led to the review of regulatory frameworks. Deregulatory approaches had to be retraced (in a greater or lesser degree, depending on the country). Instead, the "best practices" on regulation and financial supervision developed in advanced markets had to be gradually implemented. This process, which began in the late ‘80s with the adoption of basic guidelines for lending operations, is currently characterized by the use of very sophisticated rules.

The adoption of regulations specific to mature banking systems, such as the Basel proposals, did not fully addressed the specific characteristics of the economies and banking systems in Latin America. The partial dollarization of financial intermediation, the higher risk of sovereign debt, accentuated information problems, lack of depth or direct absence of certain markets (particularly the low significance of domestic capital markets) and a high weight of the informal economy are some of the peculiarities present in Latin America. International financial institutions contributed to the mechanical reproduction of the regulatory schemes from developed countries, as they become part of the conditionality attached to their financial assistance programs.

Based on each national experience and also on the international practice, central banks and supervisory agencies along the region have carried out an intense revision of regulations, aimed at improving them.

From the review of current legislation of Argentina, Brazil, Chile, Colombia, Peru and Mexico, we can draw the conclusions that follow.

Central banks and supervisory agencies have been institutionally upgraded: during the last few years, they have been granted greater authority and resources to carry out their work. Some of the remaining weaknesses are related to overlapping tasks and roles between the different surveillance units. Also, the complicated issue of allocating legal responsibilities to officials in charge of banking supervision and control still remains unsettled.

The decisive weight of banks within the system and a less sophisticated financial activity constitutes an advantage from a regulatory point of view - especially when compared to regulatory needs of more developed markets. In Latin America, regulation and supervision have primarily focused on monitoring bank activity, given its systemic relevance and the access the banks have to the lender of last resort window. But there has also been a sound tendency to incorporate within the regulatory perimeter (i.e., the scope of the rules regarding institutions, markets and products) all financial operators, including non-traditional ones. There is a need to permanently keep an eye on such perimeter, given the increasing volume of financial operations, the growing complexity of financial instruments and the interconnection of financial markets in order to avoid that elements with a potential destabilizing effect are left beyond reach.

Financial conglomerates have a significant presence in Latin American financial systems. There is a growing concern among supervisors -although uneven in the analyzed countries- in order to monitor their activities. The presentation of balance sheets and risk management on a consolidated basis is now required. Progress in this area is still insufficient. There are difficulties in coordinating the agencies involved in the control of the different areas where the conglomerate is engaged. There are still insufficient regulations related to trusts activity and banks' securitized investments. Overcoming these weaknesses will be very important if, as expected, financial conglomerates continue to grow, driven by the development of capital markets.

Cross-border banking regulation is crucial in Latin America, given the high participation of foreign banks in the six analyzed financial systems. Banking problems in their countries of origin may affect the economies where their affiliated companies and branches are located. It's impossible to attack the risk of contagion without limiting the participation of foreign banks in domestic financial markets. However, proper regulation can help to mitigate this risk. First, foreign banks should face no less requirements than domestic banks. Second, supervisors from the foreign banks' home country should be asked to perform a consolidated supervision involving the parent bank and its subsidiaries abroad. Third, there should be a fluid exchange of information among supervisory agencies. Finally, domestic depositors and other creditors of subsidiaries and local branches should be informed about the true level of commitment of the parent bank for domestic liabilities. Although there has been (unequal) progress in this direction, these are still issues that must be further addressed in the future.

The deposit insurance systems are mostly public, although there are also two mixed (public-private) regimes. In some of the analyzed countries the maximum amount covered by the provided insurance seems to be insufficient to protect small- and medium-size savers.

Central banks have extensive powers and tools to act as lenders of last resort in cases of systemic crises. These instruments were tested during the current global financial crisis, particularly in 2007-2008, when central banks decisively deployed an extensive battery of devices in order to provide liquidity. However, it is noteworthy that the role of lender of last resort was satisfied without reforming the existing legal and regulatory frameworks. In that context, unconventional measures adopted by Latin American Central Banks were limited.

Financial institutions in the six analyzed countries are well capitalized. In most cases, capital requirements are more stringent than those included in the Basel I proposal. There are roadmaps for the implementation of Basel II, although it is possible that the foreseen schedules included in them will have to be finally modified if new changes arise from the current global regulatory debate. Latin American countries should pay close attention to certain aspects of the Basel II proposal which has been brought into question: pro-cyclicality of capital requirements, the use of ratings by Rating Agencies in determining credit risk-weight of assets and the use of internal designed models to estimate risk.

The dollarization degree of the banking operations recorded a declining trend during recent years. Current macroeconomic settings are characterized, among other things, by managed floating exchange rate regimes, current account surpluses in the balance of payments and high levels of international reserves. All these factors tend to reduce the probabilities of abrupt changes in the exchange rates with their negative consequences for banking systems. Additionally, some countries resorted to specific regulations to limit dollarization and have privileged financial intermediation denominated in local currency. In countries where foreign currency denominated operations are allowed (Argentina, Chile, Mexico and Peru) there is a wide body of prudential regulations aimed at limiting the banks' currency mismatches and to monitor exchange rate-induced credit risk. In Peru, the only country where dollarization remains high, the Superintendence implements a number of rules to reduce the associated risks. However, exchange rate-induced credit risk is not properly contemplated in Peruvian regulations. Despite the recent progress, risks inherent to the partial dollarization of the financial system must be permanently monitored. This is especially true in the current international context, characterized by sharp swings in capital flows and exchange rates.

Banking regulations related to credit risk have improved significantly in recent years and are close to international "best practices". Among them, there are rules that limit the concentration of the portfolio, the size of loans to the largest debtors and the amount granted to debtors related to the financial institution. Schemes of borrower classification and loan loss provisioning are also in line with the international best practice. Peru and Colombia have recently adopted schemes of countercyclical provisions. The contribution of this new approach should be properly evaluated, taking into account these new experiences in the region as well as the outcome from the regulatory debate and other international practices in this area. The authorization granted by some Latin American supervisory agencies for banks to apply their own designed (internal) models for the provisioning of non-performing loans, replicating the practiced adopted in advanced financial centers, is an element that in our opinion needs further discussion.

The regulations associated with market risk management are very recent and its characteristics are dissimilar among the different domestic financial systems. In some countries, market risk was already incorporated in the calculation of minimal capital requirements. Other countries require each bank to implement a comprehensive regime of market risk management. The rules on risk management should be probably complemented with strict limits on market risk-taking, especially for the most complex and opaque operations.

Banks are authorized to operate with derivatives in the six countries as far as they meet a series of requirements. The regulations reflect that, even before the international crisis, the regulatory agencies were aware of the high risks involved in the transaction of these instruments. Operation with credit derivatives is mostly prohibited and an explicit authorization to operate with other derivatives is required. Other requirements to operate in this area of business are related to the technological infrastructure, skilled staff, the issuance of a risk management handbook, and the need to provide comprehensible off-balance sheet information to the supervisory agency. The volume of derivatives operations varies greatly between countries, but in all cases is much lower than what is traded in developed markets. A concern is the risks arising from the growing volume of derivatives trading in OTC markets.

Weighted sovereign credit risk in determining minimum capital requirements is nil in five of the six analyzed countries. There is a 10% coefficient in the remaining one. Zero weighting reproduces a Basel standard designed for countries with (usually) solid finances and sovereign bonds (generally) qualified as "investment grade". It is true that the solvency of the public sectors of the region has improved over the recent years -a situation reflected in Latin American sovereign bonds ratings. But it seems advisable that the weighting of sovereign risk is non-zero by definition and, instead, that such weighting is derived from the structural situation of each public sector financial accounts. Additionally, limits to banks' exposure to the public sector could be set – as is already done by some regulators in the region.

The rules related to the exposure of accounting and financial statements, disclosure of the information and external audit processes have experienced substantial progress. However, in the accounting and information areas, there is a considerable space to improve data related to the actual composition of financial conglomerates, the detail of portfolios and major debtors, and data on off-balance sheet exposure to market risks and cross-border risks.

In three of the six analyzed countries banks are required to be rated by ratings agencies. The role of the rating agencies and the diffusion of its ratings should be carefully re-examined. The activities of these firms have been put into question after the global financial crisis confirmed that there are evident incentive problems inherent to their business.

Finally, we believe that the comparative analysis of the financial regulation in the six analyzed countries provides useful material that could be used to improve the regulatory scheme prevailing in each of them. There are different but intelligent and creative solutions to the complex challenges posed by financial regulation.

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