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The Capital Markets in Latin America: Are they at a turning point?

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Discussion Draft

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I. Introduction

Financial markets in Latin America have traditionally been small and hence they have only played a limited role to finance investment. There are different types of reasons that have been raised to explain the shallowness of the capital markets in the region that in broad terms can be categorized in two groups. First, and perhaps more important is that the Region has a long history of macroeconomic instability, especially in key financial variables such as inflation, the exchange rate and interest rates. This was compounded by defaults in domestic and or foreign debt, the restructuring of financial contracts at times of crisis and recurrent balance of payments crisis that eroded savings in domestic currencies.

Second, institutional factors have been a restriction for the growth of some specific markets. For instance, the lack of a legal and regulatory framework that favored the growth of institutional investors restricted demand and hence imposed, at least until very recently, a constrain on the domestic demand for financial instruments. In addition, the existence of capital controls has limited the expansion of local currency instruments and in many cases of derivative products.

The shallowness of the Latin American capital market has not been similar for all products and across countries. In broad terms the Region has a reasonably well developed debt market, especially compared to the stock market, while the banking systems have remained relatively small. Across countries, Chile stands out as the one that has the deepest financial markets and it is the leader in most areas.

The Region appears at the moment to be on a new, more virtuous cycle in which the financial markets are growing, and where the local players are becoming more important while we are witnessing the development of new products such as derivatives and a diversity of asset backed securities. These developments are favored by the larger integration of the domestic capital markets to the international ones and by the larger appetite of a growing number of hedge funds to invest in more sophisticated products in emerging markets.

The growth of the capital markets has certainly been favored by a more stable and predictable macroeconomic environment in the region, as the average rate of inflation has fallen to around 5% compared with 22% in 1996. In addition, the countries are running more conservative fiscal policies and the region has balance budget in 2007, while they have moved towards more flexible exchange rate regimes, higher levels of international reserves and have managed to reduce the public sector debt burden.

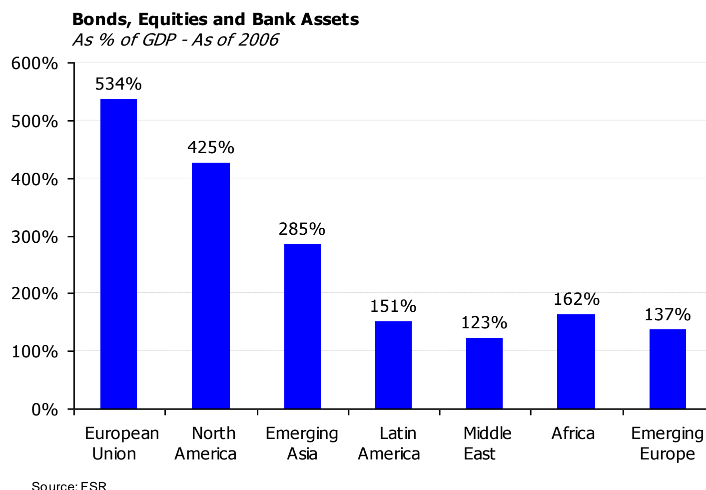
Despite these improvements in the capital markets the new environment has generated a number of policy issues that have a bearing on the growth of the domestic capital markets. For instance, the recent real appreciation of the currencies in the Region has resumed questions about the potential usefulness of capital controls, which if they are impose are likely to have a detrimental impact on the growth of the capital markets. In addition, there is a growing debate about the effectiveness of the private pension funds to provide an adequate pension system for most people, a

policy change that could limit the growth of the largest and fastest growing domestic institutional investors.

The rest of the paper will be organized as follows. In section II we will present the main stylized facts about the size and importance of the different components of the financial markets in Latin America (namely bonds, stocks and bank credit), evaluate their structure and size and compared with it other regions. The bottom line is that the financial markets in Latin America are relatively small but that the region has been more successful in developing the bond than the stock markets and that the banking system still has significant room to grow. Chile appears as the main exception, as it now shows mature capital markets regarding size, and the diversity of financial products. In section III we show that the stock market is still underdeveloped but that the recent numbers on IPOs, especially in Brazil, could indicate a turning point. Regarding the bond market, as we discuss in section IV, there has been significant growth in domestic currency instruments and the countries have been successful in extending the maturity of the yield curve in domestic currency fixed interest rates. Section V looks at asset back securities and examines the challenges to develop the mortgage market in the region, and of the derivate markets. In Section VI we analyze the reasons that underlie the small size of the banking system and the challenges it faces to increase its scale. We conclude in section VI where we pose some policy issues for discussion.

II. Some Stylized Facts About the Financial Markets in Latin America

Latin America has failed so far to develop large and liquid financial markets. One possible measure of the size of the domestic capital is the sum of bonds, equities and bank assets in the economy as share of GDP (graph II.1). In the industrial countries the share of these assets is equivalent to 500% of GDP in Europe and to 400% of GDP in North America. Among emerging market countries this ratio is larger in Asia (close to 300% of GDP) and while in Latin America is only around 150% of GDP, a level that is slightly larger than in Europe (136%) and the Middle East (123%), though smaller than in Africa.



The development of the capital markets has been in part limited by the size of the institutional investors, namely pension and mutual funds and insurance companies. Pension funds are the largest institutional investors in the region and are important as they invest with a long-term horizon. Chile has the more developed pension funds industry that was created in the first half of the eighties when the country changed from a pay as you go social security system to a private retirement system with defined contributions.

Institutional investors in Latin America are small compared with those in the industrialized countries and have only started to show some strength in the last two decades as a result of the creation of the private pension funds, who are quickly becoming the most important institutional investors in the Region. Mutual funds are not yet important institutional investors with the possible exceptions of Brazil and Colombia.

Size of Institutional Investors in Latin-American Countries
Assets under management - In percent of GDP

Country	Pension Funds *	Insurance companies **	Mutual Funds ***	Total
Argentina	12.0	4.6	1.0	17.6
Brazil	-	2.8	28.4	31.2
Chile	59.1	19.9	8.8	87.8
Colombia	10.3	1.0	23.3	34.6
Mexico	5.8	1.7	5.8	13.3
Peru	11.0	2.2	n/a	n/a

* As of 2004 / ** As of 2002 / *** As of 2003

Sources: IMF - Global Financial Stability Report - Apr-04 and Superintendencia de AFJPs - Argentina

Chile is by far the country with the more developed institutional investor base (where total assets are 88% of GDP), mainly because Chile was the first country in the Region to privatize the pension funds system (it introduced the pension reform in the early eighties). The pension system today manages assets equivalent to 59.1% of GDP. The insurance companies grew in line with the pension funds, primarily because they provide retirement and life insurance to the pension funds contributors. Finally, mutual funds are smaller, as they hold 8.8% of GDP in assets under management.

In Argentina, pension funds are the largest institutional investors and their assets represent 12% of GDP, while insurance companies manage assets equivalent to 4.6% of GDP and the mutual funds hold assets that represent only 1.2% of GDP. Brazil is a unique case, as mutual funds are the largest institutional investors and their assets represent 28.5% of GDP, though they work mainly as money market funds that hold primarily government debt. Colombia is another outlier, where mutual funds hold

assets equivalent to 23% of GDP, more than doubled the amounts managed by pension funds.

One striking feature is that the pension funds in Latin America hold a relatively small amount of shares in their portfolio, as these investments only represent 16% of total assets in Chile, the more mature system in the region. Peru, that has 38% of shares, is clearly an outlier. One open question is whether pension funds do not hold shares because there is a lack of supply or if instead it is a deliberate choice which limits the growth of the equity market in these countries.

Pension Funds Portfolios Structure in Latin-American Countries

In percent of total assets - 00s average

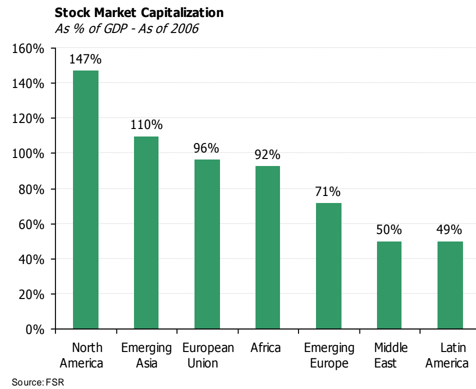
	Argentina	Chile	Colombia	Mexico	Peru	Uruguay
Public debt	62%	19%	49%	86%	24%	58%
Financial institutions	7%	29%	17%	5%	11%	37%
Non-financial institutions	2%	7%	20%	10%	12%	4%
Shares	13%	16%	6%	0%	38%	0%
Mutual funds	5%	3%	2%	0%	1%	0%
Foreign instruments	10%	27%	7%	0%	10%	0%
Other	2%	0%	0%	0%	3%	1%

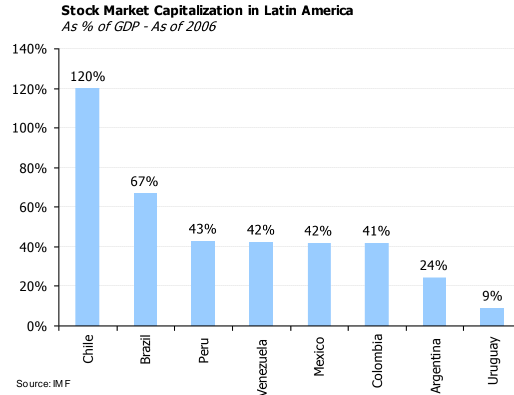
Source: AIOS

Finally, pension funds hold an important share of the government debt in Chile and Bolivia, while they only hold a small fraction of the debt in Peru, in Argentina and in Uruguay. This evidence indicates that one of the problems that Argentina and Uruguay experienced prior to the crisis was the small size of the domestic institutional investors.

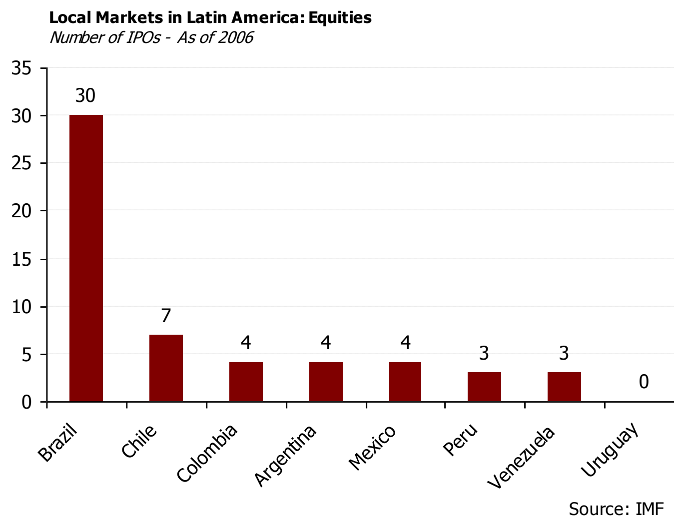
III. The Stock Markets

The Latin American countries are lagging behind other regions in the development of the equity markets. The stock market capitalization in Latin America is equivalent to only 50% of GDP, which is certainly a small figure when we compare it to North America (143% of GDP) or with Emerging Asia where the stock market capitalization represents 110% of GDP or with Emerging Europe where it is 70% of GDP. Looking at individual markets in the Region Chile once again stands out as the country with the more developed stock market with a market capitalization equivalent to 120% of GDP, followed by Brazil with a market capitalization equivalent to 66% of GDP. In most other countries the ratios are roughly 40% of GDP, while Argentina and Uruguay are lagging well behind.





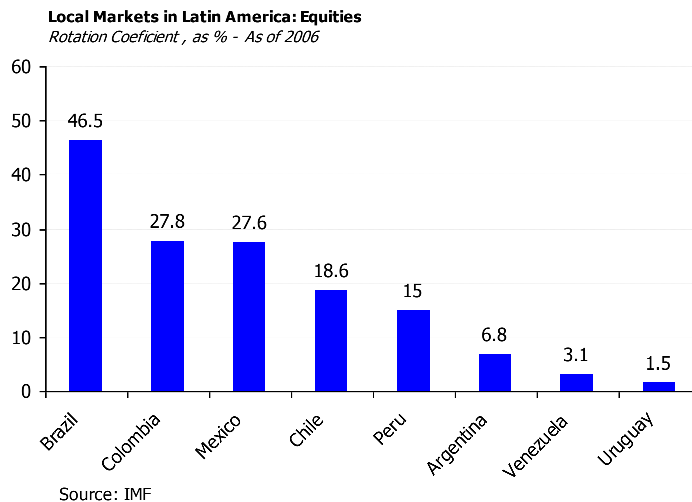
A second element indicating the shallowness of this market is the relatively small number of listed companies. Singapore, for instance, has more listed companies than Brazil while Australia or Spain have more listed companies in their stock exchange than the whole of Latin America. Besides, there has also been a reduction in the number of listed companies between 1998 and 2004, in part due to a process of mergers and acquisition led mainly by foreign corporations that decided to de-list some companies, while there were very few initial public offerings (IPOs) to compensate this situation. The two exceptions in the Region are Chile, where the number of listed companies increased from 215 to 239, and Colombia where it increased from 80 to 114 companies during that period.



There are some indications that this trend could be reversed in coming years as the number of IPOs started to rise in 2006 and is rising again this year, especially to take advantage of the greater appetite that now exists in the world financial markets for equity from emerging market countries. Brazil has been leading the way with 30 IPOs in 2006, followed by Chile with 7 and then by Mexico, Argentina and Colombia with 4 companies. We are most likely observing the early stages of a new trend, that is also taking places in other emerging countries such as China and Vietnam.

The IPOs have been an important source of financing in Brazil in the last two years, as the amount of money that companies have raised in this way has increased significantly, from 9.1 billion dollars in 2006 and 11.7 billion dollars in the first half of this year. Brazil has raised the largest amount of funds in the market in this way, while the Mexican companies, that rank second in the region, only managed to obtain 1.2 billion dollars last year.

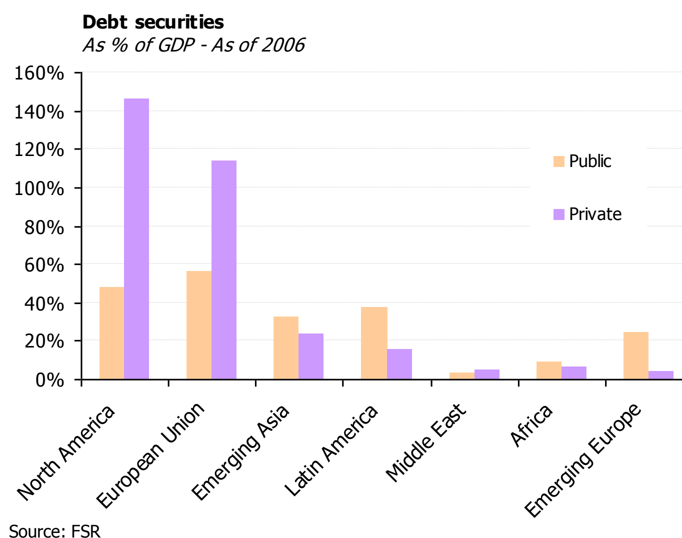
Some countries in the Region, like Brazil, Colombia and Mexico appear to be making progress in the development of the equity markets. The liquidity in these markets is larger than in the others. Brazil is the country with the highest levels of liquidity (for once it beats Chile), at least if we measure it using the rotation coefficient of equities which is 46% in Brazil compared with 27% in Mexico and Colombia and with around 16% in Chile and Peru. Argentina, Venezuela and Uruguay appear to be in a different league also in this area, as the stock markets lacks depth and liquidity, though the reasons differ across countries. Uruguay is a very small economy so it is not surprising that the stock market is also small, while Venezuela is following policies that do not encourage the development of a stock market. The Argentine case is somewhat more puzzling, as it has the potential to grow more, but so far it is a promise that has failed to materialize.



In summary, while the equity markets in Latin America are still relatively small (with the possible exception of Chile) it is an area where there are significant opportunities for growth. The demand for large liquid stocks is likely to increase, especially as there are more dedicated institutional funds worldwide dedicated to emerging market countries and as the assets under management by domestic institutional investors increase. In addition, the appetite for equity is likely to increase as the returns on fixed income instruments, that were still very attractive in the 90s and during the first years of this Century, remain at current levels or even continue to fall as the countries improve their credit ratings.

IV. The Bond Markets

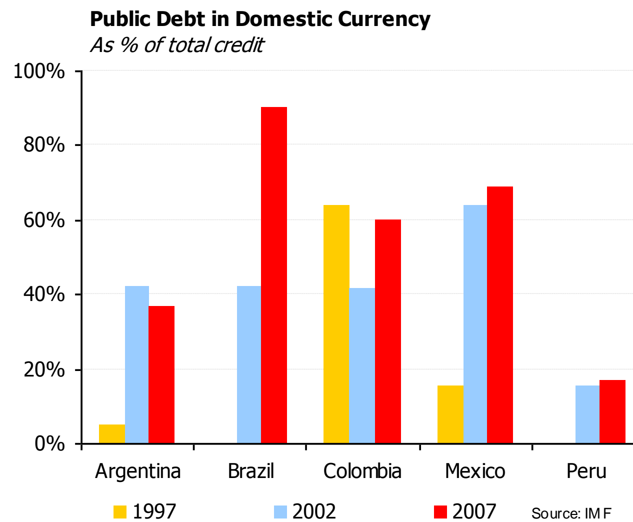
While Latin America is lagging in the development of the equity markets it is much more advanced regarding the size of the bond market, especially for public sector bonds (almost as large in industrialized Europe) which represents roughly 40% of GDP. The amount is certainly bigger than in other emerging market regions, and it reflects a long history of fiscal deficits financed through debt in the markets and the preference of domestic residents to hold debt over equity. This dominance is smaller for private sector bonds, where once again we observe that the industrialized countries have more developed bond markets and where Latin America ranks slightly below Asia.



In dollar terms Latin America is the second largest market among emerging markets as the stock of total debt is 1.5 trillion dollars, which represents roughly 45% of the 3.5 billion dollars of debt instruments that exists in Asia. These figures indicate that Latin America has been an important player in the debt markets, especially in the case of public sector instruments, and that the private sector has still room to grow regarding the use of debt markets.

Many countries in the Region still have large debt to GDP ratios, and in the past a large part of the financial requirements were raised in the external markets. There has been an important shift in policies, especially since the beginning of this decade, as countries have increased the share of domestic currency instruments. This has been part of a liability management strategy aimed at reducing the vulnerability to external shocks and to possible sharp real depreciations of the currency that in the past led to a sharp increase in the debt burden. Besides, countries are better hedge when they have their debt denominated in the domestic currency as governments receive the bulk of their tax revenues also in domestic currency.

Countries like Mexico and Argentina that used to issue most of their debt in foreign currency have shifted to local currency instruments. In Argentina, this change was done in part as a result of the forced conversion of dollar to peso instruments in the aftermath of the devaluation and in part as a result of investor's preference for peso instruments during the restructuring of the public debt in 2005 while in Mexico it was done gradually as part of the liability management strategy. Brazil has also moved gradually to debt in Brazilian Reals, mainly by changing the composition of domestic debt that in the past was dollar linked and by reducing the size of external debt. As a result, domestic currency debt in Brazil has increased from around 40% in 2002 to roughly 90% today.



The willingness of countries to issue more debt in domestic currency has certainly been favored by stronger demand as investors perceived that there was value in the new instruments in an environment where inflation has been low, interest rates have remained relatively high and the currencies have been appreciating in nominal are real terms. Nevertheless, most countries had to pay a premium during the early stages of the development of the local markets as interest rates in local currency many times exceeded the costs to issue debt in foreign currency. However, it was worthwhile to pay these costs as they have helped them to reduce their vulnerability to the volatility in the international financial markets, to reduce the currency gap between revenues and expenditures and to improve the credit rating for foreign currency instruments. In fact, these agencies typically use different criteria to set the rating of domestic and foreign currency debt as there is a widely accepted view (which is not necessarily correct) that countries can "always issue domestic currency" to honor the debts.

Perhaps it is too early to state that the countries have been successful in developing the domestic currency bond markets, especially because they have not faced in recent years any macroeconomic event to test the strength of the new regime. We still need to see whether the domestic currency markets could withstand a more adverse environment in which there are capital outflows and a portfolio shift towards foreign

currency. Nevertheless, to the extent that the countries can maintain low inflation and avoid they allow enough flexibility in the exchange rate they should be able to successfully develop this market.

A second interesting feature of the local bond market is that most of the debt is long term. Out of 6.3 trillion dollars in domestic debt, short term debt is just 1.4 trillion dollars, equivalent to 22% of the total. In countries like Argentina and Colombia most of the debt is long-term while in Brazil the stock of short term debt is still important as it represents roughly 44% of the total, and in Mexico it represents 36%.

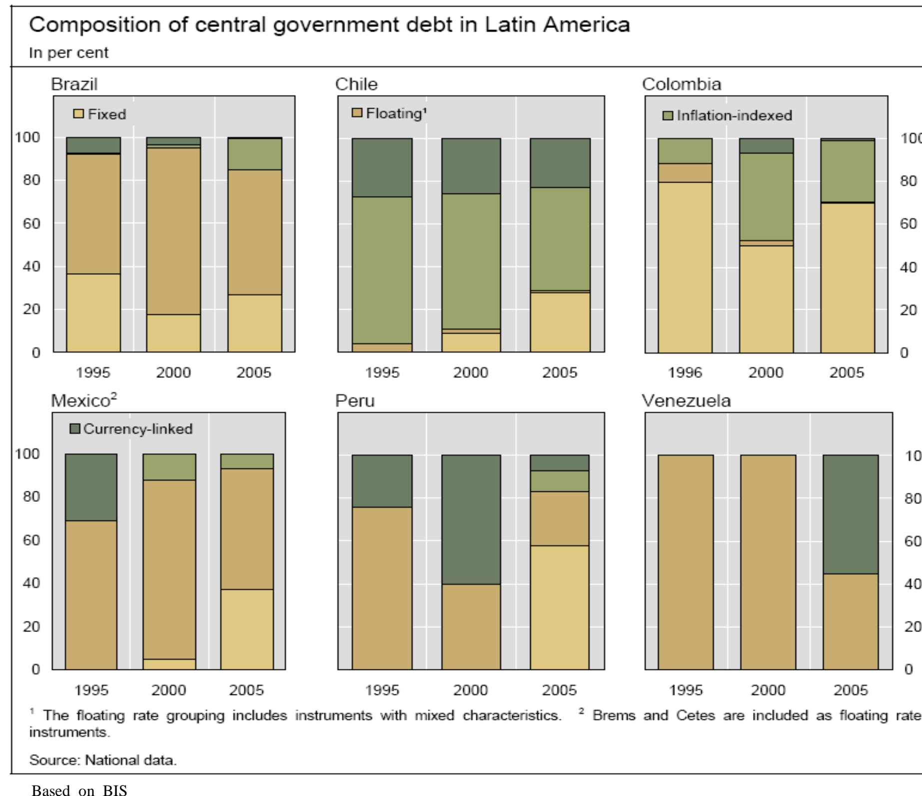
The development of the local currency market has not been easy, especially because most countries in the region have a long history of macroeconomic instability and hence investors were reluctant to buy nominal fixed interest rate bonds. In this environment government had to resort to adjustable mechanisms to issue long-term debt, such as floating interest rates, inflation linked instruments and dollar and dollar linked bonds.

More recently, though, as inflation has been reduced and has converged to international levels many countries of the region (e.g. Brazil, Chile, Colombia and Mexico) have improved their ability to issue long-term debt in domestic currency at fixed nominal interest rates. Peru is a case in point, a country that just two decades ago was in the middle of a hyperinflation and that is now governed by the same president that was governing at the time of the hyperinflation (Alan García) was able to issue a 20 year bond in soles at a fixed interest rate of less than 7%.

Size of local fixed income markets in Latin America

	Stock of fixed income securities		Of which: Government short-term	Of which: Government long-term	Of which: Non-financial corporate long-term
	USD billions	% of GDP	USD billions	USD billions	USD billions
Argentina	59.7	33	5.1	43.8	10.8
Brazil	583.4	74	226.7	318.2	38.5
Chile	39.8	35	9.2	17.3	13.3
Colombia	38.7	32	0.9	33.2	4.6
Mexico	158.5	21	52.0	89.1	17.4
Peru	7.9	10	1.4	4.3	2.2
Venezuela	7.2	5	3.4	3.7	0.1
Total	895.2	41	298.7	509.6	86.9
Memo:					
United States	*9,043.5*	*72*	*1,474.5*	*4,873.3*	*2,695.7*

Note: Securities issued by financial institutions are not included in non-financial corporate fixed income securities.
Sources: Fedesarrollo; national authorities; BIS.



Based on BIS

There is not a clear pattern regarding the benchmark interest rate (or the unit of account) that countries have been using to issue their long term debt. Most countries issue their short term debt at fixed interest rates, mainly through zero coupon instruments similar to the US T-bills. Inflation linked bonds are still important in Argentina, Chile, Mexico and Uruguay, though most countries (with the possible exception of Chile) use this unit of account mainly for long term instruments. Dollar and dollar linked instruments are used less frequently, as countries prefer to issue in the domestic currencies. Floating interest rate instruments have historically been more important in countries like Brazil, where the Selic has been a benchmark for many years even for financial instruments with very short-maturities.

A recent study by Deutsche Bank tries to measure the degree of liquidity of short-term bonds in different countries of the Region. The report indicates that Brazil and Mexico have the deepest bond markets, as they have the highest levels of liquidity measured either on subjective views or on the average ticket size of a bond transaction. Argentina and Chile, on that basis has reasonable liquidity, though the ticket size of a typical transaction is smaller than in Peru. On the other hand, the bond market in Colombia appears to be lacking liquidity.

Fixed Income
As of March of 2007

	Liquidity	Typical bid / ask	Average Ticket Size (Million of USD)
Argentina	Good	USD 0.10 (dirty price)	3
Brazil	Very Good	6 bps / 8 bps	25.0 / 10.0
Chile	Good	3 bps	2
Colombia	Poor	20bps / 15bps	1.7 / 2.2
Mexico	Fair Better Tuesdays (auction)	3 bps	9.1
Peru	Fair	10 bp	5

Source: DB

For Argentina Lebacs/Nobacs, for Brazil T-bills/T-bonds, for Chile BCPs/BTPs, for Colombia short term TES/TES IPC, for Mexico T-bills (Cetes), for Peru T-bond

In summary, the bond markets in Latin America are more mature than for other capital market instruments and most countries have been emphasizing the development of local currency bonds and achieving a good balance between short term and long term instruments. There is a reasonable good level of liquidity, and there is a wide variety of instruments to make this market attractive for many types of investors.

V. Other Capital Market Instruments

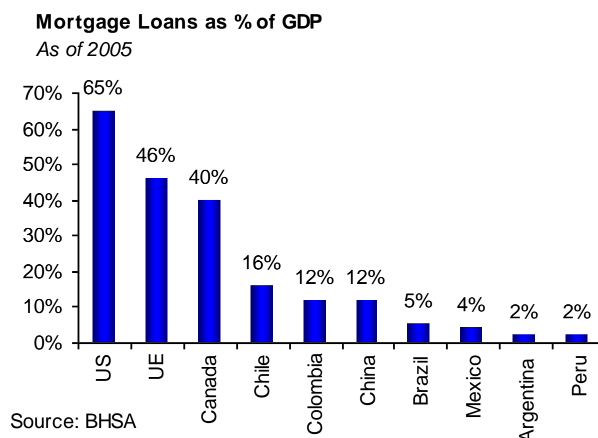
In recent years there has been a significant growth of asset back securities of financial derivate products which today constitute a central part of any well developed capital market. There has been an important growth of asset back securities in the Region as the total stock has increased from 2.1 billion dollars in 2000 to over 16 billion dollars in 2006. The development of the mortgage market is central for the growth of the asset back securities and hence we will spend some time to compare the development of the mortgage market in different countries of the region.

Regarding financial derivates it seems that Brazil is well ahead of the rest of the pack as interest rate and currency swaps have been used extensively in on-shored organized markets for a long time. Nevertheless we are seeing progress in Chile and especially in Mexico where the markets are growing very rapidly. There is also an off-shore market for many derivatives such as credit default swaps (CDSs) and non-deliverable forwards (NDFs) that have been growing rapidly in recent years and where there is different depth depending on the type of products.

i) The Mortgage Market in Latin America

The mortgage market still has significant room to grow, even in countries like Chile and Colombia that are the most developed ones in the region. In the industrialized countries the stock of mortgages represents a large share of GDP, with the US having the most developed market where it is equivalent to 65% of GDP while in the European Union it has reached 46% of GDP. In contrast, in Latin America even the largest market, which is Chile, only represents 16% of GDP, while countries like

Brazil, Mexico and Argentina still have a long way to go, as the stock of mortgages remain below 5% of GDP.



The factors that explain the lack of depth of the mortgage market in most of the region are mainly the same ones that have complicated the development of a local long-term bond market, namely large volatility in financial markets, high inflation, and recurrent exchange rate crisis. In addition, the development of the mortgage markets has been also affected by the lack of property rights for lenders that in many countries face serious obstacles when they try to foreclose delinquent mortgages, and by the lack of a legal framework that facilitates the securitization of the financial instruments.

In Chile, the growth of the mortgage market has been facilitated by the wide use of the "*letra hipotecaria*" (mortgage bill) that is a standardized financial instrument, issued by banks and is easy to transfer in the market. The growth of the *letras hipotecarias* was fostered by the creation of the pension funds in the early eighties, as they were natural buyers of long-term financial instruments.

In Mexico and Colombia the market has grown thanks to the creation of specialized financial institutions. In Colombia, the main players have been the mortgage banks, and more recently, after a severe financial crisis in the late nineties the banks and the IFC created a second tier institution to facilitate the structuring and origination of mortgage back securities. In Mexico, the mortgage market has been growing very fast in recent years after suffering an important setback during the years of the tequila crisis in 1994-95. The government played an important role in the recent growth of the mortgage through the creation of an agency, the SFH (along the lines of Fannie Mae in the US). The SFH played two critical roles that fostered the development of this market. First, it provided partial guarantees for the new mortgages that were essential to reduce the credit risk and increase the number of potential borrowers, and second it helped the creation of specialized mortgage institutions called "Sofoles" to whom it provided warehousing lines that were essential to generate a critical mass of mortgages that could then be sold in the secondary market.

In the case of Mexico public policies appeared to have played an important role to get the market going at a time when the memories of the tequila crisis were still fresh. However, once the market matured and reached a critical size, and the financial conditions improved significantly (thanks to much lower rates of inflation and a reduction in the level of the country risk) the mortgage market started to enter into a virtuous cycle and acquired a life of its own.

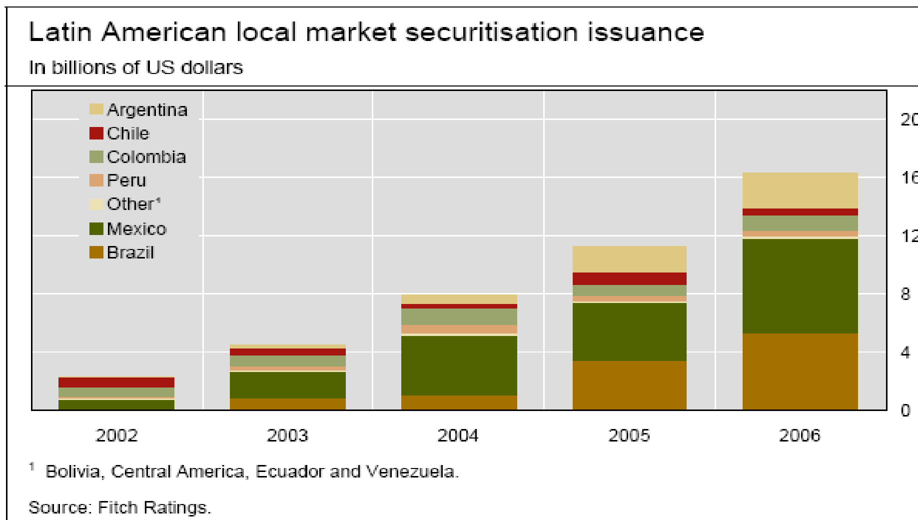
Argentina has been a frustrating case, as the country managed to get going a mortgage market in the second half of the nineties that functioned mainly in dollars, with maturities up to twenty years, and where the financial conditions of the loans were consistent with the market interest rates. There were a few securitizations of mortgages, that included peso and dollars assets, and in many cases the buyers were institutional investors from abroad. In addition, the IFC made a big bet on this market and in partnership with Banco Hipotecario it created and provided funding to a second tier institution to promote the securitization of new mortgages.

Unfortunately, the mortgage market in Argentina collapsed following the large macroeconomic crisis of 2001/02, which changed the rules of dollar denominated financial contracts (dollar loans were forcefully converted into peso, the so called pesification) and banned the foreclosure of delinquent loans. The mortgage market has failed to recover and there is little hope that it can in an environment of large uncertainty about the evolution of inflation and of interest rates and where the property rights of lenders are time and again affected by new legislation.

The new macroeconomic environment in the region characterized by low rates of inflation should provide a fertile ground for the growth of the mortgage market. The new conditions are helping the growth in the supply of mortgages in countries like Mexico and Brazil, where it was difficult in get the market going in the past. Nevertheless, it is clear that the market has significant potential to grow as in most countries the mortgage market is still very small, and the growth of the new pension funds create the natural investors for these type of financial instruments.

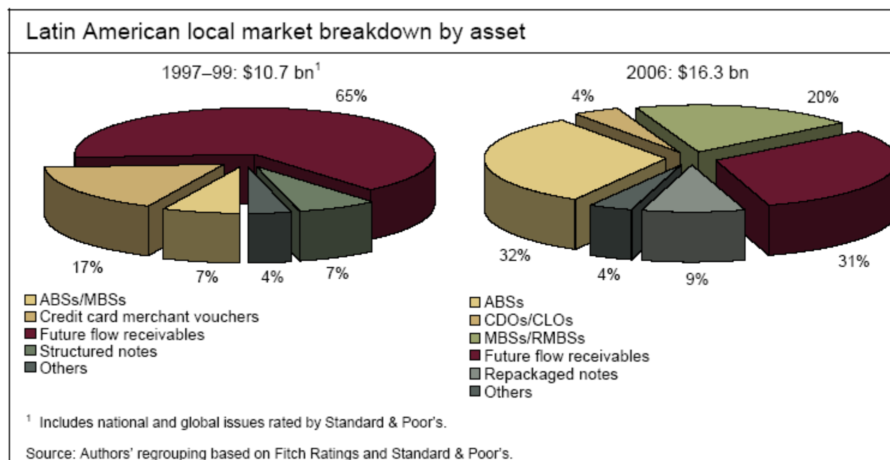
ii) Asset Back Securities

The rapid growth in the size of asset back securities is an indication that the financial markets in the region are becoming more sophisticated. By and large this is market that has been booming in recent years and today the total value of assets that are securitized have reached 16 billion dollars. Mexico, and Brazil and to a lesser extent Argentina are the countries that dominate this market, as the three together have a 80% of the market share of these products in the region. Chile and Colombia, that dominated the market in 2002, have not grown as much as the others.



A recent study of the BIS (2007) that is based on data from the rating agencies indicates that mortgage back securities represent roughly 20% of the total amount of new issues of ABSs. In Mexico, mortgages have become more important in recent years, while in Argentina the bulk of the securitizations are for consumer loans. The maturity and the duration of the different ABSs depends on the underlying assets, they are shorter for receivables and consumer loans (that are bought by money market funds and for the treasury of banks and large corporations) and longer for MBSs (that bought mainly by pension funds).

Despite the recent growth, the asset back securities still have a long way as most of the issues are still relatively small while the secondary market still lacks liquidity. What is clear though is that the ABSs are growing very rapidly and that the demand from domestic and foreign institutional investors is increasing the size of potential buyers of these products. Most of these financial products are structured in different tranches and they receive ratings from the credit rating agencies. The ratings facilitate the sale of these assets to institutional investors, especially for those who can only buy investment rate products.



iii) The Market for Foreign Exchange and for Derivatives

There has been an increase in the amount and sophistication of financial derivative products in recent years. By and large most countries have reasonable well developed market for exchange rate forward or futures exchange rates, some countries such as Brazil, Chile and Mexico have on shore interest rate swaps while the credit default swap market works mainly off-shore.

Most countries in the Region have a well developed spot foreign exchange market and they have reasonable levels of liquidity. This is not surprising given that there has been a large degree of dollarization in the economy. Mexico and Brazil have the largest forex markets in terms of daily volume (5 and 1.5 billion respectively), while Argentina and Peru, two highly dollarized economies have the smallest markets. Argentina is the country with the smallest ticket size for foreign exchange transactions, probably indicating that there is still a large amount of retail transactions.

Spot FX
As of March of 2007

	Liquidity	Typical bid / ask	Average Ticket Size (Million of USD)	Daily Volume
Argentina	Good	ARS 0.002	0.5	0.3
Brazil	Excellent	10 bps	10	1.5
Chile	Good	CLP 0.5	5	0.8
Colombia	Good	COP 3	10	0.5
Mexico	Excellent	MXN 0.20	20	5
Peru	Good	20 bp	5	0.2

Source: DB

The ability to hedge foreign exchange risk is limited in the on-shore market, and depends on the existence of exchanges where firms and individuals can trade forex futures. Brazil probably has the most developed organized market, where forex contracts are traded in the BM&F and there is good liquidity for contracts up to one year. In Mexico and Chile the main hedge is through the over the counter forward market that works on-shore and off-shore, a situation that is favored by the absence of capital controls. Colombia and Argentina have organized future markets, but they still liquidity and depth

Most countries have still the option of using the offshore NDF market where there is ample liquidity. This market allows firms and investors to hedge the foreign exchange risk for up to three to five years depending on the country. Brazil is the most liquid market, as the daily volume is approximately 5 billion dollars, followed by Mexico with 2.5 billion dollars. Argentina is the smallest market, but it still has a daily volume of 120 million dollars.

FX-forward: Offshore NDF

As of March of 2007

	Liquidity	Typical bid / ask	Average Ticket Size (Million of USD)	Daily Volume (Million of USD)
Argentina	Good	50 bps	5.0	120
Brazil	Excellent	20 bps	10.0	5,000
Chile	Good	50 bps	5.0	200
Colombia	Good	COP5	5.0	420
Mexico	Excellent	50 bps	30.0	2,500
Peru	Good	50 bps	5.0	150

Source: DB

Regarding interest rate swaps, Brazil also leads with very liquid markets between the fixed and the benchmark floating rate (which is the one day deposit interest rate, the CDI). This contract is also traded in the BM&F is very liquid and is an instrument that banks use actively to manage their position. In Mexico and Chile there are onshore instruments to swap between fixed and floating interest rates or between fixed and indexed instruments. In Argentina this is market that is still in the development stage, and transactions take place only over the counter.

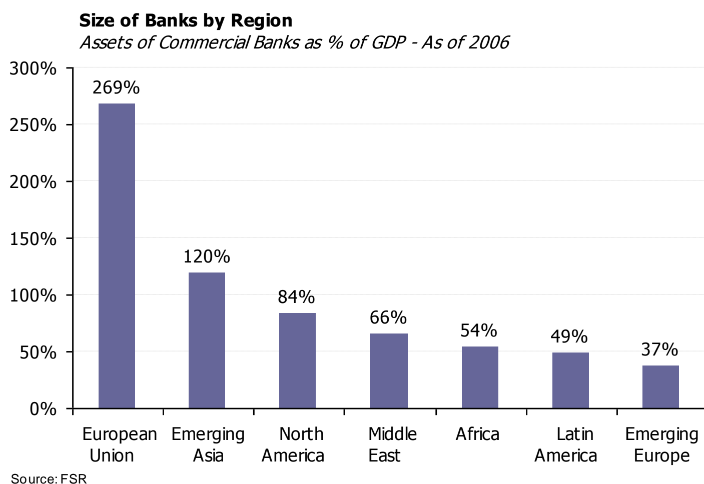
There is also a well developed market for credit default swaps (CDSs) for all the countries included in the sample and where there is good liquidity for up to five years. Mexico and Brazil are the most liquid markets, but there is still depth in the market and many investor use the CDSs market to cover country risk. Many analysts prefer to use the 5 year CDS to the popular EMBI+ as a measure of the country risk because while the latter is computed on the basis of a basket of bonds with different durations and structures, the latter is calculated on a standardized, plain vanilla product. In the case of Argentina, for instance, the EMBI is calculated using only the dollar denominated Pars and Discounts which are long dated instruments, while in Brazil the EMBI includes a basket of bonds with maturities that go from two to five years for up to more than 30 years. The differences in the characteristics of the bonds that are used for the construction of the EMBI across countries reduces its usefulness as a measure of country risk.

In summary, while the market for derivatives is still in its early stages in most countries of the region, there has clearly been an improvement in terms of the availability of sophistication of products available is increasing by the day. Brazil is well ahead of the others thanks to the large level of activity in the BM&F, where for instance open interest in the interest rate futures (DI) reached 380 billion dollars and the 29 billion dollars in October (up roughly 25% relative to 2005). The market in Mexico is also growing rapidly; one example of this performance is that the size of the future contracts on 28 days treasury bills (TIIE) has increased by 150% in the last two years and has reached 440 billion dollars.[1] The laggards in the development of the derivates markets are Colombia and Peru, and to some extent Argentina.

[1] See J.P. Morgan (2007), p. 22.

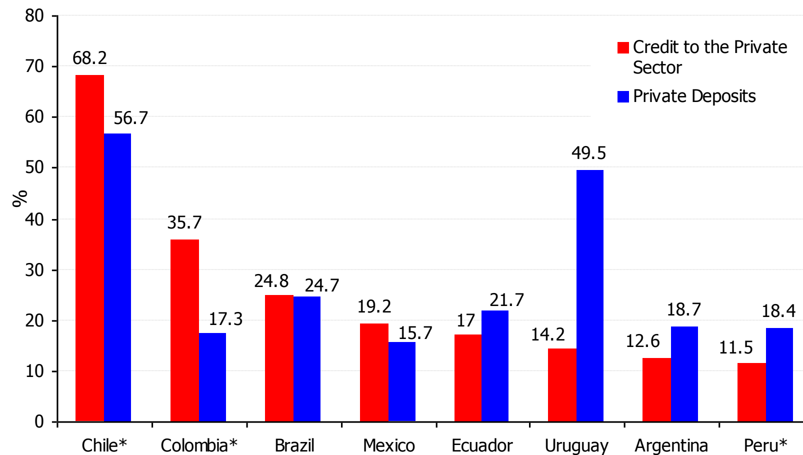
VI. The Banking Sector is Still Small

Most indicators show that the banking system in Latin America is small. The European Union has the largest banking system measured as assets to GDP, while Latin America remains behind Emerging Asia and even Africa using this indicator. The banking system in the region is only larger than in Emerging Europe.



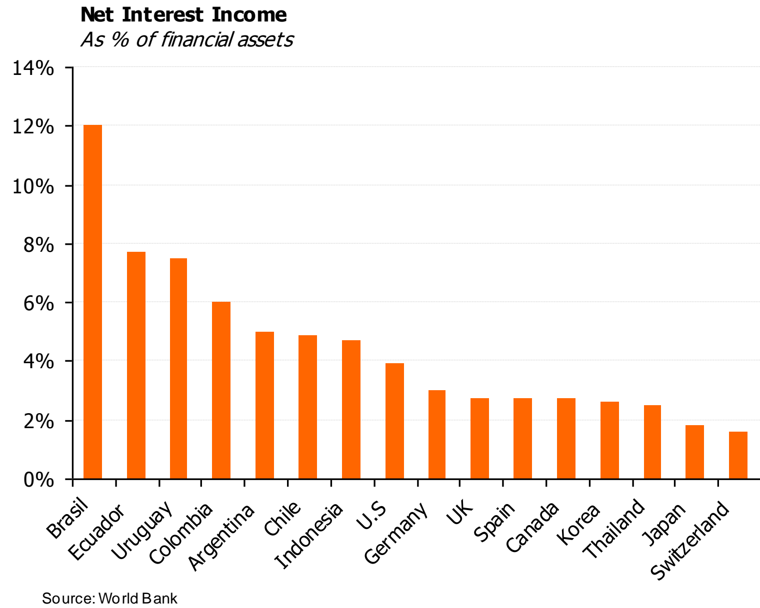
One implication of having a small banking system is that the economy losses an important source of credit to the private sector. Chile is by far the country that has the largest banking system and as a result credit to the private sector has reached 68.2% of GDP in 2006. But Chile appears to be the exception rather than the rule as in most countries the volume of credit to the private sector remains below 20% of GDP.

Deposits are also small in the region, and it remains an open question why have the banks failed to attract deposits. The recurrent macroeconomic problems lies at the heart of the problem, though the history of banking crisis and the lack of large local institutional investors and the desire of individuals to hold their savings abroad are all important underlying reasons.

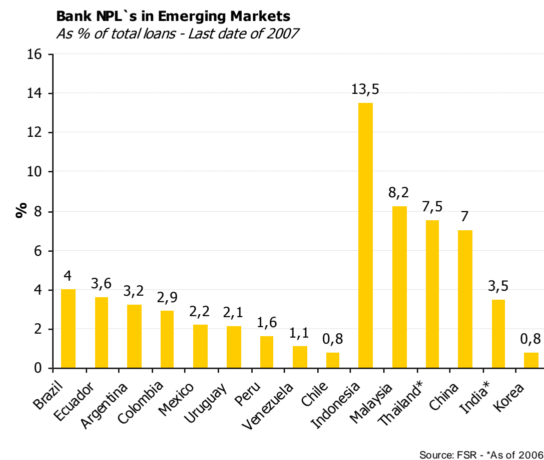


The small size of the banking system has been associated with high intermediation costs, which makes banks expensive. The net interest income in most Latin American countries is higher than in other regions, with Brazil being the more "pathological" case. In most countries the large spreads are associated with the high credit risk and the difficult to ensure creditors' rights, the history of high inflation and the small size of the banking systems that leads to high administrative costs.

The high spreads in Brazil have certainly been a concern for policy makers and to some extent it remains a puzzle. While there is not a consensus on the causes of these high spreads it seems that the main determinants are the history of high rates of inflation, the degree of direct and indirect taxation on financial transactions, the level of non-performing loans and/or large administrative costs. Some argue that it could be lack of competition, but this argument is debatable given that the Brazilian banking system does not show a high level of concentration.

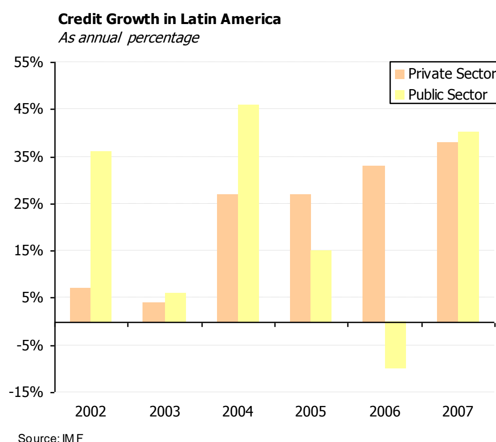


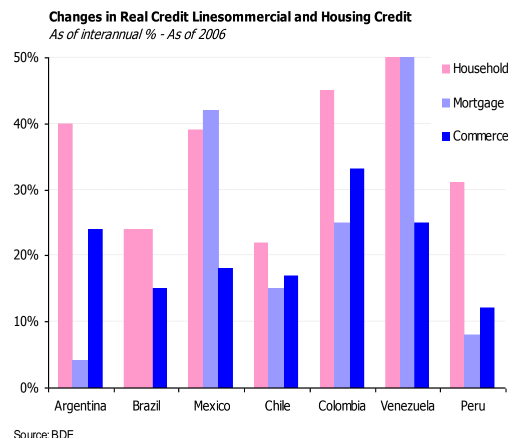
One important issue is that banks are now well capitalized and that they are profitable, which reduces financial vulnerability in the region. Almost all countries comply with the capital requirements of Basel I and probably even with Basel II. The return on assets and the return on equity are very high, which was not always the case in the past. Banks are more profitable in part thanks to the very positive economic cycle that has reduced the cost of non-performing loans, which are now at historically low levels and much lower than in other regions.



One possible factor underlying this higher profitability is the ongoing credit boom that is taking place in the region. Credit to the private sector has consistently been

growing between 25 and 35 percent in the last four years as banks are finding this segment very profitable. In contrast, we have seen a slowdown in the growth of credit to the public sector, which in fact fell in 2006. What is striking, though, is that to a large extent banks are increasing the share of consumer credit, a segment that has significant room to grow, as the stock of consumer loans are roughly 9% of GDP in Latin American, much lower than in Emerging Europe (12% of GDP) or in Asia, where it represents 25% of GDP.





Everything indicates that the banking sector is undergoing a positive cycle, which is to a large extent a reflection of the good macroeconomic performance that the region is enjoying. There are still large challenges though, especially to reach higher intermediation levels and to reduce the intermediation costs that are still large.

VII. Conclusions

The evidence presented in this paper suggests that while the financial markets in Latin America are still small compared to other regions there are important changes going that indicate that we are likely to be at a turning. The new macroeconomic environment in which there are much lower rates inflation, where countries have stronger fiscal policies, more flexibility in exchange rate policies and a large amount of international reserves have been more conducive to the development of larger financial markets and to extend the maturities. In addition, the increase in the size of the pension funds and of other domestic institutional investors has created a new source domestic demand that can sustain the growth of the market.

Despite these improvements the market is still in its early stages and while the prospects are good there are a number of macroeconomic and sector policies and issues that will affect the depth and characteristics of the new financial markets in the region. In what follows we present a number of issues which are likely to dominate the policy discussions in coming years.

1. What role has the new environment of low inflation and sound macroeconomic fundamentals to generate and probably sustain the growth of the domestic capital markets and to what extent can this growth be disrupted by a change in the international environment? Can capital controls help to reduce the volatility of the domestic capital markets?

2. How important is the development of a local currency debt market? In countries where there is uncertainty about the rates of inflation in the medium term is it best to develop the long-term financial instrument using indexation or adjustable interest rates? What are the risks associated with each of these options? Is the use of dollar linked debt a good alternative?

3. Which capital market instruments are expected to grow faster and lead the development of the capital markets: stocks, asset back securities (especially mortgages), foreign exchange futures or interest rate swaps? What policy actions can governments take to foster their growth?

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