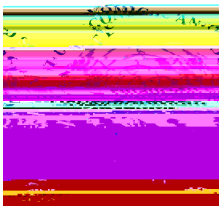

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External and domestic financing in Latin America: developments, sustainability and financial stability implications

José Antonio Ocampo and Camilo E Tovar

External and domestic financing in Latin America: developments, sustainability and financial stability implications[1]

José Antonio Ocampo and Camilo E Tovar[2]

1. Introduction

The financing of Latin American economies has experienced major transformations over the past 10 to 15 years. Two of the most remarkable aspects of this process has been the shift from cross-border towards domestic financing and, domestically, from bank to bond

have performed less well now than they did then, the comparison would look even better if used simple averages of GDP per capita growth.

The explanation for this is mainly the exceptional conditions prevailing in the international economy over the past few years. In particular, the current boom is basically due to the conjunction of two favourable factors not seen together since the 1970s: strong commodity prices –more of mineral than agricultural good— and exceptional external financing conditions. The economic history of Latin America shows that this combination leads infallibly to rapid economic growth. In the current circumstances, however, the transmission mechanisms for external financing have been somewhat different mainly because governments have been far more circumspect in their use of such financing (see discussion below). An additional third factor that has contributed to the boom in the region is the large remittances by Latin American migrants to their home countries, which reflect growing movements of labour (both regular and irregular) from Latin America to the industrialized countries, partly due to very limited job creation in the region during the period of slow growth that followed the Asian and Russian crises. Remittances have had a large effect on the economies closest geographically to the United States, to some extent compensating the deterioration of the terms of trade that several small countries in the region have experienced in recent years due to high oil prices.

The external situation is exceptional in another way: this is the first period in global economic history when per capita GDP has grown much faster in the developing countries than in the industrialized world, i.e. the first reversal of the tendency in global economic history for development levels in the two sets of countries to diverge (United Nations, 2006). However, it is still too soon to speak of true long-term convergence in these levels, except in the case of some Asian economies. Moreover, the current boom has encompassed every region of the developing world and, among them, Latin America has been in fact the weakest performer (United Nations, 2008).

The factors that have given rise to such exceptional external environment are well known. High raw material prices are mainly due to the heavy dependence of the Chinese economy on commodity imports. Exceptional financing conditions reflect, in turn, a wide array of factors: (i) the tolerance of the monetary authorities in the world's leading economies for low interest rates, owing (at least until recently) to the low inflation levels; (ii) major financial innovations in a context that is now generally recognized as characterized by a regulatory deficit; this factor, combined with the search for higher returns, multiplied the demand for and liquidity of riskier financial instruments; (iii) the consequent large reduction in the risk premiums of such securities, and (iv) the large build-up of developing countries' international reserves, owing to the saving of exceptional foreign exchange surpluses and the demand for "self-insurance" that arose after the Asian crisis, when it became clear that there was no international mechanism for dealing with crises caused by sudden stops in external financing. Some of these conditions, particularly the second and third, are rapidly changing in

account balance over recent years, the domi

government intervenes heavily in the market through the fiscal stabilization funds (to be precise, avoids a large magnitude of external revenues from increasing the supply of funds in the foreign exchange market).

The extent of central bank intervention can be proxied by a measure of central bank resistance to exchange rate market pressures (EMP) which captures whether excess demand for domestic currency (i.e., appreciation pressure) is met through exchange rate changes or reserve accumulation.

discussion in Jara and Tovar (2008)).[6] The estimated coefficient measures the extent to which a central bank is able to sterilise by contracting domestic credit to offset the expansion of the monetary base associated with the accumulation of foreign reserves. A value of the coefficient equal to (or above) unity implies full sterilization, whereas a value of zero (or a negative value) represents no sterilization. The sterilisation coefficient is reported for the three subregions in LAC in Figure 2 (right- hand side panel). It shows that in Latin America the sterilization coefficient has increased, possibly reflecting greater pressures associated with exchange rate appreciations and the need to maintain some room of manoeuvre for monetary policy to deal with domestic demand conditions. It also shows that sterilised intervention is uncommon in the Caribbean, where sterilisation is found only in some of the larger islands (as it would be expected of a region where pegged regimes are more widespread).[7]

3. Shifts in financing patterns

Against the background of rapid economic growth with current account surpluses and reserve accumulation, the region has experienced a shift in its financing needs. Obviously, capital flows are suddenly no longer needed to finance current account deficits, and the excess funding available to the region has found new uses. As to the new dynamics of capital flows several new elements now dominate the scene. This can be captured by the new dynamics in terms of gross flows and international investment positions. In particular, the new features are:[8] i) large gross foreign direct investment and portfolio inflows, both in terms of dollars and as a percentage of GDP (with some FDI containing also flows than could be classified more correctly as portfolio inflows); ii) incipient but growing gross capital outflows in some countries, some of which is official in character (accumulation abroad of stabilization funds by the Chilean government, or assets of PDVSA in the case of Venezuela) but also involves private flows (e.g., investment abroad by emerging Brazilian and Mexican multinationals); iii) a reduced reliance on external financing in net terms; iv) a reduction of external liabilities positions; and, finally v) improved external balance sheets.

Indeed, gross inflows to Latin American economies grew by 350% since 2003 reaching $160 billion in 2007, of which $78 billion were foreign direct investment (Figure 4). Debt flows by contrast have been less relevant in recent years than in the 1990s, although there has been a significant recent expansion. Equally important is that in just a few years the region went from having almost no gross outflows to about $85 billion in 2007. As a result of such trends net flows to the region now reach $75 billion in the region, about 2.4% of GDP (almost half the levels reached at the peak of the 1990s cycle).

rate and asset fluctuations now lead to important relocations of wealth across and within countries.[9]

The nature of recent financial flows can be better appreciated from the balance sheet given in Table 3. This table, which covers the seven largest Latin American economies, reveals two striking changes. The first is the increase in assets, particularly international reserves but also direct and portfolio investments abroad, which in all cases grew by even more than these seven economies' GDP in current dollars (which itself rose by 65% between 2003 and 2006).[10] The second is the large shift in the composition of liabilities, essentially driven by the reduction in borrowing and the rise of securities portfolio liabilities. The latter include investments in both the share and bond markets of the region's countries by international investment funds. The counterpart to this shift in assets and liabilities, therefore, has been the boom in both domestic bond markets (see the discussion in the following section) and stock markets.

There are two further features of this balance sheet that are worth highlighting. First, net liabilities abroad have fallen greatly: by some 10 percentage points of GDP between 2003 and 2006, mostly in the financial position. This is true, furthermore, for six of the seven largest Latin American economies (the exception is Mexico). Three of them (Argentina, Chile and Venezuela) now have a positive net financial position. Again, the reserves build-up looks extremely sound when compared with debt liabilities, but much less so if the comparison is with all portfolio liabilities. One way of looking at it, and this will become much clearer later, is that the build-up of reserves has been matched by a rise in portfolio liabilities. Indeed, reserves in the region's two largest countries only cover a fairly small proportion of portfolio liabilities, while in three countries (especially Mexico, but also Chile and Peru, albeit from a much sounder position), reserves have increased by less than these liabilities.

4. The development of local currency bond markets[11]

The discussion of the previous section shows a major shift in the pattern of financing which has changed the balance sheet of the region. An element that was highlighted was that an important counterpart of the shift in assets and liabilities was the expansion of domestic bond

First, high levels of inflation deterred governments or other borrowers from introducing standard long-term debt securities in the domestic market.[13] Entrenched inflationary expectations meant that lenders were willing to lend in domestic currency only at very short maturities or with returns indexed to inflation, short-term interest rates or foreign currencies.

Second, the absence of a broad and diversified investor base hindered the development of deep bond markets. Until the late 1990s, institutional investment played a limited role in most emerging market countries, with the notable exception of Chile, as illustrated by the much smaller stock of assets managed by institutional investors than in the industrial world (as a share of GDP).[14] Even where institutional investment was sufficiently developed, restrictions on asset holdings, particularly on lower-rated or private-sector securities, narrowed investment opportunities.

Third, primary markets have been hindered by inefficiencies that increased the implicit cost of local issuance, such as lengthy registration procedures and uncompetitive underwriting arrangements.

Fourth, various policies or regulatory restrictions impeded the development of liquidity in secondary markets.[15] In fact, active trading was constrained by the lack of a proper infrastructure for trading in government bonds, particularly a system of primary dealers obliged to provide two-way quotes and the availability of repurchase agreements and interest rate derivatives, and possibly by transaction and withholding taxes, as well as interest rate controls and investment regulations.

Lastly, the lack of an adequate infrastructure constrained the development of private sector

securities issued by such borrowers in international debt markets expanded by 65% over the same period, to $264 billion. As a result of this growth, local fixed income markets have become the dominant source of funding for the public and private sectors.

The resulting current configuration of domestic debt markets in Latin America can be characterised by six main features: i)

4.2 Supporting factors

So far, we have seen that domestic bond markets were able to emerge during this decade as an alternative source of funding, overcoming an important number of policy and structural impediments. A combination of both domestic and external factors explains such development.

Domestic factors: Developing viable local bond markets to secure a more stable source of local currency funding became an important objective of government policies since the crises that hit the region in the late 1990s and early 2000s. An important element in strengthening

stability of correlations over more than a limited time span. An extended episode of significantly less favourable market conditions would be required to arrive at more definite conclusions.

The development of domestic bond markets can have, nonetheless, implications for the stability and vulnerability of the economies in the region.[27] There are reasons to believe that these markets may help in reducing the sources of vulnerability of these economies to external shocks, particularly by eliminating currency mismatches. Nevertheless, at the same time, these markets may have generated new sources of instability due to the still dominant short term bias, the problems of liquidity that characterise at least some of them –a problem that may become more acute during a strong market downswing— and the limited development of some market agents and large and deep markets for corporate debt. This is compounded by other problems, some of which are common to industrial countries (e.g., those associated to securitisation).

Furthermore, a major issue of financial liberalization has been the limited and, indeed, the loss of room of manoeuvre that authorities of developing countries have to manage a counter-cyclical macroeconomic policies (Ocampo and Vos, 2008). In this regard, we still don't know how the market would behave a period of expectations of exchange rate depreciation associated a deepening external crisis. In fact, as the previous analysis indicates, the rapid expansion of domestic bond markets may be seen as the joint product of a policy decision (reduce macroeconomic vulnerabilities) and external conditions that generated a bias towards exchange rate appreciation that attracted external and domestic resourses to the booming local markets. In what follows we discuss some of the implications of the financial stability implications of developing domestic bond markets.

Currency mismatches

From a general perspective, currency and maturity mismatches matter because they have the potential to exacerbate the impact of exogenous shocks, increase the severity of crises, and slow the post-crisis adjustment process (Goldstein and Turner (2004)). They also complicate monetary policy as they limit the degree of exchange rate movements that central banks are willing to permit (ie the "fear of floating" hypothesis), thus forcing them to intervene to prevent such movements. Furthermore, fiscal deficits may become a major drag for the economy if currency depreciations increase the cost of foreign denominated debt. Finally, they can affect the level of sovereign ratings.

The notion of currency mismatch refers to the impact of a change in the exchange rate on the present discounted value of future income and expenditure flows (see Goldstein and Turner (2004)). Such a notion has two direct implications. The first is that all assets and liabilities must enter the calculation – not just cross border assets and liabilities. The denomination of contracts between residents in foreign currencies matters because a sharp change in the exchange rate can disrupt such contracts, which can have real economic effects. Foreign currency debts between residents may "cancel out" in normal times but do not do so in a crisis. The second implication is that the currency denomination of income flows is as important as the currency denomination of balance sheet variables: foreign currency borrowing to finance the production of tradables is one thing, to finance non-tradables quite another.

There are at least three dimensions to the measurement of currency mismatches: aggregate, sectoral and microeconomic. However available evidence is scarce as to provide an

[27] This topic has been examined by a Committee of the Global Financial System's (CGFS) Working Group on "Financial stability and local currency bond markets" (BIS(2007a)). See also Jeanneau and Tovar (2008b).

structures are taken into account. However, such reductions are not uniform: while gains are notorious for Brazil, where debt structures were biased toward foreign currency denominated debt, they are less so for Colombia or Uruguay. Overall they highlight that changing the currency composition of debt requires balancing possible short-term costs with long-term gains arising from a structure less dependant on foreign currency debt.

Data on the currency denomination of banking system assets and liabilities are also generally readily available – at least for the supervisory authorities. Table 8 reports the ratio of assets minus liabilities in foreign currency to total assets provides a measure of the banking system's direct exposure to currency risk. Evidence reported shows a decline in this indicator for all countries in the region since 2003. Of course a caveat is that indirect exposures (eg currency risk faced by bank's borrowers) are not captured by this indicator and need to be considered (Jara and Tovar (2008)).

Maturity mismatches

Another important source of vulnerability is that associated with maturity mismatches and rollover risks. As indicated above, one of the features of the market is that, although the maturity structure of local bond markets has expandid, it is still concentrated in the short term. One of the difficulties in assessing such vulnerability is, however, that there is not much information on the maturity structure of domestic debt.

In the case of the external liabilities, a crude way of assessing this risk is through the use of short-term external debt, in particular the ratio of short-term external debt to international reserves and the level of short term external debt to total debt. As is well known, such ratios are considered good predictors of financial crises. Figure 11 displays the evolution of these ratios since 1995. The ratio of short-term debt to international reserves shows a marked improvement over the period, notwithstanding a deterioration in some cases between 1995 and early 2000s. Also, in most cases it is possible to see a consistent decline in the share of short-term debt as a percentage of total external debt. However, the ratio remains high for Peru.

Maturity mismatches also need to be assessed at the sectoral level. As discussed earlier the region has made substantial efforts to reduce the extent of maturity mismatches at the public sector level by issuing debt at longer maturities. As an illustration, the Brazilian government's debt management policy has explicitly aimed to reduce refinancing risk by reducing the share of federal debt maturing within 12 months (Amante el al (2007)).

Liquidity

Market liquidity is essential for the smooth functioning of modern financial systems. The existence of deeper and more liquid bond markets should make it easier for financial institutions to adjust their portfolios of cash market securities and related derivatives in a cost-effective way. The low level of secondary market trading in the region is a concern since active markets are an essential prerequisite for the cost-effective taking or unwinding of positions. Poor liquidity or a liquidity breakdown under stress can induce large changes in market prices and volatility.[29] In extreme situations, it can temporarily convert tradable assets into non-marketable loans, which can lead to substantial losses for market participants who rely on their ability to turn over positions quickly and at favourable prices. Liquid financial markets are also necessary for the functioning of modern risk-management systems, which

[29] In fact, several countries in the region have already shown some vulnerability during periods of stress. Good examples are Brazil in 2001 and 2002 and Colombia in 2002, when financial turmoil led to a drying-up of market liquidity in government paper.

rely on the derivation of accurate benchmark rates for the pricing of portfolios and the smooth functioning of markets for the frequent rebalancing of positions. Until there is genuine progress on that front, financial market participants will find it difficult to hedge their positions at an acceptable price and will therefore be exposed to a fair degree of price risk.

Market liquidity can be related to a number of factors. The size of a bond market and its individual issues is usually seen as a determinant of its depth, liquidity and resilience. In the region, only Brazil and Mexico can be considered to have large enough markets. However, as shown by the bid-offer spreads (see Table 5), smaller countries should also be able to develop liquid markets.

wide credit assessment capabilities may hide balance sheet weaknesses, potentially leaving investors exposed to corporate distress with systemic implications.

In addition to these more “traditional instruments”, the region is now starting to rely on new structures, such as asset-backed securities (ABS). The creation of such securities involves the packaging of a pool of illiquid assets into marketable securities that are more liquid and diversified in terms of microeconomic risk. A key requirement for the development of securitisation is that, in the event of a default by the original lenders, the securitised assets are protected from the creditors of the defaulting parties. This scenario of course requires appropriate legal frameworks.

As argued, the development of ABS has helped improve the efficiency and completeness of financial markets in some of the largest industrial countries, and is now rapidly expanding in Latin America (See Scatigna and Tovar (2007) and Gyntelberg et al (2007)). The diversified nature of underlying portfolios and the use of a variety of techniques to mitigate credit risk, such as over-collateralisation and third-party credit enhancements, have resulted in the creation of a new class of highly rated securities. However, such securities create important challenges as has now become evident from the US subprime mortgage market crisis. In fact, they may actually enhance the major failure of financial markets, asymmetric information, among other reasons for the lack of incentives by issuers of such securities to evaluate deeply the risk of the underlying debt, a problem that can be enhanced by the lack of transparency and the limited availability of good historical data for household finance products. All this may lead to greater uncertainty about the credit risk that investors are really holding. In fact, the capacity of forecasting agents to pay may be particularly difficult in a

complemented by the development of domestic bond markets, which have expanded at a pace that no one would had expected a decade ago.

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Tables and Figures

Table 1

Figure 1

Determinants of Latin America's balance of payments improvement

As a percentage of GDP

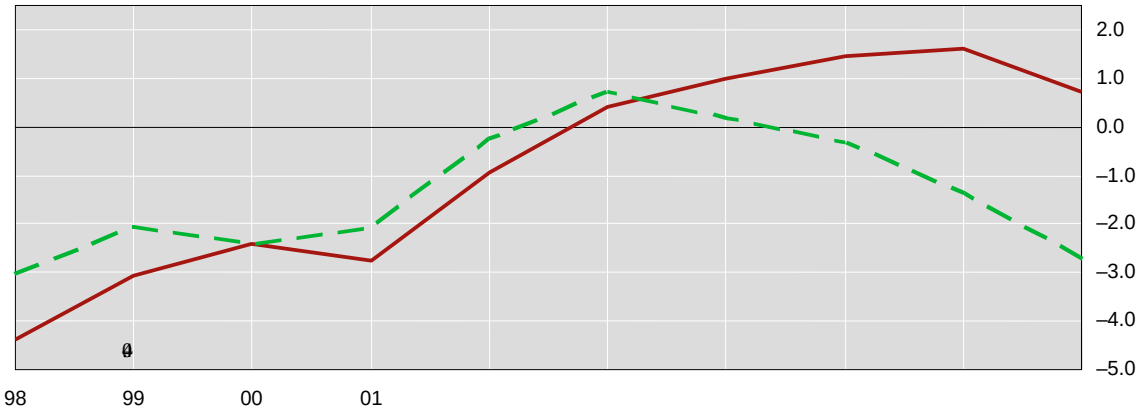

Figure 2

Table 2

Measures of reserves adequacy and interest rate differential[1]

Figure 3

Carry cost of international reserves[1]

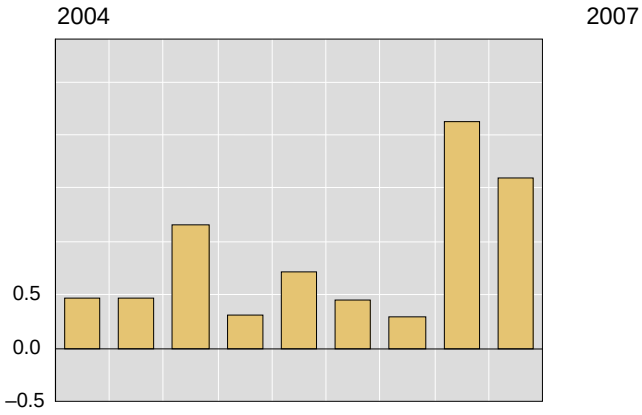

Figure 4

Latin America: capital flows[1]

As a percentage of regional GDP

Inflows Outflows Net flows[2]

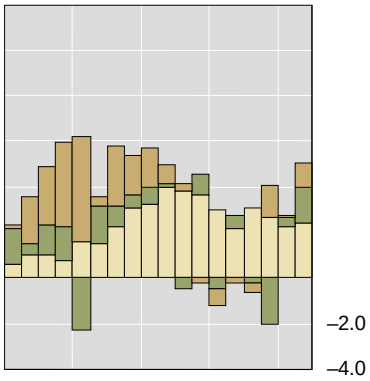

Table 3

Figure 5

Emerging market debt securities outstanding

In billions of US dollars

Domestic debt securities

International debt securities

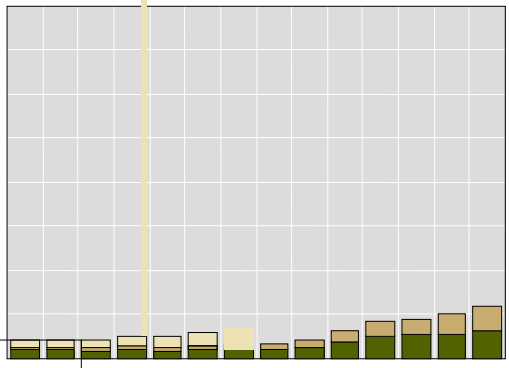

Table 4

Size of local fixed income markets in Latin America, 2005

	Stock of fixed income securities		Of which:		
			Government short-term	Government long-term	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.

Figure 6

Composition of central government debt in Latin America

In per cent

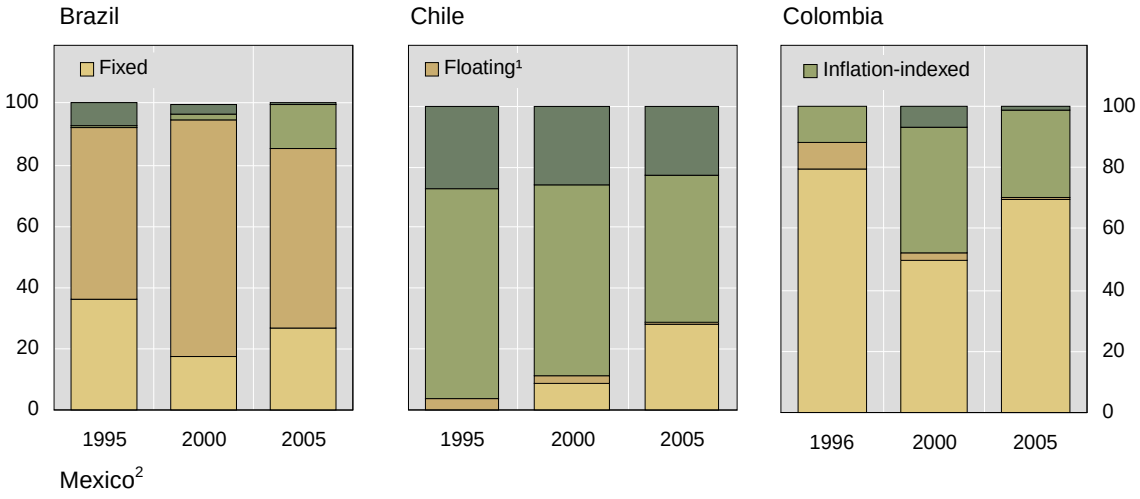

Figure 7

Maturities of domestic fixed rate local currency government bonds

In years

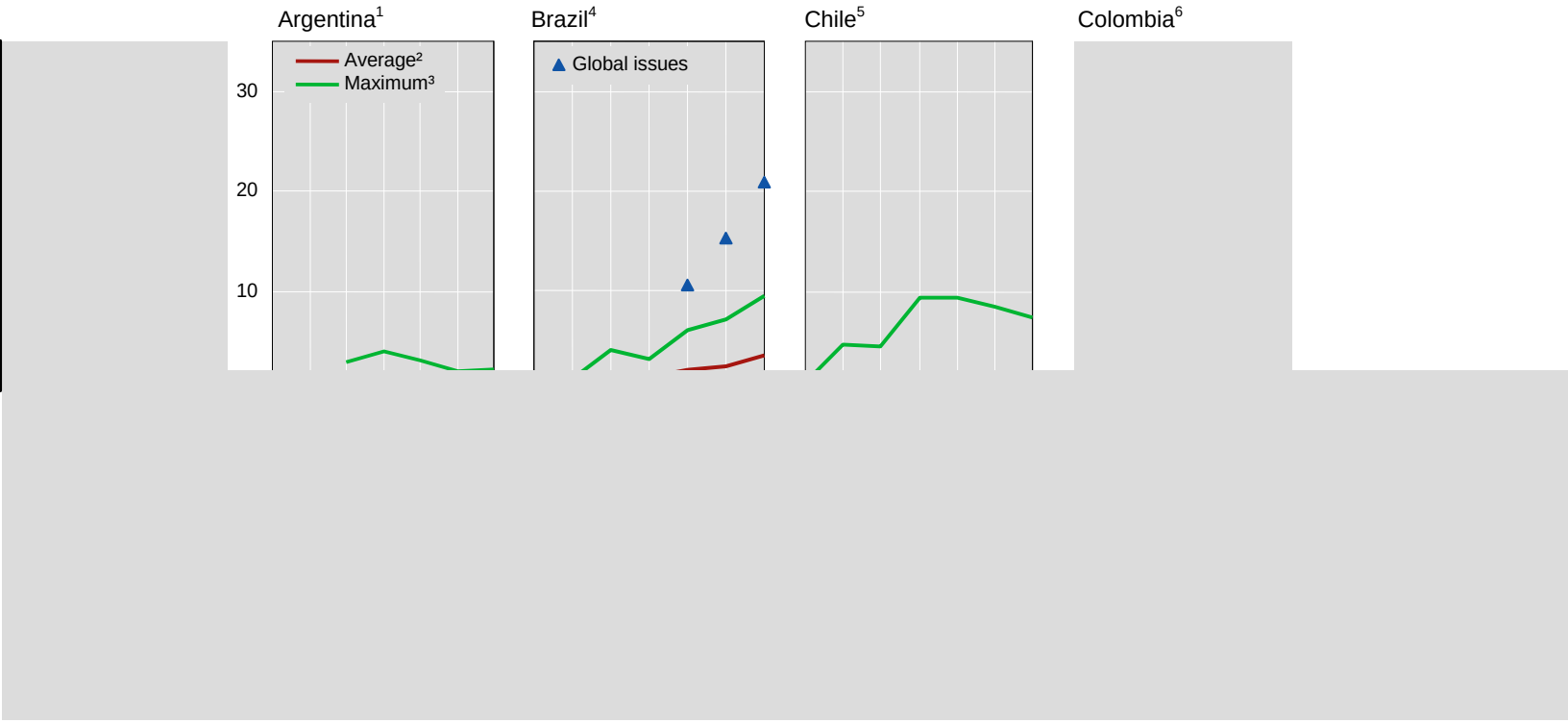

Figure 8

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

In per cent

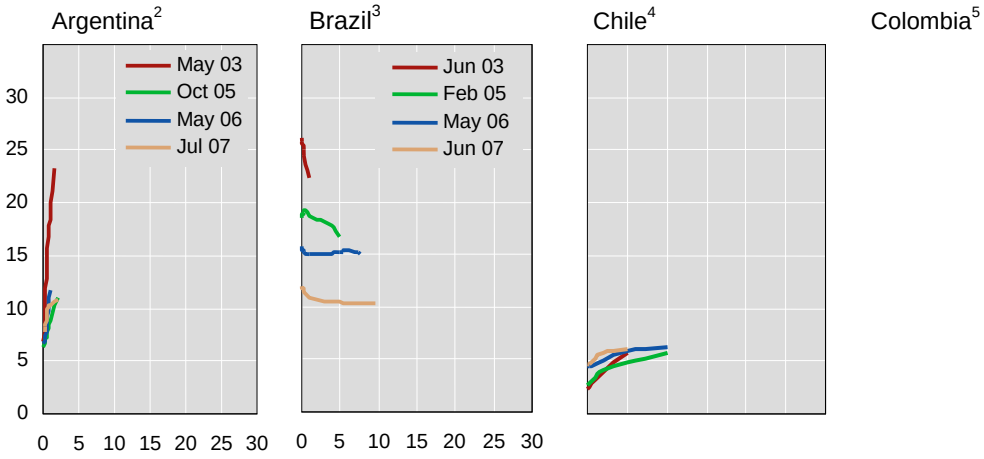

Figure 9

Economic Indicators for Latin America[1]

Inflation and fiscal balance

External debt[2]

Table 5

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

	Annual turnover			
	Billions of US dollars	**Percentage of outstanding securities**	**Bi ask spread**	

Table 6

Table 7

Domestic bond market Sharpe ratios[1]

January 2003 – February 2008

Sharpe ratios	GBI-EM[2]							EMBI[3]
	Brazil[4]	Chile	Colombia	Mexico	Lat Am	Asia	Europe	
2003	0.70	0.30	0.26	0.13	0.30	0.23	0.13	0.84
2004	0.24	0.27	0.68	0.03	0.28	-0.12	0.53	0.50
2005	0.76	0.32	0.76	0.60	0.84	0.04	0.00	0.41
2006	0.26	0.20	0.01	0.23	0.26	0.43	0.33	0.38
2007	0.39	0.12	0.11	0.00	0.23	0.07	0.40	-0.08
2003-2007	0.43	0.29	0.27	0.17	0.33	0.14	0.29	0.33

[1] US 10-yr treasury bond as a benchmark. [2] GBI-EM Broad Diversified. [3] EMBI Global Diversified. [4] Sample starting in April 2003.

Source: Authors' calculations based on JPMorgan Chase data.

Figure 10

Currency mismatches

1998 2002 2007[4]

Table 8

External positions of banks

As a percentage of total assets

	1990-97	1998-2003	2004	2005	2006	2007
Latin America[1]	–10.5	–5.03	–2.84	–2.03	–2.15	–2.03
Argentina	–8.78	–9.01	–7.09	–4.26	–3.05	–1.68
Bolivia	–7.38	3.2	8.5	11.5	11.4	8.7
Brazil	–6.32	–6.67	–3.41	–2.07	–1.67	–2.17
Chile	–9.6	–0.43	–3.51	–3.22	–1.57	–1.23
Colombia	–11.82	–7.03	1.0	–0.18	1.0	0.4
Ecuador	–10.54	5.4	18.7	18.3	17.4	17.6
Mexico	–22.39	–3.87	–5.08	–4.58	–7.08	–3.78
Paraguay	4.4	11.7	13.9	10.6	7.8	6.2
Peru	4.4	–2.65	0.6	0.2	2.6	2.7
Uruguay	2.2	0.8	16.8	16.3	16.6	19.0
Venezuela	4.4	4.3	5.8	3.6	3.7	3.8
Memo:						
Emerging markets[2]	–1.35	1.0	1.7	2.0	2.0	2.0
Asia[3]	–0.2	2.6	2.7	3.7	4.1	3.4
Central Europe[4]	4.2	2.4	4.3	4.7	4.7	4.7
Middle East[5]	13.0	6.5	9.2	8.2	10.1	10.1
Other emerging[6]	3.6	2.1	–0.17	–2.23	–3.99	–4.74
Canada	–3.57	–0.82	0.3	0.3	0.4	0.4
United States	–1.29	–0.89	–4.39	–3.65	–4.18	–3.5

[1]

Figure 11