

# Latinwatch

Economic Research Department

Second semester 2008



Too large a crisis for decoupling to hold

Still convergence of Latin America to the developed world

Latin America and the crisis: Country differences unfold

# Index

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1. Editorial	2
2. Global overview	3
3. Macroeconomic Prospects for South America	6
Box 1: Commodity-led income transfers: a look at inflows during the boom and prospects for 2009	12
Box 2: Fighting liquidity problems in Latin America: the role of Central Banks and International Institutions	14
Box 3: An assessment of underlying inflation pressures through alternate measures	16
4. Background Topics	18
Latin America vulnerability vs. other emerging regions	18
Credit Spreads and Global Risk Aversion	22
5. Statistics and Forecasts	26

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## 1. Editorial

The last few months have shattered the dream of the “decoupling” of developing countries from the fate of developed countries. As commodity prices tumbled, pushed down by fears of a serious recession, and as foreign credit dried up in a matter of hours, people and policy makers in Asia and Latin America realized that they were also engulfed in the maelstrom originated more than a year ago in the “subprime mortgage markets” of the US.

It is not so much that the decoupling hypothesis was wrong but rather that the depth of the crisis had been underestimated. In any event, the contagion to the emerging world does not mean that all the countries will face a recession -as the developed world will -or that they are helpless in the face of these new events. First of all, policy makers in emerging countries reacted quickly and aggressively to confront the sudden loss of liquidity in US dollar. This time there was a difference with previous crises: instead of starting a slow and painful process of negotiation with the IMF, most Central Banks in South America were able to replace the lost funding using a small part of the large international reserves accumulated during the previous years, among other instruments. When liquidity in national currencies was in strong demand by domestic banks and corporations to confront the credit squeeze, Central Banks were also able to provide the necessary funds through reductions in (high) mandatory reserve requirements and new credit facilities. In some cases, such as Brazil, consolidation of the banking system was facilitated so as to avoid the failure of small banks due to liquidity shortage. Finally, governments have also stepped in with expansionary fiscal policies and, in some cases such as Chile, specific fiscal resources to jump start credit to small and medium-size firms.

This has not been easy or smooth, and many currencies have depreciated and sovereign spreads have risen substantially. But this is not only the case of Latin America; in fact Emerging Europe has been affected much more negatively. Furthermore, after almost two months of the onset of this stage of the international crisis, financial markets seem to be calming down towards a still tense equilibrium.

The question is now what will be the real impact of the recession in the developed world. Our forecast shows that growth in South America will slowdown but will remain in positive territory if the recession in the developed world is mild, as expected so far. If this is the case, this would be the first time in a century that most South American countries manage to suffer less than developed countries in the event of a worldwide recession. This is very good news, at least in relative terms. So, when the world economy recovers, financial markets will have to recognize that country risk in the Latin American region has improved substantially after the economic reforms of the 80s and 90s. The prospects for investment and growth should, thus, improve accordingly.

## 2. Global overview

The extreme volatility across basically all financial markets is a reflection of the ongoing liquidity crunch and prevailing global financial and economic uncertainty.

Just a few months ago, to talk of the international financial crisis was tantamount to enumerating the sequence of events unfolding in the US. However, September 12th -the day Lehman Brothers went under- marked an inflexion point worldwide. Investor uncertainty and strong risk aversion became globally widespread, primarily contaminating Europe, but also emerging markets.

Following the bankruptcy of Lehman Brothers and the bailout of the AIG Group by the US Treasury, the US administration approved the Troubled Asset Relief Program (TARP), also known as the Paulson Plan. The aim was to address the problems posed by the toxic assets on the banks' balance sheets and resolve the liquidity and solvency issues suffered by many of the country's financial institutions. Unlike the events at Bear Stearns, AIG or the US government mortgage agencies, the Lehman bankruptcy shook the markets. Sharp credit spread widening drove liquidity costs to unheard of and unsustainable levels. The spread between 3-month Treasury bills and interbank rates (the TED spread) in the US and EMU currently stands at 216bp and 233bp, respectively. However, the TED spread peak of 464bp was well above the high of 300bp reached on 20 October 1987. In addition, the spread between the 3-month LIBOR rate and the overnight index swap (OIS) -a proxy for the availability of market funds- currently stands at 170bp in the US (vs. a high of 366bp), compared to 171bp in Europe (vs. a high of 194bp). And just as financial tensions were heightening, the banking crisis escalated, not only in the US, but also across Europe.

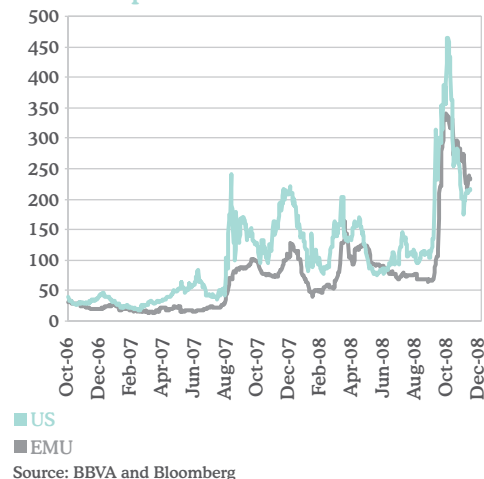
Equity markets globally have notched up historic losses, with the main developed markets down by around 40% YTD. In emerging nations, the range of corrections is broader, going from 17% in Chile to 76% in Russia. Meanwhile, risk aversion is at an extreme. This risk aversion, together with expectations of additional rate cuts, explains the average reduction in October in 2-year bond yields of 60bp in the US and of 100bp in the EMU relative to pre-Lehman bankruptcy levels.

The initial wave of unilateral rescue packages has since given way to unified criteria across the developed economies devised to address the global crisis.

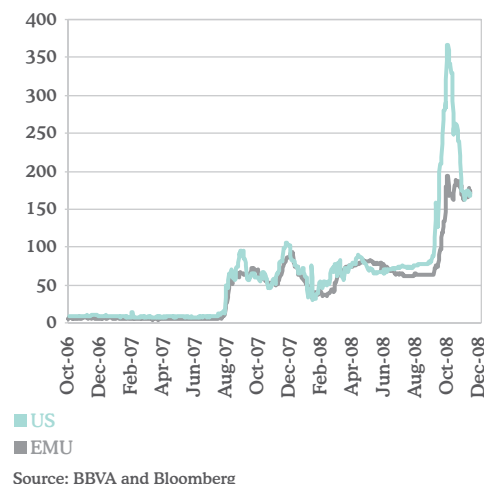
The central banks have injected vast sums of liquidity into the market with a view to alleviating the financial standstill, although these measures have yet to have a decisive impact. The Federal Reserve has virtually doubled the amounts auctioned off via its TAF program to 300 billion US\$, having also increased the dollar swap lines in place for other central banks by 500 billion US\$. The European Central Bank has also taken extraordinary measures in terms of the scale, currencies and maturities of its auctions. The most recent ECB initiative has been to launch full allotment auctions with the goal of alleviating short-term financing requirements.

The various economic and monetary authorities are faced with an unparalleled financial crisis, which is being amplified by the risk aversion phenomenon. Initially, the various governments passed different measures aimed at restoring citizens' confidence in their financial institutions by guaranteeing deposits and at stimulating business as usual in the financial markets, but with limited effect. The main reason

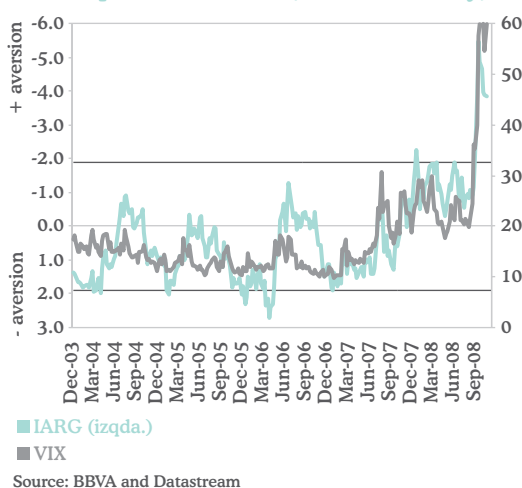
### Index of Interbank liquidity pressure in US and EMU: 3-month Treasury bills-Euribor spread



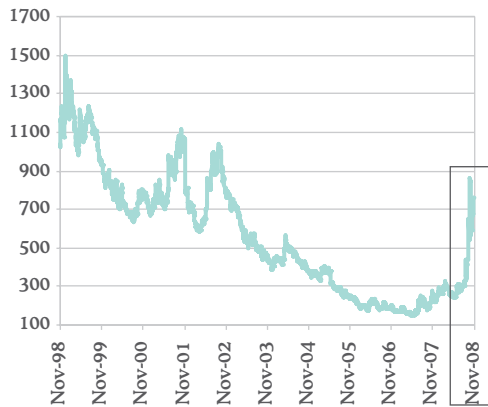
### Index of Interbank liquidity pressure in US and EMU: 3-month LIBOR-OIS spread



### Global risk aversion index (BBVA-GRAI) 64 assets: emerging countries (US\$) and developed countries (local currency)



## Spread EMBI+



Source: BBVA and Datasteam

these did not do so well was the market's perception of a total lack of coordination among administrations and the reading that measures being taken were put in place reactively to put out fires as the various entities stumbled.

At the beginning of October, however, more coordinated action was taken. Firstly, the Fed, the ECB, the Bank of England and the central banks of Switzerland, Sweden and Canada cut their benchmark rates simultaneously by 50bp, accompanying the move with a joint press release. Shortly after, the European governments struck a timely agreement to jointly address the crisis in a coordinated manner, announcing a raft of potential measures fashioned around guarantees and capital injections. Although the immediate impact was limited, the joint efforts probably prevented an even more serious financial crisis.

These efforts culminated with the G-20 Summit in Washington. The main thing to come from the summit and the agreements reached is the international community's firm desire to tackle the unfolding economic and financial crisis in a coordinated fashion, combining multilateral initiatives and measures with national policies previously ratified and vetted by all summit participants. This is significant due as it should mean preventing certain mistakes in the past -where unilateral national responses, on occasion purely protectionist in nature, only served to accelerate the recession- from reoccurring. It is also worth highlighting the fact that the announced list of measures is ambitious and stems from an accurate diagnosis of the causes of the current crisis and why it subsequently spread and gathered pace so rapidly.

## Stock Markets

### YTD 2008

US	S&P500	-46%
Spain	IBEX35	-47%
United Kingdom	FTSE100	-38%
France	CAC40	-47%
Germany	DAX30	-48%
EMU	STOXX	-50%
Japan	NIKKEI 225	-50%
China	Shanghai SE 180	-64%
Hong Kong	HANG SENG	-56%
Brazil	BOVESPA	-48%
Mexico	MXSE IPC Gral.	-38%
Argentina	MERVAL 25	-59%
Chile	SASE Gral Index	-17%
Russia	IRTS	-76%

Source: Bloomberg

## Low growth, inflation and interest rates and a strong dollar. Undershooting of commodity prices before they recover in the near future.

Considering that the pressures on the financial markets are not likely to remit over the short term and that the international financial crisis will make it more difficult for both households and corporates to access credit, our growth estimates for the US and EMU point to deeper economic downturn. We believe that US consumption and residential and non-residential investment will continue to fall, thereby continuing to erode economic growth in that country. Meanwhile, in terms of the trade balance, imports look set to continue to fall, driven by the weak economy. Exports should continue to grow, albeit at a far slower pace due to a stronger dollar and global economic weakness. This means that on a net basis, trade will not prove a very solid crutch for growth. In sum, we expect US GDP to contract by 0.8% next year. In the EMU, we expect GDP to narrow 0.9%. Despite the existence of a few somewhat favourable factors, such as substantially lower benchmark interest rates and a weaker euro relative to the dollar, the effectiveness of the rescue packages designed by the various governments will be key to preventing a sharper recession.

Turning towards the emerging markets, we have revised our forecasts downward to factor in the impact of the recessionary outlook for the developed world. While the pace of growth looks set to ease next year, we are still talking about healthy growth rates in 2009. Emerging Asia look set grow by 6% compared to 7.5% in 2008, with China continuing to grow at around 8%, driven in large part by the government's stimulus package. Other nations in the region will grow at far lower rates, especially the smaller and more open economies, which are accordingly far more dependent on foreign demand.

Against this backdrop, the commodity markets have reacted viscerally, with oil and copper prices tumbling by close to 60% and grains, such as

corn, wheat and soy, plunging by 40% from their mid-year peaks. In all these instances, our forecasts point to stabilisation and subsequent recovery, due to supply side restrictions in the medium and long term and ongoing rapid growth in consumption of energy, food and raw materials for manufacturing processes in China, India and other emerging markets. Nonetheless, the fall in prices to date will translate into a very sharp reduction in disposable income in developing nations, some of which are highly dependent on commodities for exports and tax receipts. Unlike earlier global slowdowns, however, this one will stand out for the fact that most Latin American nations have saved a significant portion of the windfall profits reaped during boom times, better positioning them to cope with the current price correction.

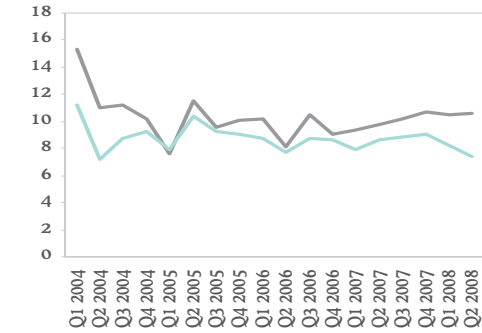
Meanwhile, we expect inflation to continue to trend significantly lower. For 2009, we are forecasting average headline inflation of 0.8%. In the EMU, we estimate inflation at 1.9% on average. These realigned expectations are underpinned by the correction in oil and other commodity prices, combined with the outlook for slower global growth. In addition, tame inflation will enable the central banks to continue to cut rates in order to reactive economic growth. The ECB and the Fed have already cut rates by half a point to 3.25% and 1%, respectively. Our forecast for official interest rates are as follows: we think the Fed will cut benchmark rates to 0.5% in 2009, while the ECB will cut its official rate to 1.5% early next year. This underpins our forecast for a stable dollar, trading at around \$1.25/₣ through the end of 2008. In 2009, we expect the dollar to further strengthen towards the \$1.15/₣ mark, although, if anything, the risk is biased towards stronger appreciation.

Taking our base case scenario for central bank rates, we are forecasting a stable yield on 10-year US Treasury bonds of 3.80% by the end of 4Q08. Looking to 2009, we expect yields to start the year at around 3.70%, falling throughout the year to end at closer to 3.40%. In the EMU, we expect 10-year sovereign bond yields to end the year at 3.80%. We are forecasting yields of 3.50% in 1Q09, falling gradually throughout the year to end the fourth quarter at 3.10%.

Looking to the months ahead, the direction taken by and effectiveness of government policies designed to restore financial stability and jump-start the markets will be crucial to injecting confidence, breaking the vicious liquidity-solvency circle and bringing the markets back to business as usual.

### Argentina: Domestic Demand and GDP Growth

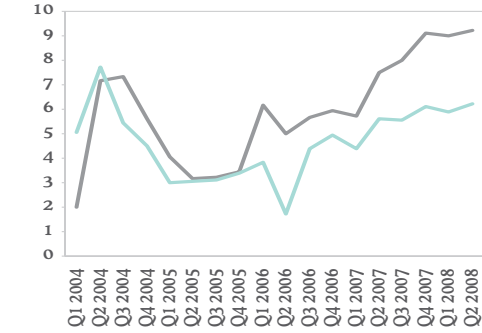
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Source: DataStream

### Brazil: Domestic Demand and GDP Growth

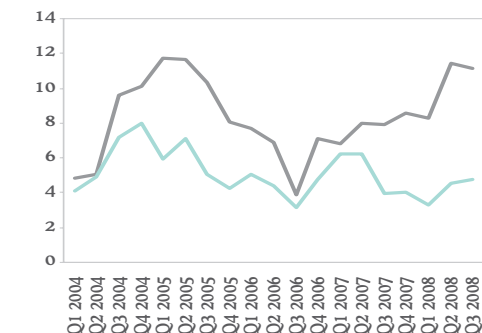
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Source: DataStream

### Chile: Domestic Demand and GDP Growth

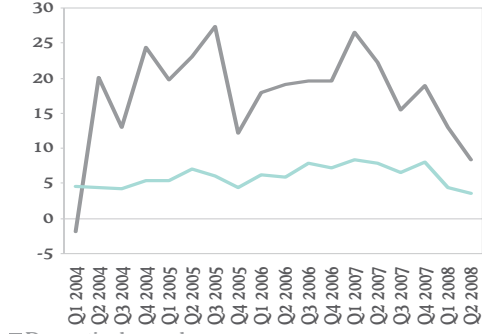
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Source: DataStream

### Colombia: Domestic Demand and GDP Growth

(yoy)



Source: DataStream

## 3. Macroeconomic Prospects for South America

### 1. After a sustained positive shock in terms of trade, most South American economies were trying to curb domestic demand

During the first half of 2008 South American countries enjoyed unprecedented gains in terms of trade and domestic demand rose beyond potential output in most countries. Inflation rose in response to this expansion, fueled by higher prices of food and energy. By mid-year inflation was above Central Bank targets in Chile, Brazil, Colombia and Peru, and monetary authorities were raising policy interest rates everywhere.

By the end of the first half of this year, there were signs of slower growth of domestic demand in all these countries, with the exception of Peru.

At the same time, several countries were trying to avoid excessive appreciation of their currencies, given the transitory nature of the terms of trade shock and a worsening financial scenario at the global level. Colombia, Peru and Brazil intervened in the exchange market and imposed special reserve requirements on short term capital inflows, while Chile set up a pre-announced program to increase international reserves. Most countries used the windfall to shore up international reserves as well as different forms of Sovereign Funds to save at least a fraction of the extraordinary fiscal revenues. Most countries were successful in preventing further appreciation and in fact currencies devalued in Chile and Colombia. Brazil was a major exception and the real began a sharp appreciation after the Central Bank rose the SELIC, on expectations of capital inflows attracted by a large and rising interest rate differential, at a moment in which Brazil (and Peru) obtained Investment Grade credit risk rating.

In spite of the deteriorating situation in financial markets in the US and other Developed Countries, most Developing Countries were benefiting of high commodity prices, supported by high growth in China and other Emerging Countries, and easy access to financial markets at low costs. Decoupling was very much happening, to the surprise of many observers.

### 2. All this changed dramatically in September, after the failure of Lehman Brothers

The collapse of Lehman Brothers and the subsequent closure of credit markets finally changed all that. Risk aversion shot up to the roof and even trade financing lines were closed. Decoupling was no more, as commodity prices plunged (oil and copper fell by more than 40%, grains about 30%) and financial markets shut down, on the fears of a deep and protracted recession in the Developed World set in.

South American countries have been hit by a severe increase in country risk premium, especially for those countries deemed more vulnerable, such as Argentina and Venezuela. In addition to increased costs of funds, there has been a “de facto” rationing of foreign funds, as international banks reduced the size of their balances in the process of deleveraging. In addition to financial capital flows, the outlook for Foreign Direct Investment also deteriorated, as home companies abroad faced restricted access to finance investments abroad, especially in projects linked to the production of commodities that were now much cheaper than before.

As expectations of a larger and deeper recession sink in, it is also clear that South American countries will face worsening conditions for their exports, especially in sectors linked to the production of raw materials or parts for industries linked to the construction or the durable goods industries, such as automobiles. In some cases, like timber products, for instance, we had already seen this early in 2008, but after September auto sales plunged worldwide, and that is also threatening manufacturing exports in Brazil, Mexico and Argentina. We expect the Developed Countries to remain immersed in recession most of 2009, and this situation might even extend into 2010. Under these conditions, World Trade is expected to grow at the slowest rates in the last few decades.

The combination of lower commodity prices and slower economic growth is expected to have a major impact on fiscal revenues in all South American countries, as well as a deterioration of the Current Accounts.

### 3. The financial shock

The initial shock fell on financial markets and reflected immediately on risk premiums. Country risks, measured by the EMBI LATAM rose drastically and countries with floating exchange rates, such as Brazil, Chile and Colombia, experienced major depreciations of their currencies, even as some of them intervened heavily in foreign exchange markets (Brazil). Other countries like Peru and Argentina also intervened using International Reserves to limit devaluations.

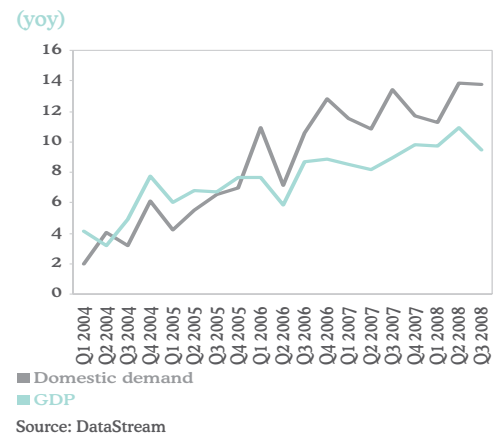
In the case of Brazil the initial shock was amplified because non financial corporations, especially in export oriented activities, were surprised by the devaluations with major operations in derivatives in foreign exchange open. This produced financial losses that at some point were estimated at USD 20 billion, and the credit market stopped lending to corporations (as well as to other banks). Even though the situation has calmed down since, and most of the losses have been revealed, several banks that relied too much on debt financing were cut down from interbank lending. After a couple of weeks of indecision, markets began to reopen, as the Central Bank injected massive amounts of liquidity and relaxed mandatory reserve requirements for banks willing to finance purchase of assets from banks in trouble.

After the initial shock, lasting several weeks, authorities reacted providing additional liquidity, both in local currency and US dollars, and slowly things began to calm down. Domestic spreads and interbank lending rates have come down significantly, as well as spreads over LIBOR in trade financing operations. Most of the countries have reached a new equilibrium, with higher rate premiums and spreads than those prevalent in early September, but still low from a longer term perspective. In Argentina, the increase in the country-risk premium has caused interest rates for peso-denominated deposits in the banking sector (BADLAR) to become positive in real terms, and remain so, after several years of negative real interest rates.

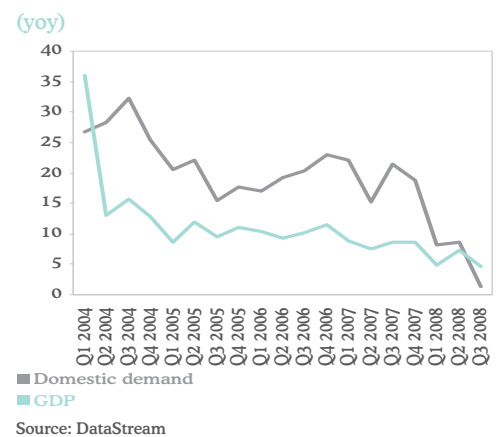
One exception to the gradual normalization trend we are seeing now in the region is Venezuela, where significant tensions in the interbank market remain, with interest rates (overnight) fluctuating in the two-digit range for almost a month now, and several small banks seem to be in distress, while there are no mechanisms in place to promote and facilitate consolidation.

What we are beginning to see now are the first effects of the real shock resulting from a loss of confidence in the future and the actual reduction in foreign demand for exports.

### Peru: Domestic Demand and GDP Growth



### Venezuela: Domestic Demand and GDP Growth





## South America: Exchange Rate

Index jan-07=100



Source: Bloomberg

## 4. Growth projections for Latin America in 2009 have been cut down from 4.3% last Spring to 1.8% now

Even before the shock in September, we were already seeing a slowdown in credit and consumption growth, as a result of the monetary tightening. We expect them to be further affected by weakening consumer confidence and even tighter credit conditions. On the other hand, there are new postponement of investments as well as reductions in labour force at the company level in most countries. Most of these factors will play a full role in 2009, but some will have an impact in the last quarter of this year, so we are cutting down our growth projections in 2008 for the region as a whole from 4.7% to 4.4%, with reductions in all countries but Peru, which is revised upwards from 7% to 8.9%, due to the stronger than expected growth in domestic demand.

As for 2009, the range of projections for economic growth goes from 1.9% in Argentina to 5% in Peru. These countries are also the ones that present the sharpest de-acceleration with respect to 2008, due in part to the fact that both were growing faster than the rate of expansion of potential output. For Brazil, Chile and Colombia we expect modest growth in 2009 (2-3%) with a recovery in 2010. In these countries the slowdown in domestic demand began earlier due to the tightening of monetary policies in 2008. On the other hand, Venezuela will suffer from the severe reduction in oil prices as well as from capacity constraints due to the fast growth of previous years and more difficulties to import capital and intermediate goods. We expect Venezuela to post growth rates below trend in 2009 and 2010.

## 5. But conditions vary among countries

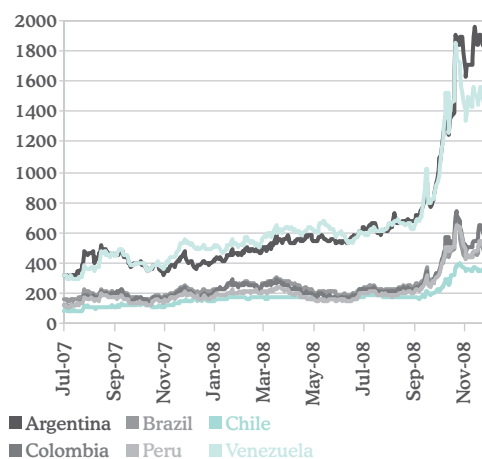
Even though the region as a whole will experience a major slowdown in the last part of 2008 and especially in 2009, there are differences among countries.

A key factor has to do with the policies applied during the good times. Those countries that saved a major fraction of the windfall in commodity prices, and accumulated government and Central Bank reserves, such as Chile, Peru and, to some extent, Brazil and Colombia, face the current drop in financial flows and commodity prices from a position of strength and have significant degrees of freedom to pursue counter-cyclical policies. In fact, they have been actively intervening to support their currencies, replace foreign sources of funding of financial institutions and jump start local credit either through the provision of liquidity or by capitalizing state banks to finance aggressive lending campaigns and induce private banks to compete to defend market shares.

Argentina and Venezuela are in a different position, even though their fiscal and external accounts are far stronger than in past episodes of external crisis. Both have relied on expansionary fiscal policies and have pushed expenditures to the limit of their capabilities, and now face a combination of higher costs of funds and a reduction in export and fiscal revenues. They have room to sustain current policies for a while, but if the international environment and commodity prices remain weak for a long period, they will face major adjustments.

There are also major differences among countries concerning their access to international financial markets. While Argentina and Venezuela have received very little capital from abroad in the last few years and are expected to remain isolated from these markets, Brazil

## Embi Spread (bps.)



Source: DataStream

and Peru have achieved investment-grade ratings in recent months. They have joined Chile in this group of countries, thanks in part to the recognition of the progress made in strengthening public finances and in other areas of economic reform. Colombia has also been making progress in this front, and has eliminated some capital controls set in place when the problem was excessive appreciation of the peso.

The financial shock has hurt more those countries more integrated into international financial markets such as Chile and Brazil. In the latter, problems were compounded because it came at a moment of strong expectations of currency appreciation, and - as proved later - several corporations were exposed to exchange rate depreciations due to open positions in derivative markets. Even though the immediate effect of the financial shock in Peru has been milder than in Brazil or Chile, the Central Bank has been very active defending the currency, since about one half of total credit is dollar denominated and dependent on the availability of funds denominated in such currency.

A final factor of differential effects has to do with the composition of trade, both in terms of markets and goods. Countries with a large fraction of exports concentrated in the US market, such as Colombia, will suffer from the recession in that country. Other source of vulnerability is concentration of exports in a few intermediate commodities such as oil (Venezuela) or copper (Chile). As long as the prices of these commodities remain low for a long time, they will be affected.

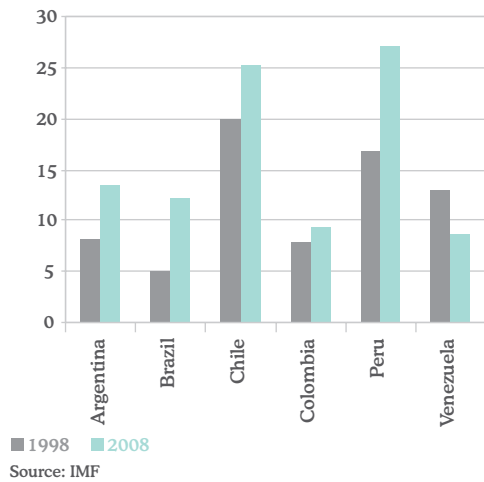
Even though South America shows very little intra-regional trade when compared with other regions of the world, there are a few cases of interdependence worth noticing. For instance, Venezuela is the main market for non-traditional manufactured exports of Colombia, and the slowdown in the former will have an effect on the latter. Argentina is also a major market for the automobile industry in Brazil and a major slowdown there will have an impact in Brazil.

## 6. External conditions will be the key to return to fast economic growth

In our baseline scenario the South American countries experience a major slowdown, but they do not fall into recession. This is based on three main assumptions: i) Risk aversion is already at its peak, or even past it, and will gradually come down during 2009, bringing some measure of normalization to access to international financing, ii) the World Economy will begin to recover by the end of 2009, or early in 2010, and iii) Commodity prices, even now are at higher values than in the pre-boom years, and are expected to remain at these high historical levels in the coming years. Even though we expect a return to more normal financial conditions, as well as a recovery of commodity prices, we do not think the markets will return immediately to the levels observed in the first half of 2008. Instead we expect a gradual build up of momentum over a relatively long period of time, which is needed for consumer and financial market participants to regain confidence, while unsold stocks of all kind of assets - from houses to government shares in banking institutions - can be sold.

The main risk to our projections is one of a deeper and longer recession in the advanced countries. If the credit crunch lasts longer, the recession will be harder, commodity prices might fall even further and markets for non-commodity exports of South American countries will not recover soon enough to avoid a recession in some countries of the region. Those countries that have large dependence on commodity exports and at the same time have had less cautious fiscal policies during the boom are the most at risk in this scenario. This could be the

**South America: International Reserves and Sovereign funds (% of GDP)**



case of Argentina and Venezuela, where the adjustments need to deal with a more prolonged external shock might send them into recession in 2010. All countries will be hurt under such a scenario and economic growth will remain below potential or nil in most countries. Colombia and Brazil have some fiscal and current account vulnerabilities that would prevent them from applying counter - cyclical fiscal policies beyond the end of 2009. Peru is in better shape, as long as the exchange rate remains stable. A more prolonged crisis might increase the chances of events leading to attacks on the sol, that could end up restricting the ability to ease monetary policy. Chile is in a better financial position due to the large funds at the disposal of the government and the Central Bank, but is a more open economy and, thus, more dependent on international markets.

**7. But in the meantime, those countries with stronger fiscal accounts might be able to boost domestic demand**

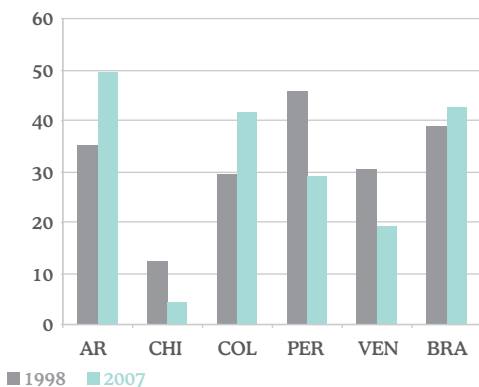
In the short term, countries in better fiscal shape and with stronger fundamentals to lend support to their currencies are in a better position to conduct anti-cyclical policies, compensating - at least partially - for lower external demand and a weakening of private consumption and investment. The two countries best positioned to take advantage of the situation to compensate for the loss of external demand and the reluctance of banks to lend money domestically and the fear of consumers and corporations to spend, are Chile and Peru.

Chile, has long held a fiscal policy geared to save copper price windfalls. It started in the mid-80s with the creation of a Copper Stabilization Fund, and has been generalized with the introduction of a fiscal rule based on a surplus of the structural balance of the government (i.e. that computed at trend values for copper prices and GDP) in 2001. The last round of innovation here was the introduction of Sovereign Funds to finance counter cyclical policies as well as Social Security entitlements last year. Currently the government holds more than 10% of GDP in these funds. In addition to that, the Central Bank started a program to increase International Reserves early this year and adding both, Sovereign Funds and International Reserves, the Chilean authorities hold a war chest of about 25% of GDP at their disposal. In addition to that, the government is not anymore a Net Debtor, but a Net Creditor at the tune of 7% of GDP. This strong initial position allowed the government to propose a budget with almost 6% real increase in expenditure for 2009, with public investment growing by more than 8%. The strong initial position of public finances might allow the government to achieve this with a near balanced budget in 2009. The budget law has some built-in elements of flexibility that allows the government to expand investment even more than that, in case such a boost is needed.

On the external front we do not see major problems, and we forecast current account deficits in the range of 2% of GDP for 2009, so foreign exchange constraints should not be a major limitation for an active monetary policy.

By the end of this year, Peru will accumulate a Stabilization Fund of 2.7% of GDP and International Reserves stand higher than USD 30 billion. So the country has significant room for fiscal expansion. Monetary policy might face some constraints, arising from the expected level of the current account deficit (we project 3,0% of GDP deficit in Current Account for 2009). But if domestic demand fails to meet our projected expansion in 2009, the Central Bank should be able to reduce interest rates farther, since the Current Account deficit would be smaller.

**South America: Public Debt (% of GDP)**



Brazil and Colombia should be able to finance current public investment programs in place, but they hardly have room for further expansion given that they start with deficits. The good news is that the reduced exposure to foreign debt in Brazil finally broke the negative feedback between exchange rate depreciations and the size of the public deficit, so we do not expect public finances to deteriorate as a result of the recent devaluation of the real.

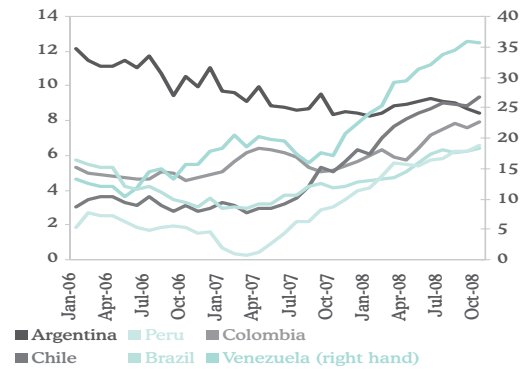
Argentina and Venezuela have been already pushing fiscal policy to the limit in recent years, and GDP has been growing above potential for some years now, and bottlenecks and inflationary pressures were on the rise. The sharp fall in current fiscal revenues from exports will be an additional reason for these countries to slowdown in 2009 and 2010.

### 8. Inflation: The spoiler, once again?

Rising inflationary pressures were a main feature of the economic landscape of South America up to September. It prompted Central Banks with inflation targets (Brazil, Chile, Colombia and Peru) to raise interest rates to reign in domestic demand. The change in expectations brought about by the credit crunch in September, and the sharp fall in commodity prices has changed the situation. Even though actual inflation has not receded, inflationary expectations have adjusted sharply and now market participants are anticipating reductions in official interest rates in the coming months. However, there is some risk of over optimism in this front. Inflation has proven time and again in South America that it has considerable inertia and the recent depreciation of most currencies in the region will remain an obstacle to a fast drop in inflation. However, we share the view that inflation will come down quickly - for the regional standards - helped by changing expectations and enhanced credibility of Central Banks, albeit it can postpone monetary easing to the end of the first quarter of next year.

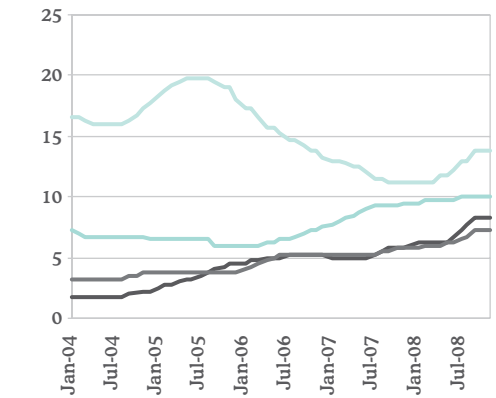
### South America: Inflation

(yoy %)



Source: Bloomberg

### South America: Official rates in inflation targeters



Source: Bloomberg

## BOX 1: Commodity-led income transfers: a look at inflows during the boom and prospects for 2009

### The global position of Latin America

One of the salient features of the commodity boom of the last four years is the large volume of income transferred from the main net importers (most of the developed economies, the Asian tigers, virtually all of European and Asian emerging countries) to the main exporters (Middle East, Latin America and Russia).

On our estimates, average annual net inflows between 2005 and 2007 for the leading commodity exporters amounted to 0.95 trillion US\$, of which 22% was in Latin America, equivalent to approximately 7% of its GDP<sup>1</sup>.

These estimates are based on the latest figures provided by the World Bank for 2005 on the value of net exports and imports of each country for the following commodity groups: energy, food and minerals. Transfers in subsequent years are estimated by applying actual and forecast yoy growth rates of benchmark commodity prices for each subgroup (oil for energy, soya for food and copper for minerals)<sup>2</sup>.

Our analysis suggests income transfers will peak in 2008, with the main exporters taking in around 1.5 trillion US\$.

Assumptions underlying these estimates include average prices for 2008 of 101 US\$ per barrel of oil, 438 US\$ per tonne of soya and 7,166 US\$ per tonne of copper, all of which are higher than in any previous year. Worth noting is that despite

<sup>1</sup> GDP data and forecasts were obtained from the IMF.

<sup>2</sup> Due to the limited amount of data available, we assume negligible growth in underlying physical units. Therefore, the figures obtained are considered conservative estimates of real data, especially for some emerging countries that experienced strong growth in demand for raw materials between 2005 and 2008, but are unlikely to sustain a sharp downward correction in 2009. In addition, the significant statistical differences shown and the decision to exclude some countries in the world from the analysis, but rather select the leading importers and exporters (see chart 1), explain why the estimated aggregate volume of net transfers is not zero.

the sharp fall in nearly all commodities prices since the end of September 2008, our forecasts for average prices this year are heavily skewed by the all-time highs (even in real terms) recorded by the main products in the first two quarters of the year (e.g. Brent remained above 90 US\$ per barrel almost consistently between January and September 2008).

### What could happen going forward?

Looking ahead to 2009, growing uncertainty surrounding how deep the ongoing global economic and financial crisis will be and how long it will last, let alone its potential impact in terms of further declines in demand, suggests commodity prices could continue to trend downwards next year. This could especially be the case for products that are more geared to the business cycle, such as minerals, but also for energy and certain foods.

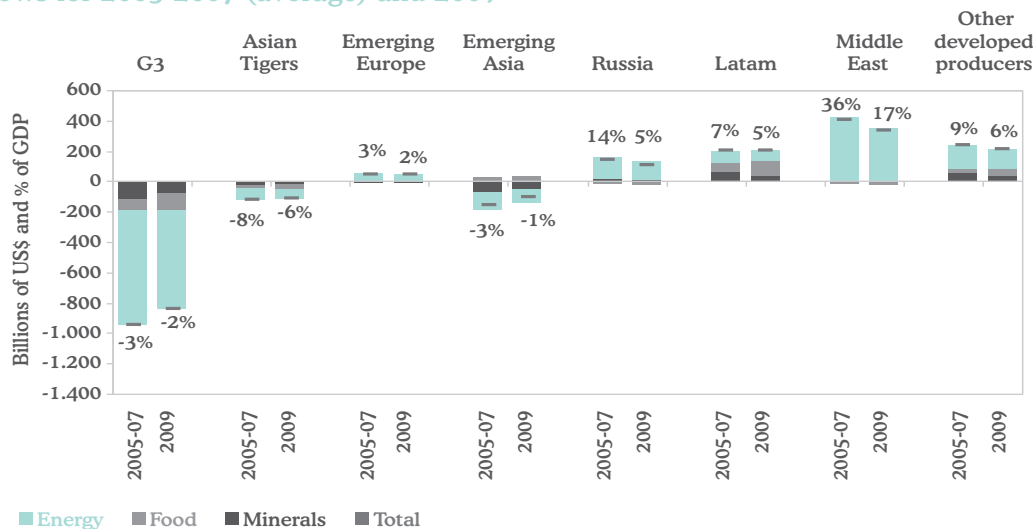
Nonetheless, growth rates for global demand should clearly taper off, but are unlikely to become negative thanks to the impact of emerging economies and global supply restrictions, both immediate (e.g. OPEC production cutbacks) and delayed (e.g. caused by scant investment levels, as are being seen now). Therefore, average prices for the main commodities, especially oil and certain staple foods (e.g. soya and cereals), should remain above pre-boom levels (2005-2006).

So, the oil, soya and copper prices factored in our 2009 estimates are below the forecast levels for 2008, but above the average levels recorded until 2005.

With these assumptions, we estimate total net income transfers to the leading commodity exporters in 2009 of 0.86 trillion US\$, divided up by region as shown in Chart 1 and in Latin America by country as shown in Chart 2.

Chart 1.

Estimated income transfer from commodities net importing countries to producers. Comparison of estimated flows for 2005-2007 (average) and 2009



Source: Enerdata, World Bank, IMF, Bloomberg and SEE BBVA

G3: USA, EU-15 and Japan. Other developed producers: Canada, Australia, Norway and Denmark. Asian Tigers: South Korea, Taiwan, Singapore, Hong-Kong. Emerging Europe: other EU countries, Croatia, Albania, Ukraine and Turkey.

Of the approximately 206 billion US\$ dollars in net transfers Latin America stands to receive in 2009, 46% will come from net food exports, 33% from energy (mainly oil) and the remaining 21% from minerals.

Within Latin America, countries whose exports are biased more towards minerals (Chile, Peru) and oil (Venezuela, Mexico) are likely to suffer most from the drop in prices, while those that are relatively larger food exporters (Argentina, Brazil) should hardly notice any difference to 2008. On aggregate, countries whose export patterns are more diversified and with a large food component (Argentina, Bolivia, Chile, Peru) could see a smaller decline in transfers next year, whereas those that focus more on minerals and/or energy could be hit harder.

Looking closer at the breakdown of transfers, mostly all Latin American countries are net exporters of food, except for Mexico and Venezuela. Alongside Brazil and Argentina, other food exporters are Pacific countries (Chile, Ecuador, Peru, Colombia) and Central America, mainly Costa Rica and Guatemala). We estimate total food exports by these countries will top 96 billion US\$ in 2009.

Notable net energy exporters include Venezuela, Mexico, Ecuador, Colombia and Argentina. While oil exports will make up virtually all the export revenues obtained by Venezuela, Mexico and Ecuador, we estimate Colombia will get over half its export revenues from coal and the rest from oil, and Argentina around 80% of its export revenues from oil and the remaining 20% from natural gas. Among the main net energy importers in Latin America are Brazil (coal and gas), Chile and Central America (mainly oil). On our estimates, net energy export revenue from the area could top 65 billion US\$ in 2009.

Finally, Chile is the largest exporter of minerals, followed by Peru and Brazil. Chile's biggest mineral export is copper, while most of Brazil's exports are iron and steel. Peru's mineral export

base is fairly diversified across metals, including nickel, zinc, gold and silver. Our forecasts for net mineral export revenue for 2009 point to a figure above 42 billion US\$ in 2009.

## Conclusions

The commodity boom between 2005 and 2008 clearly bolstered Latin America's position as most of the region's countries are net exporters. It put the region in an advantageous situation vis-à-vis both developed countries and other emerging markets, except some of the large energy producers, such as Russia or Saudi Arabia.

Globally, income transfers received by net exporters over the last four years (2005-2008) could exceed 4.3 trillion US\$, with Latin America receiving slightly over 20% of the total. The main recipients of transfers in Latin America have been Venezuela and Mexico (energy), Brazil and Chile (food and minerals) and Argentina (food and energy).

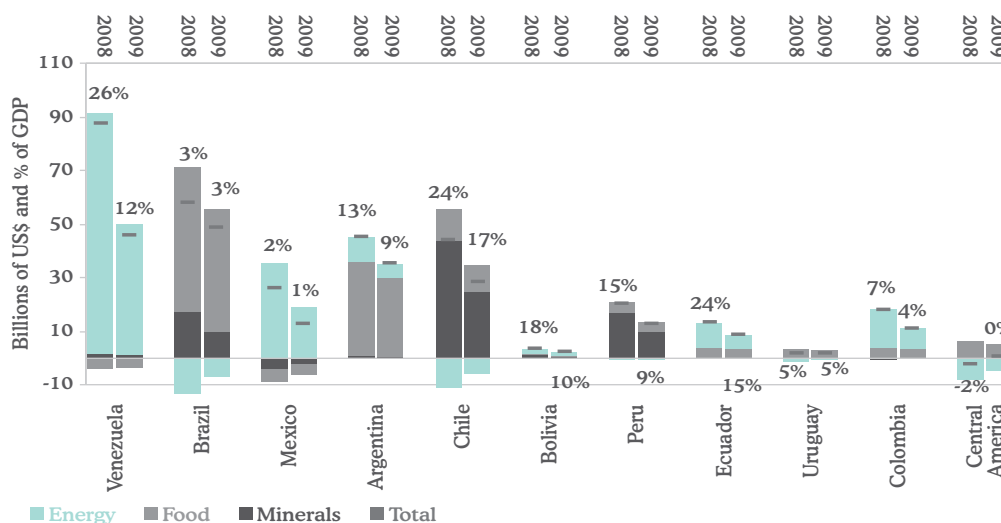
However, the increasing likelihood that commodity prices will continue to fall over the course of 2009 means the transfers received by these countries could dwindle from 2008's peak, possibly to below average levels in 2005-2007. The impact could be particularly evident for countries whose exports are largely made up of minerals and energy, as these commodity groups are seeing prices fall the most.

What's more, the new situation could pose problems for countries that have not saved enough or have drawn up budgets and public expenditure plans based on assumptions regarding levels of prices (and transfer incomes) that may end up being too high.

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Chart 2.

Estimated income transfer from commodities net importing countries to producers. Comparison of estimated flows for 2008 and 2009



Source: Enerdata, World Bank, IMF, Bloomberg and SEE BBVA  
Paraguay has been excluded due to a lack of data

## BOX 2: Fighting Liquidity Problems in Latin America: the role of Central Banks and International Institutions

The deterioration of the international crisis experienced after the announcement of Lehman Brothers' bankruptcy generated a series of problems to Latin America countries. In particular, liquidity constraints spread over the region and threaten the soundness of the financial system. These constraints displayed different magnitudes and features. In Brazil, liquidity problems were seen in both national and foreign currency markets. In Peru, Chile and Venezuela they were practically restricted to foreign currency markets. In Argentina the main concern was the international reserves level, as the increased risk aversion caused a higher demand for dollars. Finally, in Colombia there has been practically no deterioration of liquidity conditions.

To overcome these liquidity problems, Central Banks have taken a variety of measures, which have had an important role to guarantee a recovery in liquidity conditions. In case the global environment deteriorates again and more action is needed, the countries in the region will count with additional resources that have been recently made available by international institutions as the IMF, the IDB and the FED.

### The role of Central Banks

The Central Banks in the main South American countries have reacted to the emergence of sharp liquidity constraints by the financial system in the region. This is especially true in Brazil, Chile, Colombia and Peru. In these countries, monetary authorities have been employing a set of different tools to face liquidity problems. Open market operations, reserve requirements policies and foreign currency auctions were all employed to fight liquidity constraints. In Brazil, the main action taken by the Central Bank to control liquidity tensions in reais was the easing of reserve requirements with the aim to inject up to USD 70 billions in the system. Despite guaranteeing an adequate supply of liquidity, the monetary authority stimulated small banks to sell loan portfolios to big banks as a way to moderate their liquidity problems and ease the concerns about their solvency. In Chile, Colombia and Peru, besides easing reserve requirements, Central Banks have also injected liquidity in the system through open market operations such as purchases of national bonds, foreign currency repos auctions, extension of auctions lengths and the expansion of the set of collaterals and currencies accepted.

To deal with dollar scarcity, Central Banks in the region increased their supply of the foreign currency (in Brazil, Colombia, and Peru) or at least reduced their demand for dollar (in Chile). In Argentina some controls were imposed to limit the domestic demand for American currency.

The actions taken by Central Banks are helping to ease the liquidity problems in the region, which have also benefited from a relative improvement in the external markets conditions during November. In Argentina, the changes promoted by the Central Bank were also important to accomplish its goal, i.e. to stop international reserves losses.

The good position in terms of international reserves and the space to reduce interest rate make most of the countries in the region strong enough to keep dealing with liquidity problems, in case it's needed. In particular, in Colombia and Peru we could observe new bond purchases by the authorities

to guarantee enough liquidity in national currencies. In Brazil, the Central Bank has still enough room to reduce reserve requirements and inject liquidity in the system (as current requirements are about 50% of deposits).

### The role of International Institutions

Even though domestic measures have helped contain the liquidity crisis to a certain extent, international institutions have recently stepped up to offer some help by means of extending lending facilities. Therefore, most of the countries in the region will be able to access additional resources to fight the problems in case of the deterioration of the current scenario.

Out of all liquidity facilities announced in the past weeks, two should have a positive impact on Brazil and Mexico. On the one hand, the FED offered these countries (and also Korea and Singapore) access to swap line facilities, amounting to 30 USD billion each. One of the reasons behind treating Brazil and Mexico so favourably is avoiding systemic risk in emerging markets. On the other hand, in case of need these countries could also access the "short term liquidity facilities" made available by the IMF, and borrow as much as 24 USD billion each.

Other economies in the Latin American region (Argentina, Chile, Colombia, Peru and Venezuela) are not expected to be considered for the FED liquidity provision, but being borrowing members they are eligible for the IDB facilities as well as CAF resources. Regarding the IMF short-term facility, it will only be available for economies with sound and well managed policies; thus, we expect Chile, Colombia and Peru to be eligible, and if they were willing to make use of it, they could tap resources for 5 to 7 billion USD.

### IMF

On October 29, the IMF announced a new Short-Term Lending Facility (SLF) for "countries with well managed fiscal policy and sustainable debt burdens". The maximum amount that each country may borrow is equivalent to five times its quota position with the Fund. The IMF outlines the eligibility criteria to the new short term loan facility (SLF) in a very general way. It announced that the SLF is intended for "countries with a good track record of sound policies, access to capital markets and sustainable debt burdens may qualify. Policies should have been assessed very positively by the IMF's most recent country assessment."

With respect to the criteria "good track record of sound policies", Chile and Brazil appear to have a good overall macroeconomic performance, and have favourable short-term outlooks, according to the most recent Article IV Staff Reports. Peru and Colombia have favourable outlook reviews as well. Regarding the criteria "access to capital markets", the only country for which external financing is clearly not an option at the moment is Argentina. Venezuela has not been downgraded, but sovereign spreads reflect a much higher-than-average spread reflecting a higher associated sovereign risk. Finally, with respect to the "sustainable debt burdens" criteria, Argentina is the only one in the region for which short term compromises might be difficult to comply with.

Comparing outstanding short term debt levels with current international reserves, Argentina, is in the worst position.

All in all, in South America, Brazil, Chile, Colombia and Peru would be eligible for the new IMF facility. Argentina and Venezuela would not qualify, in principle, for the short-term facility because of their limited access to international capital markets. For both of them, the traditional IMF programs, in particular Stand-by-Arrangements, remains as the official source of international financing.

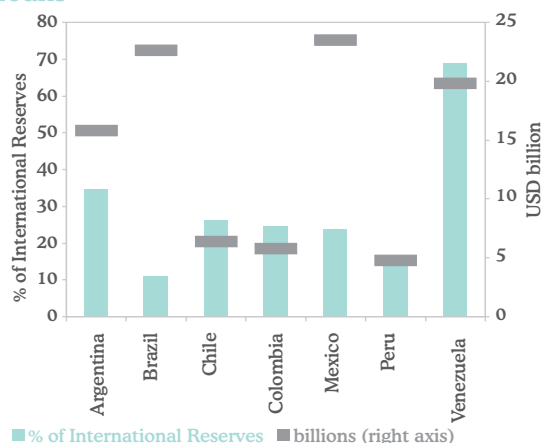
The maximum size of the loans (5 times de IMF quota) as a percent of the current international reserves gives us an idea of how material will this loan be in case it were needed for injecting liquidity in dollars. It represents 35% for Argentina, 11% for Brazil, 26% for Chile, 24% for Colombia, 14% in the case of Peru and 69% for Venezuela. It is worth noting that in addition to the official international reserves, countries such as Chile (21.7 USD billion) have Sovereign Wealth Funds that are sizable compared to their stock of reserves (and are not considered in these figures).

**Table 1.**  
New IMF Lending Facility and the Potential Size of Loans

	IMF Quota (mills SDRs)	Max Size of Loan (mills SDRs)	Max Size of Loan (mills USD)	International Reserves (as of 30 oct 2008) (mills USD)	Max Size of Loan (as % of IR)
Argentina	2117.1	10585.5	15776.3	45517	34.66
Brazil	3036.1	15180.5	22624.5	205539	11.01
Chile	856.1	4280.5	6379.5	24169.7	26.39
Colombia	774	3870	5767.7	23544	24.50
Mexico	3153	15765	23495.6	98745	23.79
Peru	638.4	3192	4757.2	33787.6	14.08
Venezuela	2659.1	13295.5	19815.2	28726	68.98

Source: Datastream, IMF and BBVA

**Chart 1.**  
New IMF Lending Facility and the Potential Size of Loans



Source: Datastream, IMF and BBVA

## The new Federal Reserve swap lines

The FED surprised the markets on October 29th with the announcement of new swap lines to be opened in order to

provide liquidity to emerging markets. In South America, Brazil is the only country that will have access to these resources. The line made available to the country amounts to 30 USD billion and can be used up to end of April 2009. Although Brazil may not need this line lines, the signalling to the markets, as well as their response, has been quite positive as exchange rate depreciations were relatively contained.

## Inter-American Development Bank

Countries that receive (or are eligible to receive) financing from the bank's ordinary capital will be able to access a new liquidity facility -a fast-disbursing one- of 6 USD billion. The IDB has 47 member countries, of which 26 are borrowers. Included in the latter are Argentina, Brazil, Chile, Mexico and Venezuela (considered Group I countries because of their higher GNP per capita), and Colombia and Peru (Group II). Applications will be quickly analyzed and the amounts of the loan determined on a case-by-case basis.

## World Bank

Up to 100 USD billion are going to be available over the next three years for developing countries that "had very good, sound macroeconomic programmes...(and) are in a position where...they are not at financial risk but they are worried about...getting financing," as expressed by the World Bank's president, whom also mentioned Colombia as the type of countries that would be eligible to borrow these resources. In addition, the World Bank Group will support the private sector through the launch or expansion of some initiatives by the IFC, its private sector arm, for a total of 30 USD billion over the next three years.

## Regional Multinationals

Regional multinationals, such as the CAF and the FLAR<sup>1</sup> also joined the pool of lenders. The former announced (on October 13th) a liquidity facility of 1.5 USD billion for the 17 associated countries, which include Argentina, Brazil, Colombia, Chile, Peru and Venezuela. It is a contingent liquidity line intended for countries that are having a hard time accessing international capital markets. In addition, an extension of the current credit line will be implemented, from 1.5 USD billion to 2 USD billion.

In the case of the FLAR, it will provide a liquidity facility of 1.8 USD billion. Depending on how market conditions evolve, 2.7 USD billion could be additionally made available through contingency lines. Among the main South America countries, Colombia, Peru and Venezuela, have paid capital of 369.5 USD million each. According to the current lending conditions, the amount borrowed can be equivalent to at most one time the paid capital in the case of liquidity credit, and at most two times paid capital in the case of contingent credit.

<sup>1</sup> FLAR provides external financing to central banks to support the balance of payments, provide emergency liquidity assistance, and facilitate restructuring of public debt



## Box 3: An assessment of underlying inflation pressures through alternate measures

Inflation has accelerated throughout Latin America over the last year, with an average headline rate of 8% this year, the highest level since reaching 9% in October 2003. It is also well above the targets of the countries with inflation targets; e.g. 2pp higher for Brazil and nearly 7pp higher in Chile.

It is common knowledge that this spike in inflation has been driven largely by increasing commodity prices in general and food prices in particular. Food has a large weight in the CPI basket in Latin America, accounting for slightly above 30% of the total on average and over 47% in Peru. This is nearly double the average in developed economies.

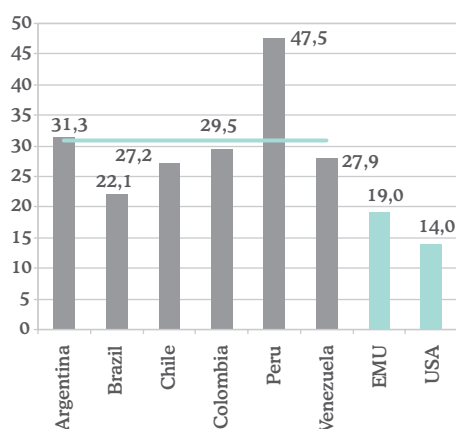
Although this effect should ease over the coming months and pressure on demand should lessen as economic growth slows, depreciation of Latin American currencies could push up prices in the short term. In this respect, it is important to identify whether recent inflationary pressures have caused core inflation rates to rise, especially in countries whose central banks have inflation targets, as this could dictate monetary policy somewhat in the coming months.

Chart 2.  
Latin America: Aggregate Inflation  
(yoy %)



Source: Datastream and BBVA (includes Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela)

Chart 2.  
South America: Weight of food in the CPI basket



Source: Datastream and BBVA

### Alternative measures of core inflation: estimating the “Trimmed Mean” and “Trim the Most Volatile Components”

Although central banks set targets for headline inflation, core inflation<sup>1</sup> is monitored closely as an indicator of medium- and long-term trends. Different core inflation indicators are designed nationally and used commonly. For the most part, they exclude a fixed set of components, but these components differ across countries, precluding any type of comparison. Mostly food is excluded, but not all strip out energy –energy prices are generally subsidised-

Table 1.  
Core Inflation: Definition by Country

Country	Definition	Excluded (%)
Peru	Excludes the components with the most extreme changes (% mom) in the 1995-2001 period. These components include poultry, meat, potatoes, fish, vegetables and legumes, as well as fuel, utilities and transport.	32
Chile	IPCX: excludes perishable foods and fuel. Perishable foods: fruits and vegetables. Fuels: gasoline, kerosene and gas. IPCX1: Excludes the same components as IPCX, plus regulated prices and services other affected by changes in indirect taxes.	7,6 8,8
Colombia	CPI food excluded: excludes food CPI Núcleo 20: excludes the 20% most volatile components in the Jan-1990/Apr-1999 period.	29,51 20
Brazil	Excludes foods and regulated prices. Trimmed mean: Trim each month 20% of the components with the highest and lowest inflation rates.	approx. 50 40
Argentina	There is no official core index	N/A

Source: National Sources

Together with this method of calculating core inflation, two alternative approaches to the fixed exclusion are the “Trimmed Mean” (TM) and the “Trim the Most Volatile Components” (TMVC). The two are essentially similar as they “trim” the headline inflation by removing i) extreme price changes (far above or below the average), and ii) extreme volatility (the most volatile components), respectively. In addition to helping produce a better gauge of underlying inflation trends, these measures can be compared across countries and used as leading indicators.

To obtain these inflation measures, the CPIs must be largely disaggregated. The more the index is disaggregated, the more precise the calculation. In our case, we have a 3-digit level of disaggregation applied to Brazil, Chile, Colombia and Peru (the countries in South America with inflation targets).

<sup>1</sup> A good core inflation indicator should: be a viable target for monetary policy; be calculated in way that is easily understood and interpreted; be stable (i.e. not subject to myriad revisions as more data are obtained); be a credible indicator, so actual trends should be similar to observed inflation trends and not underestimate observed inflation over long periods of time; and be available in a timely way, which means there should not be lags between the release of headline CPI data and the breakdowns required for calculating core inflation.

What is the basis for deciding which components to exclude in the core inflation calculation? To achieve the best trim in both cases, the aim is to minimise the mean square error of the index (RECM) relative to a benchmark<sup>2</sup> indicator of long-term trends.

$$RECM = \sqrt{\sum_{t=1}^T (\pi_t - \pi_t^*)^2 / T},$$

The following table shows the percentage of data excluded from the headline index (trims) to achieve the TMVC and TM core inflation indices. As illustrated, the TM shows the smaller mean error relative to the underlying trend, making it the best predictor of inflation. Compared to national indices, which exclude different percentages, this one excludes a similar percentage of around 25-30%.

Country	Percentage of data excluded from the headline index		Mean square error (monthly mean with respect to the long-term trend)			
	Optimal Trim (TMVC)	Optimal Trim (Trimmed Mean)		Official Core	TRIM	TMVC
		Lower Tail	Upper Tail			
Peru	44%	<b>19,0%</b>	<b>10,0%</b>	0,12%	0,16%	0,16%
Chile	22%	<b>23,0%</b>	<b>8,0%</b>	0,23%	0,18%	0,22%
Colombia	19%	<b>20,0%</b>	<b>5,0%</b>	0,32%	0,28%	0,30%
Brazil	32%	<b>24,0%</b>	<b>8,0%</b>	0,59%	0,25%	0,27%

Source: BBVA

### Snapshot of underlying inflationary pressures in countries with inflation targets

The first thing to note is that core inflation measured this way stands at around 4-4.5%. Core inflation measured using either of the trim approaches (TM and TMVC) is (3-4pp) lower than headline inflation and even the core inflation rates estimated by the national bodies. Accordingly, the gap with the central bank's inflation targets is virtually nil in the cases of Brazil and Colombia, but the core rate is around 2pp higher than the targets in Chile and Peru.

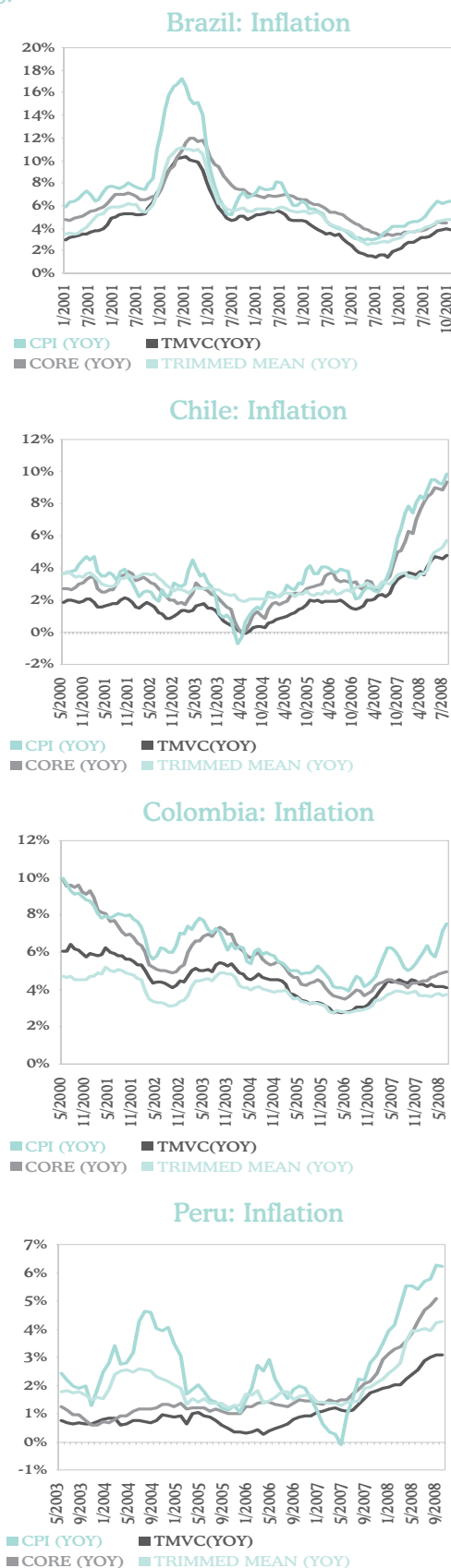
Second, in terms of trends, the higher levels shown in these core inflation measures indicate that Chile's situation is worsening faster than the rest of the countries; it has the highest inflation rate starting from the lowest level.

Third, the signals given by these short- and medium-term inflation indicators to draw conclusions are mixed. For Colombia, trend inflation has apparently stabilised, if not eased in recent months. For Peru and Brazil, there are indications that inflation has peaked and could therefore begin pegging back. Lastly, for Chile, short-term prospects are not so clear that inflation will let up.

In short, despite the spike in inflation across Latin America over the last few years, the deterioration of inflation trends is not alarming considering the stage in the business cycle and the prices of raw materials. This is good news for economies facing a downturn as it allows monetary authorities to cut interest rates without jeopardising their commitments to rein in inflation.

<sup>2</sup> We use the Hodrick-Prescott (HP) filter to obtain a benchmark estimate of long-term inflation.

Charts 3.



Source: National sources and BBVA

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## 4. Background Topics

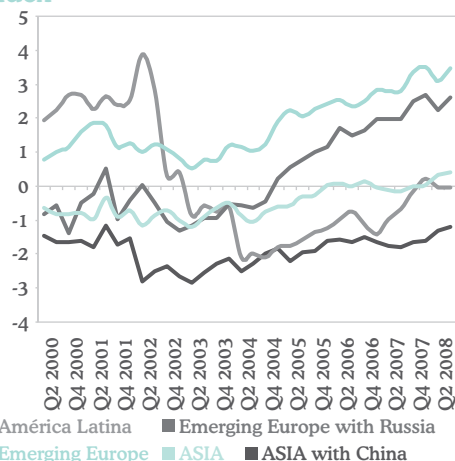
### Latin America vulnerability vs. other emerging regions

The evolution of the world financial crisis and its spread over a large set of assets and regions generate an increasing concern about its consequences over the real sector of the economy. The uncertainty has reached record levels, not only the uncertainty about the developed world but also about emerging economies. It's true that, differently from previous crises, this one had its origin in developed countries. In fact, the initial symptoms have already been seen in emerging markets (strong currency depreciation, sharp stock exchange corrections and capital outflows). In the forthcoming months the impact of the crisis over the real side of the economy will start to be noted more clearly. In a large extent, the adjustment that will be observed in the real sector of emerging economies will be more due to pure financial aspects than to macroeconomics fundamentals.

In this context, it's especially important to evaluate and distinguish among different national economies to verify their different exposition to the international financial crisis. Regarding this issue, a good starting point is the evaluation of their external vulnerability. In this article, therefore, we will present an index of external vulnerability (IEV) as an initial approach to this issue. The main objective of this work is to provide a suitable framework that can be used to compare Latin America and other emerging regions, namely Asia and Emerging Europe.

In the forthcoming sections we present both a discussion about the variables used to calculate the index (basically the dependence of foreign savings, debt payment capacity and exchange rate misalignments) and the results obtained. The results should be taken as a first approximation to the pursued objective as the number of variables could always be expanded. However, they allow us to draw some preliminary conclusions. On one hand, it's observed a generalized increase in the vulnerability in the three emerging regions considered since 2004. At that time, Latin America displayed a more favourable starting point. On the other hand, the deterioration of the vulnerability has been especially important in Emerging Europe, which makes this region the most exposed one to the current crisis. Finally, taking in account the core factors that drive our index, it's interesting to note some positive points regarding Latin America in comparison to other regions, namely its lower external funding dependence and its debt payment capacity. In the current environment, this differentiation is particularly important.

### Emerging Markets: External Vulnerability Index



Source:BBVA calculations.

\* Asia includes: India, Indonesia, Thailand, Malaysia, Philippines, Hong Kong, S. Korea, Japan and Singapore.

\* Emerging Europe includes: Poland, Hungary, Czech Republic, Slovakia, Lithuania, Latvia, Romania, Bulgaria, Turkey and Estonia.

\* América Latina includes: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

### A first approximation to measure emerging economies vulnerability

From the extense literature on emerging markets crises one can infer that it is not possible to use only one variable to detect the degree of vulnerability or soundness of an economy. Analyzing previous crises episodes one can identify different elements which have stimulated a sharp economic adjustment following a particular shock. In other words, variables that were important to generate a crisis in one country can be of no importance to explain the crisis in another country. Competitiveness problems were the main drivers of Asian crises, for example. On the other hand, in Latin America the crises have been more related to government financing problems or to sharp adjustments in terms of trade.

The approach that has been used recently regarding this issue is the one that we follow here: the construction of index from a set of variables.

To select these variables we have taken in account the results obtained by the early warning indicators literature. More precisely, the recent works by Hawkins y Klau (2000) y Bussiere and Mudler (1999).

On one hand, the variables current account as a share of GDP and the exchange rate misalignment with respect to the equilibrium value are taken. With the use of the first one, a critical element is being considered, namely the dependence of external savings to finance domestic investments. This is a particularly important element in the current environment due to the importance of the liquidity scarcity which is being observed. Moreover, this element raises differences among world economies. The use of the variable degree of exchange rate misalignment is explained by the fact that an overvalued exchange rate is considered a risk element. The probability of a sharp reversion in the short term increases as higher is the degree of overvaluation. Therefore, with these two variables we aim to measure the misalignment of each economy.

On the other hand, we include a set of variables that capture the external debt level and the country's capacity to face short term debt obligations. In this case not only the flows are of importance, but also the stocks. Therefore, up to three variables are included: the external debt over GDP, its temporal evolution in the last couple of years, and finally the short-term debt as a share of international reserves. This second set of variables allows us to measure the capacity that a specific country has to face its debt obligations. This is determined basically by its international reserves level and indirectly by its capacity to issue abroad (which is inversely related to the debt volume and its recent evolution).

### A first look to emerging economies' vulnerability

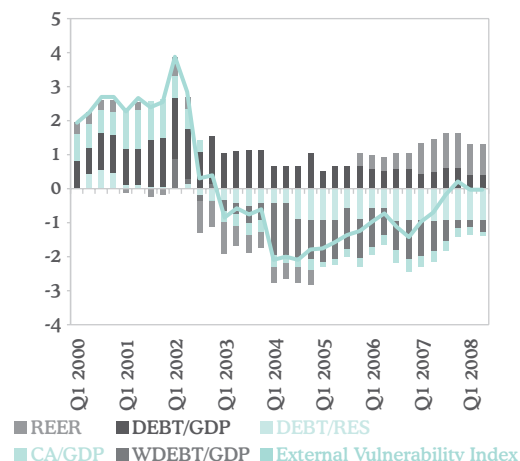
Based on the index of vulnerability aggregated by emerging regions, one of the interesting results of the analysis is to evaluate the evolution of this indicator in the last years, especially in the most recent period in which the crisis has shown its strength. Since the middle of 2004, the increase in the index of vulnerability has been a common feature across emerging economies. The deterioration has been particularly important in Emerging Europe, and even higher if Russia is considered within this group. Latin American countries, which departure from a much more favourable position, have displayed in average a more moderated deterioration than emerging economies in Europe. Asian countries have been displaying a relatively better evolution in these last couple of years.

Another interesting result is derived from the comparison, that can be made among different emerging regions. The index allows us to situate Latin America in an emerging world's map of risks. In this way, using data available up to the second quarter of 2008, Latin America's position is relatively comfortable. Despite the deterioration of external conditions during the last year, Latin American economies have in average a much more favourable position than Emerging Europe and comparable to Asia if China is excluded. The better relative position presented by Latin America on average is generated by its low debt levels in comparison to its international reserves, and also by the positive evolution that debt has displayed during last years. The higher vulnerability arising mainly from real appreciation and to a lesser extent by debt-to-GDP ratios are compensated by debt-to-reserves and declining growth rates on debt-to-GDP ratios.

### Conclusion

All things considered, short-term risks in Latin America seem bounded, especially in comparison with other emerging markets. In doing so, this

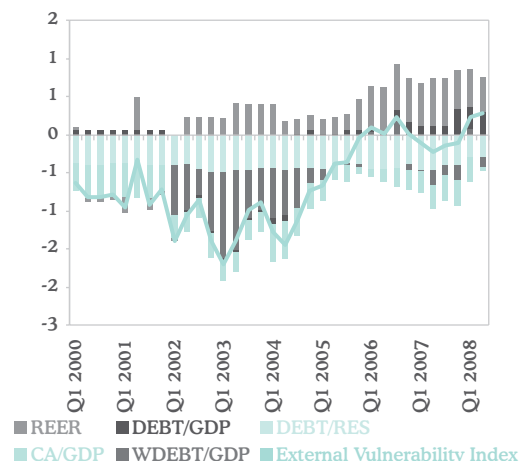
### LATAM: External Vulnerability Index (variable contribution)



\* América Latina includes: Argentina, Brasil, Chile, Colombia, Mexico, Peru and Venezuela.

Source: IMF, BIS, IFS and BBVA calculations.

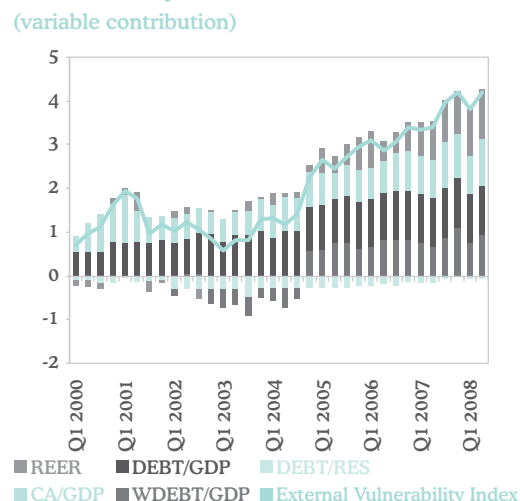
### ASIA: External Vulnerability Index (variable contribution)



\* Asia includes: India, Indonesia, Thailand, Malaysia, Philippines, Hong Kong, S. Korea and Singapore.

Source: IMF, BIS, IFS and BBVA calculations.

### EMERGING EUROPE: External Vulnerability Index (variable contribution)



\* Emerging Europe includes: Poland, Hungary, Czech Republic, Slovakia, Lihtuania, Latvia, Romania, Bulgaria, Turkey and Estonia.

Source: IMF, BIS, IFS and BBVA calculations.

index constitutes an additional reference to discriminate the balance of risks that the current crisis is delivering to emerging economies. Looking forward to the next quarters, we should not witness a significant increase in our index for the region. Recent exchange rate depreciation should contribute to reduce the vulnerability derived from higher current account deficits and lower reserves. This is particularly true in those economies with flexible exchange rate arrangements.

Obviously, more variables could be incorporated in the analysis, but our choice allows to draw a preliminary picture of the vulnerability of Latin America vis-à-vis other emerging areas. Given the nature of the current financial crisis, the list of variables could include more specific indicators related to the financial system. Thus, we could also include variables associated with the effects that the crisis will likely have over the real economy (e.g., openness, external demand dependence, etc.). Moreover, the ability to adopt anti-cyclical policies (both fiscal and monetary) could also be considered. The combination of all these indicators could improve the measurement of the relative exposition of different emerging economies.

## References

Bussiere, M. and C. Mulder (1999): "External vulnerability in emerging market economies: how high liquidity can offset weak fundamentals and the effects of contagion", IMF, working paper 99/98, july.

Hawkins, J and M Klau (2000): "Measuring potential vulnerabilities in emerging market economies", BIS Working Papers n° 91.

## Box methodology: formulation of the External Vulnerability Index (EVI).

To formulate an index that measures the potential vulnerability of emerging markets, we have used the index put forward by Hawkins and Klau (2000) as a benchmark. This index attempts to synthesise the information considered relevant to determining an economy's degree of vulnerability. The variables comprising the index have been broadly identified in the literature as significant in explaining crisis episodes in emerging markets. In short, this is an initial attempt at measuring the vulnerability of emerging economies; however, the number of variables is limited and the index presented in this report could be enhanced with the addition of further variables in the near future. In terms of country coverage, the index is calculated for a total of 27 countries, taking in Emerging Europe, Asia and Latin America. Building on the individual country indexes, we derive aggregate ones for these three regions.

### Variables

Code	Variable	Source
V <sub>1</sub>	Real Effective Exchange Rate Percentage deviation with respect to an average level of the specified period*.	DataStream and calculations BBVA.
V <sub>2</sub>	Current Account as percentage of GDP.	IMF.
V <sub>3</sub>	External Debt as percentage of GDP.	BIS: International bonds and notes - all issuers
V <sub>4</sub>	Growth external debt as percentage of GDP in last eight quarters.	Amounts outstanding and Consolidated foreign claims of reporting banks - immediate borrower basis.
V <sub>5</sub>	Short-term debt as percentage of reserves.	BIS: International claims - up to and including one year and IMF.

\* Averages used: Latam: Argentina (2002-2008), Brazil (1999-2008), Chile (1990-2008), Colombia (1994-2008), Mexico (1997-2008), Peru (1998-2008), Venezuela (1990-2008). Emerging Europe: (1994-2008). Asia: (2000-2008).

### Construction of the index

The index has been put together on a quarterly basis from 1Q00 to 2Q08.

### Variable categories

Each observation is assigned a numerical score ranging from -2 to 2, depending on the value of the variable, as depicted in the following table.

Variable	Weight	-2	-1	0	1	2
REER	V <sub>1</sub> W <sub>1</sub>	V <sub>1</sub> = -20	-20 < V <sub>1</sub> = -10	-10 < V <sub>1</sub> = 10	10 < V <sub>1</sub> = 20	V <sub>1</sub> > 20
CA/GDP	V <sub>2</sub> W <sub>2</sub>	V <sub>2</sub> > 4	2 < V <sub>2</sub> = 4	-2 < V <sub>2</sub> = 2	-4 < V <sub>2</sub> = -2	V <sub>2</sub> = -4
DEBT/GDP	V <sub>3</sub> W <sub>3</sub>		V <sub>3</sub> = 20	20 < V <sub>3</sub> = 30	30 < V <sub>3</sub> = 40	V <sub>3</sub> > 40
GDEBT/GDP	V <sub>4</sub> W <sub>4</sub>	V <sub>4</sub> = -10	-10 < V <sub>4</sub> = 0	0 < V <sub>4</sub> = 10	10 < V <sub>4</sub> = 15	V <sub>4</sub> > 15
DEBT/RES	V <sub>5</sub> W <sub>5</sub>		V <sub>5</sub> = 50	50 < V <sub>5</sub> = 100	100 < V <sub>5</sub> = 150	V <sub>5</sub> > 150

### Variable weightings.

Each of the variables is then weighted. In weighting the index, the predominant role of debt, specifically measures of reserve adequacy, is taken into consideration. Accordingly, when the percentage of debt in relation to reserves is less than 200%, all the variables in the index are equally weighted. However, if the level of indebtedness to reserves is above 200%, the weighting assigned to this variable is double that of the other variables. The weightings can therefore be expressed as follows:

If  $V_5 < 200$ , then  $W_1 = W_2 = W_3 = W_4 = W_5$

If  $V_5 > 200$ , then  $W_1 = W_2 = W_3 = W_4 = \frac{3}{4}W_5$  and  $W_5 = 2^*$

### Deriving the External Vulnerability Index (EVI).

The index reading for any given country at any point in time is the sum of the values of the five variables, weighted accordingly. The index will read between minus -10 and 10, with -10 implying negligible external vulnerability and a reading of 10 indicating maximum risk of a crisis.

### Aggregate regional index.

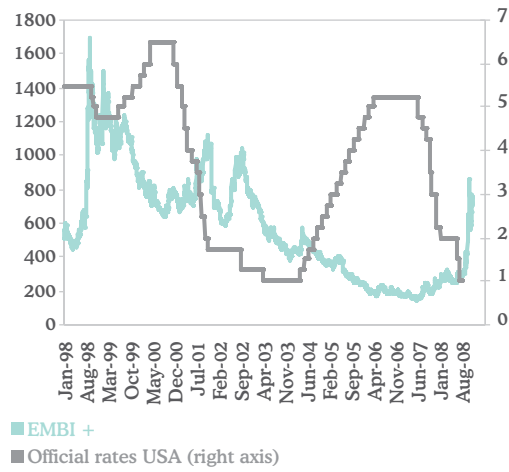
Once the various individual country EVIs have been derived, an aggregate EVI is calculated for each region as the weighted sum of the readings for each country within the index universe. The countries within the regional index are weighted by GDP at constant 2000 US\$ prices, adjusted for the PPP (purchasing power parity) of each nation based on IMF statistics.

LATAM	Weight	EMERGING EUROPE*	Weight	ASIA*	Weight
Argentina	0,10	Bulgaria	0,02	China	0,41
Brasil	0,39	Slovak Republic	0,02	India	0,21
Chile	0,05	Estonia	0,01	Indonesia	0,07
Colombia	0,06	Hungary	0,05	Thailand	0,04
México	0,30	Latvia	0,01	Malaysia	0,03
Peru	0,04	Lithuania	0,01	Philippines	0,02
Venezuela	0,07	Poland	0,15	Hong Kong	0,02
		Czech Republic	0,06	S. Korea	0,10
		Romania	0,05	Singapore	0,02
		Russia	0,42		
		Turkey	0,19		

\* Taiwan and Vietnam, with weightings of 6% and 2%, respectively, in the Asian index, were not included in the analysis due to a data shortfall. In Emerging Europe, Slovenia, with a weighting of 1%, was excluded from the analysis for similar reasons. \*\* The External Vulnerability Index (EVI) is calculated for Asia with and without China and for Emerging Europe with and without Russia due to these nations' significant weightings.

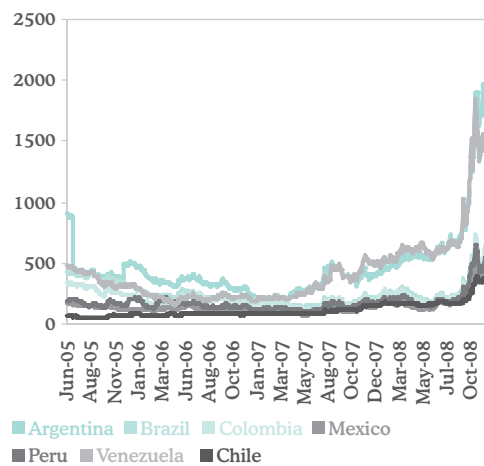
José Ramón Perea  
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### EMBI+ vs Official Rates USA



Source: Datastream, Bloomberg

### Latam: Spread Embi (bps)



Source: Datastream

## Credit Spreads and Global Risk Aversion

Sovereign Credit Spreads constitute a fundamental reference to evaluate the ability of emerging economies to draw funds in financial markets, both through debt and portfolio flows. On one hand, sovereign spreads are a measure of the financing costs of national economies. In addition, and going beyond the role of evaluating sovereign creditworthiness, they also approximate the institutional risk embedded in the country.

The last few years have registered a remarkable decrease in emerging markets' spreads, with most series marking all-time lows. This trend has been grounded, first, on the process of monetary relaxation that sits in many advanced economies after the dotcom crisis, which led the way to a period of unusually low real interest rates. In a relatively contemporaneous fashion, the macroeconomic improvement that many of these nations have accomplished during the current decade has also been a contributing factor to a downward trend in credit spreads.

This period of spread compression in emerging markets has been abruptly halted with the most recent intensification of the credit crisis, which during the summer of 2008 initiated a new round of economic volatility that is having a particular deteriorating effect over financial indicators of emerging countries. Latin America has been no exception to this trend, and although the onset of the crisis in 2007 did not have a strong effect over country spreads (measured by EMBI+ index), the recent evolution of the crisis has accelerated their deterioration. Nevertheless, spread increases are more contained during the current turmoil. With the exception of Argentina and Venezuela, whose sovereign spreads have skyrocketed, Latin American country spreads register relatively tempered hikes, particularly in comparison to former crisis episodes.

All things considered, and despite the latest round of the international credit crisis has sent the world economy into an unprecedented stage of high risk aversion, the response of Latin American sovereign spreads since the beginning of the turmoil in 2007 until very recently, has been surprisingly timid. Therefore, the present analysis nurtures from one of the examples of the empirical literature (García-Herrero and Ortíz, 2006) to elaborate on the degree of influence that the usual determinants of sovereign spreads might have had during this period.

### Determinants of Credit Spreads

An extensive body of research has categorized the determinants of credit spreads along their external or domestic character. Among the first, most studies identify variables related to the global economic cycle, mainly in the form of international interest rates or global growth rates<sup>1</sup>. Moving to the financial economy, measures of investors' sentiment towards risk, market liquidity, or financial contagion have also been a typical feature of the empirical literature.

On this last set of variables, the existing evidence points to a fairly significant role of contagion effect in Latin America, a region with a chronic exposure to spread hikes, both through events rooted on its own economies (Mexico in 1994, Brazil in 1998, Argentina in 2001), or abroad (East Asian crisis of 1997, the Enron scandal in 2002, etc.). Similarly, investors' attitude towards risk also appears as one of the most relevant global determinants of Latin spreads. To illustrate this linkage, we plot the evolution of the EMBI Latam index, both against the VIX and the Baa spread. In both cases, there seems to be a fairly strong relationship between each pair of variables. Nevertheless, the

<sup>1</sup> Data for the United States often proxies for these variables.

degree of co-movement seems to fade during the most recent times, a suspicion that is confirmed by a quick glance at pairwise correlations. For the 1997-2008 interval, both correlations are 0.55 (EMBI Latam – VIX) and 0.59 (EMBI Latam – Baa). But if we concentrate in the last few years (2004-2008), these correlations plummet to be very close to zero in both cases.

With regards to domestic determinants, the literature emphasizes the degree of macroeconomic resilience, particularly if related to the solvency of the national economy. We therefore find variables on the ability of the sovereign to satisfy debt repayments (e.g., external debt over exports) as well as on the financial strength of the national economy (level of international reserves, ratio of reserves over imports, etc.). Other studies have adopted more comprehensive empirical frameworks, as they include inflation, terms of trade, or measures of political risk.

### Purpose and Methodology

Given that liquidity and solvency considerations are at the core of the current *subprime* turmoil, country spreads have become one of the key references to single out those emerging economies that are better positioned before the crisis. Aware of this importance, our analysis aims to evaluate the extent to which global and domestic factors help to determine the evolution of credit spreads in the seven largest Latin American economies (Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela). While earlier studies have generally identified an important role of global risk aversion in guiding sovereign spreads in Latin America<sup>2</sup>, some recent studies suggest that the strength of this relationship might have weakened during the last few years, characterized by further compression of emerging spreads<sup>3</sup>.

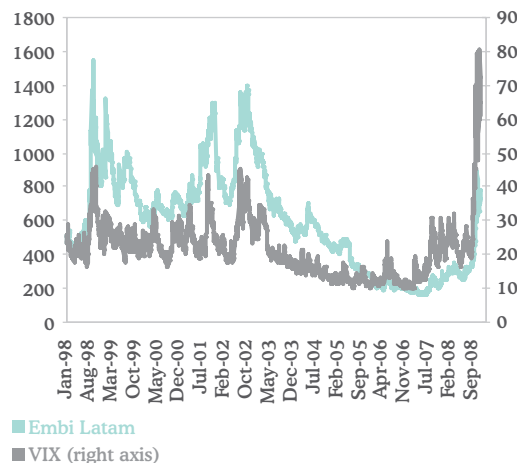
With that interest in mind, we adopt a methodological framework first introduced in García-Herrero and Ortiz (2006). In this work, the authors build an structural vector autoregression (SVAR) model, which includes 5 equations with innovations on a set of endogeneized variables, as follows: the first equation exogenously determines the U.S. economic growth rate. The second defines a monetary policy reaction function for the U.S, as dependent of the same rate of economic growth and the level of risk-free interest rate in that country. The third equation focuses on the performance of global risk aversion, measured by the Baa spread, which is made dependent on the U.S. growth and interest rate.

Finally, the last two equations model the behaviour of the variables related to Latin American economies. First, a synthetic measure of Latin American fundamentals, previously calculated through principal component analysis<sup>4</sup> is adopted as the dependent variable in the fourth equation, and regressed against U.S. economic growth and interest rates; and in the fifth equation, the natural log of Latin American spreads is related to the two determinants of interest in this analysis (global risk aversion and country fundamentals). The system of equation adopts the following form<sup>5</sup>.

$$\begin{aligned}
 e_t^y &= c_1 u_t^y \\
 e_t^j &= c_2 e_t^y + c_3 u_t^j \\
 e_t^\theta &= c_4 e_t^y + c_5 e_t^j + c_6 u_t^\theta \\
 e_t^p &= c_7 e_t^y + c_8 e_t^j + c_9 u_t^p \\
 e_t^s &= c_{10} e_t^\theta + c_{11} e_t^p + c_{12} u_t^s
 \end{aligned}$$

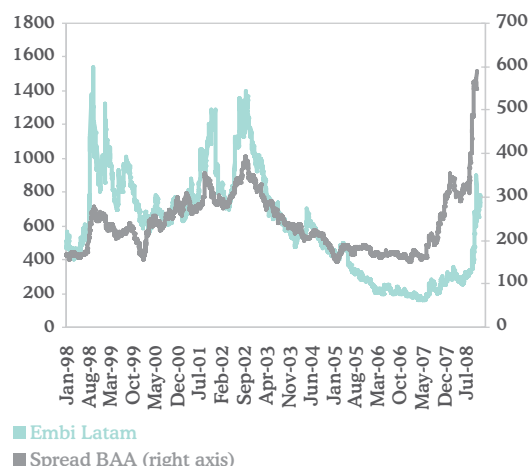
<sup>2</sup> This is notably, but not exclusively, the case of García-Herrero and Ortiz (2006), which constitutes the main methodological reference in our analysis.  
<sup>3</sup> On this point, see World Bank (2008)  
<sup>4</sup> The synthetic Proxy is the first component of a principal component analysis that includes export levels, the share of reserves over imports, and the average credit rating of the three main agencies (Moody's, Standard & Poor's and Fitch).  
<sup>5</sup> Due to space constraints, we refer the reader to the original paper for a more detailed description of methodology and data.

### EMBI Latam vs VIX



Source: Datastream, Bloomberg

### EMBI Latam vs Spread BAA



Source: Datastream, Bloomberg



The previous specification allows those variables related to the U.S. economy to affect Latin American spreads, both directly through their influence on country fundamentals, and indirectly through their impact over global risk aversion. In addition, a key advantage of the previous specification is that it turns risk aversion endogenous. Hence, it eliminates potential biases on coefficient estimates that could arise if global risk aversion and Latin American country fundamentals are affected by a common array of factors.

Regarding data sources, we rely on the EMBI+ index for our series on credit spreads. This allows us to create an unbalanced panel with monthly frequency, where the series for Argentina, Brazil, Mexico and Venezuela date back to January 1994, Peru to April 1997, and Chile and Colombia to June 1999. Macroeconomic variables for both the United States and the selected Latin American economies are generally drawn from IMF International Financial Statistics database, while in few cases we relied on national sources. The sample ends in August 2008, right when the impact of the *subprime* crisis over Latin American sovereign spreads becomes more acute.

Table 1.  
SVAR Coefficients on Equation 5

	Global Risk Aversion (C10)	Country Fundamentals (C11)
Argentina	0,003	-0,094***
Brazil	0,019	-0,09***
Chile	0,002	0,05
Colombia	0,001*	0,059
Mexico	0,009	-0,094*
Peru	0,002	0,05
Venezuela	0,005	0,012

\*,\*\*\*: significant at 10% and 99% level, respectively

## External or Domestic Factors? Results

The first attached table shows the SVAR results on the estimated coefficients of C10 and C11, each measuring the impact of global risk aversion and country fundamentals over spreads, respectively. In general, we find that country fundamentals have a stronger explanatory role over spreads. This is particularly the case in Argentina, Mexico and Brazil, where the estimated coefficient on fundamentals is statistically significant (to the 90% level in the case of Mexico, and 99% in Argentina and Brazil). Thus, all these relations have an intuitively sound sign, as an improvement in country fundamentals would be accompanied by a reduction in credit differentials. On the other hand, the coefficient on global risk aversion also tends to show an adequate sign, as greater risk aversion is linked to increases in credit differentials. Yet, this relationship turns significant in only one case (Colombia).

Another interesting outcome arises from the variance decomposition of our VAR specification, which helps to evaluate the degree of persistence of changes in global risk aversion and country fundamentals over spreads. Table 2 summarizes these results, where in most cases both variables exhibit a negligible impact in the short run (i.e., equal or less than one year). The effect of global risk aversion over emerging spreads increases with time, especially in the cases of Brazil, Peru and Venezuela. As for country fundamentals, a more lasting impact is found in the case of Colombia, with a variance share explained by fundamentals significantly greater after the second year.

Table 2.  
Variance Decomposition of Sovereign Spreads

	Global Risk Aversion			Country Fundamentals		
	3 m	12 m	36 m	3 m	12 m	36 m
Argentina	0,09	2,04	8,9	1,95	1,03	3,2
Brazil	0,4	3,1	17,7	3,1	1,6	7
Chile	0,53	2,04	2,3	0,24	1,84	7,5
Colombia	0,15	2,15	2,8	2,2	2,8	16,5
Mexico	0,14	4	8,8	2,8	2,5	6,8
Peru	0,04	4,5	15,1	0,6	1,4	9,1
Venezuela	0,42	3,44	14,9	2,05	2	4,3

The previous results should be taken with caution, and indicative of very preliminary evidence on the increasing importance of country fundamentals in explaining the most recent evolution of credit spreads. We find striking the lack of significance of global risk aversion in explaining Latin spreads, a result that led us to adopt alternative proxies. Besides the use of the Baa spread, we conducted the same exercise with both the VIX index and the difference between the Baa and Aaa spread. Of these two, the Baa-Aaa spread conceptualizes the default premium on debt raised by Baa corporations<sup>6</sup>. Despite these alternative specifications, we do not arrive to fundamentally different results, and the association between these new proxies and Latin American EMBI indexes remains positive but statistically insignificant in most cases.

<sup>6</sup> Cowan (2006) finds the Baa-Aaa spread to have greater explanatory role over spreads than either VIX or Baa

## Conclusion

Although we do not explore other potential caveats, the main idea that we extract from the current analysis, is that the reaction of Latin American sovereign spreads to increases of global risk aversion, first in 2006, and much more importantly in 2007 with the onset of the subprime credit crisis, has not been as responsive as in previous instances. A possible explanation for this behaviour is that the seed of the current financial turmoil is located not only outside of Latin America, but also of the emerging world, which might have facilitated a relative detachment of sovereign spreads from risk aversion. Nevertheless, we are inclined to find a more plausible justification for this behaviour on the safeguards that Latin America has built in recent years, which have helped to shield their sovereign spreads from deteriorating investors' expectations. A stronger policy commitment towards an orthodox management of the economy, and the benefits that the commodity rally has delivered to the region, fundamentally via exports, are arguably the two elements behind today's financial resilience in Latin America. And while the academic jury is still deliberating which of these two factors deserves more credit, what seems clear is that international creditors have not been blind to the improvement of most Latin American economies, ultimately reflected in easier financing terms.

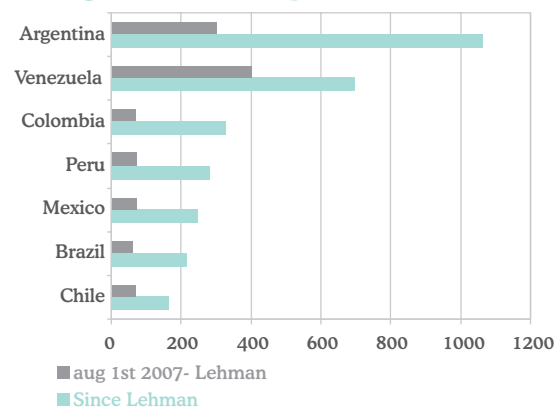
The previous conclusion, however, is facing a critical test of time. While it is true that Latin American sovereign spreads have been relatively immune to the initial blows of the financial meltdown, a new phase of the crisis, marked by the collapse of Lehman Brothers last September, has been finally able to provoke a dramatic increase in sovereign spreads across the emerging world. To illustrate this point, the attached graph shows the change in basis points that our group of Latin American countries has endured since the beginning of the crisis (summer of 2007) to Lehman's bankruptcy (September 12, 2008); and from this date to November 25, 2008. In all, the last month and a half has delivered an increase in spreads far greater than the cumulative increase of the first 13 months of the crisis.

The sudden growth of credit spreads since September, insofar it has not been accompanied by a similar worsening of country fundamentals, is indicative of the negative influence that the recent increase in risk aversion is finally having. Although it is still early to see how lasting this impact will be, the last few weeks suggest that global risk aversion reclaims its traditional role as determinant of Latin American sovereign spreads.

## References

- Cowan, K. (2006): Comment on García-Herrero and Ortiz (2006).
- García-Herrero, A. and Ortíz, A. (2006): "The Role of Global Risk Aversión in Explaining Sovereign Spreads". *Economía*, vol. 7, n. 1, Fall 2006.
- World Bank (2008): Global Economic Prospects.

## Change in Embi + (bps)



Source: Datastream

## 5. Statistic and forecasts

### International Context

Commodity Prices (average)							
	2007	2008	2009		2007	2008	2009
Brent (USD/barril)	72.8	101.0	54.5	Gold (USD/troyoz.)	697.7	879	775.0
Copper (USD/t)	7108.0	6994.0	3569.0	Soya (USD/ton)	317	458	342

Real GDP (%)				Consumer prices (%. average)				
	2006	2007	2008	2009	2006	2007	2008	2009
USA	2.9	2.0	1.4	-0.8	3.2	2.9	4.2	0.8
EMU	3.0	2.7	1.0	-0.9	2.2	2.1	3.3	1.4
Japan	2.4	2.0	0.7	-0.3	0.3	0.1	1.2	0.3
China	11.6	11.9	9.5	8.1	2.8	6.5	4.5	3.0

Exchange rate (vs \$. end of period)				Official interest rate (%. end of period)				
	2006	2007	2008	2009	2006	2007	2008	2009
USA					5.25	4.25	0.50	0.50
EMU (\$/€)	1.32	1.46	1.30	1.15	3.50	4.00	2.50	1.50
Japan (yenes/\$)	116.4	113.1	100.7	95.6	0.24	0.06	1.20	0.30
China (cny/\$)	6.12	7.47	6.93	5.31	1.70	4.80	6.40	3.40

### Latin America

Real GDP (%)				Consumer prices (%. end of year)				
	2006	2007	2008	2009	2006	2007	2008	2009
Argentina	8.5	8.7	6.9	1.9	9.9	8.5	8.0	13.0
Brazil	3.7	5.4	5.2	2.5	3.1	4.5	6.3	4.8
Chile	4.3	5.1	4.3	2.3	2.6	7.8	8.9	4.8
Colombia	6.8	7.7	3.7	3.0	4.5	5.7	7.2	4.5
Mexico	4.9	3.3	1.8	0.0	4.1	3.8	6.2	4.0
Peru	7.7	8.9	8.9	5.0	1.1	3.9	6.5	2.9
Venezuela	10.3	8.4	5.5	2.6	17.0	22.4	30.7	32.5
LATAM <sup>1</sup>	5.4	5.6	4.4	1.8	5.0	6.0	8.1	7.0
LATAM Ex-Mexico	5.7	6.6	5.4	2.6	5.4	7.1	9.0	8.4

Fiscal balance (% GDP)				Current account balance (% GDP)				
	2006	2007	2008	2009	2006	2007	2008	2009
Argentina <sup>2</sup>	1.8	1.2	1.9	0.5	3.8	2.7	2.0	-0.3
Brazil	-3.0	-2.2	-1.9	-2.0	1.6	0.6	-1.8	-1.5
Chile <sup>2</sup>	7.8	8.8	6.5	2.7	4.9	4.5	-2.7	-2.6
Colombia	-0.8	-0.8	-1.0	-1.3	-2.2	-3.4	-2.0	-1.9
Mexico	-0.1	0.0	0.0	-1.8	-0.6	-1.0	-1.5	-3.5
Peru	2.1	3.1	2.5	0.1	3.0	1.4	-2.1	-3.0
Venezuela <sup>2</sup>	2.1	4.5	0.6	-4.2	14.7	10.5	14.2	4.3
LATAM <sup>1</sup>	-0.5	0.0	-0.2	-1.5	2.0	0.9	-0.3	-1.7
LATAM Ex-Mexico	-0.3	0.3	0.0	-1.2	3.0	1.7	0.1	-1.0

<sup>1</sup> Average of the 7 countries. <sup>2</sup> Central Government.

Exchange rate (vs \$. end of year)				Interest rates (%. end of year) <sup>3</sup>				
	2006	2007	2008	2009	2006	2007	2008	2009
Argentina	3.06	3.14	3.30	3.90	9.80	13.50	22.00	20.00
Brazil	2.15	1.78	2.30	2.10	13.25	11.25	13.75	12.75
Chile	530	499	634	603	5.25	6.00	8.25	5.25
Colombia	2239.00	2015.00	2329	2443	7.50	9.50	9.50	8.00
Mexico	10.93	10.95	12.82	12.83	7.02	7.44	8.00	5.45
Peru	3.21	2.98	3.10	3.25	4.50	5.00	6.50	6.00
Venezuela	2.00	2.00	2.15	2.70	10.26	11.70	17.50	18.00

<sup>3</sup> For each country interest rate see the following page.

## Argentina

	2006	2007	2008f	2009f
GDP (%)	8.5	8.7	6.9	1.9
Consumer Prices (%. end of year)	9.9	8.5	8.0	13.0
Trade balance (\$bn)	12.3	11.1	11.3	3.3
Current Account (m.M. \$)	8.1	7.2	6.5	-1.2
Current Account (% GDP)	3.8	2.7	2.0	-0.3
Reserves (\$bn. end of year)	32.0	46.2	44.6	45.0
Exchange Rate (end of year vs US\$)	3.06	3.1	3.3	3.90
Fiscal balance (% GDP) <sup>1</sup>	1.8	1.2	1.9	0.5
Interest Rate (end of year) <sup>2</sup>	9.80	13.5	22.0	20.0

<sup>1</sup> Argentina: Central Government. Excluding privatisation receipts  
<sup>2</sup> Argentina: 30-d deposits interest rate in pesos; Brazil: SELIC rate

## Brazil

	2006	2007	2008f	2009f
GDP (%)	3.7	5.4	5.2	2.5
Consumer Prices (%. end of year)	3.1	4.5	6.3	4.8
Trade balance (\$bn)	46.1	40.0	25.0	28.0
Current Account (m.M. \$)	15.4	7.9	-32.0	-25.0
Current Account (% GDP)	1.6	0.6	-1.8	-1.5
Reserves (\$bn. end of year)	85.8	180.3	200.0	190.0
Exchange Rate (end of year vs US\$)	2.15	1.78	2.30	2.10
Fiscal balance (% GDP)	-3.0	-2.2	-1.9	-2.0
Interest Rate (end of year)	13.25	11.3	13.8	12.8

## Chile

	2006	2007	2008f	2009f
GDP (%)	4.3	5.1	4.3	2.3
Consumer Prices (%. end of year)	2.6	7.8	8.9	4.8
Trade balance (\$bn)	22.2	23.7	6.5	8.1
Current Account (m.M. \$)	6.8	7.2	-4.6	-3.7
Current Account (% GDP)	4.9	4.5	-2.7	-2.6
Reserves (\$bn. end of year)	19.4	16.9	25.0	25.0
Exchange Rate (end of year vs US\$)	530	499	634	603.00
Fiscal balance (% GDP) <sup>1</sup>	7.8	8.8	6.5	2.7
Interest Rate (end of year) <sup>2</sup>	5.25	6.00	8.25	5.3

<sup>1</sup> Chile: Central Government  
<sup>2</sup> Chile: Official Interest Rate (since August 2001 in nominal terms); Colombia: 90-d DTF interest rate

## Colombia

	2006	2007	2008f	2009f
GDP (%)	6.8	7.7	3.7	3.0
Consumer Prices (%. end of year)	4.5	5.7	7.2	4.5
Trade balance (\$bn)	0.0	-0.7	4.4	4.7
Current Account (m.M. \$)	-3.0	-5.9	-4.1	-3.8
Current Account (% GDP)	-2.2	-3.4	-2.0	-1.9
Reserves (\$bn. end of year)	15.4	21.0	23.5	23.0
Exchange Rate (end of year vs US\$)	2239	2015	2329	2443
Fiscal balance (% GDP)	-0.8	-0.8	-1.0	-1.3
Interest Rate (end of year)	6.8	9.0	10.1	8.2

## Mexico

	2006	2007	2008f	2009f
GDP (%)	4.9	3.2	1.8	0.0
Consumer Prices (%. end of year)	4.1	3.8	6.2	4.0
Trade balance (\$bn)	-6.1	-10.1	-16.3	-32.4
Current Account (m.M. \$)	-6.0	-10.2	-17.6	-35.5
Current Account (% GDP)	-0.6	-1.0	-1.5	-3.5
Reserves (\$bn. end of year)	67.7	78.0	83.0	87.0
Exchange Rate (end of year vs US\$)	10.93	10.95	12.82	12.83
Fiscal balance (% GDP) <sup>1</sup>	-0.1	0.0	0.0	-1.8
Interest Rate (end of year) <sup>2</sup>	7.02	7.44	8.00	5.45

<sup>2</sup> Mexico: 28-d Cetes Interes Rate; Peru: Interbank Interest in soles

## Peru

	2006	2007	2008f	2009f
GDP (%)	7.7	8.9	8.9	5.0
Consumer Prices (%. end of year)	1.1	3.9	6.5	2.9
Trade balance (\$bn)	8.9	8.4	3.3	0.0
Current Account (m.M. \$)	2.8	1.5	-2.7	-4.1
Current Account (% GDP)	3.0	1.4	-2.1	-3.0
Reserves (\$bn. end of year)	17.3	27.7	31.1	28.1
Exchange Rate (end of year vs US\$)	3.21	2.98	3.10	3.25
Fiscal balance (% GDP)	2.1	3.1	2.5	0.1
Interest Rate (end of year)	4.50	5.00	6.50	6.00

## Uruguay

	2006	2007	2008f	2009f
GDP (%)	7.0	7.4	9.2	4.8
Consumer Prices (%. end of year)	6.4	8.5	8.2	6.4
Trade balance (\$bn)	-0.5	-0.7	-0.8	-1.3
Current Account (m.M. \$)	-0.4	-0.5	-0.8	-1.0
Current Account (% GDP)	-2.3	-2.4	-3.0	-3.7
Reserves (\$bn. end of year)	0.8	1.9	2.3	3.1
Exchange Rate (end of year vs US\$)	24.5	21.7	22.5	24.0
Fiscal balance (% GDP) <sup>1</sup>	-0.6	0.9	-0.4	-0.6
Interest Rate (end of year) <sup>2</sup>	—	7.5	5.7	4.6

<sup>1</sup> Venezuela: Central Government  
<sup>2</sup> Uruguay: 30-d BCU Papers Interest Rate in pesos; Venezuela: 90-d Certificado Participaciones rate  
<sup>3</sup> Venezuela: including FIEM

## Venezuela

	2006	2007	2008f	2009f
GDP (%)	10.3	8.4	5.5	2.6
Consumer Prices (%. end of year)	17.0	22.4	30.7	32.5
Trade balance (\$bn)	32.7	23.7	47.9	15.8
Current Account (m.M. \$)	27.1	20.0	42.6	14.1
Current Account (% GDP)	14.7	10.5	14.2	4.3
Reserves (\$bn. end of year)	37.3	33.9	31.9	31.9
Exchange Rate (end of year vs US\$)	2	2	2.15	2.7
Fiscal balance (% GDP)	2.1	4.5	0.6	-4.2
Interest Rate (end of year)	10.3	11.7	17.5	18.0



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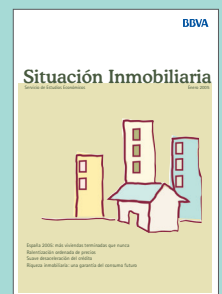
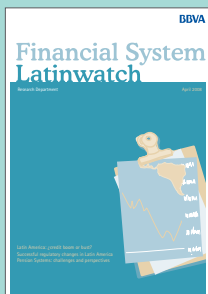
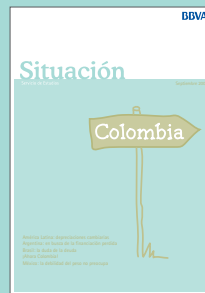
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