

Latinwatch

Economic Research Department

Second semester 2009



Latin America avoids a severe recession and starts the recovery

Appreciation pressures condition the normalization of monetary policy

The potential growth of the region has not been adversely affected. In the long run it faces the challenge of creating conditions to raise this potential

Index

Closing date: November 24th, 2009

1. Editorial	3
2. The global economic environment	4
3. Latin America: the Macroeconomic Outlook	7
Box 1. Capital controls: lessons from the Latin American experience	12
Box 2. Inventory changes and cyclical adjustments	15
4. In Focus	17
4.1. The crisis and international trade	17
Box 3. A model for international trade	20
4.2. Potential growth in Latin America and its determinants	22
5. Statistics and Forecasts	25

Publication coordinated by:

Alicia García Herrero
Sonsoles Castillo
Joaquín Vial

alicia.garcia-herrero@bbva.com.hk
s.castillo@grupobbva.com
jvial@bbvaprovida.cl

Publication prepared by:

Gabriela Álvarez
Ignacio González-Panizo
Myriam Montañez
Diana Paez
Hugo Perea
José Ramón Perea
Soledad Zignago

gabriela.alvarez@grupobbva.com
ignacio.gonzalez-panizo@grupobbva.com
miriam.montanez@grupobbva.com
diana.paez@grupobbva.com
hperea@grupobbva.com.pe
jramon.perea@grupobbva.com
soledad.zignago@grupobbva.com

1. Editorial

Latin America in the post-crisis period

As expected, Latin America has initiated its economic recovery in the second half of this year, led by Brazil, which has given us a number of positive surprises throughout the year.

Unlike previous crises, on this occasion the vast majority of countries in the region have adopted a significant expansive bias in their economic policies without provoking imbalances that would put this recovery in danger. The growing soundness of public finances, inflation control and the credibility won by central banks, as well as major flexibility in exchange markets, have all been fundamental factors in this improved regional performance. It has also been assisted by a more favorable international backdrop, particularly by the recovery of commodity prices and lower risk aversion. Commodity prices have given some relief to those countries in the region that were most marginalized in the international credit squeeze, as is the case of Argentina and Venezuela. This has given greater financial room, thus avoiding fiscal adjustments that would have heightened the recession in these countries.

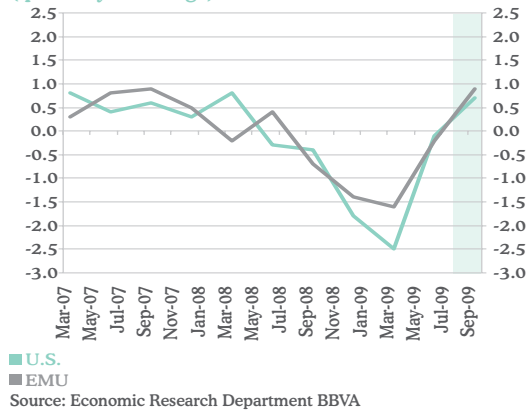
A common characteristic for pretty much the entire region has been the strength shown by the financial systems. Supported by expansive monetary policies, they have been able to ride out the restricted access to international finance at the end of 2008, the falls in the levels of economic activity and the increase in default rates without major problems. With respect to the default rates, it is worth pointing out that although they have risen, they are still well below the levels reached in previous crises. This reflects greater maturity in the financial systems, both with respect to regulation and supervision and to banking practice.

Another common element in this crisis has been the collapse of international trade, a subject dealt with in one of the chapters of this report. It was caused both by price corrections and a major slump in the volume of imports, derived from the extreme shock to expectations and fears with regard to the future availability of finance. This led to an extraordinary adjustment in inventories of final goods, both in developed countries and in Latin America. The impact was amplified by the fall in trade. The good news is that with a normalization of expectations and credit conditions, these amplifying factors should now support economic recovery.

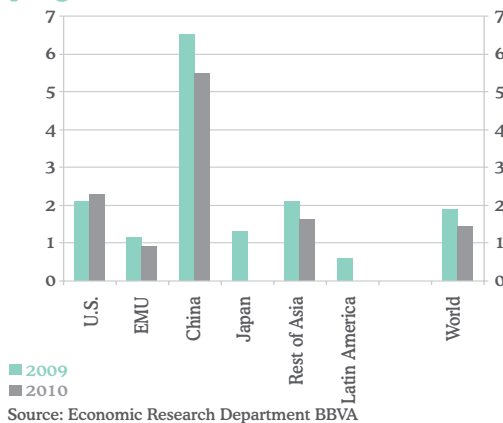
The region thus emerges strengthened from the crisis, but with important challenges if it is to capitalize on the new opportunities derived from this change. In the short term it faces the difficulty of reconciling the development of its export sector with appreciated currencies that reflect the greater price of its exports, as well as its lower risk premiums, in addition to the weakness of the dollar on international markets. This factor will condition the normalization of economic policy and accentuate the need to reduce the fiscal stimulus in order to ensure interest rates are better synchronized with those of the developed world, and thus avoid additional pressure on currencies.

As another chapter of the report shows, in the medium and long term the region faces the challenge of creating the conditions for major capital endowment, innovation and efficiency gains as pillars of its economic development, to counteract the end of its so-called "demographic boom", which has sustained its growth through an increasing labor force.

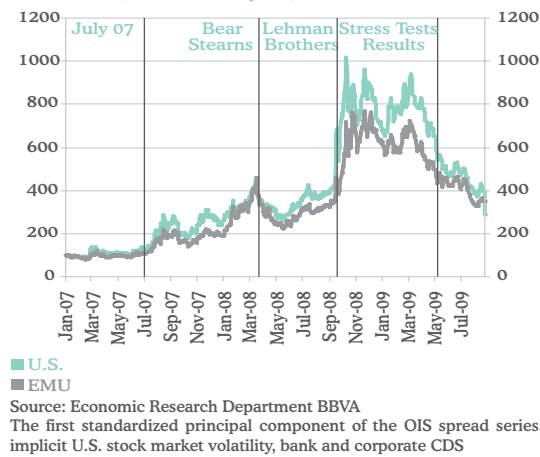
U.S. and EMU: GDP growth (quarterly % change)



U.S. and EMU: Fiscal and budget programs: relative size (% GDP)



U.S. and EMU: Indicator of Financial Tension (100=January 07)



U.S. and EMU: Interbank markets: 3-month OIS spread (3M LIBOR-3M OIS)



2. The global economic environment

Global economic prospects improve...

Since the middle of the year the world economy has begun to give clearer signs of recovery. The sensation of free fall prevalent at the end of 2008 and the start of this year has given way to relative stability and, in some cases, moderate growth.

The change in the trend has been favored by the exceptional stimulus measures adopted in most economies. The measures have been implemented both on the monetary front (substantial reductions in the intervention rates, massive injections of liquidity and unconventional operations with assets), and the fiscal front (fiscal stimuli that have boosted sectors such as the automobile industry, and have helped temporarily to sustain the income and spending of private agents).

... although latent risks of a downturn in the short term continue, above all in the most advanced economies

Nevertheless, the fundamentals of the world economy continue to be fragile and the risks of a downturn are therefore present in the short term. The main risk is a possible premature withdrawal of the stimulus packages, above all in the most advanced economies, and uncertainty over whether private-sector spending can replace public spending as the main driving force of recovery. In developed countries, growth during the expansive phase was boosted by domestic demand, supported by the increase in disposable income and also very high private debt. This will not recur in this new phase of the cycle. The labor market figures will also not contribute to a swift emergence from the crisis, since the rate of destruction of employment continues to be very high in many economies.

For all these reasons, the biggest challenge facing economic policy at the present time is the timely and well-planned withdrawal of the public, fiscal and monetary support programs.

In this situation, the most probable scenario would point to a maintenance of low official rates for an extended period, as it does not appear likely that there will be a significant upturn in inflation, given the high productive capacity available. However, the maintenance of the stimuli over time could also have detrimental consequences, since they distort the incentives to take decisions on adjusting balance sheets; and they also question the sustainability of the public accounts in many economies.

It therefore appears probable that central banks will gradually try out possible alternatives to bring their liquidity policies back to normal when the time comes. The evidence of recent weeks shows the importance of communication on the part of the monetary authorities during this phase. They have to separate what is said about the design of the exit strategies from the moment of their application, which should be delayed until the economy gives signs of self-sustained recovery.

Although the financial tensions have steadily reduced since their maximum levels after the Lehman collapse, the current situation is far from being fully satisfactory. In fact, the levels of tension in the markets are still a long way from pre-crisis levels. The biggest progress so far has been in the interbank markets. The 3-month OIS spreads in the U.S. and the EMU are currently at 18-month lows, despite the fact that these markets still depend on injections of liquidity by central banks.

The reduction in risk premiums has been extraordinarily swift over recent months. U.S. bank CDS¹ reached their minimum levels since the start of the crisis, and European CDS were at their lowest level for nearly a year before stabilizing. Caution appears to have taken hold in most markets (including equity), in a scenario in which a historically high level of risk aversion still predominates.

Emerging economies, the new motor of global growth...

Economic recovery is very uneven. In general terms, emerging economies are on a more solid path to recovery than developed ones. This can be explained by a number of factors that set these economies apart and have made it easier for most of them (with the exception of Emerging Europe countries) to cope with more expensive funding markets and the contraction in activity and employment. Specifically, these factors include: their lower exposure to the financial crisis, above all in its initial stage; the success of the fiscal and monetary stimulus packages implemented after the start of the crisis; the growth in commodity prices in recent months; the modest recovery in world trade after its collapse at the end of 2008; and, perhaps most important for stable long-term growth, the earlier efforts made in many of the countries to promote and practice a policy of macroeconomic stability.

Among developed economies, the U.S. appears to be in a better position than Europe. In particular, the fiscal stimulus in the U.S. will have a relatively greater impact on growth over the coming years. In 2010 it is expected to have an impact of 3 percentage points (pp), compared with 1.5 pp in Europe. The most probable scenario for the U.S. economy is moderate growth, as there is no certainty that once the public stimulus ends, the private sector will recover its high level of sustained growth. In addition, questions such as unemployment or the public accounts are still sources of obvious concern.

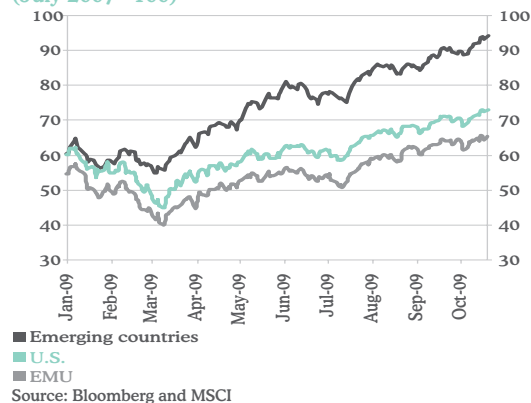
In Europe, the fiscal stimulus will be comparatively lower in 2010, and vary among the different countries. The recovery in economic activity will also be delayed by the greater rigidity in the European labor market.

The signs of recovery in activity are already clear in emerging countries, although with some notable variations. China, for example, has already returned to high growth rates, partly as a result of an extremely rapid increase in credit and other stimulus measures. In Latin America, most countries are already showing signs of positive growth in the third quarter. However, there is more risk in the situation of emerging European economies, which are weaker in macroeconomic and financial terms.

¹ Credit Default Swap or agreement to cover the risk of non-payment of a financial security.

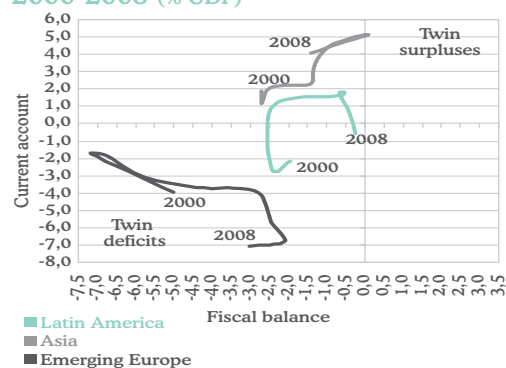
Equity markets

(July 2007=100)



Current account and fiscal result

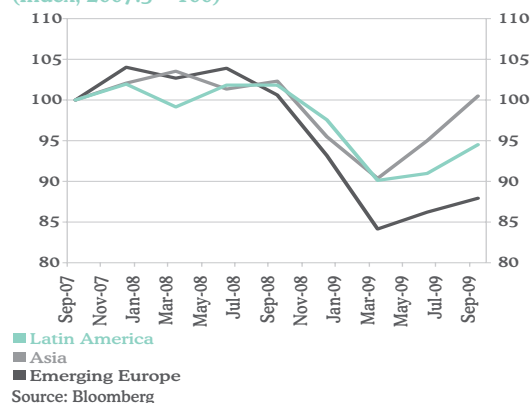
2000-2008 (% GDP)



Source: WEO, IIF, Economic Research Department BBVA, Latin America: Argentina, Brazil, Chile, Colombia, Peru, Mexico and Venezuela. Emerging Europe: Poland, Hungary, Czech Republic, Slovakia, Estonia, Latvia, Lithuania, Bulgaria, Romania, Turkey and the Ukraine. Asia: China, Hong Kong, India, Indonesia, Korea, the Philippines, Singapore, Taiwan and Thailand.

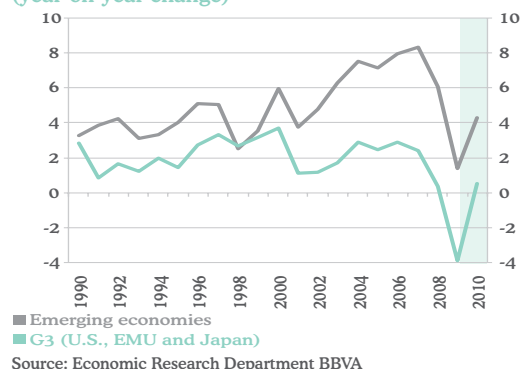
Industrial output

(Index, 2007:3= 100)

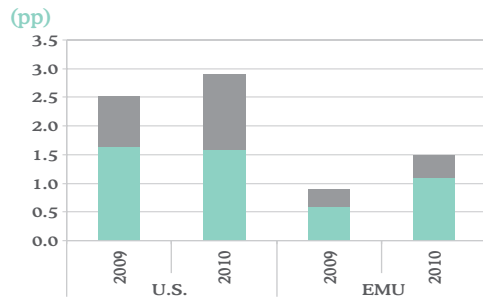


Emerging economies and G3: GDP growth

(year-on-year change)

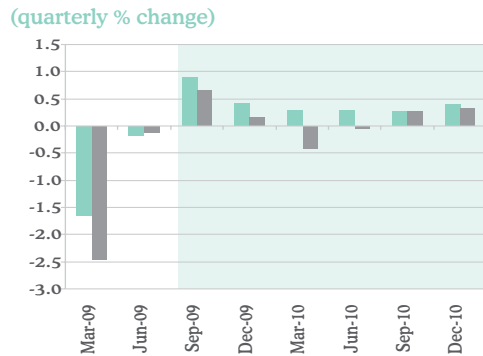


U.S. and EMU: contribution of the fiscal stimulus packages to GDP growth



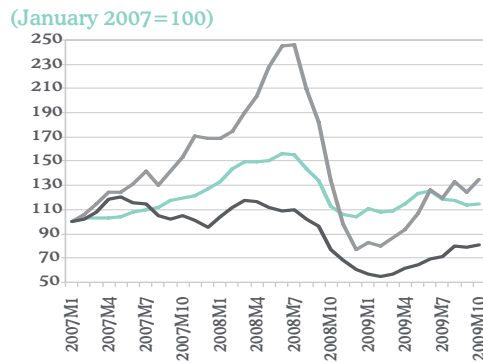
■ Revenues and transfers
■ Spending
Source: Economic Research Department BBVA

U.S. and EMU: GDP growth



■ U.S.
■ EMU
Source: Economic Research Department BBVA

Commodity prices



■ Food prices
■ Metal prices
■ Oil prices
Source: IMF

Commodity prices recover in this more positive context

Strong demand, above all from China, and the prospects of a recovery in developed countries in 2010 have greatly supported commodities, which began to recover together with the equity markets. In recent months, the fall in risk aversion and the weakness of the dollar have attracted financial investment to these markets and supported a recovery in prices. This has eased the pressure on public funding felt in some emerging economies at the start of the year, and given additional support to the appreciation of the currencies of those countries that are rich in natural resources.

The price prospects for 2010 will depend on synchronizing the recovery of industrial production in developed countries with the normalization of the demand from China. As we expect that Chinese demand will return to normal before the recovery in industrial production, we estimate that the fundamentals point to a moderate correction in commodity prices in the coming months, followed by new rises as the recovery in global demand begins to manifest the restrictions on extending supply capacity in the coming years.

3. Latin America: the Macroeconomic Outlook

The recovery begins

Mid-way through the year we expressed our belief that the economies of the region had reached the lowest point in the cycle in the second quarter of the year and were beginning their recovery, supported by improved commodity prices, lower global risk aversion and a gradual return of local confidence, boosted by expansive monetary, and in some cases, fiscal policies. Today, with partial information on the third quarter of the year, we see that this forecast is checking out. In fact, the recovery is even somewhat more vigorous than we anticipated.

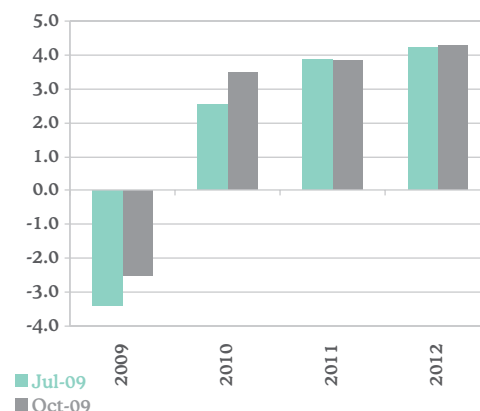
Although the region will still suffer a recession in 2009, with an aggregate fall in GDP we estimate at 2.5%, we reckon the recovery will consolidate and there will be an improvement in growth expectations, particularly in 2010, when the region will grow by 3.5%. These forecasts imply an upward revision of the forecast made at the end of the first semester by 0.9% for each year.

Our greater optimism is based on improvements in the countries on the external and domestic fronts. On the international front, the most notable feature is the persistent fall in risk premiums, particularly for developing countries. This is reflected in greater access to credit and capital markets, with a recovery in the respective flows to the region. A second element that has been crucial for those countries with reduced access to international financial markets has been the strong recovery in the prices of basic products, particularly oil and metals, which have reached higher than expected levels and have remained there for longer than we anticipated, to some extent, as the result of the consolidated recovery of the developed economies and the reactivation of their industrial sectors.

On the domestic front, of particular importance has been the gradual recovery in consumer and producer confidence, which is laying the foundations for an incipient recovery in domestic demand, particularly in the durable goods markets (automobiles, for example) and housing. This process has also been boosted by the strong monetary stimulus applied in practically all the countries in the region, which has helped to lower market interest rates significantly. Finally, there have also been positive surprises in the performance of the fiscal plans, after a rather weak start in nearly all countries. In this context we see that more countries have been able to apply stimulus programs, mainly focused on investment spending, and their execution has begun to speed up after a rather slow start. All these factors have combined to ensure that most countries show a clear recovery in the third quarter of the year compared to the second.

As can be seen in the chart, there is a notable synchronization in the performance of domestic demand in the countries of the region, despite marked differences in the size of the variations. It is also worth highlighting the major slump in demand in Mexico and Chile, two countries that are relatively open to foreign trade, but very different in terms of the size of their economies and the diversification of their foreign trade.

Latin America: Comparison of growth forecasts



Source: Economic Research Department BBVA

Spread EMBI +



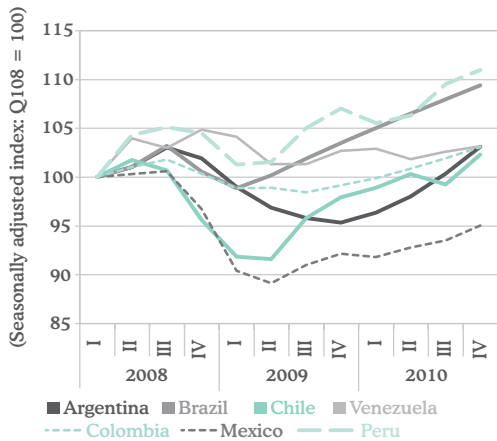
Source: JPMorgan and Dstream

Cumulative equity inflows



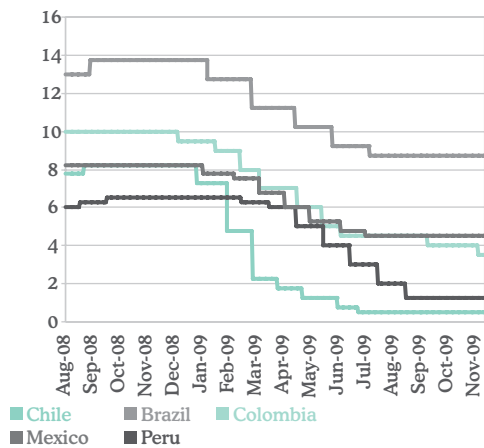
Source: Economic Research Department BBVA based on EPFR

Latin America: Evolution of the Domestic Demand



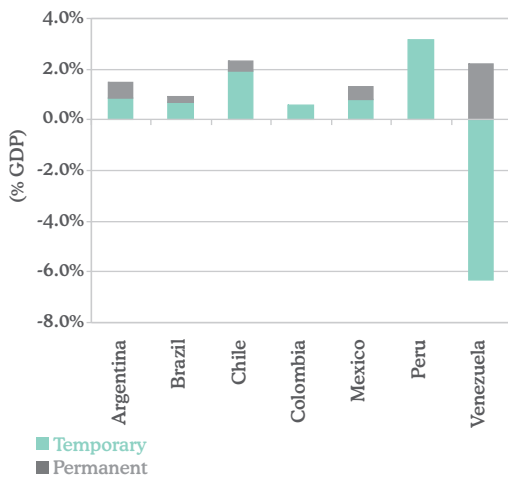
Source: Economic Research Department BBVA

Latin America: Official rates



Source: Bloomberg

Latin America: Composition of the 2009 fiscal stimulus



Source: Economic Research Department BBVA

On a more positive note, there is the swift recovery of demand in Brazil, which has been backed by temporary fiscal stimuli for the purchase of automobiles and a very notable performance in the labor market, which has recovered after an initial deterioration and today shows a net creation of formal employment with respect to the pre-crisis period.

As we explained in Latin Watch last July, economic policies have played a very important role in supporting domestic demand. The low policy interest rates have been very aggressive, and in some cases such as Chile, they were reinforced by quantitative liquidity provision measures. Although these policies were very important in terms of overcoming the credit restrictions of the end of 2008 and the start of 2009, there has still not been enough time for the monetary stimuli to work their way through with all their force. This is expected to occur towards the end of this year and the start of 2010. Practically all the central banks in the region have already reached minimum interest rate levels and have stated that they are at the start of a prolonged pause in interest rate movements, which will possibly not begin to rise until the end of the first half of next year.

One surprise in 2009 has been the size and diversity of the fiscal stimuli applied in the region. Those countries that had accumulated savings in the previous boom period, such as Chile and Peru, announced and put into practice important fiscal programs designed to make a major impact on aggregate demand without generating permanent commitment to more spending or lower taxes that could complicate future fiscal management. Argentina also applied a major fiscal stimulus: the nationalization of savings in pension funds, which led to great uncertainty and had an important cost in a very short term. Brazil and Colombia were more conservative in this matter, as they concentrated on ensuring the financing of expansive budgets and added some marginal stimuli. These included the temporary reduction in taxes for the purchase of new vehicles in Brazil, which resulted fundamental in supporting this key sector in the Brazilian industrial activity and employment. Venezuela, on the other hand, was obliged to cut spending in response to the major fall in oil revenues. However, the subsequent recovery in oil prices allowed these cuts to be reversed and fiscal policy has adopted a much less contractive tone in the second half of the year.

In general, countries have opted to increase spending rather than reduce taxes, and when they have used the latter method, it has been with temporary adjustments. With respect to spending, they have tended to give a privileged position to investment, assuming the risks of slow execution, which actually complicated the situation for the authorities in the first half of the year in Colombia and Peru, but which have then provided positive surprises in both cases. Chile alone has used transfer of income through payment of two bonds equivalent to USD 75 per person each for members of families on low incomes. The advantage of these bonds has been their rapid multiplier effect, but their disadvantage has been to generate pressure for more measures of this type.

Inflation remains under control

In the July edition we highlighted the speed with which inflation has adjusted to the new economic environment. In the following months this trend has been confirmed and today all the countries with inflation targets are within or under the official target ranges. The most notable

case is Chile, which moved from inflation of more than 9% in 2008 to a negative annual inflation rate in a year. Brazil and Colombia have achieved unexpected reductions in inflation and the authorities are intending to convert them into permanent gains by going for lower targets for 2010. What is particularly noteworthy is that the reduction in inflation has taken place despite the strong recovery in the prices of fuel and some foods.

This achievement has reinforced the credibility of the central banks, giving them greater margins for action in the future. Although today there are no inflationary pressures in the countries mentioned, the interest rates show a great sensitivity to any sign of the withdrawal of the monetary stimulus and the start of a cycle of official interest rate rises. The greater credibility of the monetary authorities is a factor that will help delay this cycle by some months.

And the external accounts improve

One of the most notable consequences of the sharp adjustment in internal demand has been an extraordinary contraction in imports, particularly consumer durables, capital goods and some intermediate goods. As a result, the trade balances in the region have maintained surpluses, despite the fall in export prices and volumes. As prices of key products for the region such as oil, copper and some agricultural products have recovered, this has been transferred into additional improvements for the trade balances, and provided important relief for countries such as Argentina and Venezuela, which are extremely restricted in their access to international financial markets. In addition, prices recovering have allowed these two countries to relax somewhat the restrictions on official currency markets, which in some cases had led to problems in the supply of commodities and industrial raw materials, with negative results on economic activity.

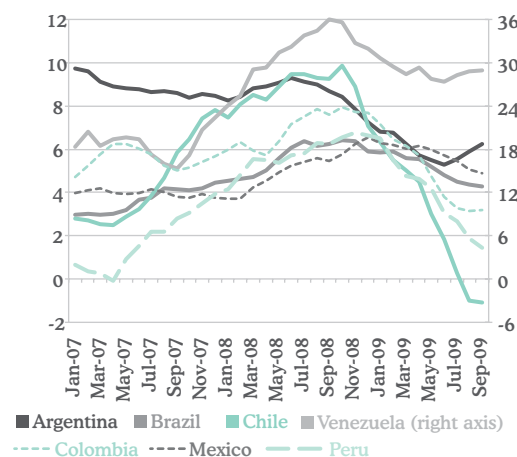
In recent years the general reduction in risk aversion has resulted in greater capital flows to the region. This has meant that currencies have recovered much of the value they had lost since the end of 2008, with the exception of Argentina and Mexico, whose currencies have remained depreciated. In the case of Argentina, this was something that was fostered by the authorities. Central banks have intervened massively, buying dollars and accumulating reserves, particularly in Brazil, Argentina and Peru. In the case of Brazil, the policy has been reinforced by a tax on capital inflows. Chile and Colombia have opted not to intervene in foreign exchange markets yet, but the authorities have stated their concern about possible problems of competitiveness and have not ruled out that in the near future interventions will be implemented if the respective currencies continue to appreciate.

In all, the recovery of domestic demand should begin to lead to an increased growth in imports. Higher prices of materials should also be reflected in greater remittances of earnings by foreign companies operating in these activities, leading to a bigger balance in the foreign exchange transactions derived from the current account.

One factor leading to uncertainty, with a strong impact in currencies, is the future movement of commodity prices. These prices have experienced a sharp rise so far this year, despite the fact that the fundamentals point to greater supply availability in markets such as oil and copper. The sharp short-term correlation between these prices and

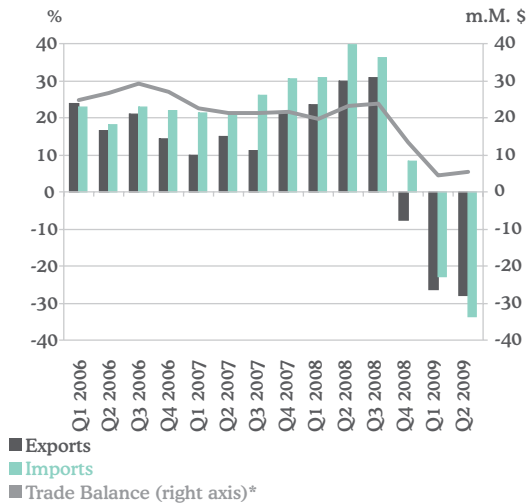
Latin America: Inflation

(% y/y)



Source: DataStream

Latin America: Trade Balance Evolution



Source: WTO and BBVA
* 3 quarters moving average .

the weakness of the dollar suggests that there is a component of financial investment in these markets that has contributed to keeping these prices at current levels. In addition, the expectations of a somewhat swifter recovery in the world economy also introduces doubts into the balance of supply and demand in these markets in the coming years, following the postponement or cancellation of many investment projects as a result of the fall in prices in 2008 and the increased difficulties in obtaining finance. In all, if the ample commodity supply persists and increases, we expect that there will be a downward correction in its prices, which will contribute towards some weakening of the currencies in these countries.

But the withdrawal of the monetary stimulus will not be easy

One of the paradoxes of the relative success in Latin America is that the inflow of capital is putting upward pressure on these currencies, and several countries in the region see in the future a similar situation to that of the beginning of 2008, when the terms of trade and capital flows were very favorable, limiting the capacity of central banks to act against inflationary pressures. On this occasion we are still far from an inflationary upturn, but with oil prices and other commodities holding firmly, and with a recovery underway, it is very possible that inflationary pressures could reappear some time in 2010.

In this situation, it is possible that central banks may decide to intervene in the foreign exchange markets, as many did in 2008. This appears a reasonable policy on a limited scale, considering that there are considerable risks threatening future access to finance, as in most of the major international banks still suffer from problems of capitalization. In addition, the recovery of the world economy is still fragile, and nothing can guarantee that the terms of trade will not once more fall in the near future. However, this intervention is necessarily limited in scope, among other things because it will inject more liquidity into the economy and the central banks do not have an unlimited capacity for sterilization. In addition, to the extent that the appreciation of these currencies responds to a global phenomenon that is the result of both the weakness of the dollar and a better assessment of the strength of these economies, it is fairly obvious that no intervention by these central banks can compensate both factors. Given this, it is very possible that we see two types of responses:

- Greater controls on capital inflows, a route that has already been taken in the past. It has limited effects and tends to provoke major distortions in the operation of the financial markets.
- An active management of fiscal policy that reduces the boost from the budget to allow a postponement of monetary easing.

In practice we possibly see a mix of both policy reactions, together with greater tolerance of currency appreciation. The composition of this mix will depend on the will of the fiscal authorities. This is more probable in Chile and Peru, because of both the design of their fiscal policies, with a high temporary component, and the stage of their political cycles. In Chile a new government will enter office in March 2010, providing a good opportunity to make a fiscal adjustment; while in Peru the elections are further away, and the current president does not have a strong political heir who can push for a continuity of the fiscal stimulus.

As for Brazil and Colombia, we see less will to make spending cuts. In Brazil's case, there is a closely contested presidential election, which will make cuts even more difficult. It is therefore not surprising that Brazil has opted for capital control measures. In Colombia, however, we see more room for fiscal policy, on the tax side, and the elections process will be completed in the middle of the year. In the meantime, it is possible that short-term liquidity control measures may be chosen, without rises in official rates, together with greater intervention in the exchange market. Recent official interest rate cuts in Colombia have surprised the markets and could also be interpreted as a response to the concern for the strength of the peso, in a context of calm with respect to inflation.

Argentina and Venezuela still have concerns related to the difficult access to international capital markets, although in the case of Argentina, there could be some risk if a successful debt swap is arranged. Meanwhile, Mexico is too closely linked to the U.S. economic cycle as to be serious concern about the appreciation in 2010.

To sum up, the region is emerging strengthened from a global crisis, for the first time in a century

What is really new about this episode is that Latin America is, in relative terms, emerging strengthened from an unprecedented global crisis for more than half a century in terms of its intensity and scope. This represents a very fundamental change with respect to the past, where the vulnerability of the economies in the region was such that they ended up amplifying the external cycles, particularly when they were negative. The change is the result of improved external conditions in the period before the crisis and the swift recovery of commodity prices; but without a doubt it also reflects profound structural changes in the region.

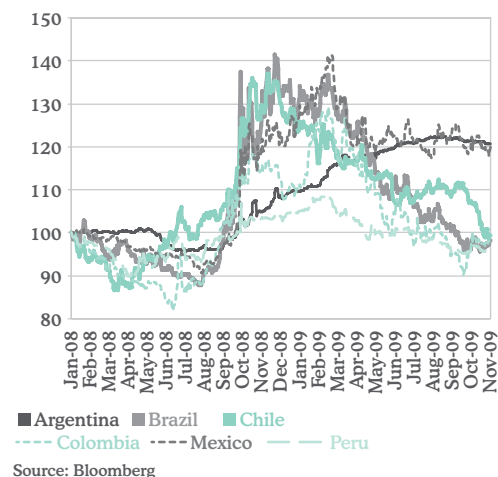
First, it is worth highlighting the presence of solvent central banks with a very well-earned credibility in the fight against inflation. Second, economies are much more flexible, with prices that reflect market fundamentals much better (including interest and exchange rates) and a greater degree of openness in the region.

Third, and decisively in the current situation, fiscal institutions and policies have improved the assets and financial situation of governments, giving them room for fiscal maneuver that is unprecedented in the region.

Last but no less importantly, financial systems have learned from the crises in the past. This has been expressed in better regulations, better supervision and much more careful conduct by banks. In this occasion, despite the severe liquidity crisis of the end of 2008, no banks have collapsed and the default rates have risen only moderately, without jeopardizing the financial institutions. In no country in the region have bank rescues been required.

As a result of all these circumstances, opinions have improved regarding the economic capacity of the region to absorb adverse external shocks, which has historically been one of its weaknesses. This will assist its future integration into the world economy and allow them to access capital on better terms that the region needs for its growth.

Latin America: Exchange Rate Index January 2008=100



Box 1. Capital controls: lessons from the Latin American experience

The bankruptcy of Lehman Brothers thrust the emerging world into the global financial crisis, with a period of intense foreign exchange volatility and currency depreciation as their initial symptoms (see chart). Subsequently, the recovery of some of these currencies has been just as intense. In fact, a number of countries (Brazil, Chile, Colombia and Peru) show today a net appreciation since the Lehman Brothers collapse.

Chart 1.
Latin America: Exchange Rate
(% variation since Lehman Brothers)



The recent appreciation has begun to become a problem: first, it leads to deterioration in competitiveness; second, it may make exit strategies in the region more difficult. Until now, the initiatives to counter this trend have been limited to the purchase of foreign currency on exchange markets. But together with these interventions, more aggressive measures are being adopted by Brazil, which has re-imposed¹ a tax of 2% on capital inflows, both in equity and fixed-income markets. The transactions associated with foreign direct investment (FDI) are exempt, as their motivation is not deemed speculative². Within the region, Colombia appears to some analysts as another possible candidate for imposing this kind of check on the free movement of foreign capital³.

With some countries in the region moving towards greater control of their capital accounts, it is worth wondering about the effectiveness of these kinds of measures. This section

¹ Brazil had already levied a tax of 1.5% on capital inflows in March 2008. The measure was in force until October of that year.

² FDI flows tend to be exempt from the payment of this kind of tax, as in addition to the theoretical benefits that are provided to the recipient economy (increase of the stock of physical and human capital and export capacity, among others), they respond to long-term business decisions, allegedly being more stable than portfolio or debt flows.

³ We consider it improbable that these controls will be applied in Colombia, given that most flows into the country are FDI and debt flows used for public financing needs.

covers the experience of the region in applying controls to limit the inflow of short-term capital, which goes back to the start of the 1990s, and whose maximum exponents are Brazil, Chile and Colombia. During this period, these three countries were immersed in a process of economic reforms that, among other goals, involved an extensive liberalization of the financial account, which in turn increased the arrival of capital flows. This process generated two economic policy concerns: first, the major entry of capital from abroad put pressure on the appreciation of the currency, affecting the competitiveness of the countries; second was the added problem that the capital account could be excessively biased towards short-term flows, more procyclical and thus liable to abrupt reversions.

Initially, the response of these governments was to counter the appreciation of their currencies by foreign exchange interventions, together with sterilization to prevent inflationary pressures. However, eventually both the associated cost of sterilization⁴ and its low level of effectiveness in halting exchange rate pressures forced the adoption of more coercive measures. In the cases of Chile and Colombia, the main instrument for moderating the capital inflows was the adoption of non-remunerated reserve requirements. In Chile, these non-remunerated requirements appeared in 1991. They were initially fixed at 20% for 90 days, and in the following years reached as high as 30%, with a minimum duration of a year. The adoption of reserve requirements was also accompanied in the Chilean case by other temporary minimum limits for maintaining investment from abroad, both direct and portfolio, as well as more restrictive conditions on the foreign indebtedness of Chilean companies, along with the liberalization of capital outflows.

Starting in 1993, Colombia established this kind of reserve requirement for international short-term loans, as a complement to a tax of 10% on some foreign transfers. These kinds of measures were also applied to short-term entry flows in more recent periods (2004, 2007). In fact, and temporarily, Colombia completely banned the entry of investments with a horizon of less than 12 months.

The experience of Brazil in applying controls on capital accounts is contemporary to that of Colombia and Chile. But in addition to responding to the effects derived from liberalizing economic reforms, it was the result of the combination of persistent public financing needs with extremely strong price pressures. This required a high interest rate spread with abroad, thus fostering the entry of foreign capital. In this context, the attempt to remove incentives for short-term capital flows was focused on fixed-income. The minimum term period for foreign loans were

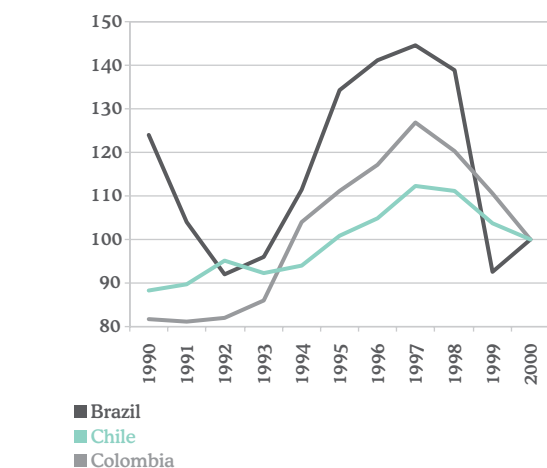
⁴ For the vast majority of emerging economies, sterilizing transactions have a cost associated to a positive interest rate spread (the interest rate of sovereign domestic debt is greater than that of foreign debt)

increased, foreign-currency bank debt was reduced and an “entry fee” was imposed on foreign investment in fixed capital. In 1994 this was extended to all portfolio investments. At the same time, measures were introduced to impede the capacity for financial innovation designed to overcome regulatory restrictions on foreign investment in short-term assets.

Are capital controls effective?

The evidence of the effectiveness of capital controls is strongly linked to their specific objectives. In general, the empirical literature does not find that these measures have a significant effect on the exchange rate trend⁵. In the case of the three countries surveyed here, the measures did not stop the real effective exchange rate from appreciating until the Asian crisis of 1997.

Chart 2.
Real effective rate
(2000 = 100)



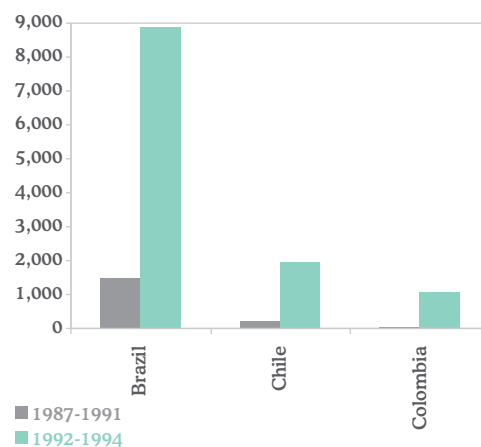
Source: IIF

If, on the other hand, the objective is to limit the volume of entry flows, the results of the econometric literature are somewhat more favorable. Although capital controls could not prevent a greater inflow of what was considered short-term capital in the three countries (see chart), there are various studies that find a limiting effect on this volume⁶. In general, this effect is brief and its effectiveness is limited to the months immediately following the adoption of controls.

⁵ For an extensive summary of the conclusions of the empirical literature, see Reinhart et al. (2007).

⁶ Some references for this are De Gregorio et al (1998) in the case of Chile, Cardoso and Goldfajn (1998) for Brazil, and Ocampo and Tovar (2003) for Colombia

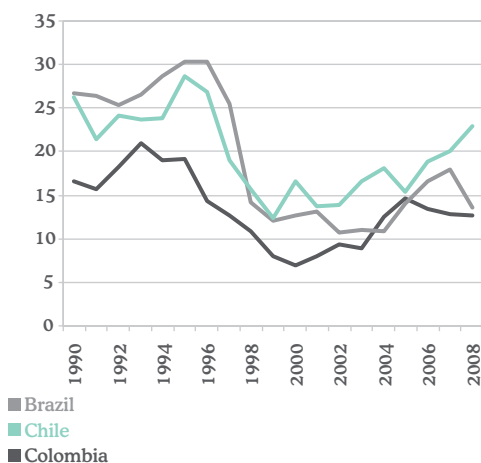
Chart 3.
Portfolio equity and short term debt net flows
(M USD, average)



Source: Global Development Finance

Finally, controls appear much more effective for modifying the composition of capital flows, by biasing the financial account to longer-term flows. This trend can be extended to external borrowing: the chart shows a falling trend in the proportion of short-term debt for the three countries, which for some econometric studies is directly attributable to the adoption of controls⁷.

Chart 4.
Ratio short-term external debt over total external debt (%)



Source: FMI

⁷ In the case of Colombia, Ocampo and Mora (1999) find that the reserve requirements contributed significantly to an increase in the average term of the country's external debt. A similar move towards long-term flows can be found for Chile: see Soto (1997) and De Gregorio et al. (1998).

In short, the experience of Latin America in imposing these controls suggests that they have been much more effective in biasing the financial account towards longer-term flows, but not so much in reducing the total volume of flows, and above all in reducing the appreciation pressures on the exchange rate. Among the factors that have worked against the effectiveness of these controls is their incomplete coverage. A significant part of the capital flows have been exempt, specifically FDI, during a period in which these kinds of flows received an extremely significant boost through the privatization of public companies. At the same time, some authors point out that the imposition of this kind of measures may favor greater inflows if they lead to lower economic vulnerability⁸. But perhaps the conclusion that is generally most common among empirical studies is that one of the main impediments to the effectiveness of these measures is the degree of financial development, which in these countries is sufficiently high to allow economic agents to elude controls through financial innovation. Thus to the extent that the process of financial development in Latin America has continued in the present decade, the effectiveness of capital controls may have been reduced over time.

This last consideration appears to be precisely the case of the last attempt by Brazil to control its financial account⁹. But in addition, the closeness in time of a cycle of greater monetary restriction in Brazil, with the first rises in interest rates forecast for the second quarter of 2010, will be an additional stimulus for the appreciation of the real. Thus we expect the Central Bank to continue with its policy of buying foreign currency and thus accumulating reserves¹⁰. At the same time, we cannot rule out the possibility of additional measures, which could range from an increase in the rate of the IOF, to a liberalization of capital outflows. Some of these options, however, present their own limitation in terms of containing the upward pressure on the exchange rate¹¹.

⁸ This is the conclusion of Cordella (1998)

⁹ For a more detailed explanation, readers should see the latest edition of Brazil Watch, available on <http://serviciodeestudios.bbva.com/KETD/ketd/esp/nav/geograficas/latinoamerica/brasil/index.jsp>

¹⁰ Our forecasts estimate a level of reserves of USD 245 billion for the end of 2009 (currently the figure is USD 235 billion) and of USD 280 billion by the end of 2010

¹¹ The greater flexibility in capital outflows could, for example, act as an additional incentive to inflows, since they allow capital to be repatriated easier at a later stage.

References:

- Ariyoshi, Akira; Karl Habermeier, Bernard Laurens, Inci Otker-Robe, Jorge Iván Canales-Kriljenko and Andrei Kirilenko (2000): "*Capital Controls: Country Experiences with Their Use and Liberalization*". IMF occasional paper 190.
- Cardoso and Goldfjan (1998): "*Capital Flows to Brazil: The Endogeneity of Capital Controls*". IMF Staff Papers, 45 (1), pp. 161-202.
- Cordella (1998): "*Can short term capital controls promote capital inflows?*" IMF working paper 98/131.
- De Gregorio, José, Sebastian Edwards and Rodrigo Valdés. 1998. "*Capital Controls in Chile: an Assessment*" Presented at the 11th Interamerican Seminar on Economics, Rio de Janeiro, Brazil.
- Edwards (1999): "How *effective are controls on capital inflows?*". Journal of Economic Perspectives Vol 13, nº 4.
- Ocampo and Tovar (2003): "*Managing the Capital Account: Colombia's Experience with Price-Based Controls on Capital Inflows*". Revista de la CEPAL, #81.
- Reinhart, Carmen and Magud, Nicolas (2007): "*Capital Controls: An evaluation*". MPRA paper #14097.
- Soto, Claudio. (1997). "*Controles a los Movimientos de Capitales: Evaluación Empírica del Caso Chileno*" Banco Central de Chile.

José Ramón Perea
jramon.perea@grupobbva.com

Box 2. Inventory changes and cyclical adjustments

The contraction in global activity in 2008 and part of this year has highlighted the importance that the change in inventories usually has during economic fluctuations. Although they represent a small fraction of total output, their volatility makes their contribution to GDP changes substantial, in particular during slumps.

Why do companies maintain inventories? In an environment of uncertainty about sales and random interruptions of inputs supply, inventories are used to avoid interruptions in productive processes and ensure supplies to customers. However, this represents an opportunity cost, as a finished product that is not sold today is an income that does not generate a return.

The model of smoothing production assumes that a company incurs costs to modify its level of production. For this reason, it will accumulate or reduce its inventory stocks to maintain production levels constant while sales levels fluctuate. In fixed-cost minimization model for purchase orders it is assumed that the acquisition of raw materials involves fixed costs, so that the company will prefer to accumulate inventories in such a way that the frequency of purchases is reduced. However, as the interest rates rise or access to finance becomes more uncertain, inventories will fall as their opportunity costs increase.

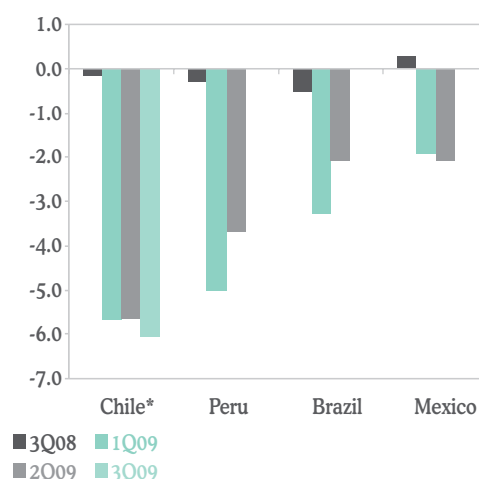
How is the usual dynamic of the inventory cycle linked to fluctuations in the product? The inventory cycle begins with an unexpected reduction in the demand that generates an undesired increase in inventories. To eliminate these excesses, companies reduce their production levels (even to below the sales level), as well as their employment level. This contracts demand even more. As a result, the drop in the product becomes even more severe. As the inventory stock converges to the target level and demand recovers, production will not be sufficient to satisfy greater sales and prevent falls in inventory levels. In this context, production will have to be increased above demand to restore the desired inventory level, with the consequent positive effect on economic activity.

During the current international financial crisis the inventory adjustment process has been particularly intense and different from usual: instead of there being an unexpected increase in stocks before the decline in final demand, we witnessed inventory reductions possibly anticipating major falls in final demand, in an environment in which access to credit was much more uncertain due to the financial crisis. In the region, in particular, severe stock corrections have been observed. In Brazil and Mexico, for example,

inventories contributed with about 2 pp to the fall in output in 2Q09, in an environment of significant contraction in industrial production. In Chile, the downward adjustment of inventories reached a high in 3Q09, when its contribution to GDP was negative by 6 pp. Finally, in Peru, the inventory changes have had a negative contribution to output growth since 4Q08, with a maximum of -5 pp in 1Q09. In Peru, inventory adjustments led output to be paralyzed in some industrial branches such as steel, where there was an unexpected (given the fall in sales) increase in the number of days needed to liquidate stocks (from 187 days in 2Q08 to 329 days in 3Q08).

The most recent information as to whether the process of inventory reduction is being absorbed in Latin America is mixed. In Brazil, for example, although the contribution of inventory change to GDP growth is still negative, its size in 2Q09 (-2 pp) was smaller than in the previous quarter (-3.3 pp). In the case of Peru, the indicator of inventory levels (published by the Central Bank) suggests that inventory reduction came to an end in August, after ten months of falls. However, the most recent data available for Chile and Mexico reflects that the negative contribution of this factor has increased with respect to what has been seen in previous quarters.

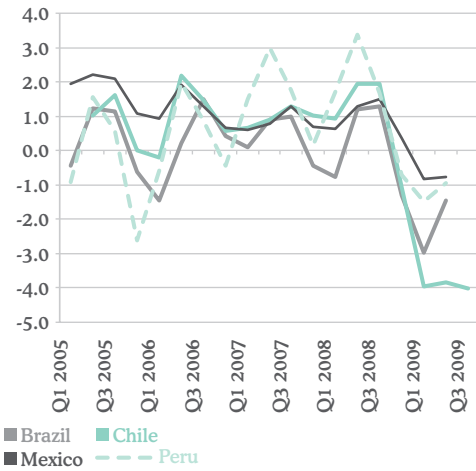
Chart 1.
Latin America: Contribution of changes in inventories to GDP growth (pp)



Source: National Statistics
(* It is the only one with data for 3Q09)

As inventories reach desired levels and there is greater optimism regarding the recovery of economic activity, companies will reactivate their production to meet demand, which could give an additional boost to activity in the short term.

Chart 2.
Latin America: Change in Stocks
 (% of GDP, moving average 6M)



Source : National Statistics

Hugo Perea
 hperea@grupobbva.com.pe

4. In Focus

4.1. The crisis and international trade

General and synchronized freefall

One of the most startling manifestations of the current crisis has been the unprecedented slump in world trade in the last quarter of 2008 and the first quarter of 2009, of 21% and 22% respectively in nominal and quarterly terms. About half of this nominal fall is the result of lower prices of products traded internationally, particularly commodities and oil. The other half, 7% and 11% to be precise, still leaves a very high figure, too high if compared with the fall in demand, the main determinant of international trade flows. However, international trade is essentially made up of goods, while in the GDP the component of services is much more important, and less sensitive to cyclical adjustments.¹ Thus it is more pertinent to compare the fall in trade with that of industrial output. The latter fell by 6% in each of the black quarters, a figure that is very similar to the 7% and 11% mentioned above.²

Thus what was perhaps most notable in the slump in international trade was not so much its size which, as we have just seen, coincides fairly well with the general fall in industrial production, but its sudden and synchronized spread. More difficult credit conditions squeezed the chance of spending around the world, including spending on imports. But the international division of labor (vertical specialization of international production) also speeded up the mechanism that transmitted the crisis. Today, chains of production are so internationally fragmented that the products or their components have to pass through various borders before reaching the end consumer. In fact, consumer goods represent less than 27% of world trade in goods (excluding oil). The rest are intermediate goods (50%), capital goods (20%) and primary goods (3%). So when a financial shock affects demand in a country (the U.S., for example) and thus the demand for imports of goods whose chains of production are fragmented (cars, for example), then the demand for components required by trading partners to produce this good (automotive equipment) also falls quickly and automatically. Some of these components are produced in the country where the shock originated, and this immediately reduces its exports as well, amplifying the effect of the initial shock.

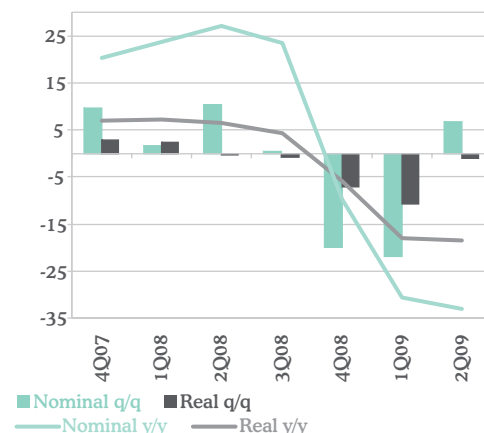
In this manner, the financial crisis that began locally in the U.S. in 2007 ended up affecting the real economy in 2008 and spread to all other geographical areas, even those countries without major financial problems, largely through international trade. The international fragmentation in production processes meant that the negative shock on durable goods had an immediate effect on intermediate goods (which make up half of world trade in goods), and thus impacted the whole world. The positive side to this shock-transmission freeway is that it also works for the recovery: in nominal quarterly terms, after

¹ In addition, GDP is generally deflated using purchasing power parity price indices, while for trade the sectoral prices observed in international transactions are used. If we use the same deflator in both cases the figure is even closer.

² Although the fall in trade is still bigger than that in output. Box 3 "A model for international trade" in this publication explains this overreaction as due to lack of credit.

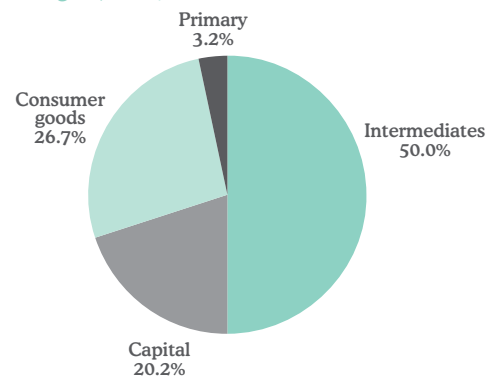
Soledad Zignago
soledad.zignago@grupobbva.com

World trade: nominal and real evolutions, y/y and q/q



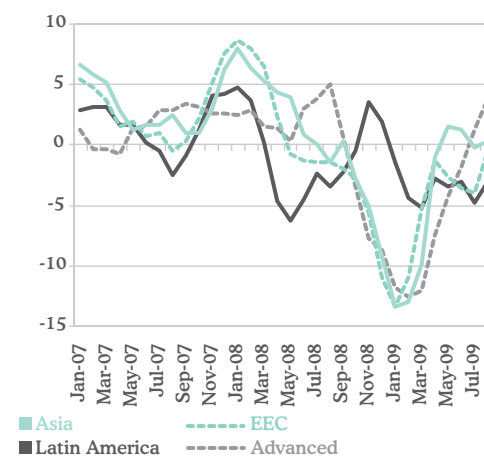
Source: CPB (volumes) and WTO (values)

World trade by stage of production (excluding oil, 2006)



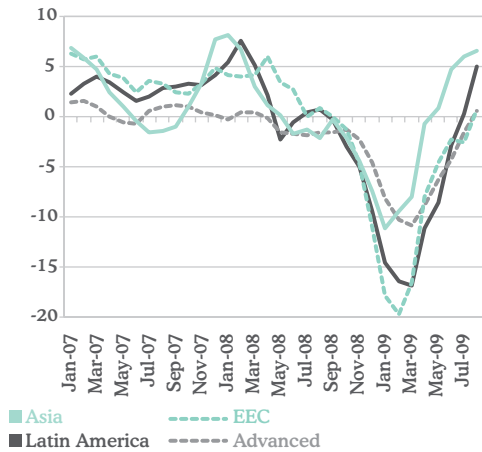
Source: Author calculation using BACI datasets and BEC classification

World exports: % q/q change (from averages of the last 3 months)



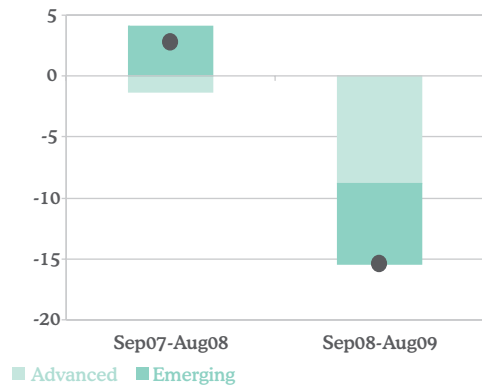
Source: CPB

World imports: % q/q change
(from averages of the last 3 months)



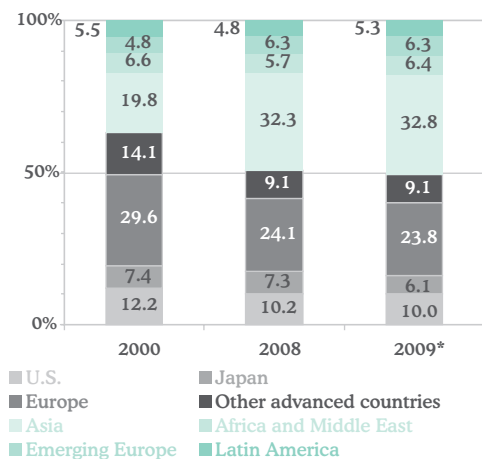
Source: CPB

World trade growth: Contributions of advanced and emerging countries



Source: CPB

Volume of world exports: market shares



Source: CPB. 2009 *: August included and Economic Research Department BBVA

falling 21% and 22% in previous quarters, world trade grew by 8% in the second quarter of this year.

All countries in the world saw their exports plummet drastically, practically at the same time. However, Latin America appears to have suffered less and was affected later by this collapse³, and therefore positive growth rates in Latin American exports volumes are still not being observed. The growth in imports follows a different pattern; on one side there is Asia and Latin America, which have registered extremely significant growth in recent months; and on the other, Emerging Europe and developed countries that barely returned to positive growth rates in August. The different growth levels of exports and imports thus appear to be following the timing of recovery in the different economies. Those that have practically already recovering can begin to import, and the others can only take advantage of this emerging international demand and export again.

Winners and losers

When trade grows -and in the last decade it has grown considerably - the motor of this growth are emerging countries. When trade falls, those responsible are advanced countries. This general rule is applicable to the slump at the end of 2008. Advanced countries' contribution to the slump is much more significant than their contribution when world trade grows.

Moreover, the collapse in world trade reinforces the trend that has been observed in a sustained fashion over the last decade: the emergence of new exporting powers inevitably eats up the market share of advanced countries. From 2000 to 2008 exports of developed countries lost 1.6 percentage points of market share per year. According to the latest data available (August 2009), the increase this year is already 1.5 percentage points, so that exports of emerging countries are now in the majority, at 50.9% of the total.

The main winner of this global market share in volume is Asia, which has gained 13 points since 2000, mostly thanks to the spectacular growth in Chinese exports. Another important winner in this decade is Emerging Europe, which has gained 1.5 percentage points. The relative position of Latin America and Africa and the Middle East is more stable. While they are major exporters of commodities, their performance in terms of volume depends greatly on price fluctuations (and on the valuation of these prices when calculating volumes). What is true is that none of the emerging countries has lost market share if we compare the year 2009 so far with 2008. Given the recovery of recent months, in trade flows, demand and in global credit, this trend for the increasing weight of emerging countries should become consolidated.

The performance of Latin America

The performance of Latin American exports by countries and main sectors is fairly varied. We will now look at an analysis in nominal

³ Japan was the country that suffered the crisis most, and also showed the most significant upturn in recent months.

terms.⁴ If we consider the periods 3Q07-2Q08 and 3Q08-2Q09, year-over-year growth slumped in all countries in the region, although this varied in intensity. The falls range from -22% and -21% for Chile and Colombia, -12% and -8% for Mexico and Paraguay, -1.6% and -1.1% for Argentina and Uruguay, to a growth of 0.5% for Brazil.

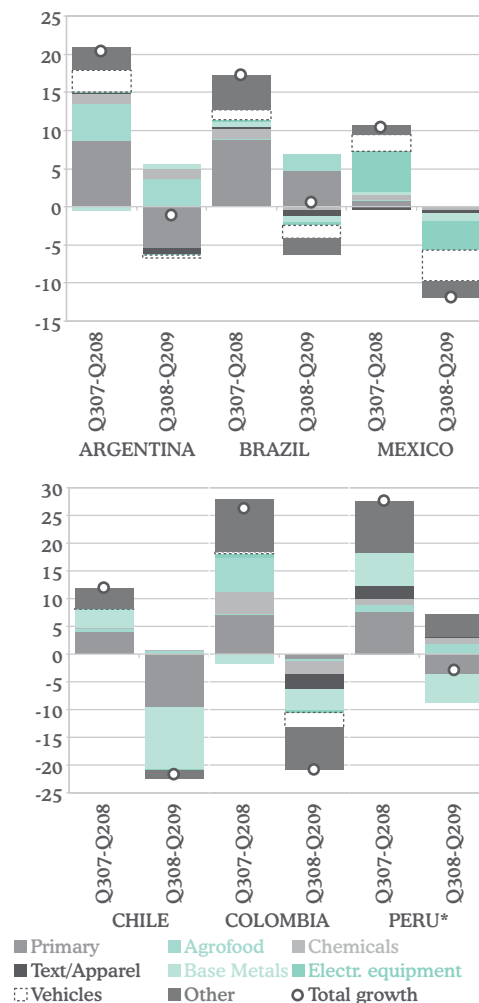
Within these different growth figures, the contributions of each sector are even more varied and depend on the countries' export specializations, both in terms of the main customers and the products that each exporter is specialized in. Among the "guilty" sectors we find vehicles, basic metals and primary goods, although not all countries are equally affected. Thus the automotive sector explains much of the fall in Mexican exports; the chart shows how its contribution to the fall is more important than its contribution to growth was in the previous period. The falling demand in the U.S. and the intra-NAFTA⁵ integration production in this sector explain this negative contribution in Mexico, but a similar effect can also be seen in Brazil and Colombia. Basic metals, a sector of intermediate goods that, as we pointed out above, are basically those that suffer most when the supply chains are cut, explain half the Chilean exports fall and much of those in Colombia. Primary goods, which had made a major contribution to growth in most countries, contributed negatively over the last year in Argentina and Chile, but positively in Brazil. The agro food industry stands out in terms of positive contributions.

⁴ Since the volumes of trade are values that are deflated by international trade price indices, there is no harmonized global database that provides information by country and quarter. The CPB Netherlands Bureau for Economic Policy Analysis is the only source of this kind of data with a global and quarterly coverage, but it only gives details by major geographical regions, as we have given up to now. In this section we will therefore use quarterly data from the United Nations. These have the advantage of providing detailed information by sector up to the second quarter of this year. The downside is that Venezuela does not report quarterly data and that Peru has still not reported those for this year. We have excluded oil from the analysis.

⁵ NAFTA: North America Free Trade Agreement

Growth of exports by sector

(%, y/y)



Source: BBVA calculations using United Nations data. Contributions to exports y/y growth in the latest year available, 3Q08-2Q09, and the previous one, 3Q07-2Q08, excepted Peru, which is calculated with y/y growth of the latest half available, 3Q08-4Q08, and the previous one, 1Q07-2Q08. Venezuela reports this data by products only yearly to the UN.

Box 3. A model for international trade

The spectacular slump in world trade at the end of 2008 and the first months of 2009 has been unexpected in size and exceeded the falls in GDP or world industrial production.¹

Lack of demand and/or lack of finance?

How can we explain this overreaction of international trade to output? There are various elements that help explain this, but composition effect is critical. Capital and intermediate goods are over-represented in international trade, reflecting the industrial activity. Two types of perverse effects have particularly affected these goods during the crisis.

First, capital and intermediate goods are more sensitive to changes in expectations of demand. The international financial crisis and its impact on the real economy, which extended throughout practically all the economies at the end of 2008, led to excessive anticipations of a reduction in demand. This triggered a reduction in industrial output, and cuts in the supply chains (high levels of destocking)².

Second, capital or equipment goods depend heavily on credit. The crisis increased the levels of risk aversion and had negative confidence effects for both manufacturers and financial institutions. The automotive industry is a good example to illustrate these perverse mechanisms: highly internationally traded this sector is among the first to suffer a change in expectations, and even more so if the availability of credit reduces. Typically, these goods are not the kind bought at times of recession.

In a nutshell, the main explanation for the unprecedented collapse in world trade is the overall fall in demand, but the overreaction (of trade respective to output) can be explained by the lack of finance, which particularly affects the goods most traded internationally. Obviously, the scarcity of trade finance reinforces the effect of the general shortage of liquidity.

Therefore, in this box we aim to measure the sensitivity of international trade to these both factors: demand and finance. We do this by using a gravity model that explains the bilateral flows over the last 20 quarters between the main countries in the world (61 exporters and importers, both emerging and developed economies). Exports (quarterly and nominal) of a country i to an importing country j (X_{ij}) are explained both by the conditions of demand, represented in the model by the nominal GDP levels of the importer (GDP_j), and those of supply, expressed by the exporter (GDP_i), as well as by the levels of credit to the private sector in both trading partners ($Cred_i$ and $Cred_j$). The specification controls for fixed

quarterly effects and fixed country-pair effects. As is now standard in this literature, these country-pair fixed capture the costs of bilateral transport, relative prices, bilateral trade agreements and other bilateral characteristics. All the variables are expressed in logarithms so that the estimated coefficients can be interpreted as elasticities.

$$X_{ij} = \alpha_1 GDP_i + \alpha_2 GDP_j + \beta_1 Cred_i + \beta_2 Cred_j + \Sigma \gamma_{ij} + \Sigma \delta t$$

Dependent Variable: Bilateral Quarterly Exports	Coefficient
Exporter GDP	0.27***
Importer GDP	0.32***
Exporter credit	0.09***
Importer credit	0.14***
Pair of countries fixed effects	YES
Quarter fixed effects	YES
R ²	96.2%
No. of observations	60581

Note: *** means significant at the 1% level. Sample: 61 exporters and importers in the last 20 available quarters. The dependent variable is the bilateral exports values in logs. Nominal GDPs and country specific credit levels to the private sector are also expressed in current dollars and logs. Source: United Nations for trade and IFS for GDPs and credit to the private sector.

The results confirm the impact of demand and credit, both on the side of the exporter and importer, on bilateral trade flows. The magnitude of obtained coefficients indicates a clearly greater effect on GDP and in particular on demand in the importer country.³ However, the sensitivity of bilateral trade to private sector credit is important, as its elasticity is nearly half that obtained for the GDPs. Thus it can be said that credit levels can be added to the traditional explanation of demand. These determinants explain the fall in world trade as well as its subsequent growth. The recovery that has recently been observed, both in terms of GDP and credit, is already having an effect on the most recent movements in world trade.

The drag effect of increased growth in Brazil and China on the region

We can use this model to carry out a simple exercise that estimates the impact on the exports of countries in the region of economic recovery in two of the main emerging economies: China and Brazil.

For this purpose, in addition to the variables incorporated in the general model presented above, we introduce

¹ For more details, see the article "The crisis and international trade" in this edition of LatinWatch, second semester 2009.

² Please see box 2 "Inventory changes and cyclical adjustments" of the current issue of Latinwatch (second semester 2009).

³ These elasticities have also been tested as robust to the crisis. There is no significant change in the results in the quarters when trade collapsed.

variables that interact the importer GDP with fixed effects for the pairs of countries for which we want to capture a specific effect. Specifically, in a second estimation we add pairs of trade relations between each of the Latin American exporters and Brazil multiplied by the GDP of the importer (as a logarithm). These variables capture the additional effect of each bilateral relation on average elasticity (which was 0.32 in the first estimation). Similarly, in a third estimation the fixed effects corresponding to all the bilateral exports of Latin American countries to China are added. In this way, the total impact of an increase in GDP in Brazil (or China) on the exports of each of the countries is calculated by adding to the global coefficient the coefficient obtained by each bilateral relation. These are mostly significant and largely positive in the Brazilian case.

The differentiated impacts of growth in Brazil and China are reflected in charts 1 and 2 respectively. In these it can be observed that the elasticity of Latin American exports to Brazil

as a result of an increase in Brazilian GDP is greater in countries such as Venezuela, Argentina, Bolivia, Uruguay and Paraguay, reflecting the export specialization of these countries, for which Brazil is the main buyer (except in the case of Venezuela).

As is to be expected, the elasticity of Chinese growth to exports from countries in the region is limited in comparison with that of growth in Brazil. However, significant effects can also be observed, with differences between countries. Growth in China will have a greater effect on the exports of countries such as Argentina and Pacific countries: Chile, Costa Rica and Peru. The results of the latter three countries are once more determined by their geography, and certainly also by their trade agreements with China.

Myriam Montañez
 miriam.montanez@grupobbva.com
 Soledad Zignago
 soledad.zignago@grupobbva.com

Map 1.
 Exports elasticities to Brazil



Source: United Nations, National Sources and Economic Research Department BBVA

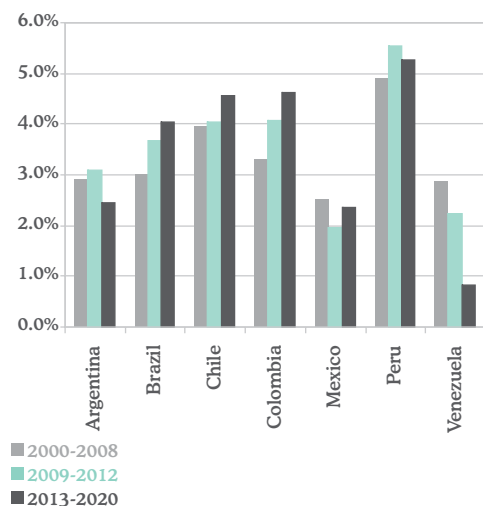
Map 2.
 Exports elasticities to China



Source: United Nations, National Sources and Economic Research Department BBVA

Latin America: GDP growth

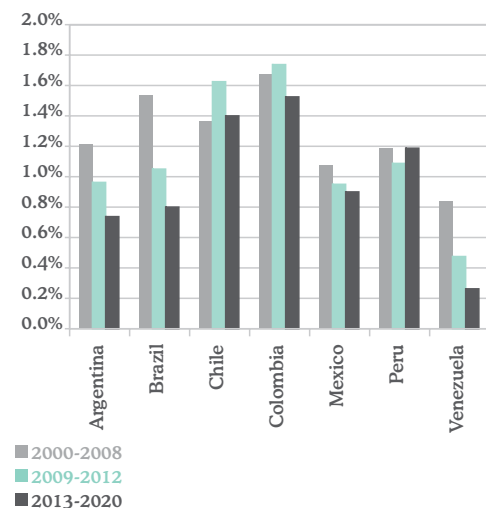
(avg. % y/y change)



Source: Economic Research Department BBVA

Latin America: Employment contribution to GDP growth

(% y/y change)



Source: Economic Research Department BBVA

4.2. Potential growth in Latin America and its determinants

Latin America had a disappointing level of long-term growth in the 20th century; in fact, the difference between the region's average per capita income and that of developed countries increased. However, at the start of the 21st century things appear to be improving. There are signs that Latin America may slowly begin to reduce this gap. But the process will not be automatic, as some major challenges will have to be confronted. These subjects will be examined below, starting with a brief discussion on the measurement of potential growth, its determinants and the results for the region¹.

There are various ways of estimating potential growth: first, those based on applying statistical techniques to identify the trend and cyclical component in GDP. The application of the Hodrick-Prescott filter, the Beveridge-Nelson decomposition and the unobserved component methods are among those within this group. Second, there are methods that use economic theory to establish structural relations between variables. Within this category, the method based on a function of aggregate production is one of the most commonly used techniques, as it includes information provided by various macroeconomic aggregates (basically the level of utilization of production factors) in estimating potential output. This allows the method to identify sources of growth among production factors and productivity.

We use the last methodology to offer an estimate of potential output in Latin America. For this purpose, we use a Cobb-Douglas output function, which after taking logarithms presents the following general form:

$$\ln Y_t = \ln A_t + \alpha \ln K_t + (1 - \alpha) \ln L_t$$

where Y is real GDP, K is the stock of real capital and L the hours worked. Given the logarithmic specification, the α and $(1 - \alpha)$ parameters are the elasticity of capital and labor, respectively. In our study, the α value has been set according to the reference values that literature gives for each country. This gives us a range of values of between 0.31 for Venezuela and 0.48 for Chile. If the elasticities of production factors give a sum equal to 1, hence leading to constant returns to scale, and positive decreasing returns for each factor of production, manifested in coefficients α and $(1 - \alpha)$ between 0 and 1.

Total factor productivity (TFP) is given by the unobserved variable A, which is calculated as a residual. Depending on the availability of data by country for production factors and output, we obtain an estimate of the TFP for the 7 main economies in the region (Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela) between 1960 and 2008. After estimating the TFP, its trend component is extracted by a Hodrick-Prescott statistical filter, which we extend to the last year of our prediction horizon (2020) by autoregressive models. The same statistical filter is applied to the unemployment rate to obtain the structural unemployment rate or the non-accelerating inflation rate of unemployment (NAIRU), i.e. the rate that is congruent with an employment level that does not generate inflationary pressures. Using this we obtain the trend

¹ The results shown below correspond to estimates by the BBVA Economic Research Department in each of the countries, and are based on a common methodological approach that is part of a global exercise coordinated by Rafael Domenech, assisted by Miguel Cardoso.

component of the hours worked (L). This variable may be obtained from the trend components of the hours per worker, unemployment rate and activity rate.

Results

As can be seen from the chart, various countries will experience a significant increase in their potential growth. Compared with the last expansive cycle, this change is particularly relevant in the case of Colombia, Brazil and, to a lesser extent, Chile. Peru will register smaller increases, but the biggest levels of potential growth, at over 5% throughout the forecast range.

In contrast to this favorable future, other countries show a reversion in their potential growth. The most significant case is Venezuela, which will lose 2 percentage points of growth (from an annual average growth of 2.9% in the current decade to 0.8% in the 2013-2020 period). Argentina and Mexico will also see their growth reduced, although to a much lesser extent than Venezuela.

Before entering into the differences that lie behind this variation in potential growth, we can point to a relatively similar behavior in the contribution of the labor factor to growth. In most cases, this contribution falls with time or remains unchanged (Chile and Peru). The major slowdown in the birth rate since the 1960s is the main limit to the contribution of the labor factor here, as it will reduce the entry of new workers into the active population. This explains, for example, the significant reduction in the contribution of labor in the case of Brazil.

The fall of the contribution of the labor factor is compensated by capital in some countries that are moving forward on a path of greater growth. This is what is happening in Peru and Brazil, as they combine progress in macroeconomic stability with relatively large domestic markets and a high growth margin. This is combined with a low level of capital endowment, which also has substantial growth possibilities.

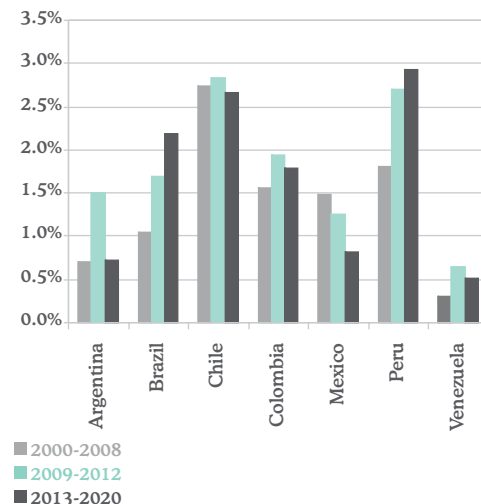
Compared with the role of capital stock in the case of Peru and Brazil, there are other countries whose forecast increase in potential growth is determined more by a greater contribution of productivity. This is the case of Chile, where productivity is playing an increasingly important role in the long term, together with stable behavior in the contribution of factors of production. This to a large extent responds to the return to a more normal path after the major shock represented by the energy supply crisis (natural gas) over recent years. This growth pattern also appears in Colombia, where the forecast contribution of TFP will increase by more than one percentage point after 2013.

If we concentrate on the group of countries that are moving towards a lower potential growth, we can also see important differences. The most notable fall in this variable is in Venezuela, while there are less marked reductions in Argentina and, above all, Mexico. In the case of Mexico, potential growth falls in the year immediately after the crisis, as a result of the greater relative impact of the financial crisis, manifested in lower investment and an increase in structural unemployment². In fact, in the case of Mexico the potential growth level will at no time in our forecast horizon exceed the potential growth of recent years.

² A more detailed analysis of the Mexican case is included in the last Situation Mexico, available on <http://serviciodeestudios.bbva.com/KETD/ketd/ing/nav/geograficas/latinoamerica/mexico/index.jsp>

Latin America: Capital contribution to GDP growth

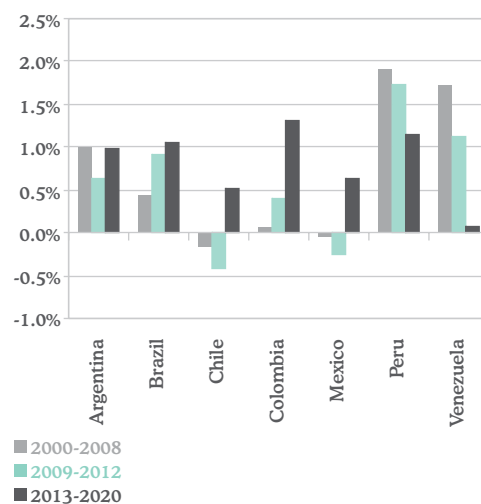
(% y/y change)



Source: Economic Research Department BBVA

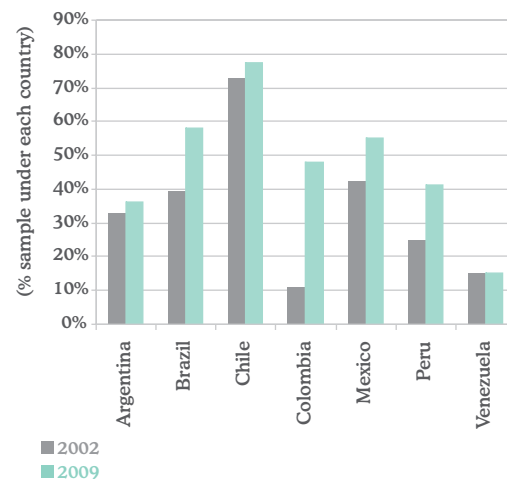
Latin America: TFP contribution to GDP growth

(% yoy change)



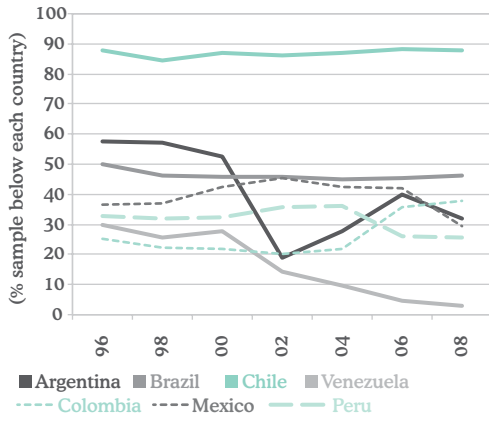
Source: Economic Research Department BBVA

Latin America: Global Competitiveness Index



Source: WEF

Latin America: Rule of Law



Source: World Bank

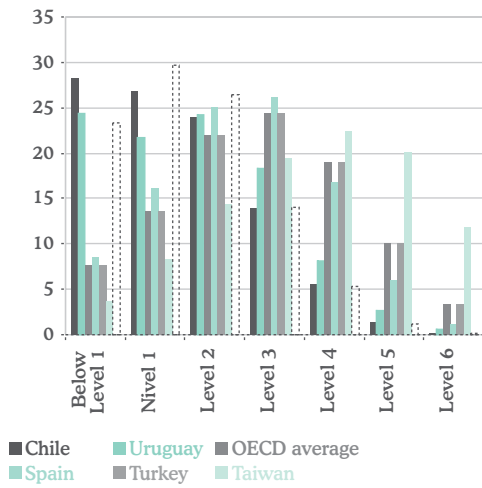
Argentina and, above all, Venezuela, respond to different considerations, as in both cases the reduction in potential growth is much less related to the global crisis. In the case of Argentina it reflects a fall in the contribution of capital towards the end of the time horizon. In the case of Venezuela, the reduction is the result of a sharp fall in the contribution of TFP, to the point that capital, which is a marginal contributor to the most recent growth, will become the main engine of a much more reduced growth.

With regards to the future, the greatest challenge faced by these countries is to create the conditions that promote a greater contribution of total factor productivity and capital to economic growth. This does not happen automatically and requires the creation of an economic environment that fosters long-term investment and innovation. Unfortunately, various indicators on the business climate and the quality of the institutional environment are not positive for the region, despite some countries have progressed significantly on these issues.

In addition, the region also presents significant deficiencies in the development of human capital. This is an important shortcoming when the objective is to move from an economy that is more intense in capital and productivity and less so in the increase in the labor force. Although the region has registered major progress in the coverage provided by its educational systems, this has still not resulted in improvements in the knowledge and skills levels acquired by students. Standardized international tests, such as the OECD PISA test, for example, show that the best countries in the region are comparable with OECD countries such as Turkey or Thailand, which has an average per capita income far below the Latin American average.

In short, the gradual move from labor-intensive growth to growth that is more dependent on capital supply, innovation and efficiency gains is not automatic and will require considerable efforts to make the region more attractive for investors (national and foreign) and to compensate a lower contribution by the size of the labor force with workers with greater human capital. Given that demographic trends are unlikely to reverse, and that the region is reaching the final stages of the demographic boom, it is essential that these reforms are adopted quickly.

Report PISA (2006)



Source: OECD

5. Statistic and forecasts

International Context

Commodities (end of period)							
	2008	2009	2010		2008	2009	2010
Brent (USD/barrel)	45.6	60.6	68.3	Soybean (USD/t.)	343	368	339
Copper (USD/t)	3070	5732	3969	Corn (USD/t.)	144	130	136
				Wheat (USD/t.)	216	168	160

Real GDP (%)				Inflation (% , end of period)*				
	2007	2008	2009	2010	2007	2008	2009	2010
USA	2.1	0.4	-2.5	1.5	2.9	3.8	-0.7	1.1
EU	2.7	0.6	-3.8	0.2	2.1	3.3	0.3	0.8
Japan	2.3	-0.7	-5.3	1.1	0.5	1.0	-1.5	-0.3
China	13.0	9.0	8.3	9.3	4.8	5.9	-1.1	1.2
Latin America								
Argentina	8.7	5.7	-2.5	2.6	8.5	7.2	7.5	10.0
Brazil	5.7	5.1	0.0	4.7	4.5	5.9	4.2	4.6
Chile	4.7	3.2	-1.2	4.1	7.8	7.1	-0.7	2.5
Colombia	7.5	2.4	0.1	2.4	5.7	7.7	2.4	3.8
Mexico	3.3	1.4	-7.2	3.1	3.8	6.5	4.0	5.2
Peru	8.9	9.8	1.1	4.3	3.9	6.7	0.6	2.1
Venezuela	8.4	4.9	-2.1	-0.5	18.7	31.3	29.3	35.1
LATAM ¹	5.7	4.0	-2.6	3.5	5.8	8.1	5.6	7.1
LATAM Ex-Mexico	6.7	4.9	-0.6	3.6	6.7	8.6	6.0	7.7

* USA and EU Inflation: Period average

¹ Average of 7 mentioned countries

Public Sector Balance (% GDP)				Current Account Balance (% GDP)				
	2007	2008	2009	2010	2007	2008	2009	2010
USA	-1.2	-3.2	-9.9	-9.5	-5.2	-4.9	-2.6	-2.0
EU	-0.6	-2.0	-6.6	-7.2	0.1	-1.1	-0.8	-0.3
Japan	-0.4	-0.5	-0.9	-1.0	-4.9	3.2	2.1	2.1
China	0.7	-0.4	-3.8	-4.4	11.0	9.8	5.3	4.7
Latin America								
Argentina ²	1.1	1.4	-2.0	-0.4	2.9	2.2	2.8	2.5
Brazil	-2.8	-2.0	-3.5	-2.6	0.1	-1.8	-1.0	-2.2
Chile ²	9.9	4.9	-3.9	-1.9	4.4	-2.0	2.7	1.9
Colombia	-2.7	-2.3	-4.2	-4.5	-2.8	-2.8	-2.4	-1.6
Mexico	-1.1	-2.1	-3.0	-3.7	-0.8	-1.4	-1.0	-1.5
Peru	3.1	2.1	-1.8	-1.1	1.1	-3.3	-1.3	-2.0
Venezuela ²	4.5	-0.2	-4.6	-6.3	9.0	13.1	1.4	2.5
LATAM ¹	-0.6	-1.1	-3.2	-3.0	0.8	-0.4	-0.4	-1.0
LATAM Ex-Mexico	-0.1	-0.5	-3.4	-2.7	1.4	-0.1	-0.1	-0.6

¹ Average of 7 mentioned countries; ² Central Government

Exchange Rate (vs \$, end of period)				Official Rate (% , end of period)				
	2007	2008	2009	2010	2007	2008	2009	2010
USA					4.30	0.50	0.10	0.10
EU (\$/€)	1.5	1.3	1.4	1.3	4.00	2.50	1.00	1.00
Japan (yenes/\$)	113.0	96.1	98.0	100.9				
China (cny/\$)	7.6	7.0	6.8	6.8	7.47	5.31	5.31	6.12
Latin America								
Argentina	3.1	3.4	3.9	4.3	13.52	19.08	13.50	14.03
Brazil	1.8	2.3	1.70	1.62	11.25	13.75	8.75	10.25
Chile	499	649	560	564	6.00	8.25	0.50	3.00
Colombia	2015	2244	2020	2070	9.50	9.50	3.50	4.25
Mexico	10.9	13.0	13.2	12.7	7.50	8.25	4.50	4.50
Peru	2.98	3.11	2.90	2.95	5.00	6.50	1.25	2.00
Venezuela	2.2	2.2	2.2	2.2	11.40	16.20	15.20	13.80

Argentina

	2007	2008	2009f	2010f
GDP (%)	8.7	5.7	-2.5	2.6
Consumer Prices (% end of year)	8.5	7.2	7.5	10.0
Trade Balance (\$bn)	11.1	12.6	16.6	16.4
Current Account (\$bn)	7.4	7.1	9.6	9.3
% GDP	2.9	2.2	2.8	2.5
Reserves (\$bn. end of year)	46.2	46.4	48.4	56.9
Exchange Rate (end of year vs US\$)	3.14	3.42	3.85	4.30
Fiscal Balance (% GDP) ¹	1.1	1.4	-2.0	-0.4
Interest Rate (end of year) ²	13.52	19.08	13.50	14.03

¹ Argentina: Central Government. Excluding privatization receipts.
² Argentina: 30-d deposits interest rate in pesos; Brazil: SELIC Rate

Brazil

	2007	2008	2009f	2010f
GDP (%)	5.7	5.1	0.0	4.7
Consumer Prices (% end of year)	4.5	5.9	4.2	4.6
Trade Balance (\$bn)	71.2	4.8	26.0	10.0
Current Account (\$bn)	1.5	-28.2	-16.0	-45.0
% GDP	0.1	-1.8	-1.0	-2.2
Reserves (\$bn. end of year)	180.3	193.8	245.0	280.0
Exchange Rate (end of year vs US\$)	1.78	2.31	1.70	1.62
Fiscal Balance (% GDP)	-2.8	-2.0	-3.5	-2.6
Interest Rate (end of year)	11.25	13.75	8.75	10.25

Chile

	2007	2008	2009f	2010f
GDP (%)	4.7	3.2	-1.2	4.1
Consumer Prices (% end of year)	7.8	7.1	-0.7	2.5
Trade Balance (\$bn)	23.6	8.8	10.1	10.8
Current Account (\$bn)	7.2	-3.4	4.3	3.2
% GDP	4.4	-2.0	2.7	1.9
Reserves (\$bn. end of year)	16.9	23.2	26.5	26.0
Exchange Rate (end of year vs US\$)	500	649	560	564
Fiscal Balance (% GDP) ¹	9.9	4.9	-3.9	-1.9
Interest Rate (end of year) ²	6.00	8.25	0.50	3.00

¹ Chile, Colombia: Central Government
² Chile: Official Interest Rate (since August 2001 in nominal terms)

Colombia

	2007	2008	2009f	2010f
GDP (%)	7.5	2.4	0.1	2.4
Consumer Prices (% end of year)	5.7	7.7	2.4	3.8
Trade Balance (\$bn)	-0.7	0.8	0.4	-0.3
Current Account (\$bn)	-5.8	-6.9	-5.5	-4.1
% GDP	-2.8	-2.8	-2.4	-1.6
Reserves (\$bn. end of year)	21.0	24.0	26.0	27.0
Exchange Rate (end of year vs US\$)	2015	2244	2020	2070
Fiscal Balance (% GDP)	-2.7	-2.3	-4.2	-4.5
Interest Rate (end of year)	9.50	9.50	3.50	4.25

Mexico

	2007	2008	2009f	2010f
GDP (%)	3.3	1.4	-7.2	3.1
Consumer Prices (% end of year)	3.8	6.5	4.0	5.2
Trade Balance (\$bn)	-10.1	-17.3	-8.4	-14.6
Current Account (\$bn)	-2.1	-4.0	-2.3	-3.8
% GDP	-0.8	-1.4	-1.0	-1.5
Reserves (\$bn. end of year)	78.0	85.4	—	—
Exchange Rate (end of year vs US\$)	10.9	13.0	13.2	12.7
Fiscal Balance (% GDP) ¹	-1.1	-2.1	-3.0	-3.7
Interest Rate (end of year) ²	7.50	8.25	4.50	4.50

² Mexico: 28-d Cetes; Peru: Interbank Interest in soles

Peru

	2007	2008	2009f	2010f
GDP (%)	8.9	9.8	1.1	4.3
Consumer Prices (% end of year)	3.9	6.7	0.6	2.1
Trade Balance (\$bn)	8.3	3.1	3.9	3.0
Current Account (\$bn)	1.2	-4.2	-1.7	-2.8
% GDP	1.1	-3.3	-1.3	-2.0
Reserves (\$bn. end of year)	27.7	31.2	0.0	0.0
Exchange Rate (end of year vs US\$)	2.98	3.11	2.90	2.95
Fiscal Balance (% GDP)	3.1	2.1	-1.8	-1.1
Interest Rate (end of year)	5.00	6.50	1.25	2.00

Uruguay

	2007	2008	2009f	2010f
GDP (%)	7.6	8.9	1.1	4.5
Consumer Prices (% end of year)	8.5	9.2	6.0	6.2
Trade Balance (\$bn)	-1.1	-3.0	-1.8	-1.9
Current Account (\$bn)	-0.1	-1.1	-0.2	-0.2
% GDP	-0.3	-3.4	-0.4	-0.5
Reserves (\$bn. end of year)	1.7	1.9	3.0	3.0
Exchange Rate (end of year vs US\$)	21.6	24.1	20.5	21.0
Fiscal Balance (% GDP) ¹	0.0	-1.3	-2.5	-2.3
Interest Rate (end of year) ²	7.25	7.75	8.00	8.00

¹ Venezuela: Central Government; Uruguay: Public sector global balance (includes state-owned enterprises, intendencias and BPS)
² Uruguay: BCU Interest Rate; Venezuela: 90-d deposits Interest Rate
³ Venezuela: including FIEM; Uruguay: Reserve assets without compensation from public and financial sectors.

Venezuela

	2007	2008	2009f	2010f
GDP (%)	8.4	4.9	-2.1	-0.5
Consumer Prices (% end of year)	18.7	31.3	29.3	35.1
Trade Balance (\$bn)	23.7	45.4	14.4	19.1
Current Account (\$bn)	20.0	39.2	5.2	11.7
% GDP	9.0	13.1	1.4	2.5
Reserves (\$bn. end of year)	34.3	43.1	29.7	29.7
Exchange Rate (end of year vs US\$)	2.2	2.2	2.2	2.2
Fiscal Balance (% GDP)	4.5	-0.2	-4.6	-6.3
Interest Rate (end of year)	11.40	16.20	15.20	13.80

For more information please contact:

Servicios Generales Difusión BBVA Gran Vía 1 planta 2 48001 Bilbao P 34 944 876 231 F 34 944 876 417 www.bbva.es Register in Madrid: M-31252-2000

Economic Research Department:

Chief Economist:

José Luis Escrivá

Chief Economist for Units:

Spain and Europe: Rafael Doménech - r.domenech@grupobbva.com

Spain: Miguel Cardoso - miguel.cardoso@grupobbva.com

Europe: Miguel Jiménez - mjimenezg@grupobbva.com

United States and Mexico: Jorge Sicilia - j.sicilia@bbva.bancomer.com

United States: Nathaniel Karp - nathaniel.karp@compassbank.com

Mexico: Adolfo Albo - a.albo@bbva.bancomer.com

Macroeconomic Analysis Mexico: Julián Cubero - juan.cubero@bbva.bancomer.com

Economic and Financial Scenarios: Mayte Ledo - teresa.ledo@grupobbva.com

Sectorial Analysis: Ana Rubio - arubiog@grupobbva.com

Financial Scenarios: Daniel Navia - daniel.navia@grupobbva.com

Quantitative Analysis: Giovanni di Placido - giovanni.diplacido@grupobbva.com

Global Trends: David Tuesta - david.tuesta@grupobbva.com

Emerging Markets: Alicia García-Herrero - alicia.garcia-herrero@bbva.com.hk

Transversal Analysis: Sonsoles Castillo - s.castillo@grupobbva.com

South America: Joaquín Vial - jvial@bbvaprovida.cl

Argentina: Gloria Sorensen - gsorensen@bancofrances.com.ar

Chile: Alejandro Puente - apuente@bbva.cl

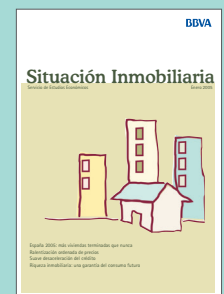
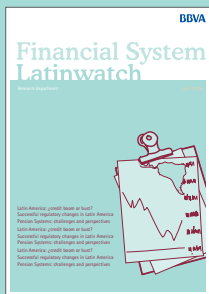
Colombia: Juana Téllez - juana.tellez@bbva.com.co

Peru: Hugo Perea - hperea@grupobbva.com.pe

Venezuela: Oswaldo López - oswaldo_lopez@provincial.com

Asia: Ya Lan Liu - yalan@bbva.com.hk

other publications



This document was prepared by Banco Bilbao Vizcaya Argentaria's (BBVA) Research Department on behalf of itself and its affiliated companies (each a BBVA Group Company) for distribution in the United States and the rest of the world and is provided for information purposes only. The information, opinions, estimates and forecasts contained herein refer to that specific date and are subject to changes without notice due to market fluctuations. The information, opinions, estimates and forecasts contained in this document have been gathered or obtained from public sources believed to be correct by the Company concerning their accuracy, completeness, and/or correctness. This document is not an offer to sell or a solicitation to acquire or dispose of an interest in securities.