

José De Gregorio: Tackling the capital inflow challenge

Speech by Mr José De Gregorio, Governor of the Central Bank of Chile, at the Bank of Spain, the IE Business School in Madrid, and CEMLA's Meeting of Central Bank Governors of Latin America and Spain in Buenos Aires, the three of them in May 2010.

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I thank the valuable comments of Kevin Cowan, Pablo García and Enrique Orellana.

The last few years have brought unprecedented challenges to macroeconomic management in small, open economies. The severe inflationary shock that began in 2007 was followed by the worst financial crisis since the Great Depression and a worldwide economic recession with no match in the postwar period. Today, a while after the immediate resolution of the crisis, we face new challenges. On the one hand, some developed economies, whose public finances were severely damaged by the great recession, now face a period of drastic macroeconomic adjustments and, in some cases, uncertainty about how their debts will be restructured. On the other hand, a substantial segment of emerging economies, which suffered no permanent damages in the balance sheets of their households, firms, or governments, is currently experiencing what can be an incipient start of a credit and economic rebound. The new momentum of capital inflows mirrors this phenomenon. The current status of these inflows and how to deal with them are a substantial part of the challenges we face today and the substance of this document.

Capital inflows in perspective

After the boom of 2006–2007, and the sharp collapse of 2008 and part of 2009, capital flows to emerging economies have picked up. Investments in stock and fixed-income mutual funds in emerging economies have recovered and in some regions have exceeded pre-crisis levels (figure 1). Corporate bond issuance, which nearly stopped in the fourth quarter of 2008, regained their pre-crisis levels, starting from the second half of 2009 (figure 2). International interbank credit flows also stopped falling by mid-2009, although a significant recovery is yet to be seen (figure 3). This is consistent with the relatively weaker balance sheets of international banks compared with increased investment possibilities of global funds and capital markets. Summing up, with the financial crisis behind us, capital flows have returned to emerging economies, but it is not evident that they currently exceed their pre-crisis levels.

Financial asset prices have also reflected this process. In emerging markets, the price-to-earnings ratio dropped during the crisis, but is currently back to 2007 levels (figure 4). The real exchange rate fluctuated significantly over the past three years, but it is currently not significantly away from its 2007 levels (figure 5).

Short-term interest rate differentials between emerging and industrialized countries have narrowed, since emerging economies also eased their monetary policies (figure 6). This has occurred, after the widening that happened during the crisis, as a result of a faster monetary expansion in the economies that were at the center of the problems, particularly the US. In the future, given the weaker cyclical behavior of developed economies, these differentials will probably increase, providing renewed incentives for capital flows to emerging economies. In this case, the appearance of short-term interest rate differentials would be a symptom of cyclical divergence between developed and emerging economies. Furthermore, in the coming years, the fundamentals of economic growth across economic zones, together with the deleveraging process in the developed world, could also encourage more capital flows into emerging economies, even if short-term turbulences in financial markets delay or push back its occurrence.

The fact that capitals are flowing into emerging economies with renewed vigor does not mean that all such flows are being absorbed in net terms. If inflows are counteracted by comparable outflows, no significant impact should be felt either by output or the exchange

rate. Thus, for the purposes of analyzing the exchange rate, it is important to examine net capital flows. Given the balance of payments identity, net capital inflows must equal the current account deficit plus the hoarding of international reserves, the latter being equivalent to capital outflows conducted by the central bank. In any case, the prices of assets in the economy may be affected by gross flows depending on their composition, which matters from a financial stability point of view.

More complex scenarios are those where capital inflows trigger a credit and a domestic spending boom by financing the leveraging of households, firms or government. In these circumstances, the counterpart of capital inflows is an increase in the current account deficit. If this phenomenon does not occur facing an abrupt capital inflow increase, it means that capitals are flowing out as well. It is less than evident that, from a mere macroeconomic consistency perspective, gross capital inflows or outflows cause severe disruptions. If in the short run, because of frictions in financial markets, momentary illiquidity or portfolio effects, simultaneous inflows and outflows stress the markets, they could be dealt by using liquidity providing instruments that are regularly used by central banks.

This discussion centers around the main macroeconomic impacts, with a special emphasis on inflation, output, and the exchange rate. However, it is worth noting that, from a financial stability perspective, monitoring requires also paying attention to other effects caused by capital flows. Accordingly, important areas to monitor, aside from the behavior of the current account and its counter-entry in the capital account, are asset prices and the evolution of global credit. Also important is using macro-prudential measures to complement monetary policies.

In any case, the current scenario differs distinctively from other periods of booming capital inflows to emerging economies. For example, in the early 1980s there were massive net capital inflows to Latin American countries (figure 7). When it reversed, because of an increase in interest rates in the United States, the debt crisis burst and a period of no capital flows to the region started. This type of experiences is precisely the one that makes us be very cautious when confronted with massive capital inflows, because a reversal could trigger drastic output adjustments.

Later on, in the late 1980s and early 1990s, Latin America was again the recipient of substantial capital inflows, which has been thoroughly analyzed in Calvo et al. (1993, 1994). At that time there was also an increase in the current account deficit. Today, considering the forecasts for 2010–2011 contained in the WEO of April 2010, no net inflows are expected for regions as a whole, but what is expected is a reduction in the current account surpluses of emerging economies. Although this scenario has not evidently materialized, it presents risks that have to be considered.

Finally, while in the current setting inflows have been offset by similar outflows, we cannot disregard the possibility of sudden gross outflows or sudden stops of gross inflows, generating severe adjustments in the current account with high costs in terms of output.

Traditional policy options

The first line of defense against massive capital inflows is exchange rate flexibility. Frequently exchange rate rigidities and unsustainable defenses of parities that are away from their fundamental value give way to speculation against the foreign exchange regime. The literature on speculative attacks shows how an exchange rate that is inconsistent with the rest of the policy actions can trigger massive capital outflows that end up forcing its abandonment. The same rationale applies to inflows. If the exchange rate level that is intended to be defended is inconsistent with economic fundamentals, massive inflows can be created that will sooner or later appreciate the domestic currency in real terms. Investors take advantage of a relatively cheap currency to enter capitals before the appreciation occurs, and get a significant capital gain. Hence, within a framework of capital mobility, foreign exchange flexibility avoids one-sided bets over the exchange rate.

Furthermore, an inflation targeting regime with a floating exchange rate provides a good buffer to smooth the impact of changes in capital flow cycles. The same monetary policy reaction to a currency appreciation that reduces inflationary pressures, allows limiting the currency appreciation process by narrowing interest rate differentials.

A second line of defense is a symmetrical opening of the financial account. Many countries have approached financial integration by opening their economies to capital inflows, still holding on to their constraints to local capital outflows, especially from institutional investors. After a while, and as a reaction to massive capital inflows, restrictions on outflows are allowed to become less stringent. However, this is normally done too late and signals fear of capital inflows. In fact it can even reinforce the phenomenon, particularly when the exchange rate has reached unsustainable levels.

Having a well regulated and developed financial system is a requisite for properly accommodating exchange rate and capital movements. This is because it makes it easier to prevent exchange rate fluctuations from destabilizing financial conditions. Currency mismatches have been at the origin of many banking crises in emerging economies. Nonetheless, their financial systems' resilience to exchange rate fluctuations toward late 2008 and early 2009 showed that lessons were learned, and effects on banks' balance-sheets, that would have translated an external recession into a far-reaching financial crisis, were avoided. Of course there were exceptions, particularly in emerging Europe, where fragilities arose precisely because of the rigidity of their exchange rate systems and currency mismatches of their banks.

Another reason of the importance of having a well-functioning financial market is the distortions caused by exchange rate volatility on resource allocation. In order to minimize such effects it is prudent to develop an exchange rate hedging market allowing producers in the tradable sector to hedge against exchange rate fluctuations at least at one year's term. In fact, evidence shows that hedging markets are more developed in economies with more flexible exchange rates, because it is that flexibility that creates incentives for these hedging mechanisms to develop (De Gregorio and Tokman, 2005; Kamil and Sutton, 2008). If, on the contrary, the monetary authority attempts to provide stability, the market will have no incentives to develop hedging instruments.

However, a floating exchange rate and an inflation targeting regime may be insufficient for stabilizing large amounts of capital inflows. The appreciation that results from massive capital inflows and a credit boom cycle may require other instruments to stabilize the economy and ensure the smooth functioning of the financial system. Under such circumstances, one should resort mainly to fiscal policy. A tighter fiscal policy accommodates lower interest rates, in addition to limit exchange rate pressures and moderating the boom. In a closed economy, an increase in interest rates could stop the credit expansion and avert collateral effects. However, in a small open economy subject to strong capital inflows, raising the interest rate in an attempt to stop the credit expansion may end up encouraging further capital inflows and currency appreciation, without obvious effects on the volume of credit.

On the other hand, if the exuberance that induced capital inflows is due to local credit effervescence, it becomes necessary to adopt macro-prudential measures to limit risk taking. Actually, an important area of interest in the design of post-crisis policies has been the creation of buffers and other mechanisms to limit the procyclicality of financial systems.

Foreign exchange intervention

On top of the aforementioned argument, specific measures to confront stress episodes in international financial markets and processes of massive capital inflows cannot be ruled out, if we observe that there is no additional room on the fiscal or monetary side or that the macro-prudential instruments are not enough.

In exceptional situations, it is possible to resort to foreign exchange interventions to stabilize potential fluctuations in exchange rates and lending conditions caused by massive capital

inflows. However, it should be emphasized that in the context of a floating exchange rate regime, such intervention must be used only in exceptional cases. Its reiterative use would make it lose effectiveness as a stabilizing tool, in addition to eroding the hedging incentives I mentioned before. Furthermore, it could encourage arbitrage against the monetary authority, which could destabilize the foreign exchange market.

A circumstance is deemed exceptional and worthy of an intervention if one can foresee an overreaction in the foreign exchange market that is pushing the real exchange rate significantly away from its fundamentals. It is important that the intervention is consistent with the inflationary objectives, because otherwise it might hurt the credibility of monetary policy. Although interventions can be either sterilized or not, the inflation targeting regime together with the exceptional nature of the intervention means that, generally, a foreign exchange intervention must be sterilized. Therefore, monetary policy decisions can be made independently of the exceptional intervention. In addition, the purpose of the intervention should be to stabilize the foreign exchange market without pursuing a specific level for the exchange rate.

In a context of capital mobility, sterilized interventions can influence the exchange rate via the portfolio channel and interest rate differentials. This occurs because it affects the relative supply of assets in domestic currency in the local market, signals future interest rate movements, or provides information about policy makers' perception on the fundamental value of the exchange rate.

In Chile, after the elimination – in December 1999 – of the exchange rate band and the adoption of the inflation-targeting regime, the Central Bank stated that exceptional circumstances may require an intervention in the foreign exchange market. Since then, the Central Bank has intervened on three occasions. The first time, in August 2001, the Central Bank announced that it might intervene at any moment from then to the end of the year. It also explained that the exchange rate was depreciating very fast and with great volatility, which was cause for concern in financial markets, despite the fact that the peso was weakening largely because of stressful conditions abroad. The intervention consisted in a sale of up to US\$2 billion of international reserves and issuing another US\$2 billion in dollar-indexed bonds. The final intervention amounted to a sale of slightly above US\$800 million and the full issuance of bonds. The second time, in October 2002, the Bank announced a similar package, as it considered that the depreciation reflected an overreaction, high volatility and a liquidity shortage. US\$1.50 billion were issued in exchange rate indexed debt and no reserves were sold. The third time, in April 2008, because of the high global uncertainty, the Bank decided to increase its holdings of reserves, while recognizing that, at the time of the announcement, the exchange rate was appreciated relative to its long-term fundamentals. The intervention consisted in daily purchases of US\$50 million intended to accumulate US\$8 billion in eight months. The outburst of the global financial collapse in September 2008 made us suspend these measures. The evidence at hand indicates that these interventions had an immediate impact on the exchange rate of around 3%, but on some occasions they also altered its later trend.

In Latin America, the hoarding of reserves has been used several times. In the first half of the 1990s it was used to deal with strong capital inflows; in the 2000s it has been used much more frequently (figure 8).

Intervening the foreign exchange market via reserve accumulation also serves the purpose of improving the international liquidity position, which is a form of self-insurance against external financial turmoil. Today other forms of insurance are available, that are more cost-effective. For example, this is the case of contingent credit lines of the IMF or hedging instruments to hedge against fluctuations in the terms of trade (Borensztein et al., 2009; Caballero, 2009). But the estimated benefits of these forms of insurance *vis-à-vis* self-insurance through reserve accumulation do not consider the fact that this latter option has also a stabilizing effect on the exchange rate, because the accumulation is done at a time when the exchange rate is overly appreciated with respect to its fundamentals. Furthermore, one can think that the presence of efficient insurance mechanisms may exacerbate capital

inflows during boom periods in emerging economies. Therefore, these are instruments that can prove beneficial in critical times, but may create some inconveniences in normal or favorable periods.

Some economies have adopted regimes where limited interventions are applied with some frequency. Nonetheless, larger interventions, which are precisely the ones that may have a substantial effect on foreign exchange markets, entail quasi-fiscal costs that must be taken into account. This is another reason to make these interventions only in exceptional circumstances.

Controls on capital inflows

If capital inflows are believed to cause trouble, one solution is to limit them by applying controls. This can be done in economies whose financial systems are not well-developed. As the economy and its financial systems develop, limiting capitals becomes more complex and ineffective, in particular due to difficulties in discriminating which types of flows should be curtailed. Also, in economies with high levels of international assets such as Chile, it is difficult to control capital inflows because of the need to distinguish between inflows by non-residents and repatriation of capital by residents.

In the 1990s, before adopting the current monetary and exchange rate regimes, the Central Bank of Chile imposed controls on capital inflows together with a gradual liberalization of capital outflows. The main instrument used to limit inflows was the reserve requirement, whereby a fraction (initially, 20%) of capital inflows had to be deposited in a Central Bank account bearing no interest. The stated purpose of this policy was to reduce net inflows by increasing related costs, and stop the appreciation of the peso, as a competitive exchange rate was thought to be a key factor in the successful economic recovery since the mid-1980s. The reserve requirement would also favor the independence of monetary policy in the context of an exchange rate managed within a band. Finally, the reserve requirement was also intended to reduce short-term capital inflows and thus limit financial vulnerability. This measure was introduced in June 1991 with a rate of 20% that was raised to 30% in 1992. It was subsequently lowered to 10% in June 1998 and further down to 0% in September of the same year.

Empirical evidence indicates that the reserve requirement had a small, short-lived effect on interest rates, probably because agents adjusted their portfolios toward longer maturities and found their way around the measure (Cowan and De Gregorio, 2007). The effect on volumes was also small, around 2% of GDP, with total capital inflows that amounted to nearly 27% of GDP in the period 1991–1997. No material effects have been perceived on the real exchange rate.

Where a significant effect did occur was in the composition of total inflows: the share of short-term debt dropped dramatically as a percentage of total debt. However, financial fragility was not completely eliminated. Severe speculative attacks against the peso in 1998 showed that the reserve requirement policy did not isolate the economy from global financial turbulences (figure 9). Lastly, it is possible to contend that the reserve requirement did have significant distributive effects, because large firms continued to access the international bonds market directly to obtain long-term funding, while smaller firms could only access short-term banking loans, which were made more costly due to the reserve requirement.

It is hard to conceive a general rule governing the use of capital controls to deal with massive capital inflows, but it is certainly more difficult to apply such controls in economies highly integrated to the world markets. Something that the evidence seems to suggest is that capital controls affect mainly the composition of the flows, not necessarily their magnitude. In that case, in order to affect the composition of international liabilities, in particular those intermediated by the banking sector, it would be more efficient to direct the eye toward financial regulation rather than to capital controls. In addition, macro-prudential regulations should be used to mitigate the procyclicality of capital flows. These measures could include

liquidity management policies, for instance imposing differentiated liquidity requirements for short-term and long-term financing flowing to banks or to other financial agents.

Final remarks

To conclude, we must first emphasize that global financial integration entails extensive benefits, as it allows to smooth expenditure fluctuations and to obtain resources to finance investments in countries with capital shortage. However, we have also learned that capital flows can be destabilizing, particularly when financial systems are fragile and macroeconomic policies inconsistent. Long-lasting boom periods have always presented challenges to macroeconomic policy making.

Sadly, the passing from economic boom to a costly recession is a too recurrent experience for emerging economies, especially in Latin America. From a historical perspective, capital flows today are currently not so abundant and no imbalances of income and expenditure are seen that might reveal substantial misalignments. After the recessive period of 2009, slack remains in our economies, and tensions in the near future cannot be ruled out. It is therefore advisable to begin exploring the proper policy responses. In such circumstances, the first line of defense must be an active monetary and fiscal management, within a context of exchange rate flexibility and stable inflationary perspectives. This combination proved very favorable to maintain macroeconomic and financial stability in 2008-2009, and has the necessary elements to also succeed in dealing with a potential period of strong capital inflows and appreciating exchange rate pressures.

Additional measures, such as a foreign exchange intervention or controls on capital inflows, cannot be a priori ruled out, and will depend on each economy's specific circumstances and characteristics. However, in implementing them it is essential that they do not become the cause of macroeconomic imbalances by encouraging massive capital inflows. In fact, distortions often do not originate in excessive appetite by foreigners for domestic assets, but in disturbances resulting from the application of inconsistent policies.

On the one hand, exceptional measures cannot be used as a substitute for, say, a more austere fiscal policy or a strengthening of prudential regulation and supervision of banking and non-banking entities. On the other hand, trying to maintain an artificially depreciated exchange rate, especially in contexts of growing financial integration, can only foster speculation and capital inflows, as it increases expected appreciation. Any exceptional measure must be applied only in extreme circumstances and for a limited period of time, once every other instrument has been reasonably exhausted.

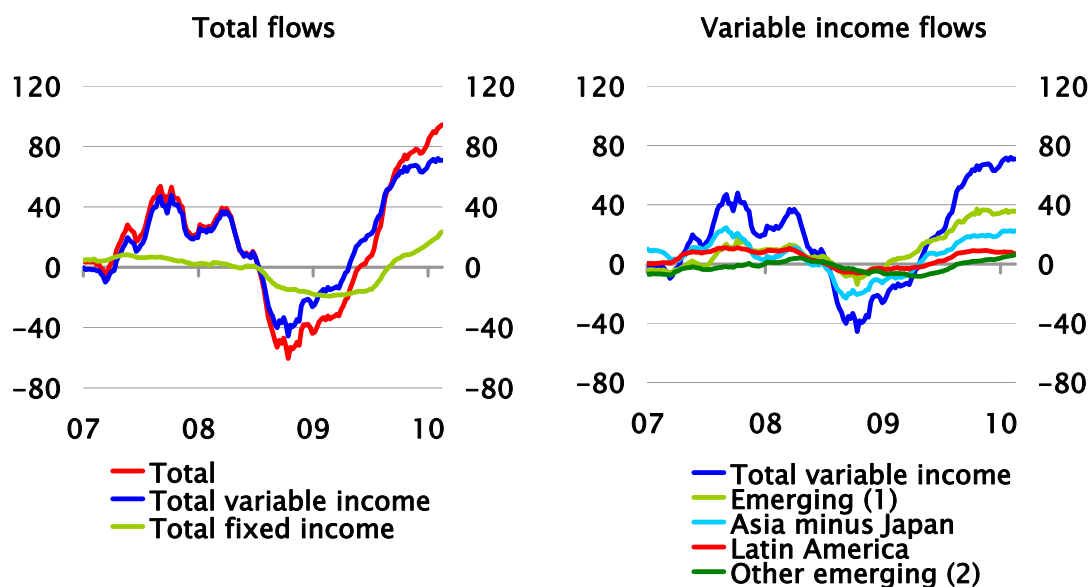
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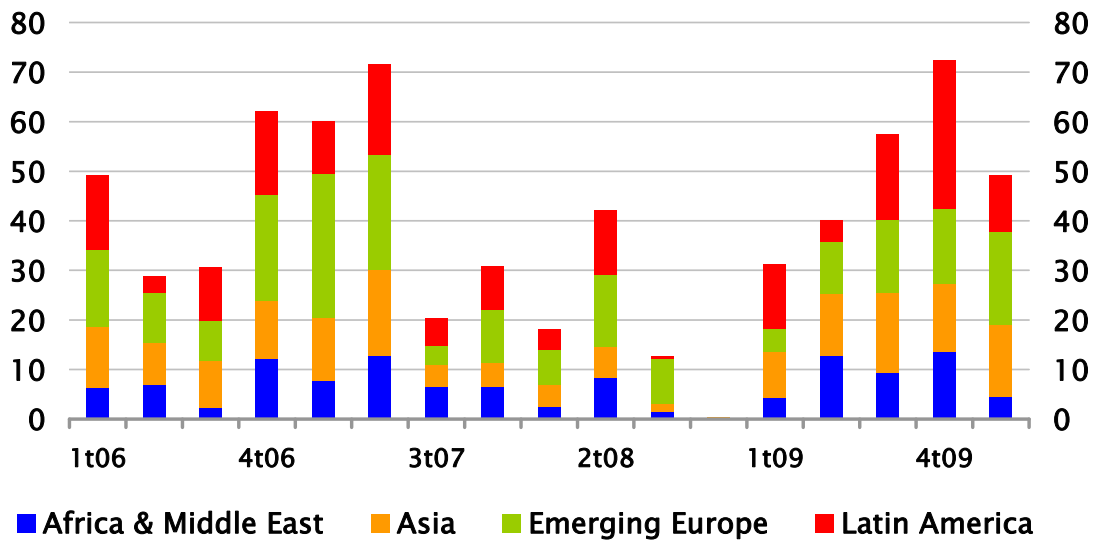
Figure 1
Net flows of investment funds to emerging economies
 (billions of dollars accumulated in twelve moving months, weekly data)



(1) Global Emerging Market (GEM).
 (2) Middle East, Emerging Europe and Africa.

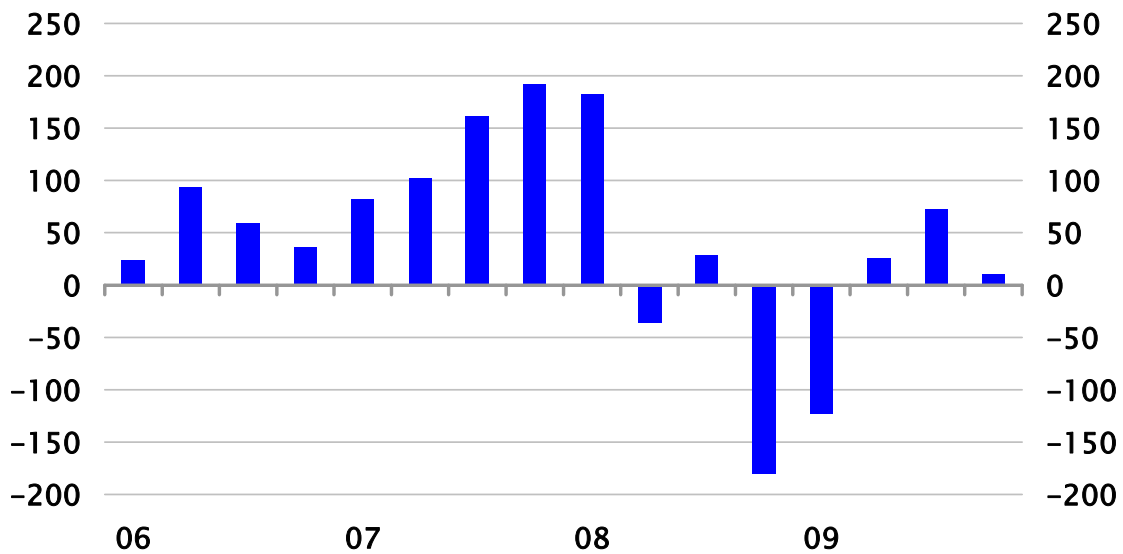
Source: Emerging Portfolio Fund Research.

Figure 2
Issues in emerging economies
 (billions of dollars)



Source: JP Morgan.

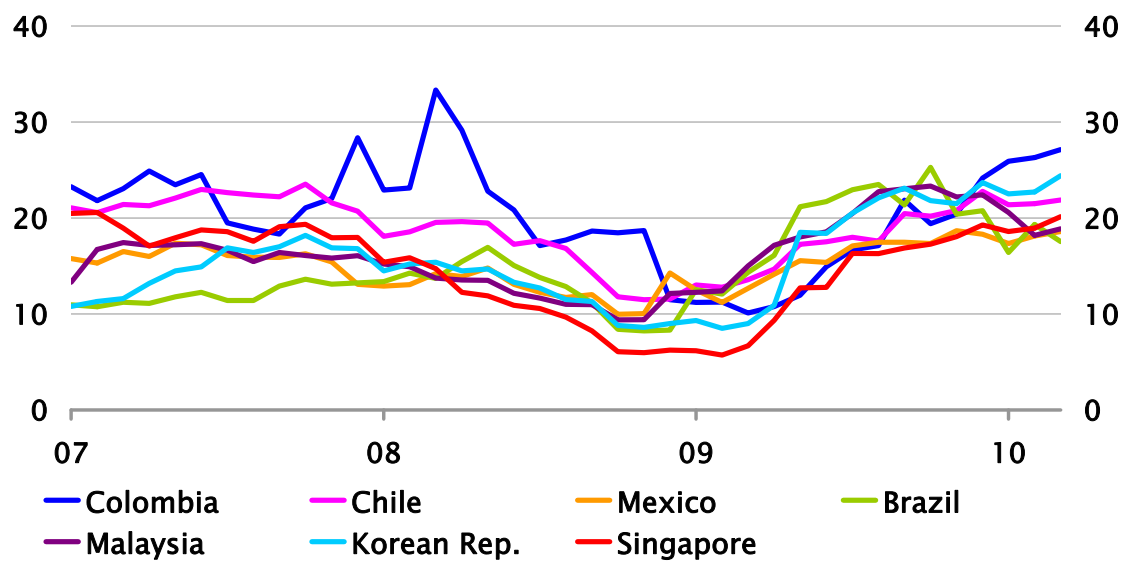
Figure 3
Bank deposit inflows (*)
 (billions of dollars)



(*) Change in the external liability position of emerging economies' reporting banks. Includes Brazil, Chile, Mexico, Panama, Taipei (Chinese province), Hong Kong, India, Malaysia, Korean Rep., Singapore, South Africa, Turkey.

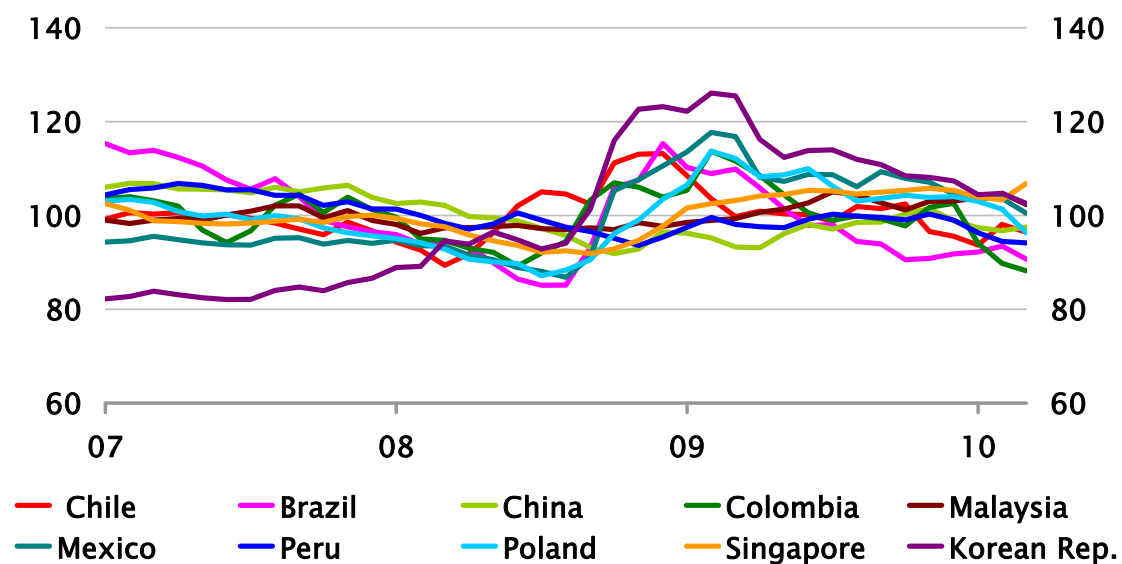
Source: BIS.

Figure 4
Price-to-earnings ratio in emerging economies
 (percentage)



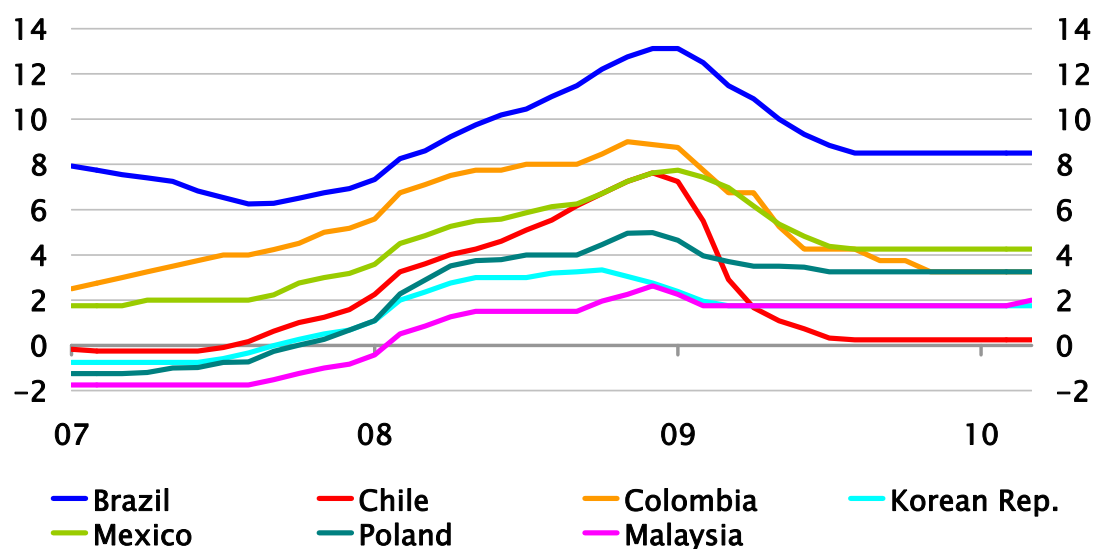
Source: Bloomberg.

Figure 5
Real exchange rates in emerging economies
 (index, 2007–2010 average = 100)



Source: Bloomberg.

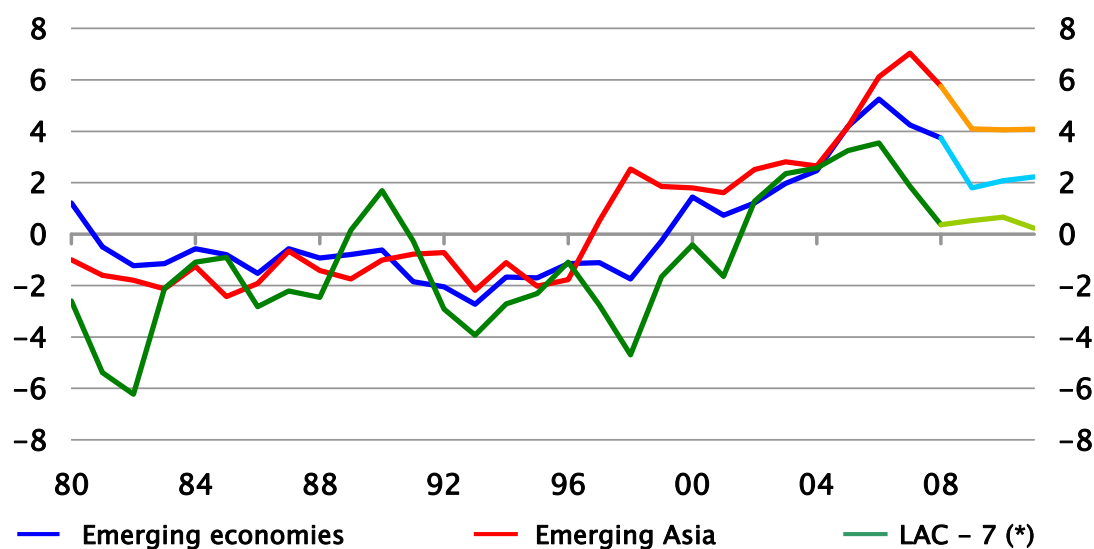
Figure 6
Interest rate differentials (*)
(percentage)



(*) Difference between each economy's reference rate and the US Fed Funds rate.

Sources: Bloomberg and Central Bank of Chile.

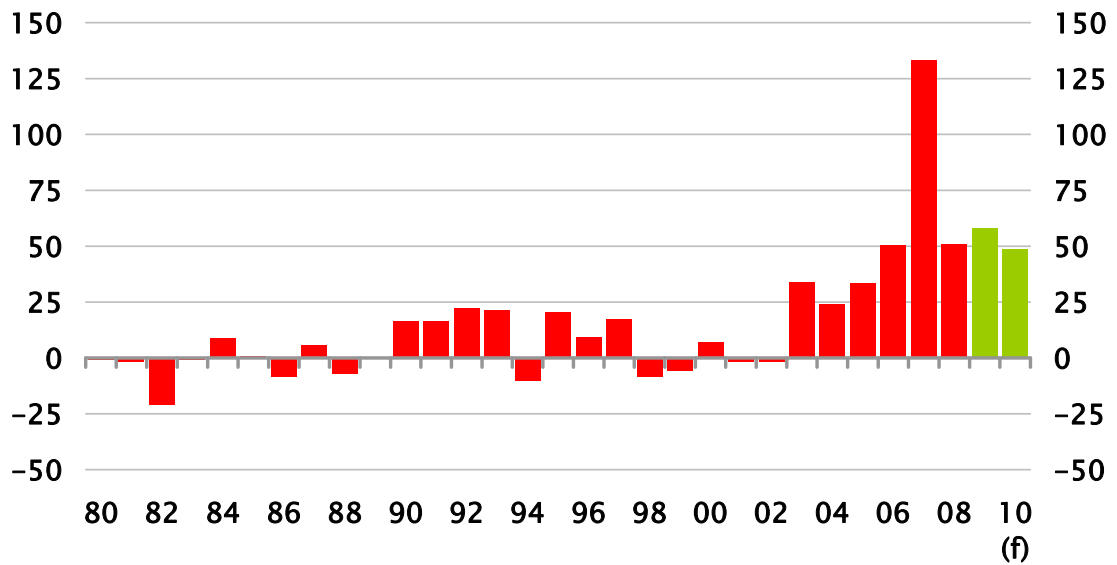
Figure 7
Current account balance
(percentage of GDP)



(*) Simple average for Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

Source: WEO, April 2010. For 2009–2011, estimate and forecast.

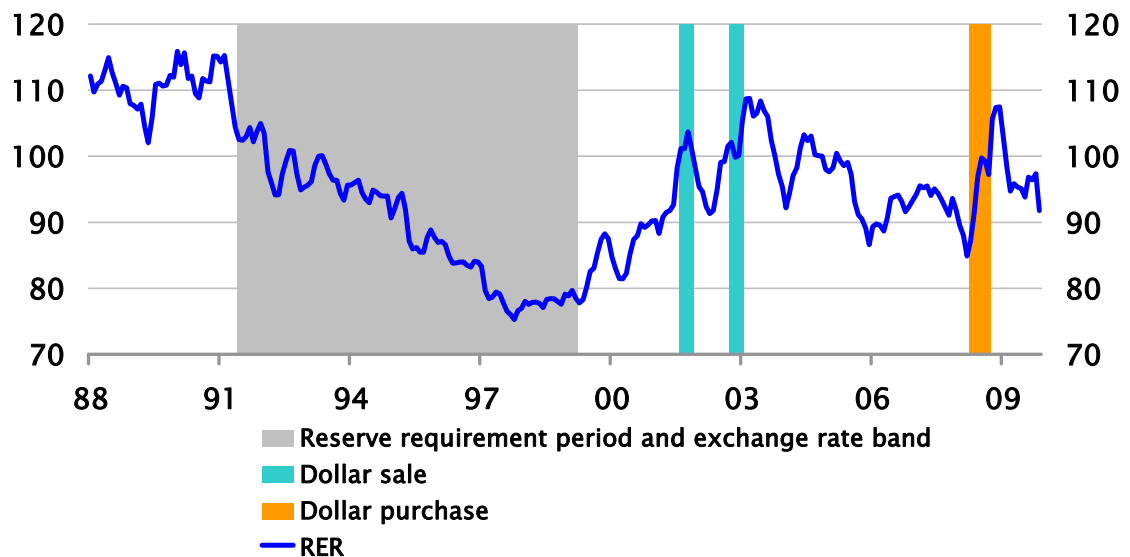
Figure 8
Latin America: Change in international reserves
 (billions of dollars)



(f) Forecast.

Source: WEO April 2010, IMF.

Figure 9
Real exchange rate
 (index, 1986=100)



Source: Central Bank of Chile.