

Global liquidity, capital flows and challenges for policymakers: the Mexican experience

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1. Introduction

Expansionary macroeconomic policies were adopted worldwide in response to the financial crisis. These policies aimed at stabilising financial conditions and fostering the economic recovery. However, the abundant global liquidity, together with the improvement in economic prospects in emerging markets, have led to a two-speed recovery in which emerging economies are growing faster than advanced economies, and the former are experiencing large capital inflows.

Recently, the fiscal problems in euro area countries, and the associated volatility in financial markets, have somewhat reduced investors' willingness to hold risky assets. Nevertheless, capital inflows to emerging market economies have continued. This paper analyses some of the implications of large capital inflows to emerging economies, as well as possible policy response options to deal with them.

In general, capital flows render many benefits to the recipient economies. Foreign resources complement domestic savings in financing investment and also contribute to the development of domestic financial markets. Despite these benefits, however, the magnitude and speed of capital flows to emerging economies could pose significant risks. In particular, their surge over the last year and a half has raised concerns about excessive exchange rate appreciation and the corresponding adverse impact on exports and growth. Furthermore, large capital inflows may contribute to an unsustainable expansion of credit, generate asset price bubbles and, consequently, increase financial fragility. They also raise concerns about emerging economies' vulnerability to a sudden reversal in capital flows and the resulting implications for financial stability and economic activity.

In order to address the risks associated with capital inflow surges, we believe in implementing a coordinated policy response that combines measures on several fronts, such as: (i) changes in the macroeconomic policy stance, including both monetary and fiscal policies; (ii) foreign reserve accumulation; (iii) financial regulation and supervision (what have recently been called "macroprudential" measures); and (iv) structural reforms to the economy, which could include opening certain sectors that had been previously closed to foreign investment. All these policy actions convey both benefits and costs, which are often difficult to quantify, and which policymakers must take into consideration when assessing the appropriate policy response.

We also believe that the adequate policy mix depends on the nature of the capital flows and the specific conditions in each country. Central banks, along with other authorities, usually play a major role in the policy response to large capital inflows. A key issue is whether capital inflows to emerging economies are mainly driven by these countries' strong economic fundamentals, and thus are likely to remain stable over time, or if they are primarily driven by the abundant liquidity in the global economy. However, disentangling the determinants of

¹ The authors thank Alberto Torres for comments and suggestions. The opinions in this paper are solely those of the authors and do not necessarily reflect the point of view of the Bank of Mexico.

flows is a difficult task that requires a thorough analysis of economic conditions, as well as the policymakers' judgment. This paper will not deal with these issues.

That being said, this paper argues that when the authorities have reasons to believe that capital inflows are primarily driven by fundamental factors, they should sooner rather than later accept the inevitability of a real exchange rate appreciation. In such a case, it would be desirable to induce an *orderly* real appreciation. Changes in the macroeconomic policy stance may help with this process.

However, if some of these flows are perceived to be temporary, reflecting the unusually low interest rates in advanced economies and the corresponding abundant global liquidity, the challenge for policymakers is far more complex. In this case, policymakers should resist the pressures to adopt measures that are designed to attenuate part of the unwelcome short-term consequences of capital inflows, but which could impose significant distortions on the prospects for economic growth in the long run. An example may be the use of capital controls, which recently have been referred to as "macroprudential" measures. If such controls are perceived to be discretionary policy actions against capital mobility and international financial integration, investors' confidence can deteriorate, leading to a reduction in the amount of stable and long-term capital flows.

This paper is organised as follows. Section 2 describes the international environment associated with the surge in capital inflows to emerging market economies during the last year and a half. Section 3 discusses the main concerns related to large capital inflows to these economies. Section 4 analyses the policy response options to these inflows, taking into account the nature of the inflows as well as the benefits and costs related to the different policy alternatives. Section 5 discusses the Mexican policy response to capital inflows. Section 6 closes with some final remarks.

2. The international environment

As a result of the global economic turmoil triggered by the subprime crisis in 2007, the world economy entered into a deep recession and suffered a severe credit crunch that affected most economies. Policymakers around the globe responded by adopting expansionary macroeconomic policies and different measures to support financial markets.

Central banks also responded with large interest rate cuts. In a number of developed countries, policy rates have been close to zero since the end of 2008. In order to provide additional monetary stimulus once the policy rate reached the zero lower bound, the monetary authorities in some of these economies adopted unconventional monetary policy actions, such as changes in the composition and size of their balance sheets. These measures, aimed at restoring the orderly functioning of financial markets and attenuating the negative impact on economic activity, have contributed to a significant increase in international liquidity.

Aggressive fiscal stimulus packages were implemented in advanced and some emerging economies. Taxes were reduced and public expenditures were raised. The extraordinary amount of monetary and fiscal stimulus reduced the fall in aggregate demand and contributed to the rebound of global economic activity. As a result, from 2009 onwards the global economy began to recover. However, the economic recovery is still fragile in some cases, and uneven among regions and countries.

Developed economies have recovered at a moderate pace; for instance, the improvement in private demand and employment has been mostly subdued. This situation has owed to the fact that advanced economies, such as the United States, which have typically run current account deficits and experienced consumption booms, possibly need to adjust their domestic

expenditures to sustainable levels. Under these conditions, the recovery of economic activity has depended on the implementation of accommodative macroeconomic policies.

Although the fiscal stimulus measures have been useful in supporting economic activity, they have also contributed to a significant deterioration in the fiscal accounts of a number of advanced economies, raising concerns about fiscal and public debt sustainability. In the case of some euro area countries, these concerns escalated at the beginning of the second quarter of 2010. The fear of a new episode of financial turbulence forced the adoption of fiscal consolidation programmes and the intervention of the ECB and international organisations such as the IMF. Today, these issues are still far from being resolved.

In the United States, although the deterioration of the fiscal position has not raised the same concerns as in certain European countries, and the room to accumulate debt is possibly much larger than in other economies, expansionary fiscal policies cannot be maintained indefinitely for political reasons. Eventually, the US economy will also have to strengthen its public finances.

Under these circumstances, since there may be limited scope to maintain or even undertake further fiscal stimulus measures and since there are no important concerns about inflation in most developed economies, monetary conditions could remain expansionary for some time. For instance, the Federal Reserve recently implemented additional stimulus measures (QE2) in the fourth quarter of 2010.

This global environment poses two challenges. The first involves rebalancing global demand. In particular, the need to adjust private and public expenditure patterns in advanced economies, such as the United States and a number of European economies, may lead to weak demand for most emerging economies' exports. Eventually, this situation will negatively affect those countries that have followed an export-led growth model based on keeping a "depreciated" domestic currency. This growth strategy relies on advanced economies, mainly the United States, being a sort of consumer of last resort, in order to guarantee external markets for emerging economies' exports.

Indeed, this growth strategy could be in serious trouble as advanced economies that used to spend significantly more than their income, and therefore run large current account deficits, need to consume less and save more, as they are in fact doing. Given the prospects of a weak recovery of expenditures in developed countries, promoting economic growth in emerging countries will probably require strengthening their domestic markets.

A rebalancing in global demand patterns is necessary and thus requires a change in relative prices. In particular, both a real exchange depreciation in advanced economies that run large external deficits and a real exchange appreciation in economies that run large current account surpluses is needed. Up to now, the adjustment has been relatively slow.

The second challenge is related to liquidity growth at a global level. As mentioned, loose monetary conditions in the world economy have helped to stabilise financial markets and supported the rebound of international economic activity. However, they have also contributed to a surge of capital flows to emerging economies. This surge has raised concerns in the recipient economies.

Perhaps most importantly, there are worries that these capital inflows will probably reverse at some point. This could take place when advanced economies start to withdraw the monetary stimulus and policy interest rates return to normal levels, or when a new episode of financial stress raises the level of uncertainty and risk aversion and induces capital to flee to safer places. And then, dealing with the effects of excessive short-run capital inflows can also be quite problematic.

3. Capital inflows and challenges

After contracting in late 2008, capital flows began to return to the emerging economies during the second and third quarters of 2009. This can be explained by a combination of factors. On the one hand, stronger fundamentals, such as improving growth prospects, may have contributed. In particular, in the case of emerging economies that specialise in exporting commodities, the improvement in the terms of trade associated with the increase in international commodity prices may have generated fundamental pressures to appreciate their domestic currencies. On the other hand, the unusually low interest rates prevailing in advanced economies have induced a “search for yield” among international investors. For example, interest rate differentials between advanced and emerging economies have encouraged carry trade transactions, in which international investors borrow in countries where interest rates are low and invest in countries where interest rates are high.

It is quite clear that, in general, capital flows yield several benefits for the receiving economies. Among other things, they provide additional financing to countries with limited domestic savings and help make local financial markets deeper and more liquid. However, in spite of these benefits, the recent episode of massive capital inflows to these countries has raised a number of concerns, since part of these flows are related to carry trade operations and, therefore, are possibly temporary.

Summing up, large capital inflows to emerging market economies can pose significant challenges, which can be grouped in the following categories.

3.1 Exchange rate appreciation

A key issue under a floating exchange rate regime is that fluctuations in the nominal exchange rate are closely tied to capital flows. For instance, massive capital inflows can lead to a sharp nominal appreciation. To the extent that domestic prices are sticky and do not adjust immediately to fluctuations in the nominal exchange rate, the real exchange rate also appreciates, which in turn may have an impact on exports and economic activity.

Under this scenario, firms producing tradable goods can be significantly damaged, and some of them may even be forced out of business. Concerns about a loss of competitiveness due to a domestic currency appreciation are present in a number of emerging economies that have adopted an export-led growth strategy based on maintaining a depreciated currency in real terms.

This challenge arises independently of the nature of the capital inflows. That is, both capital flows driven by stronger fundamentals and those driven by short-term considerations tend to appreciate the real exchange rate. Of course, one would expect the appreciation to be permanent in the first case, while temporary in the second.

3.2 Financial stability concerns

Capital inflows may also lead to excessive credit expansion and sharp increases in asset prices, mainly when short-term factors are behind such inflows. For example, an episode of low interest rates in advanced economies may lead to higher risk appetite for emerging economies’ assets among foreign investors. This may induce credit and asset price booms in the recipient economies and thus contribute to the development of asset price bubbles.

These problems worsen when massive capital inflows to emerging economies are intermediated by poorly regulated domestic financial institutions, since a weak regulatory framework may result, among other things, in excessive risk-taking. Furthermore, if domestic financial institutions have access to cheap foreign funding, they may be tempted to loosen their credit standards and (absent regulation) can even incur balance sheet currency mismatches. Overall, this situation could lead to a sharp expansion of credit, thereby

increasing financial fragility. At this point, the domestic financial system as a whole could become increasingly vulnerable.

3.3 Risks of sudden reversals in capital flows

Another concern mainly related to short-term capital flows such as those associated with carry trade operations is the possibility of an abrupt reversal. Empirical evidence shows that such reversals, known as “sudden stops” in the economic literature, have an adverse impact on domestic economies (Calvo (1998)).

In general, “sudden stops” refer to a sharp reversal in capital inflows and the corresponding adjustment in external accounts. These abrupt reversals in foreign financing lead to sharp contractions of domestic expenditure and production, collapses in the real exchange rate and reductions in both asset prices and credit to the private sector (Arellano and Mendoza (2002)).

Summing up, large capital inflows to emerging economies may negatively affect economic activity and financial stability through different channels. In this setting, it becomes crucial to analyse the menu of policy response options that policymakers have at their disposal to deal with large surges in capital inflows and their associated risks.

4. The policy response to capital inflows

The recent massive capital inflows to emerging economies have induced policymakers to implement different measures to prevent excessive currency appreciations, address financial stability concerns and reduce the economy’s vulnerability to sudden reversals of capital flows. The tools that can be part of the policy response to this phenomenon can be grouped into: (i) macroeconomic policy; (ii) foreign reserve accumulation; (iii) macroprudential policy; and (iv) structural reforms.

In general, the adequate policy mix depends mainly on the nature of the capital inflows and the specific conditions in each economy. First of all, an important distinction needs to be made between two types of inflows: on the one hand, those that are primarily driven by strong fundamentals, such as favourable economic growth prospects, and are expected to remain stable in the medium and long term; and, on the other hand, those that are mainly driven by wide interest rate differentials, which may reverse abruptly in the near future. Identifying which of these two factors is the main driver of capital inflows is a difficult task that requires both analysis and the policymakers’ judgment.

As will be discussed in this section, the use of each of the policy tools implies benefits and costs, which have to be taken into account when assessing the appropriate policy mix to deal with large capital inflows. However, quantifying both the benefits and the costs associated with the implementation of these policies is a complex task, which makes determining the appropriate policy response a very difficult process.

This section analyses qualitatively the appropriate response to capital inflows, taking into consideration the nature of capital inflows and the benefits and costs associated with each of the policy actions implemented.

4.1 Capital inflows driven by fundamentals

If capital flows to emerging market economies are mainly driven by fundamental factors, it can be argued that the corresponding real appreciation, and the consequent change in relative prices, reflects the need to reallocate resources in the economy. The danger here would be an excessive expansion of domestic demand that could lead to inflationary pressures in the non-tradable sector which would, in turn, also lead to a further appreciation of the real exchange rate.

Under these conditions, policy actions should facilitate rather than impede the reallocation of resources from tradable to non-tradable sectors. In principle, instead of adopting measures aimed at containing appreciation pressures and trying to maintain an undervalued currency in real terms, policymakers should allow a nominal (and real) appreciation caused by stable and long-term capital flows. That is, the currency should appreciate to a value corresponding to the country's economic fundamentals.

Nevertheless, if the magnitude of capital inflows leads to a sharp appreciation of the real exchange rate, which could affect economic activity in the short run, it may be convenient to adopt measures to mitigate the appreciation pressures. In this setting, the policy response would imply mainly adjusting the macroeconomic policy stance, although implementing structural reforms can be very beneficial in the long run.

4.1.1 Macroeconomic policy

One way in which emerging market economies can deal with the appreciation pressures related to massive capital inflows is through fiscal consolidation. To the extent that this is a real response, it could work in the direction of attenuating a real exchange rate appreciation.

In particular, since a significant part of public expenditures involves non-tradable goods, fiscal consolidation exerts downward pressure on the price of these goods. The decline in the relative price of non-tradable goods and services tends to depreciate the real exchange rate or, at least, to ease appreciation pressures. Empirical evidence suggests that fiscal restraint during periods of large capital inflows can help limit real exchange appreciation (IMF (2007)).

In turn, monetary policy should seek to ensure that the adjustment in the real exchange rate takes place in an orderly way, that is, with minimum costs in terms of inflation and economic activity. A prudent monetary policy is needed in order to keep inflation expectations well anchored and maintain an environment of low and stable inflation.

A fiscal consolidation programme and a prudent monetary policy lead to stronger macroeconomic fundamentals, which helps improve foreign investors' confidence and induce long-term and stable capital inflows, such as foreign direct investment (FDI). This brings forth many benefits. For instance, economies with stronger fundamentals tend to be relatively less affected by adverse external shocks. There is some evidence of sound fiscal policies being associated with lower sovereign risk (Afonso et al (2007); Akitoby and Stratmann, 2006).

Nevertheless, the additional sources of external funding associated with better fundamentals may also lead to further appreciation pressures that may require additional fiscal measures. It is also important to note that fiscal tightening as a response to capital inflows has some limitations. For instance, fiscal measures usually require approval by the legislature and, consequently, are executed with a lag. They may also be a difficult political task.

Sound fiscal and monetary policies aimed at strengthening macroeconomic fundamentals and improving investors' confidence should be coupled with structural reforms in order to fully take advantage of the benefits related to capital inflows. In particular, adopting an institutional framework that fosters greater competition becomes necessary, as it allows more flexibility to allocate productive resources and establishes incentives in a way that economic agents can adopt more efficient and productive technologies and processes. For instance, it is crucial to implement reforms in areas such as antitrust law, the labour market and the quality of education.

Overall, it would certainly be desirable for recipient economies to adopt measures to generate incentives for external resources to be allocated towards the most productive projects. Perhaps most importantly, to do so these economies should (politically) try to open up and allow capital to be invested in economic sectors that are currently closed to foreign investment. All these measures would maximise the contribution of capital inflows to improving the country's productive capacity, and thereby help attain sustained high growth.

4.1.2 Foreign reserve accumulation

If the financial authorities consider that the economy has low levels of international reserves, then episodes such as those currently experienced of large capital inflows to emerging economies represent an opportunity to accumulate foreign reserve holdings.

The most common motivation for holding large reserves in emerging economies with a flexible exchange rate is to self-insure against adverse external shocks. Foreign reserves allow for a larger margin of manoeuvre to cope with these shocks and thus can help mitigate their negative impact on the domestic economy. A level of foreign reserves perceived as adequate by international investors can help improve confidence in the economy and, hence, lead to lower risk premia. This reduces the cost of external borrowing for both public and private sectors. For example, credit rating agencies take foreign reserve indicators into consideration when assessing a country's creditworthiness.

Foreign exchange interventions associated with international reserve accumulation may also ease appreciation pressures. However, despite the availability of intervention data in advanced economies, the empirical evidence on its effectiveness in influencing the exchange rate remains mixed at best (Sarno and Taylor (2001); Humpage (2003)). In the case of emerging economies, where data limitations are much greater, the empirical literature is still relatively limited, and there is no conclusive evidence concerning the effectiveness of foreign exchange interventions.

One should also keep in mind the following. Since we are talking in this case about long-term "equilibrium" inflows, the receiving country will ultimately reach its desired level of reserves, at which point it should cease to accumulate reserves. The reason for this is that, as is well known, there are costs associated with accumulating foreign reserves. In this sense, the benefits of having international reserves need to be balanced against these costs when assessing the adequate level of reserves.

When central banks accumulate foreign reserves, they tend to neutralise the increase in the monetary base generated by purchases of foreign currency, usually via open market operations. In this setting, a financial cost arises for central banks from the interest rate differentials between the rate these institutions have to pay on the securities they sell for monetary regulation purposes and the return they receive on the foreign-denominated assets that they hold.

Usually, central bank profits (when they occur) are transferred to governments. Under these circumstances, the losses in the central banks' equity related to the cost of sterilisation can be interpreted as a quasi-fiscal cost. In general, the repeated implementation of sterilisation operations for an extended period of time can lead to an accumulation of large losses in the central bank's capital, which could eventually lead to "reputational" costs for these institutions. However, the issue of central banks having negative capital and whether it can be costly for society is being debated in the literature and therefore is not addressed in this paper. On the other hand, from the perspective of the economy as a whole, the resources used to finance foreign reserve accumulation could alternatively be used to finance either public or private investment projects. In the former case, one can certainly believe that, beyond a certain point, the resources for financing the accumulation of reserves might be used to finance public programmes with high social returns, thus representing a steep opportunity cost for this policy from that point on.

There may also be adverse multilateral effects. For instance, foreign exchange interventions implemented by some economies to accumulate foreign reserves in order to prevent or inhibit an exchange rate appreciation may lead other economies to adopt similar policies (a beggar-thy neighbour situation). Finally, in the case of some large economies, an aggressive accumulation of reserves can also lead to large externalities to other countries which, quite possibly, might have contributed to the build-up of the so-called global imbalances.

4.2 Capital inflows driven by short-term considerations

If an episode of a surge in capital inflows is driven by factors other than fundamentals, such as carry trade operations, the corresponding real exchange rate appreciation may just be a temporary phenomenon and may reverse possibly even within a short period. Under such circumstances, the contraction of activity in the tradable goods sector would be hard to justify. In fact, the decline of these sectors represents a waste of productive resources for the economy as a whole. Furthermore, since such sectors may not recover immediately or, in the case of some firms, even fail to recover, the damage to the economy may be enduring.

4.2.1 Macroeconomic policy

Relaxing the monetary policy stance in response to portfolio capital inflows can narrow the differentials between domestic and foreign interest rates, and therefore reduce the incentives for carry trade operations. This may be an appropriate policy action when there are no inflationary concerns. Reducing the policy rate, however, would contribute to stimulating aggregate demand, which could start generating pressures on inflation.

On the other hand, under conditions where a country is facing an upsurge in capital flows, tightening monetary conditions to address an inflation problem can have undesirable side effects. Indeed, increasing domestic interest rates may further encourage carry trade transactions, which could attract further capital inflows. Under this setting, the monetary authorities face a difficult trade-off and therefore may require the support of fiscal consolidation measures.

In particular, reducing the public sector's funding needs tends to relieve pressures on interest rates, thus working towards discouraging short-term capital inflows. Fiscal tightening can also support monetary policy by relieving upward pressures on prices. Also, since most public expenditures are destined for the non-tradable sector, as mentioned, a fiscal retrenchment works towards attenuating a real exchange appreciation.

4.2.2 Foreign reserve accumulation

The policy response to portfolio inflows also includes foreign reserve accumulation. As mentioned, the most common motivation for holding large reserves in emerging economies is to self-insure against adverse external shocks such as abrupt reversals in capital flows. This is particularly relevant when capital inflows are driven by short-term factors.

Emerging market countries accumulate reserves in good times so as to be able to use them as a buffer against the impact of external shocks on domestic absorption and mitigate the contraction of domestic output. In theory, authorities can reduce the output cost of a crisis by using foreign reserves. First, reserves allow monetary authorities to provide foreign exchange liquidity to the domestic financial markets, contributing to an orderly adjustment of the exchange rate, and thus avoiding the disruption induced by an episode of high exchange rate volatility.

Second, besides being a buffer to absorb adverse external shocks, foreign reserves are also perceived as a tool to reduce the probability of self-fulfilling speculative attacks (Feldstein (1999)). In particular, a country with large foreign reserves is less likely to suffer from such attacks. To illustrate this point, consider the case of a country whose short-term private and government liabilities denominated in foreign currency exceed its foreign exchange reserves. Such a country may be solvent in the sense that it can service its foreign currency debts with its future export earnings, but may be temporarily illiquid because it does not have enough funds to meet its immediate obligations. If foreign creditors have confidence in the country and its currency, they will continue to roll over the short-term debt. However, if they worry that the country might not meet its obligations, the country could experience a currency attack and may be forced to default. Since the level of reserves is low, authorities have no

tools to deter the currency attack and the probability of a sudden reversal in capital inflows would tend to be higher (Feldstein (1999)).

Finally, accumulating reserves under these conditions has another rationale. If capital is believed to flow outwardly at some point, it could be desirable to try to avoid the original capital inflow to be intermediated by the economy altogether.

Regardless of its potential benefits, and as already discussed in previous sections, foreign reserve accumulation also entails costs. Consequently, when assessing the convenience of increasing the level of reserves, the benefits of having foreign reserves need to be compared to these costs.

4.2.3 *Macroprudential regulation and supervision*

The policy response to short-term capital inflows may also consider the use of some macroprudential tools to deal with the financial consequences of this type of flows. In general, adequate regulation and supervision may be useful in preventing an inefficient intermediation of capital inflows driven by carry trade motives, and thus help to contain systemic risk in the domestic financial sector.

In principle, there are different prudential tools at the disposal of policymakers. Some of them, such as reserve requirements or credit ceilings, can be used to prevent unsustainable credit expansions. Others are aimed at maintaining the quality of loans, among them limits on currency mismatches and improved credit information. Other tools, such as capital requirements, can be used to enhance the financial system's resilience to adverse shocks.

Policymakers have to analyse how and when to use these instruments. This poses a technical challenge since it is difficult to calibrate the appropriate policy response when using some of these tools. Furthermore, in economies lacking deep and liquid domestic financial markets, some of these measures may inhibit financial innovation, thus delaying the development of the financial system.

A particular set of measures that has been regarded as a macroprudential tool, and which some emerging economies are adopting in order to cope with massive capital flows, are capital controls. In general, these can be imposed either by limiting asset transactions through market-based mechanisms, such as taxes, or through administrative measures, such as explicit quantitative limits or outright prohibitions.

One problem with both types of capital controls is their enforcement. Capital controls can be eluded if transactions are misreported by economic agents as capital inflows of the type that are either not subject to controls or are subject to lower tax rates. As long as the benefits of capital transactions exceed the cost of eluding capital controls, there will be incentives to circumvent them. The increasing financial integration across economies suggests that there are significant benefits related to capital mobility for economic agents and, for this reason, they will try to evade controls.

The adoption of capital controls may therefore require frequent adjustments aimed at avoiding circumvention, which tends to increase the cost associated with the implementation of these measures. Nevertheless, capital controls tend to lose their effectiveness over time because economic agents will always find a way to evade them.

As for the empirical evidence on this topic, the economic literature reveals mixed results. For instance, many studies have found little or no effect of capital controls on the overall volume of capital inflows (IMF (2007)). However, there is some evidence that controls may change the composition of capital inflows towards longer maturities (Laurens and Cardoso (1998); De Gregorio et al (2000)). On the one hand, to the extent that short-term capital flows are regarded as volatile and risky, the change in the composition of capital flows between short-term and long-term flows can reduce the risk of a "sudden stop". On the other, since capital

controls may not affect the overall size of capital flows to emerging economies, appreciation pressures could persist.

However, even if capital controls are effective, they entail a number of problems, and any benefit associated with their use should be weighed against the resulting distortions.

One problem is that capital controls may be regarded as punitive measures against capital mobility and financial integration across economies, which may adversely affect investors' confidence. Furthermore, the imposition of capital controls may raise uncertainty about future policy actions, which may also negatively affect foreign agents' willingness to invest in the country. As a result, FDI might decrease and external financing become more expensive.

Many emerging economies have significantly improved their regulatory and supervisory frameworks following the financial crises of the 1990s. On several dimensions, these frameworks may be more rigorous than those of advanced economies. For example, banks' capital requirements are usually above the international rule of 8% of risk-weighted assets. This helps explain the resilience of emerging economies' banks during the recent global financial crisis. In fact, these economies did not experience a domestic financial crisis. Thus, they are in a relatively better position to efficiently intermediate massive capital inflows.

However, instead of being intermediated by domestic banks and other financial institutions, capital flows can go directly into financial markets such as stock markets. Thus, even if financial institutions, such as banks, are properly regulated and supervised, asset price bubbles can arise. In order for these prudential measures to be effective in impeding the formation of bubbles, prudential regulation and supervision should be extended to all relevant financial institutions and markets.

5. Recent capital inflows and the policy response in Mexico

Capital flows to Mexico decreased sharply following the collapse of Lehman Brothers in September 2008. During the last quarter of that year, total foreign investment was only around 10% of the level reached a year earlier. Most of the contraction was due to a reduction in portfolio investment. There was significantly less access to international financial markets for domestic agents, while the exchange rate depreciated substantially and became more volatile. Furthermore, in an environment of harsh conditions in global credit markets and lower foreign currency revenues (oil exports), at the beginning of 2009 investors were concerned that Mexico could face problems in financing an estimated moderate increase in its current account deficit for that year (Sidaoui et al (2010)).

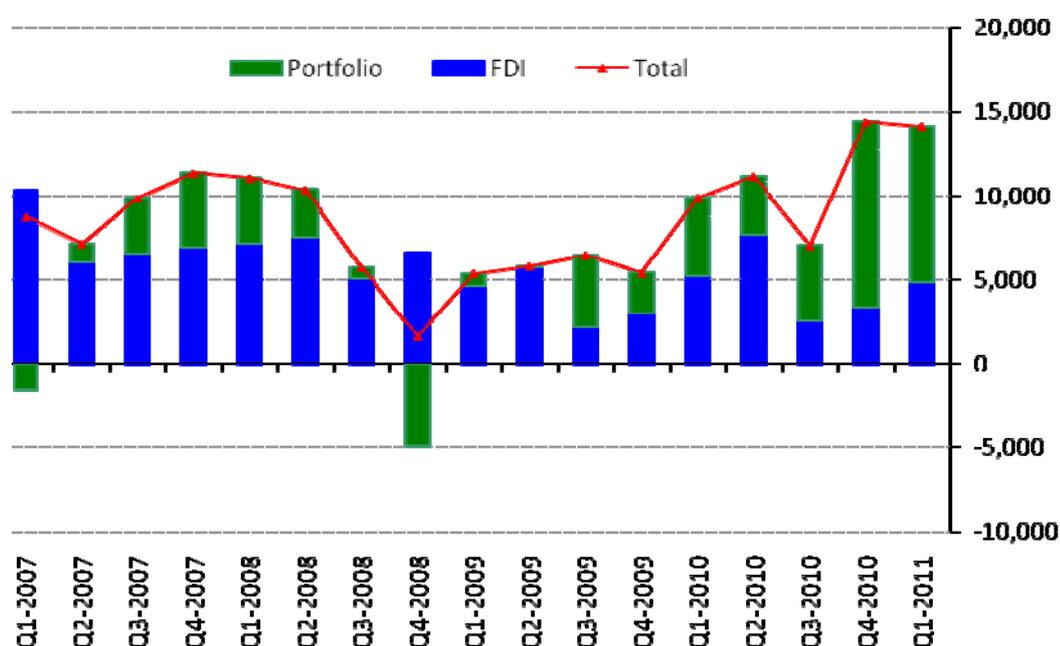
Mexico's authorities responded rapidly and adopted several measures to supply liquidity to the foreign exchange market and restore its orderly functioning. Among these measures, the Foreign Exchange Commission (FXC) instructed the central bank to intervene in the foreign exchange market using several mechanisms (Sidaoui et al (2010)). The FXC also published its forecasts for the balance of payments for 2009, listing several reasons why no problems in financing the external deficit were expected. Finally, two additional measures were taken: a swap line was arranged with the US Federal Reserve, and a Flexible Credit Line (FCL) was signed with the IMF.

These measures, combined with reduced uncertainty in international financial markets, resulting from the G20's announcement regarding the allocation of more resources from advanced to emerging economies, and the favourable results of the stress tests applied to US commercial banks, helped to improve confidence and gradually led to a recovery of capital flows to Mexico and other emerging markets. As mentioned in previous sections, these flows rebounded from the second quarter of 2009 onwards. Additionally, and perhaps most importantly, even in light of a very steep recession, Mexico undertook an important revenue-enhancing fiscal reform.

5.1 Capital flows to Mexico and challenges

The increased access to external financing led to substantial capital flows to Mexico from the second half of 2009 onwards. For instance, total foreign investment increased from US\$ 1.61 billion in the last quarter of 2008 to US\$ 14.14 billion in the first quarter of 2011. By mid-2010, total foreign investment was at levels similar to those observed prior to the crisis (Figure 1). The rebound was particularly evident in the case of portfolio investment. For example, its share of total foreign investment rose from 14% during the first quarter of 2009 (US\$ 760 million), to 66% (US\$ 9.3 billion) during the first quarter of 2011.

Figure 1
Capital inflows: foreign investment in Mexico
(In millions of US dollars)



Source: Bank of Mexico.

Of course, a first consideration that needs to be discussed pertains to the nature of these flows. As has already been said, once there was a change of sentiment in international financial markets from mid-2009 onwards, and given the exceptionally low interest rates in advanced economies, an important search for yield in markets began to thrive once more. Combined with this was the perception that emerging market economies would recover much quicker than advanced ones, and would continue to grow quite rapidly. As it turned out, there has been a two-speed recovery, with emerging economies growing much faster than advanced economies.

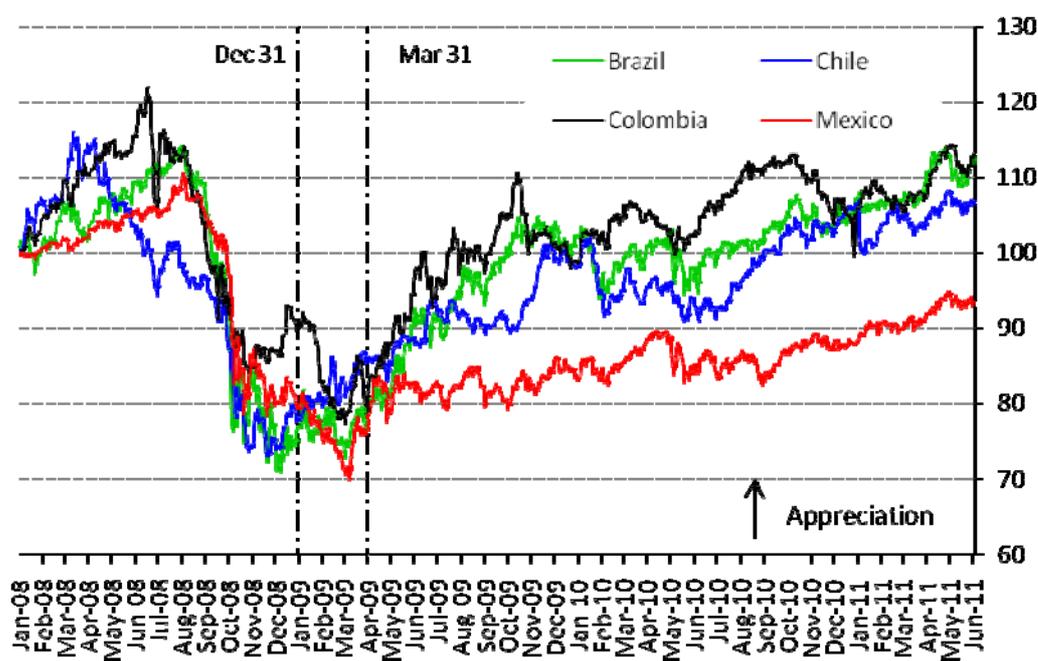
In the case of Mexico, once the episode of uncertainty from the fourth quarter of 2008 to the first half of 2009 was over, capital flows started entering the country again. This was due to several factors: the US economy began to recover; Mexico strengthened its fiscal stance and, in 2010, joined the World Government Bond Index (WGBI), which triggered renewed flows; and finally, the Fed's decision to implement QE2 also certainly contributed to making capital flow in.

Exchange rate appreciation

In terms of the challenges that global liquidity poses to Mexico it should be noted that, as mentioned, the resurgence of capital flows to emerging economies has led to an appreciation of their currencies. However, in Mexico the exchange rate appreciated relatively less than in other Latin American countries. For example, the peso appreciated around 20% from April 2009 to May 2011, while the currencies of countries such as Brazil, Chile and Colombia appreciated 44%, 25% and 40%, respectively, during the same period. Figure 2 illustrates the evolution of the nominal exchange rates of a number of Latin American countries, and shows that the Mexican peso has not returned to levels similar to those prior to the crisis.

Among the factors that may help explain the smaller appreciation of the Mexican peso are the *relatively* less favourable economic prospects for the Mexican economy. Mexico is highly integrated with the United States. The deleveraging process and the need to adjust domestic expenditure patterns to sustainable levels has adversely affected expectations about the economic recovery in Mexico and, relative to the levels observed prior to the crisis, may even imply a permanent depreciation of the real exchange rate. The more positive scenario for commodities has also had a milder impact on Mexico's outlook than in other commodity-exporting economies in the region such as Brazil, Chile, Colombia and Peru.

Figure 2
Foreign exchange rate
(1 January 2008 = 100)



Source: Bloomberg.

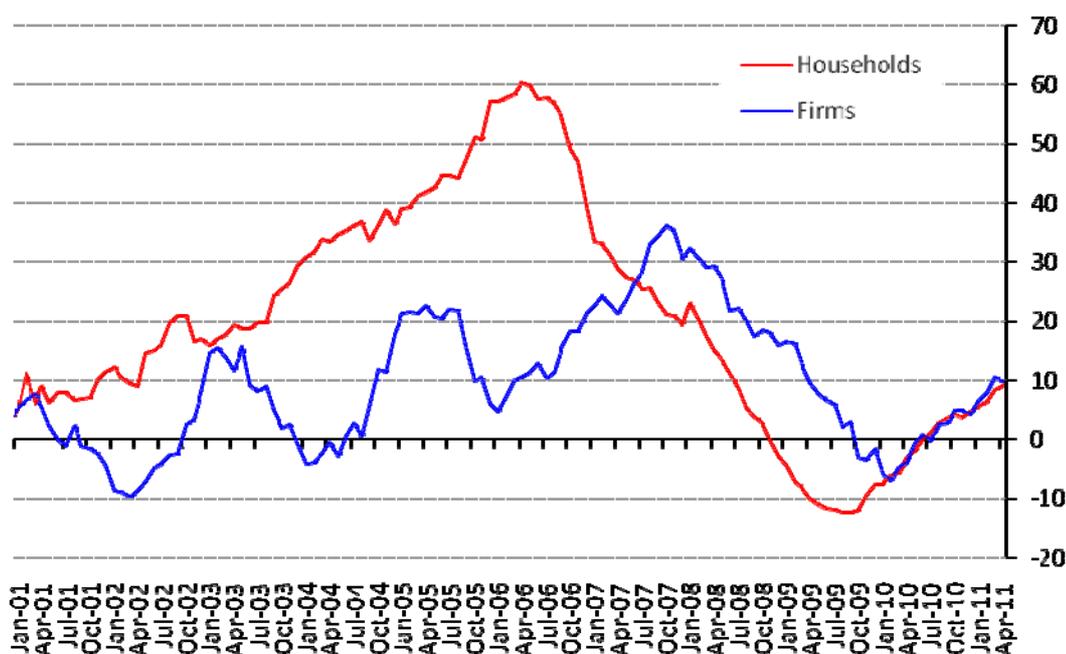
Commercial banks' credit to the private sector

Another concern related to episodes of large capital inflows, mainly portfolio investment, is the possibility that they may lead to unsustainable "credit booms" and to sharp increases in asset prices. In the case of Mexico, so far the resurgence in capital flows has not been associated with excessive credit expansion. Figure 3 shows the evolution of commercial banks' credit to the private sector in Mexico during the last decade. After experiencing a

contraction following the financial crisis in the mid-1990s, this type of credit rebounded in the early 2000s. During those years, the growth of the Mexican banking system allowed a larger fraction of the population to have access to financial products, thereby explaining why credit to households grew vigorously at that time (albeit starting from a very low base).

However, in the second half of the decade, this process began to reach its limits, and bank credit started to grow at lower rates as banks began to be more reluctant to grant loans to riskier clients. This slowdown in credit growth intensified as financial conditions in international financial markets became more stringent during the 2008–09 crisis. Although it started to recover in 2010, bank credit is only now starting to grow at higher rates. This fact, along with the evolution of a number of indicators such as consumer confidence and retail sales, among others, shows no evidence of a “credit boom”. Indeed, presently there are no concerns about an episode of excessive risk-taking in Mexico.

Figure 3
Commercial banks’ credit to households and firms
 (Real annual percentage changes)



Source: Bank of Mexico.

Although the relatively moderate appreciation of the Mexican peso and the performance of commercial banks’ credit do not suggest a “credit boom”, the current episode of capital flows to emerging economies does not imply that Mexico is exempt from risks. For instance, the possibility that part of the capital flowing to Mexico is motivated by short-term considerations is a source of concern. An abrupt reversal of these flows constitutes a risk, for example, whenever advanced economies decide to start withdrawing the monetary stimulus.

5.2 Policy response to capital inflows

This section analyses the set of policy actions adopted by the Mexican authorities to cope with large capital flows, as well as the benefits and costs associated with the measures

taken. In particular, the macroeconomic policy stance, international reserve accumulation and the changes in the macroprudential regulatory framework are discussed.

Before going into this, though, it is important to state that the Mexican authorities have sought to ensure that the implemented measures not impose distortions that could affect the prospects for economic growth in the long run. For instance, the central bank has followed a rule-oriented strategy to accumulate foreign reserves, without altering the functioning of the flexible exchange rate regime. Furthermore, no capital controls have been imposed.

5.2.1 Macroeconomic policy

The macroeconomic policy stance has contributed to strengthening the Mexican economy, attenuating the risks associated with large capital inflows. This section analyses both monetary policy and fiscal policy and their relationship with capital flows to Mexico.

5.2.1.1 Monetary policy

As regards the monetary policy stance, during the first half of 2009, as was the case for most economies, the balance of risks for monetary policy in Mexico deteriorated significantly more in terms of economic activity than of inflation. In fact, even in light of a sharp nominal exchange rate depreciation, inflation expectations remained relatively well anchored. The inflation rate reached its highest level in December 2008 and then started to fall in early 2009. A wide negative output gap and a worsening outlook for economic activity, as well as lower energy and food prices, contributed to easing inflationary pressures. The country's weak economic performance during the first quarter of 2009 worsened in the second quarter of that year, which led to a downward revision in economic growth prospects for 2009. Under these circumstances, a sharp economic contraction was the main source of concern.

Against this backdrop, the Bank of Mexico began a cycle of monetary policy easing aimed at lessening the adverse impact of the international financial crisis and the global recession on the Mexican economy. The target for the interbank rate was reduced from 8.25% in December 2008 to 4.50% in July 2009.

By mid-2009, the improvement in the economic prospects for emerging economies, including Mexico, and the abundant liquidity worldwide contributed to a rebound of capital flows to these economies. In this setting, the loosening of monetary conditions in Mexico might have helped to partially attenuate the incentives to carry trade operations among international investors. Otherwise, the widening in interest rate differentials between Mexico and advanced economies, such as the United States, that would have taken place would have encouraged even further portfolio capital inflows to Mexico.

Nevertheless, the fact that inflation expectations remained above the central bank's target implied a smaller margin of manoeuvre to implement additional policy rate cuts. Under these conditions, prudent fiscal policy management was required to further improve investors' confidence and to mitigate the risks associated with short-term capital flows.

5.2.1.2 Fiscal policy

When the crisis began to hit the Mexican economy, the Federal Government tried to reduce the contraction in aggregate demand by adopting some countercyclical fiscal policy measures, such as increasing public expenditures in infrastructure, freezing household energy prices, reducing industrial electricity tariffs and implementing programmes to support employment, among others. Most of this was to be done through a "front-loading" of public expenditures, given a mainly unaltered balance target for public finances.

However, by mid-2009, the economic recession deepened more than anticipated, leading to a sharp drop in tax revenues. This situation, along with the deterioration of investors' confidence during the first months of the year, made the adoption of a fiscal consolidation programme imperative. The Federal Government proposed a fiscal reform for 2010 and

onwards that was approved by Congress. The reform included a permanent increase in the general VAT rate, permanent and temporary increases in excise taxes, temporary increases in income taxes and reductions in current public expenditures.

Although these fiscal measures led to higher inflation rates during the first quarter of 2010 due to the one-off effects of the new taxes on price levels, they also contributed to strengthening Mexico's economic fundamentals and therefore improved investors' sentiment significantly. Without the strengthening of the structural fiscal position associated with these fiscal measures, the stable sources of external financing, such as FDI, might have evolved less favourably, further increasing the risks associated with portfolio capital inflows. Moreover, since government spending in Mexico, as elsewhere, is mainly channelled to non-tradable goods and services, the fiscal consolidation process exerted downward pressures on non-tradable prices, helping to moderate the appreciation of the real exchange rate.

Other measures also contributed to strengthening the country's fiscal stance. First, in order to reduce the volatility of fiscal revenues due to fluctuations in international oil prices, Mexico implemented a strategy to hedge its oil income revenues through option contracts. Second, the Mexican authorities have pursued an active public debt management policy that has helped to improve the public debt profile by, among other things, increasing its duration.

5.2.2 Foreign reserve policy

An important element of the policy response to capital inflows has been the accumulation of foreign reserves. The need for higher levels of reserves in emerging market economies such as Mexico responds to their relative vulnerability with respect to negative external shocks, such as abrupt reversals in capital flows ("sudden stops"). When assessing a country's creditworthiness, the rating agencies regard the amount of foreign reserves as an indicator of a country's solvency. Furthermore, if a country's reserve level is below that of other countries with similar characteristics, then it obtains a lower rating. Thus, the level of international reserves has consequences for the cost of capital and for international investors' perception of the vulnerability of a given country.

Table 1 shows a number of indicators of the reserve level in a sample of 19 emerging economies of Latin America, East Asia and eastern Europe. Mexico's international reserve indicators, in general, were lower than those observed in other emerging economies by the end of 2009.

There is an extensive literature that attempts to define some benchmarks for reserve adequacy (De Beaufort Wijnholds and Kapteyn (2001)). In particular, this literature considers different sources of vulnerability that must be covered by the economies and proposes reserve adequacy ratios. For instance, the most common are a ratio of reserves to broad money of 5–20%, a ratio of reserves to imports of 25% (three months of imports) and a ratio of reserves to short-term external debt of 100% (Greenspan-Guidotti rule).

Almost all countries, including Mexico, satisfied these rules of thumb in 2009. However, Mexico exhibited lower ratios than the other countries. For instance, it had a lower reserves/GDP ratio than the average of economies with similar credit ratings. Furthermore, foreign reserves as a fraction of imports and of broad money stood at 42% and 20%, respectively, while the average for countries with similar ratings was 94% and 57%, respectively. As for reserves/short-term debt, Mexico had a higher ratio than economies with the same grade (288% vs 234%). Nevertheless, countries with a higher rating than Mexico exhibited a significantly higher ratio (547% on average). The downgrading of Mexico's debt by some credit agencies in late 2009 was partly attributed to the relatively low levels of foreign reserves.

The external environment characterised by large capital flows to emerging markets, and the associated risks, made economic conditions in 2010 conducive to accumulating international reserves. In particular, given the benefits associated with foreign reserves discussed

previously, policymakers deemed that larger holdings of reserves would help to improve market participants' confidence in the Mexican economy, and help the country self-insure against possible reversals in capital inflows. As a result, at the beginning of 2010 the Mexican authorities decided to foster the process of foreign reserve accumulation.

Table 1
International reserve indicators

	Credit rating ^{1/}	Total reserves ^{2/}		Reserves/GDP ^{3/}		Reserves/Broad monetary aggregate ^{4/}		Reserves/Imports ^{5/}		Reserves/ST Debt ^{6/}	
		(USD billions)		(%)		(%)		(%)		(%)	
		2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
China	A+ (+4)	1530	2416	44	48	29	27	160	240	1251	1609
Chile	A+ (+4)	17	25	10	15	19	27	36	60	86	129
Czech Republic	A (+3)	35	41	20	22	30	30	29	39	198	307
Israel	A (+3)	29	61	17	31	N.A.	N.A.	N.A.	N.A.	589	606
Korea	A (+3)	262	270	25	32	19	22	73	84	176	177
Poland	A- (+2)	63	76	15	18	32	33	38	52	234	225
Malaysia	A- (+2)	101	95	54	49	44	34	69	77	448	558
South Africa	BBB+ (+1)	30	35	10	12	15	19	33	48	173	261
Thailand	BBB+ (+1)	85	135	34	51	34	N.A.	60	100	868	1048
Mexico	BBB	87	100	8	11	18	20	31	42	259	288
Russia	BBB	467	417	36	34	90	84	190	197	493	618
Croatia	BBB	14	15	23	24	N.A.	N.A.	53	70	71	71
Bulgaria	BBB	16	17	42	36	56	51	55	73	180	152
Lithuania	BBB	8	6	19	17	44	37	31	35	149	95
India	BBB- (-1)	267	265	22	21	31	N.A.	119	104	340	309
Hungary	BBB- (-1)	24	44	17	34	34	62	25	56	88	131
Brazil	BBB- (-1)	179	237	13	15	45	41	142	178	292	306
Peru	BBB- (-1)	27	32	25	25	81	N.A.	114	152	284	301
Colombia	BB+ (-2)	21	25	10	11	30	30	63	75	207	386
Average countries with a higher rating		239	351	26	31	28	27	62	88	447	547
Average countries with the same rating		126	114	30	28	63	57	82	94	223	234
Mexico		87	100	8	11	18	20	31	42	259	288
Average countries with a lower rating		104	121	18	21	44	44	93	113	242	287

N.A. = not available; ST = short-term.

¹ Ratings as of 31 December 2009. The numbers in parentheses represent the number of notches above or below Mexico's grade. Source: Standard & Poor's. ² Reserves are the sum of currencies, reserve positions at the IMF and the value in US dollars of SDR holdings by authorities. Source: IMF. ³ Source: IMF. ⁴ Broad monetary aggregate corresponds to M2 (national definitions). Source: IMF. ⁵ Imports are customs statistics reported under the general trade system, according to the UN recommendations of the International Merchandise Trade Statistics: Concepts and Definitions, 1998. Source: IMF. ⁶ Short-term debt data were obtained by adding two concepts: short-term international debt securities and short-term liabilities to BIS reporting banks. International debt securities comprise securities issued in foreign currency by residents and non-residents. Sources: IMF; Joint External Debt Hub of the World Bank, BIS, OECD and IMF.

Nevertheless, it was crucial that the accumulation of reserves did not interfere with the functioning of the flexible exchange rate regime. In particular, as is well known, a free floating regime simplifies monetary policy management because the exchange rate can adjust more rapidly to domestic and external shocks. This is relevant for emerging economies, such as Mexico, that are subject to negative external shocks which tend to adversely affect economies' external accounts and require an adjustment of the economy to the deteriorating external environment. In this case, a depreciation of the real exchange rate through a floating nominal exchange rate regime allows for the needed adjustment with reduced costs to the economy in terms of inflation and activity.

5.2.2.1 Rule-oriented mechanism

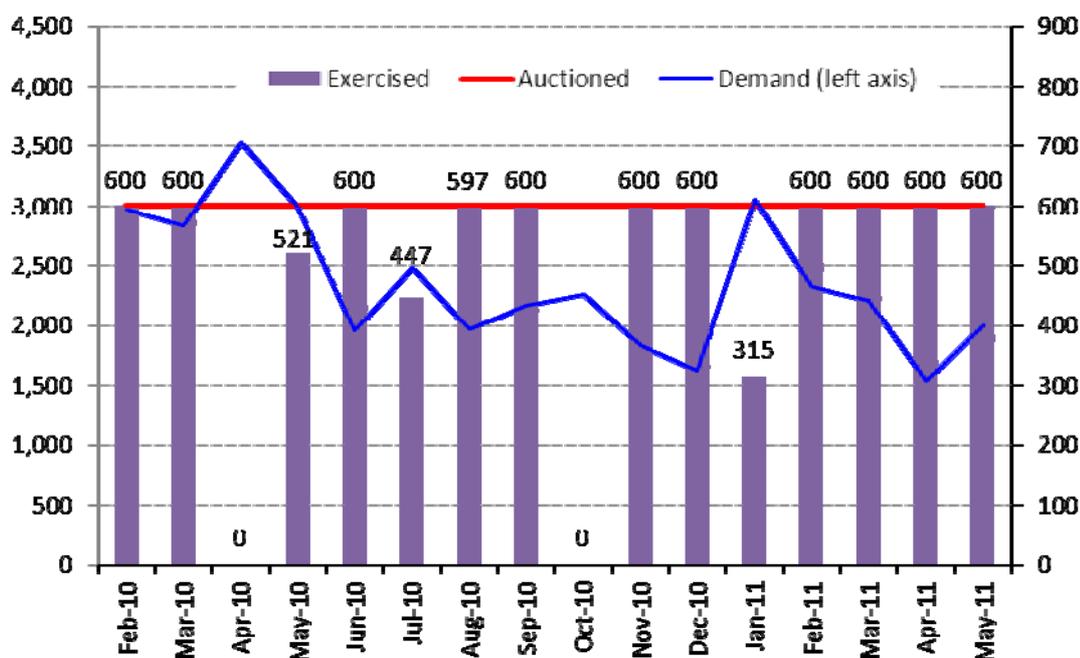
By law, the Bank of Mexico is the fiscal agent of both the state oil company Petróleos Mexicanos (PEMEX) and the Federal Government. Under this setting, the most important source of reserve accumulation in Mexico is exports from PEMEX, which sells US dollars directly to the central bank at the market exchange rate. The Bank of Mexico also provides

services to the Federal Government, which usually requires foreign currency in order to service its external debt obligations. These arrangements help to isolate the foreign exchange market from foreign currency transactions corresponding to these two large players. In fact, allowing them to participate in the foreign exchange market would probably interfere with the orderly functioning of the exchange market. These mechanisms also allow the Bank of Mexico to accumulate foreign reserves without the need for discretionary interventions.

At the beginning of 2010, the Bank of Mexico's reserve accumulation resulting from its operations with PEMEX and the Federal Government was estimated at approximately US\$ 15 billion that year. In February 2010, the Foreign Exchange Commission decided to increase the speed at which international reserves are accumulated. A rule-oriented mechanism based on the auction among credit institutions of US\$ 600 million per month in put options that could be exercised in the subsequent month was put in place as of March 2010. These options give holders the right to sell US dollars to the central bank on any working day at the previous reference interbank exchange rate (known as the FIX rate), as long as it does not exceed its average of the 20 preceding business days.

This mechanism, which had been successfully used from 1996 to 2001, is designed to give market participants the incentive to exercise options whenever there seems to be an "excess" supply of US dollars in the market. More importantly, it allows for accumulating reserves without "predetermining" the level of the exchange rate. That is, it does not distort the foreign exchange market. So far, the total amount exercised by credit institutions has been US\$ 7,880 million (Figure 4).

Figure 4
US dollar auctions ¹
(In millions of US dollars)



¹ Data up to 31 May 2011.

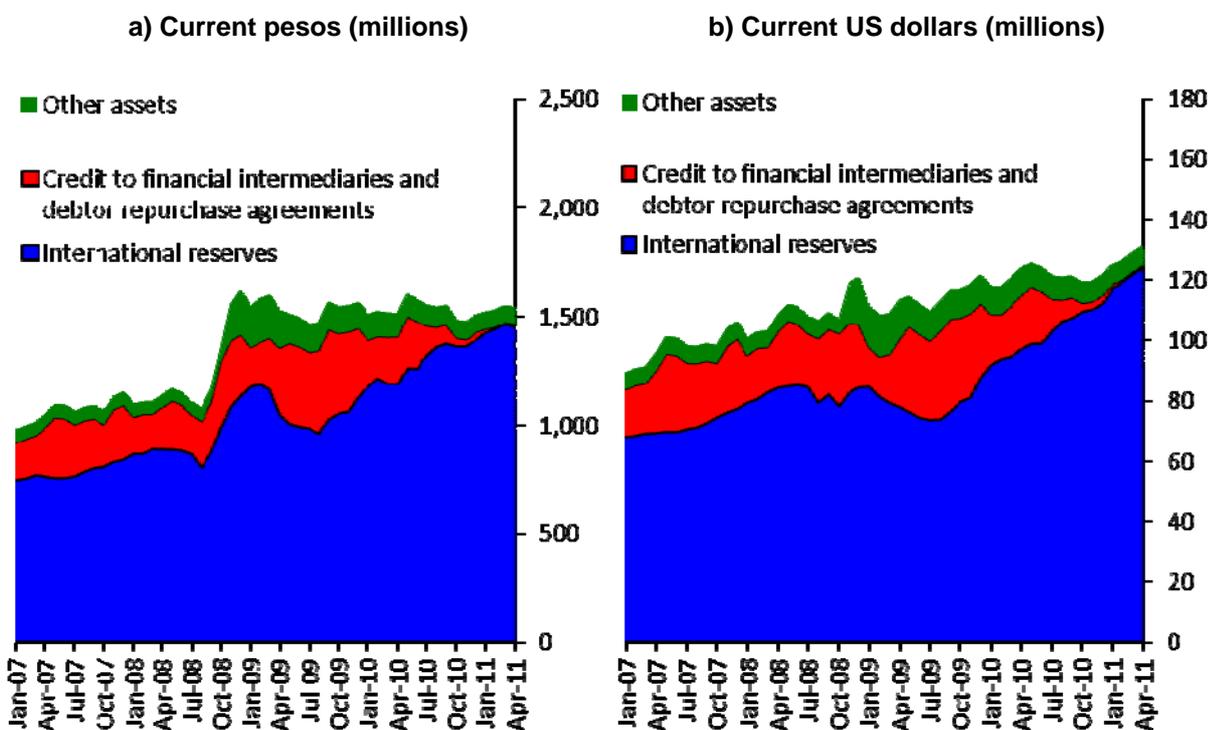
Source: Bank of Mexico.

The level of international reserves increased from US\$ 90,838 million. in December 2009 to US\$ 127,982 million by May 2011. That is, the Bank of Mexico accumulated US\$ 22,759 million in 2010 and approximately 23% of this amount (US\$ 5,165 million) was through the option mechanism. This increase in the amount of central bank foreign reserves, along with resources from both the Federal Reserve swap line and the Flexible Credit Line with the IMF, were essential to strengthen the country's fundamentals and improve investors' confidence.

5.2.2.2 International reserves and the central bank's balance sheet

The Bank of Mexico has always fully sterilised the foreign reserve accumulation. The large increase in foreign exchange reserves since 2010 posed a challenge for the central bank. In order to illustrate this effect, let us examine its balance sheet. Figures 5a and 5b show the evolution of assets from 2007 to 2011 expressed in current pesos and US dollars, respectively.

Figure 5
Bank of Mexico: assets

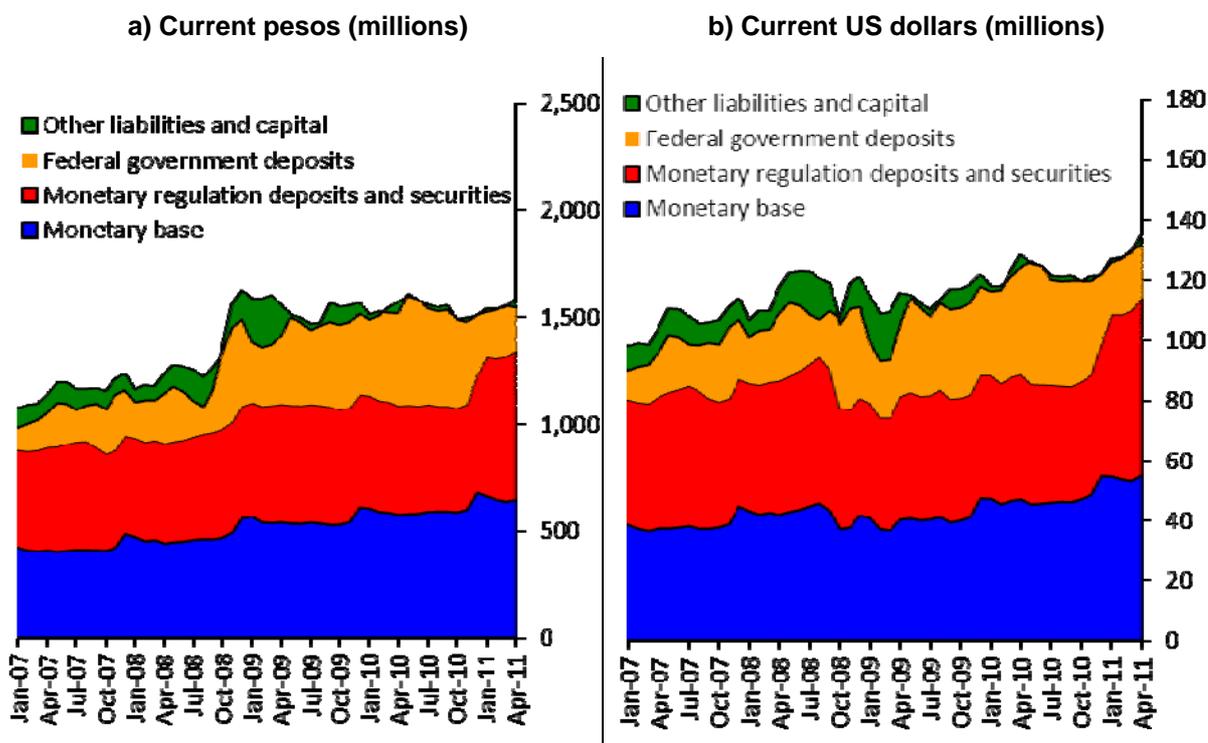


Source: Bank of Mexico.

The sterilisation process, whose purpose is to absorb the additional liquidity that is injected into the domestic market by the central bank's purchases of foreign currency, aims at isolating reserve accumulation from the monetary policy stance. Most commonly, sterilisation is done through open market operations, that is, the Bank of Mexico sells securities in the market. Sometimes, compulsory commercial bank deposits have also been used. Whenever these deposits have been imposed, they have been remunerated at market rates. Either the securities sold by the central bank to the public or the compulsory deposits of commercial banks increase the liabilities side of the balance sheet and, clearly, impose costs (figures 6a and 6b).

Figure 6

Bank of Mexico: liabilities



Source: Bank of Mexico.

So despite the benefits associated with foreign reserve accumulation, there are also costs involved. First, there is a quasi-fiscal cost that corresponds to the difference between what the central bank earns on international reserves and what it pays on the domestic debt issued to sterilise them. This cost may be relatively high given the current loose monetary conditions prevailing in advanced economies, which tend to keep interest rates low in these economies. This cost mirrors the benefits that investors that follow carry trade investment strategies earn.

Second, to the extent that an increasing fraction of financial savings is allocated to securities issued for monetary regulation purposes, sterilisation implies that resources that could have been invested in alternative productive projects have actually been allocated to finance foreign reserve accumulation. That is, there is an opportunity cost.

Third, the costs of carrying international reserves may eventually result in a high negative capital for the central bank and therefore entail reputational costs.

Summing up, under the current international environment characterised by loose monetary conditions and large portfolio inflows to emerging economies, the benefits related to building international reserves for these economies seem to be higher than the corresponding costs. In particular, larger holdings of foreign reserves help to insure these economies against possible adverse shocks. Nevertheless, at some point many emerging economies will reach a stage where the marginal benefits and costs of accumulating reserves will need to be carefully evaluated.

5.2.3 Macprudential regulation and supervision

Another set of measures that helps to improve investors' sentiment and hence moderate the risks related to short-term capital inflows involves macroprudential regulation and supervision.

Mexico did not suffer a severe domestic financial crisis as many advanced economies did. The banking system had adequate levels of capital when the financial crisis emerged, and banks were able to maintain high levels of capital throughout the episode of financial turbulence. Furthermore, despite the negative economic conditions, they continued generating profits during the crisis (Bank of Mexico (2008, 2010)).

The resilience of the Mexican banking system is mainly the result of a number of reforms that strengthened the financial regulatory framework in the aftermath of the 1995 financial crisis. That crisis made evident that bank regulation and supervision were inadequate. In order to overcome this situation, Mexico adopted several measures to reinforce banks' capital and liquidity and to improve their risk management. Many of the policy actions that are currently recommended by the Basel Committee to improve financial regulatory frameworks, such as changes in the definition of commercial banks' capital composition to exclude those components that cannot absorb losses, were implemented in Mexico after the 1995 crisis.

However, despite the resilience of the Mexican banking sector, and the fact that currently there are no signals of financial imbalances in the Mexican economy, the authorities deemed it appropriate to adopt pre-emptive measures to further strengthen financial regulation and supervision. In particular, a Financial System Stability Council (Consejo de Estabilidad del Sistema Financiero) was created in 2010 with the participation of the central bank and the government financial authorities.² The Council aims to monitor financial and macroeconomic risks in the country that could have systemic repercussions. In particular, it is responsible for identifying early warning signals of potential problems in the financial system and making recommendations in order to address them.

6. Final remarks

In general, capital inflows to emerging market economies have brought various benefits for these economies. Indeed, they let economies with insufficient savings have access to external resources in order to finance investment projects. Nevertheless, sudden and large surges of capital flows mainly driven by carry trade motives can pose significant challenges to the recipient countries. In particular, there are worries about an excessive appreciation of domestic currencies, unsustainable credit expansions and the formation of asset price bubbles and, perhaps most importantly, sudden reversals in capital flows with dire consequences for financial stability and economic activity.

The policy response to massive capital inflows combines a number of measures such as modifying the macroeconomic policy stance, fostering the process of foreign reserve accumulation and implementing macroprudential measures. Policymakers must be extremely careful when assessing the adequate policy mix to cope with episodes of large capital inflows. In particular, they have to analyse whether capital flows are mostly driven by

² The Council is made up of members from the Bank of Mexico, the Ministry of Finance, the National Securities and Banking Commission (Comisión Nacional Bancaria y de Valores, CNBV), the National Insurance Commission (Comisión Nacional de Seguros y Fianzas, CNSF), the National Retirement Savings Commission (Comisión Nacional del Ahorro para el Retiro, Consar), and the Deposit Insurance Agency (Instituto de Protección al Ahorro Bancario, IPAB).

fundamentals or short-term considerations, such as carry trade operations, which is a difficult task to begin with. Policymakers must also take into consideration both the benefits and the costs related to the different policy tools at their disposal. The costs associated with these tools can eventually limit policymakers' margin of manoeuvre to cope with capital inflows and have some implications for the economy in the medium and long term. For instance, long-lasting sterilisation interventions could lead to large quasi-fiscal costs that eventually could jeopardise the central bank's ability to conduct open market operations.

Some actions taken to deal with capital inflows may also impose significant distortions on the economy. Thus, policymakers must be extremely careful when analysing the possibility of implementing measures such as capital controls. From a global economy perspective, it is important that individual policy responses do not lead to beggar-thy-neighbour policies, such as competitive devaluations.

In general, policymakers in emerging economies have limited degrees of freedom to adopt actions to cope with episodes of large capital inflows. In order to overcome these limitations, these countries have to further improve their economic fundamentals. Prudent fiscal and monetary policies aimed at maintaining macroeconomic stability and investors' confidence are therefore crucial. The improvements in macroeconomic policies also need to be coupled with structural reforms to make the economy more flexible and competitive. Summing up, better fundamentals and a more competitive economy are the only way to earn higher degrees of freedom for emerging economies.

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