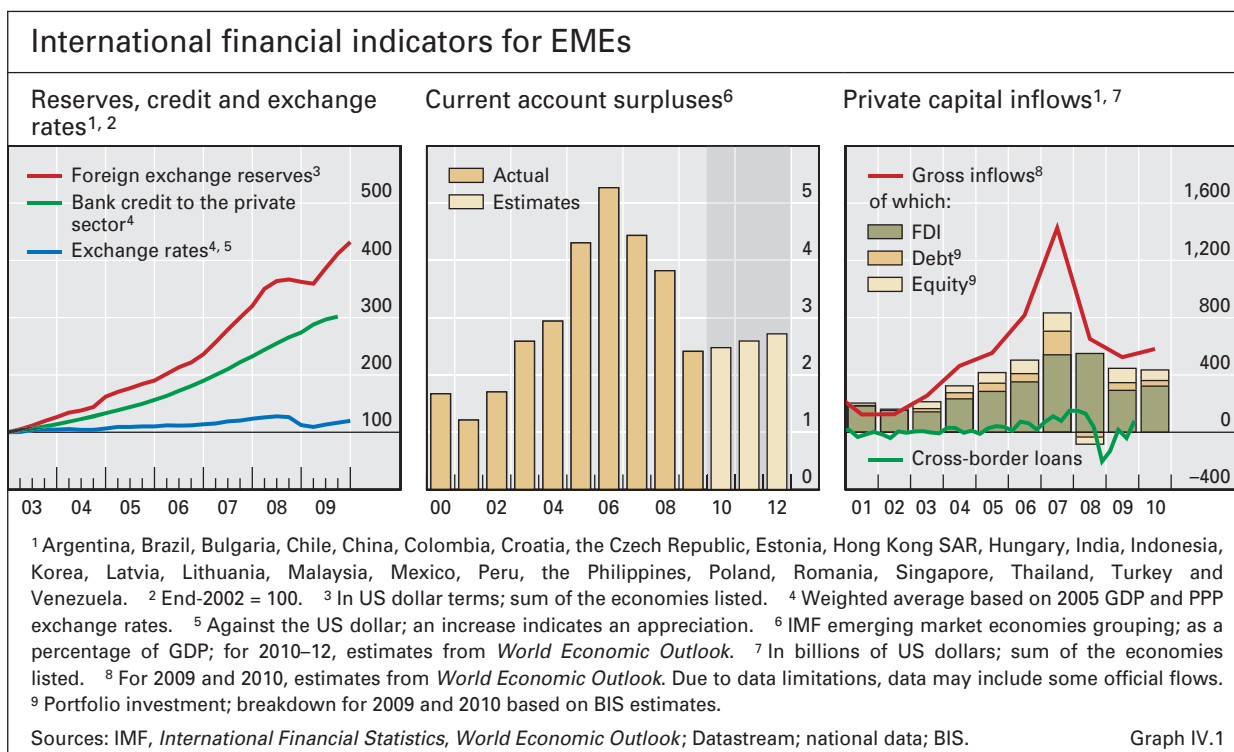


## IV. Post-crisis policy challenges in emerging market economies

Demand in the emerging market economies (EMEs) is recovering strongly. Headline inflation rates have risen in most of emerging Asia, parts of Latin America (including Argentina, Brazil and Mexico) and Turkey. Core inflation has increased sharply in India. Growth in the resource-intensive industrial sectors of EMEs, especially China and India, has pushed up commodity prices. In several countries, bank credit to the private sector has grown rapidly, sometimes in association with strong increases in house prices.

Despite these developments, monetary conditions continue to be accommodative in many EMEs, particularly in Asia. A return to large-scale intervention to resist exchange rate appreciation has led to a rapid accumulation of reserves (Graph IV.1, left-hand panel). In such circumstances, some central banks need to tighten monetary policy, especially in those economies where inflation pressures are mounting. With continuing low interest rates in advanced economies, tighter monetary policy in the EMEs would encourage capital flows in the short run. But resisting the exchange rate appreciation pressures associated with these inflows would lead to faster credit growth and increase the risk of asset price overshooting.

It is not surprising, therefore, that EMEs have shown a renewed interest in using discretionary capital controls to deal with surges in inflows. Yet many



forms of capital controls can offer only temporary relief. Moreover, to the extent that they are effective, capital controls reduce competition in the financial system, distort the efficient allocation of capital and inhibit economic growth. Macroprudential measures, however, can help limit the vulnerability of the financial system to volatile capital flows and alleviate some important policy dilemmas.

In view of these policy challenges, there may be no effective alternative to raising interest rates, allowing greater flexibility in exchange rates and reducing reliance on foreign exchange intervention. This approach is also essential in order to achieve an orderly medium-term macroeconomic adjustment and, ultimately, balanced global growth.

At the same time, EMEs and advanced economies need to continue working together on strengthening international monetary arrangements to ensure that, in any subsequent crisis, a sufficient supply of an international currency is available: for the foreseeable future, that currency is almost certain to remain the US dollar.

### External imbalances and capital flows: resuming unhealthy trends?

Current account imbalances in EMEs are projected to widen. As a proportion of their collective GDP, the EME combined current account surplus had fallen sharply from 2006 to 2009, but it is projected to rise in 2010–12 (Graph IV.1, centre panel). Indeed, under the influence of the underlying cyclical sensitivity of trade flows, strong demand from China and a rise in commodity prices, exports from many EMEs surged earlier this year.

Current account imbalances persist

Meanwhile, capital continued flowing into EMEs. Foreign direct investment remained relatively strong during the crisis and continues to be the dominant source of inflows. The pickup in other private capital inflows since mid-2009 has been led by an increase in equity portfolio flows (Graph IV.1, right-hand panel). Debt flows have also resumed, but at a more modest pace. Only cross-border banking flows remained weak during 2009, although they rose modestly in the fourth quarter.

Capital flows return to the EMEs ...

Several domestic and external factors point to even heavier inflows in the period ahead. First, short-term nominal interest rate differentials are expected to widen in favour of the EMEs leading the global recovery, as their central banks normalise policy rates faster than central banks in the advanced economies (Graph IV.2, left-hand panel).

... because of international interest rate spreads ...

Second, expectations of exchange rate appreciation will attract additional capital inflows. As before the crisis, the currencies of several EMEs are thus likely to become the target of carry trades and to face heightened exchange rate volatility.

... exchange rate expectations ...

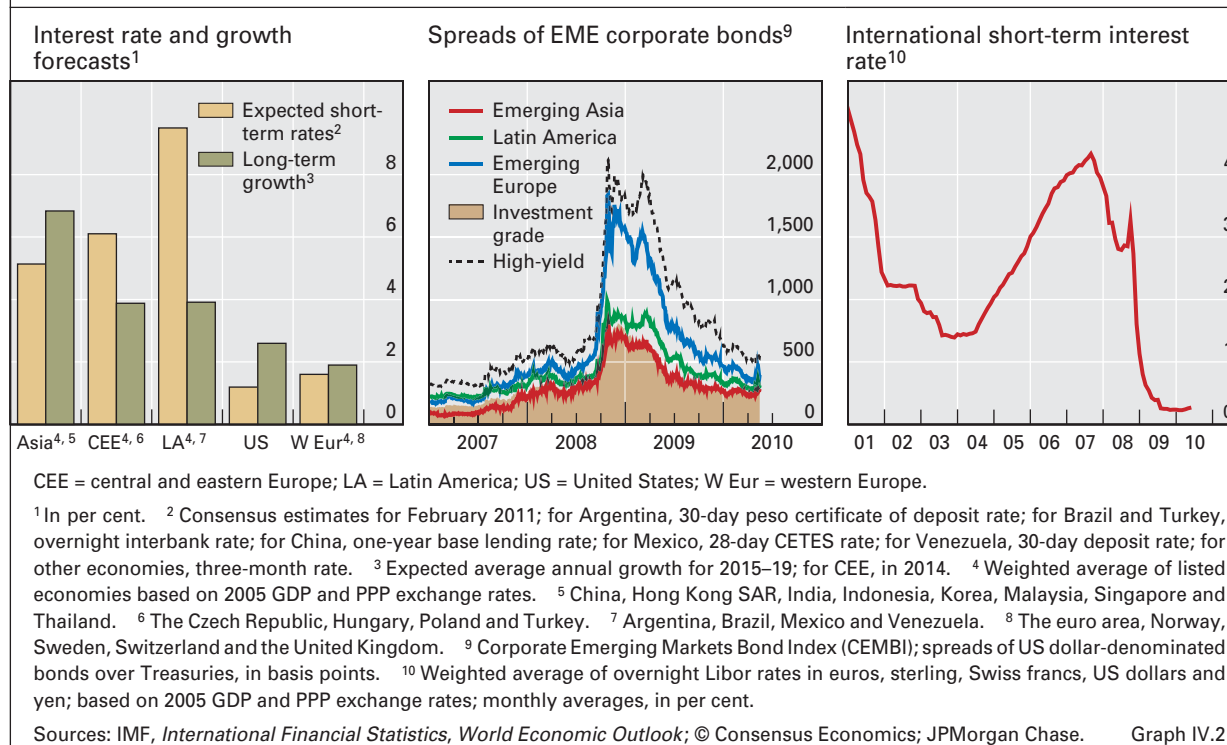
Third, EMEs are expected to grow significantly faster than the advanced economies over the next 10 years (Graph IV.2, left-hand panel). This prospect is positive for capital inflows.

... strong growth prospects ...

Lastly, the stronger EME recoveries have contributed not only to higher real rates of return but also to a perception among investors of declining risk. This has been reflected in lowered bond spreads (Graph IV.2, centre panel)

... and favourable external funding conditions

## Factors promoting capital inflows to EMEs



and a number of rating upgrades for EMEs in 2009–10, including for Brazil, Indonesia, Korea, Peru, the Philippines and Turkey. These more favourable funding conditions for EMEs have led to renewed interest on the part of international investors in a range of EME asset classes. Emerging market bond issuance in international and local markets has rebounded strongly as credit default swap (CDS) spreads for emerging market names have narrowed considerably from their peaks in late 2008. Indeed, EME corporate bonds are increasingly being priced more like investment grade than high-yield issues (Graph IV.2, centre panel). So far, however, the demand for EME assets has primarily benefited the higher-quality borrowers, especially those in Asian and Latin American economies where public finances and corporate balance sheets have remained strong.

Moreover, low policy rates (Graph IV.2, right-hand panel) and the large expansion of central bank balance sheets in the main advanced economies are setting the stage for a significant resumption of portfolio and banking flows. International investors still have large holdings of highly liquid assets such as money market mutual funds, and these can be readily deployed to higher-yielding and less liquid EME assets as conditions warrant. In addition, international banks are strengthening their balance sheets and developing local funding as they adapt to the new post-crisis banking environment (see Chapter VI).

International financial integration offers significant benefits: capital inflows stimulate financial development and are often a key ingredient for economic growth over the medium term. Nevertheless, some forms of

capital inflows can be destabilising. The main concerns are portfolio – especially debt – flows and cross-border bank lending, in which fund managers and leveraged investors play a particularly big role. Those concerns underscore the importance of monitoring not only the types of flows but also the ultimate investors.

### *Policy options*

The prospect of strong capital inflows presents a number of immediate policy challenges for EMEs. Greater currency flexibility offers many advantages. It may deter the build-up in the private sector of imprudent foreign exchange exposures. Also, it can be particularly useful in discouraging short-term capital inflows associated with carry trade dynamics. Yet, greater flexibility means that the exchange rate may temporarily rise to unsustainable levels but then fall back. Such dynamics, however, are of greater concern for economies with thin domestic capital markets or foreign exchange markets that are prone to over- and undershooting: their financial systems would be overwhelmed by the pace of the inflows. Moreover, export industries have led EME growth in the past decade; many worry that currency appreciation would undermine the competitiveness of those industries and thereby impose potentially costly structural adjustments on EMEs. Nevertheless, currency appreciation is usually an important mechanism to reorient demand towards domestic sources.

Exchange rate appreciation helps the adjustment but is not without risks

One response to the threat of appreciation posed by capital inflows has been to keep policy interest rates low even as inflation pressures pick up. Low policy rates would limit exchange rate pressures while strengthening investment and boosting domestic demand more generally. But keeping interest rates too low for too long increases the risks of domestic overheating, inflation, excessive credit expansion and asset price overshooting.

Lower policy rates entail risks as well

Another option for managing the pressure on the exchange rate amid rising inflows is foreign exchange intervention combined with a rise in the policy rate to address the implications for inflation, credit growth and asset prices. However, intervention alone, with the consequent build-up of reserves, leads to distortions associated with the large expansion of bank balance sheets and the increase in inflationary pressures. Likewise, restraining domestic demand with higher policy rates and allowing only a modest or steady appreciation may eventually stoke carry trades and even stronger capital inflows, which in turn would only reinforce pressure on the exchange rate. In addition, heavy intervention makes it more difficult for policymakers to set monetary policy with the appropriate degree of restraint and may contribute to financial stability risks.

In these circumstances, policymakers have looked to non-interest rate options both to moderate the size of capital flows and to strengthen the resilience of the economy and the financial system in the face of capital flow volatility. The following sections explore the various policy trade-offs associated with prolonged foreign currency intervention. Capital controls and regulatory measures to address financial risks that arise from surging capital inflows are also discussed.

Other options may be needed

## Foreign exchange intervention – part of the problem or part of the solution?

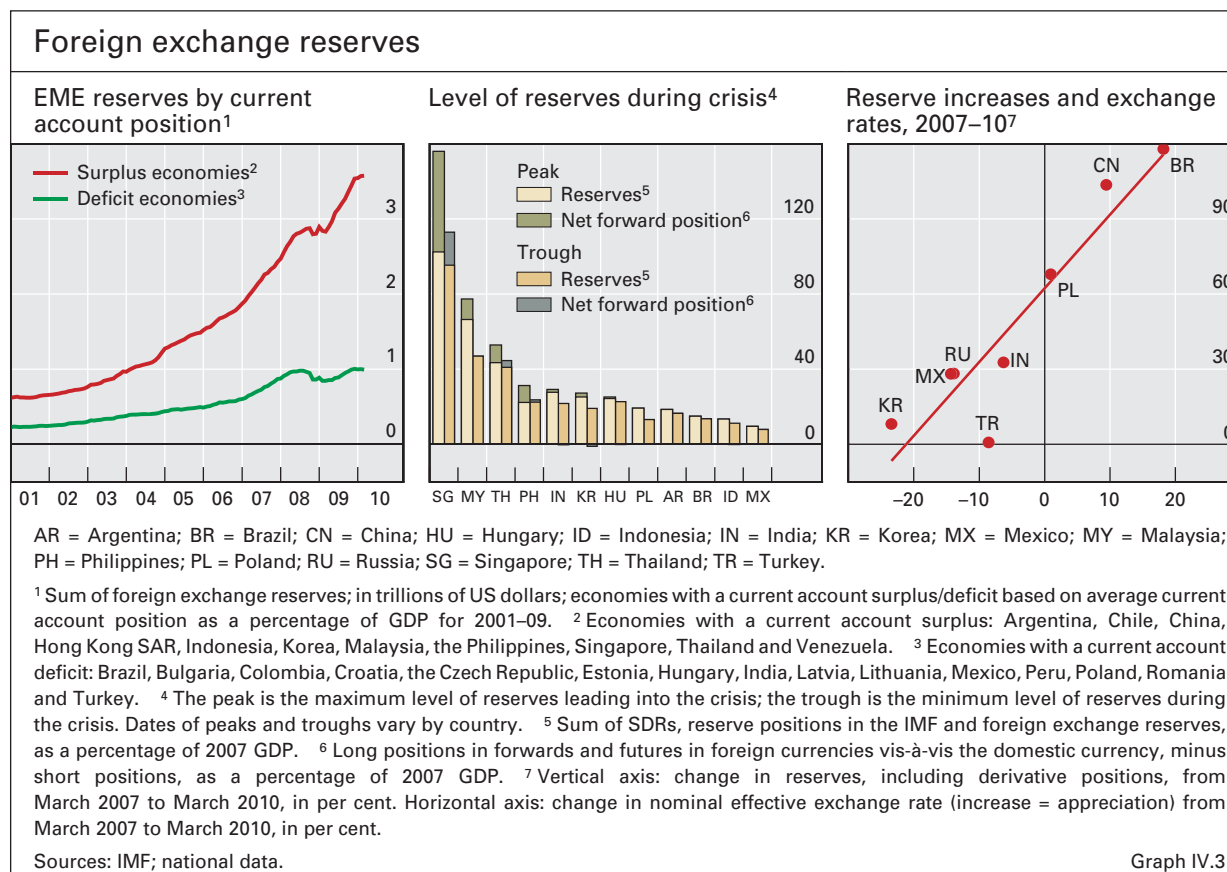
Intervention part of EME toolbox

Changes in the stock of foreign currency reserves before, during and after the crisis illustrate that foreign exchange intervention is an important tool for emerging market central banks. But prolonged large-scale intervention in foreign exchange markets can be both costly and risky.

Before the crisis, authorities in EMEs built up large foreign exchange reserves (Graph IV.3, left-hand panel). In some EMEs (eg Korea), building a stock of reserves considered adequate by market participants was a policy goal in its own right. The views of the rating agencies, which use the size of reserves as one element in assessing a country's creditworthiness, were also influential. But in other EMEs, particularly those with large current account surpluses, the build-up of reserves was a by-product of exchange rate policies.

During the crisis, reserves proved useful

During the crisis, the large holdings of reserves proved useful. In the early phase, they helped reassure foreign investors that EMEs had some form of protection from external shocks. Later, after mid-2008, central banks drew down reserves not only to support the exchange rate in the face of large portfolio outflows (as in Korea and Mexico) but also to meet the dollar liquidity shortages of domestic financial institutions (as in Brazil and Korea; Graph IV.3, centre panel). Such use of foreign reserves to provide foreign currency funding to domestic banks has reinforced the pre-crisis view of the desirability of holding large reserve stocks. In the end, however, these reserves needed to be supplemented with foreign exchange swap lines, particularly from the



Federal Reserve. This shortage of short-term dollar funding has also prompted discussion of more robust institutional arrangements.

Another feature of intervention during the crisis was the use of foreign exchange swaps and forwards. Authorities in Malaysia, the Philippines and Singapore, for example, used forward positions as a first line of defence to cushion foreign exchange reserves and limit the impact on domestic liquidity (Graph IV.3, centre panel). This gave authorities a means to provide foreign currency liquidity to the private sector, most notably to banks. From the mid-1990s, EMEs have increasingly used derivatives as a tool in their reserve management. Mexico used options in the aftermath of the Tequila crisis to smooth the subsequent exchange rate adjustment. Forwards and swaps have become the main types of derivatives used by central banks in recent years.

The drawdown of derivative positions helped too

During the post-crisis recovery, many EME central banks have returned to resisting appreciation and accumulating reserves on a substantial scale. Some continued to build reserves throughout the crisis (eg China), while others that saw some of the largest declines in foreign reserves have rebuilt them. For example, Korea's reserves declined by \$64 billion during the crisis, but have since returned to their pre-crisis level. These examples are consistent with the more general positive association between reserve accumulation and exchange rate pressures in EMEs (Graph IV.3, right-hand panel).

Intervention and reserve accumulation have resumed

Prolonged and large-scale intervention has significant consequences for the economies and the domestic financial systems in the EMEs. First, reserve accumulation that results in easy monetary conditions and rapid credit growth can add to inflation pressures or create financial system risks.<sup>1</sup> In recent years, foreign reserves have grown to levels that are now large relative to the size of the domestic financial system (Graph IV.4).

Intervention can lead to loose monetary and financial conditions

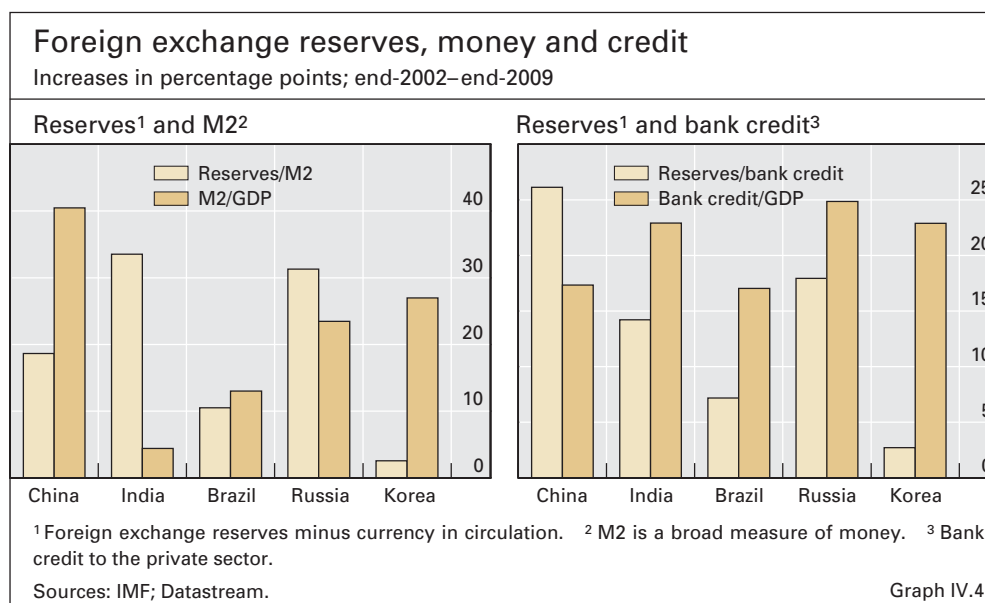
Second, even if sterilisation measures offset the unintended inflationary consequences of reserve accumulation, intervention and sterilisation are almost always costly. Typically, sterilisation entails the central bank exchanging high-yield domestic assets for low-yield reserves.<sup>2</sup> Such sterilisation also leads to an expansion in the balance sheet of the banking system and adds to financial system fragility in at least two key ways.<sup>3</sup> First, it involves authorities swapping foreign currency assets of the private sector for domestic currency assets of the public sector, effectively transferring the foreign exchange risk arising from the capital flows from the private to the public sector. Second, if the maturity of central bank bills were to lengthen significantly, as was the case earlier in the decade, private sector banks, which typically hold the sterilisation debt in EMEs, would find themselves becoming increasingly exposed to interest rate risk.

Prolonged sterilisation of intervention can be costly and generates financial stability risks

<sup>1</sup> See, for example, J Amato, A Filardo, G Galati, G von Peter and F Zhu, "Research on exchange rates and monetary policy: an overview", *BIS Working Papers*, no 178, June 2005.

<sup>2</sup> Depending on the underlying governance arrangements between the central bank and the government, the costs may be large enough to raise questions about the central bank's budgetary independence. For estimates of costs in India and Korea earlier in this decade, see H Genberg, R McCauley, Y C Park and A Persaud, "Official reserves and currency management in Asia: myth, reality and the future", *Geneva Reports on the World Economy*, 7, September 2005.

<sup>3</sup> See M S Mohanty and P Turner, "Foreign exchange reserve accumulation in emerging markets: what are the domestic implications?", *BIS Quarterly Review*, September 2006.



The unwanted side effects of fully sterilising large-scale intervention have led to the use of non-market instruments such as reserve requirements. Indeed, some central banks (including those of Argentina, China, Croatia, India, Korea, Poland and Romania) have actively used reserve requirements to effectively sterilise the liquidity impact on the banking system. Compared with issuing central bank bills, raising reserve requirements is relatively inexpensive for the central bank as reserves are typically remunerated at below market rates. But there are practical drawbacks. Especially in economies with more developed financial systems, high reserve requirements over time drive intermediation from the regulated banking system to less regulated entities. Moreover, raising reserve requirements may be effective in constraining credit creation during a boom associated with capital inflows, but lowering them may be less useful than reducing interest rates on central bank bills when trying to stimulate credit expansion. And unlike sterilisation with interest rate-based tools, frequent changes in reserve requirements may unduly complicate liquidity management at banks.

In sum, prolonged large-scale foreign exchange intervention generates significant vulnerabilities in the financial system and accentuates dilemmas facing policymakers. These inherent drawbacks help to explain the renewed interest in administrative tools, such as capital controls and prudential measures, as alternatives to intervention.

### A role for capital controls and prudential policies?

Managing capital flows

The policy issues that arise in the management of capital flows are receiving wide attention.<sup>4</sup> Although various controls have been used in the past, the

<sup>4</sup> See Committee on the Global Financial System, "Capital flows and emerging market economies", *CGFS Papers*, no 33, January 2009.

historical record suggests that they are unlikely to insulate recipient economies from surging inflows. But some measures have for a time helped countries keep local interest rates above those prevailing in international markets. In addition, prudential measures have shown some promise in improving the ability of the domestic financial system to absorb cross-border financial flows and to weather exchange rate volatility.

The broad reduction in legal impediments to cross-border capital flows over the past 25 years has supported a corresponding increase in financial globalisation. Closer financial integration has brought many benefits – but there are risks that need to be managed. The approach to controls among EMEs differs across regions. Since the early 1990s, countries in central and eastern Europe (CEE) have been steadily dismantling capital controls as part of their ongoing integration with the European Union; EMEs in southern Asia and East Asia have increased certain controls over the same period; and those in Latin America fall somewhere in between, with a modest decrease in the incidence of explicit controls.

The attractiveness of capital controls has several sources. One is that they increase the effectiveness of domestic monetary policy by driving a wedge between onshore and offshore financial markets. Another is that, if they reduce the volume of capital inflows, capital controls moderate appreciation pressures on the currency (but at the cost of distorting the international allocation of capital).

Some of the hoped-for benefits of capital controls ...

Empirical studies suggest, however, that capital controls have limits. They do not appear to have a durable impact on the size of capital flows. But controls may change their composition (eg away from short-term flows) in ways that reduce exchange rate volatility. Furthermore, there is little evidence that capital controls render the economy less susceptible to crises or reduce the real cost of such crises.<sup>5</sup> Finally, controls create microeconomic distortions.

... have not been forthcoming

Jurisdictions with a still developing financial system now recognise that any relaxation of existing controls on international capital flows should be carefully sequenced. Nonetheless, as such economies develop and their financial markets become more sophisticated, the effectiveness of, and the rationale for, the controls tend to fade. A more promising and durable approach to addressing volatile EME capital inflows would be to strengthen the ability of the financial system and the economy to withstand them. Prudential tools, which have been the focus of attention as a means of limiting systemic financial risks (see Chapter VII), could play a valuable role.

Macroprudential tools ...

Prudential tools have long been employed by emerging market economies to enhance financial resilience. The authorities have been recalibrating many of those tools recently to address capital inflows. In Hong Kong SAR, for example, where heavy inflows had been driving up real estate prices, the authorities in October 2009 lowered the maximum allowable loan-to-value

<sup>5</sup> See R Glick, X Guo and M Hutchison, "Currency crises, capital-account liberalization, and selection bias", *Review of Economics and Statistics*, vol 88, no 4, November 2006, pp 698–714; and R Cardarelli, S Elekdag and M Kose, "Capital inflows: macroeconomic implications and policy responses", *IMF Working Papers*, no WP/09/40, March 2009.



ratio on certain types of mortgage to reduce the risks associated with the price run-up. Similar measures were employed in Korea. Limits on debt-to-income ratios have also been used (for example in Korea) to contain ebullient credit creation. Several CEE central banks (notably in Bulgaria, Croatia, Estonia and Poland) adopted similar measures during the credit boom preceding the crisis in order to limit currency mismatches and contain excessive credit creation stemming from capital inflows.

... can make the financial system more resilient

Additional steps that EMEs have taken to ensure a resilient financial system include strengthening the regulatory framework with respect to maturity mismatches on the balance sheets of financial institutions, encouraging the development of local currency bond markets and instruments for hedging foreign exchange risk, limiting short-term foreign borrowing, promoting risk management capacity and practices in the private sector, and strengthening the surveillance of foreign currency exposures.

## The US dollar's future as an international currency

Calls for reform of the international monetary system

While in the near term capital inflows are a dominant concern, EME policymakers are also exploring reforms to the international monetary system that may be important over the longer term. One particular concern is the role of the US dollar as the dominant international currency. The dollar's role in the international monetary system – in particular as the vehicle currency for most derivatives contracts – has been cited as a contributor to the international financial and macroeconomic spillovers during the latest crisis. However, it is important to note that the crisis spread from its US origins to the advanced economies in Europe not because of the dollar but largely because banks in those economies were heavily exposed to US toxic assets and were dependent on short-term wholesale dollar funding. And the crisis spread to Asia, Latin America and emerging Europe through trade linkages. Some banking systems in EMEs did suffer a shortage of short-term dollar funds that exacerbated the crisis, but the problem was addressed in some cases by the Federal Reserve with bilateral swap lines.

The US dollar is the dominant international currency

Access to an international currency needed in crises

The principal concern for monetary authorities during periods of crisis is ensuring the availability of sufficient funds in the international currency, whichever it is. Currently, it is the dollar and, to a much lesser extent, the euro and Swiss franc (see box). The emergence of some other dominant international currency or currencies (actual or virtual) would not change the nature of the problem.

But an issuer of an international currency may not supply sufficient liquidity

For EMEs, that problem can be serious. Any central bank's ability to provide liquidity in a foreign currency is limited, given that foreign currency holdings are finite. Further, the issuer of an international currency cannot be expected to provide liquidity insurance unconditionally. Use of an international currency such as the SDR, which is based on a basket of national currencies, will not solve this fundamental problem. In fact, it is likely to make it more complicated: officials in countries whose currencies make up the basket would tend to view the unconditional issuance of the composite unit no differently from the unconditional issuance of their own currencies.

So the search continues for an enhanced global financial safety net, and various proposals are under discussion. This is particularly important given the absence of extensive formal foreign exchange swap line arrangements between EMEs and major central banks. One approach is to modify the Flexible Credit Line introduced by the IMF to make qualification for the line more predictable and to extend its duration. Establishing a foreign exchange liquidity insurance mechanism, which would combine paid-in insurance premiums and pre-agreed credit lines from major central banks, is another option. Regional solutions, such as the Chiang Mai Initiative Multilateralisation and bilateral swaps of non-reserve currencies during periods of stress, are an additional possibility. All these mechanisms are worthy of further consideration. Important questions to be resolved are how to deal with the moral hazard risks such mechanisms can create and how realistic it is to reach an agreement on a global financial safety net large enough for a major crisis in which many other elements would also need to be addressed.

## Summing up

The economic situation for the EMEs is much improved, but they still face significant policy dilemmas. Renewed growth and the return of capital inflows confront policymakers once again with the familiar pressures – inflation, rapid credit growth, currency appreciation and frothy asset prices – that they had to cope with before the crisis. If capital inflows accelerate, the build-up of macroeconomic imbalances could continue. Addressing inflows with a resumption of large-scale foreign exchange intervention entails risks for the financial system. In the alternative, macroprudential measures can help to limit currency or maturity exposures arising from debt inflows and can limit adverse consequences associated with the expansion in credit. But macroprudential measures cannot substitute for tightening monetary policy and increasing exchange rate flexibility as means to promote orderly and sustained domestic and external adjustments. At the same time, further efforts are needed to make the international monetary system more resilient.

## Lesson from the crisis on the US dollar's international role

In late 2008, turbulence in global money markets disturbed the US dollar's outside role in forward trading of two currencies at the euro area's edge, the Hungarian forint and the Polish zloty. This natural experiment on the resilience of the dollar ended in a quick reversion of this part of the global currency market to its previous pattern. The case suggests that the dollar's dominant position as an international medium of exchange is stronger than is generally appreciated.

### Background

During the global financial crisis, strains in dollar funding markets quickly and forcefully spread to other money markets, in part owing to the predominance of the dollar in the foreign exchange swap market. In that market, funds in one currency are temporarily exchanged for funds in another currency. In April 2007, the busiest currency pair was the dollar/euro, accounting for 28% of swap transactions. Other currencies were swapped against the dollar in 64% of all transactions and against the euro in just 6%. Dollar swaps led by 10 to one even in central European currency markets, where, in contrast, market participants trade domestic currency spot mostly against the euro. In short, the dollar stood head and shoulders above other currencies as a means of exchange in the swap market.

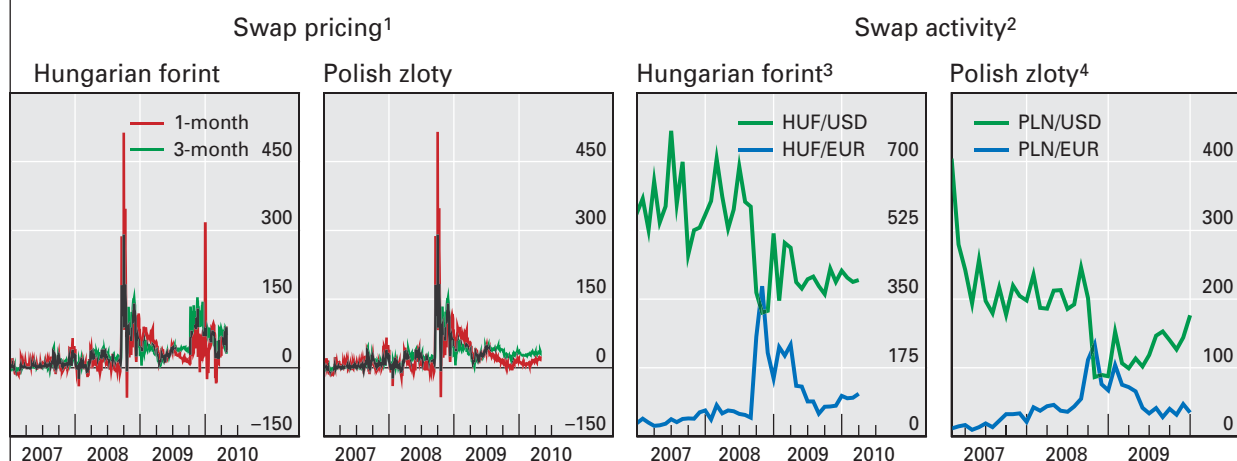
The dollar does not so dominate other international uses. In the international bond market, the dollar and the euro stand more nearly equal in importance as stores of value: 45% for the dollar and 32% for the euro at the end of 2008, according to data from the BIS and ECB. One explanation for this contrast is inertia in the medium of exchange because liquidity is concentrated in certain bilateral exchange rates. Thus, only well after central European currencies became more stable against the euro than against the dollar did they begin trading mostly against the euro in the spot currency market.

Beyond mere inertia, network externalities guide the choice of a medium of exchange. In particular, if dollars swap most readily against other foreign currencies, then any domestic currency is most usefully swapped against dollars. In this case, the predominance of dollar swaps may re-establish itself even after a powerful disturbance that leads market participants to substitute the euro for the dollar for a time. Mere inertia can explain persistence but not a return to dollar swaps.

### The natural experiment

In April 2007, only a few currencies enjoyed a well developed swap market against both dollars and euros, including the Hungarian forint and the Polish zloty. Fortunately, the central banks of Hungary and Poland collect monthly data that offer insights into the market dynamics in the period after the collapse

## Swap pricing and activity: the US dollar and euro against the forint and zloty



<sup>1</sup> Spread between FX swap-implied US dollar yield premium over dollar Libor and euro yield premium over euro Libor for the currency indicated; in basis points. <sup>2</sup> Foreign exchange swap turnover against the US dollar and euro. <sup>3</sup> Average daily turnover of swap transactions reported by resident credit institutions on the Hungarian foreign exchange market; in billions of forints. <sup>4</sup> Total monthly turnover on the Polish foreign exchange market, in billions of zlotys.

Sources: Magyar Nemzeti Bank; National Bank of Poland; Reuters.

Graph IV.A

of Lehman Brothers in September 2008. As noted, before the crisis the currency of choice for swaps in both markets remained the dollar. As the dollar shortage became acute in September and October 2008, dollar interest rates implied by dollar swap pricing rose above euro interest rates implied by euro swap pricing. Foreign exchange traders in Hungary and Poland switched from swapping the domestic currency against dollars to swapping it predominantly against euros. When massive Federal Reserve swaps provided dollar funding to European banks, the premium on dollars came down and, one year later, traders again swapped domestic currencies overwhelmingly against the dollar (Graph IV.A).

The structure of the market for Swiss francs could hold the key to explaining the return of the Hungarian and Polish swap markets to the dollar. Because much lending in Hungary and Poland is denominated in Swiss francs, banks there need to transform domestic currency liquidity ultimately not into euros or dollars but into Swiss francs. In April 2007, in the spot market, the value of Swiss franc/euro transactions approached the value of Swiss franc/dollar transactions (\$33 billion vs \$49 billion); but in the swap market, the value of Swiss franc/euro transactions fell far short of the value of Swiss franc/dollar transactions (\$15 billion vs \$81 billion). If, under normal circumstances, the Swiss franc can be swapped against the dollar more readily than against the euro, then traders in Hungary and Poland would understandably revert to swapping the domestic currency against the dollar in the aftermath of the crisis.

Amid the discussion of the dollar's future as a store of value, the return of its use in the swap market in the case of Hungary and Poland illustrates its resilience as a means of exchange. This resilience reflects forces beyond mere inertia that are rooted in the complex links among internationally active banks, cross-border lending and cross-currency liquidity operations. This practical perspective on the current operations of markets should inform any discussion of changes to the international monetary system.