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Financial Stability in Emerging Markets

Dealing with Global Liquidity

Ulrich Volz (ed.)

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Abstract

The rapid increase in global liquidity and the large-scale net capital flows to emerging countries have raised serious concerns about adverse effects on the recipient countries; these include the danger of overheating, exchange rate appreciation pressures, inflationary pressure on consumer and asset prices, and risks to financial stability. The historical experience of many emerging countries highlights the risk of a rapid reversal of capital flows, followed by a possible financial and currency crisis. There have also been concerns about the inflationary consequences of excessive global liquidity for commodity prices, including those of agricultural commodities. Against this backdrop, this volume comprises contributions by internationally renowned experts from academia and international organisations who discuss the spillover effects of expansionary monetary policies in advanced countries on emerging economies, and the risks that excessive global liquidity and abundant capital flows to emerging economies entail for macroeconomic and financial stability in these countries. They also discuss policy options for reining in these risks, ranging from capital account management and prudential policies in source and recipient countries to an enhanced monitoring of global capital flows.

Contents

Abbreviations

ADRs	American depositary receipts
AMRO	ASEAN+3 Macroeconomic Research Office
APF	Asset Purchase Facility
ASEAN+3	Association of Southeast Asian Nations (Brunei, Cambodia, Indonesia, Laos, Myanmar, Malaysia, Philippines, Singapore, Thailand, Vietnam) plus China, Japan, South Korea
BIS	Bank for International Settlements
BRIC	Brazil, Russia, India, China
BRICS	Brazil, Russia, India, China, South Africa
CRB	Commodity Research Bureau
CFM	Capital Flow Management
CMIM	Chiang Mai Initiative Multilateralisation
CGFS	Committee on the Global Financial System
CPI	Consumer Price Inflation
EBRD	European Bank for Reconstruction and Development
ECB	European Central Bank
EMDEs	Emerging Markets and Developing Economies
EM	Emerging markets
EMEs	Emerging market economies
ESRB	European Systemic Risk Board
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign direct investment
FSB	Financial Stability Board
G20	Group of Twenty (Argentina, Australia, Brazil, Canada, China, European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom, United States)
GDP	Gross domestic product
GVAR	Global Vector Autoregression
IIF	Institute of International Finance
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
LSAP	Large-Scale Asset Purchase
MBS	Mortgage Backed Securities
MEP	Maturity Extension Program
OECD	Organization for Economic Co-operation and Development
OTC	Over-the-counter
SMEs	Small- and medium sized enterprises
SMP	Securities Markets Programme
SSBs	Standard Setting Bodies
UNCTAD	United Nations Conference on Trade and Development

US	United States
USD	United States dollar
VAR	Vector Autoregression

Introduction

Ulrich Volz

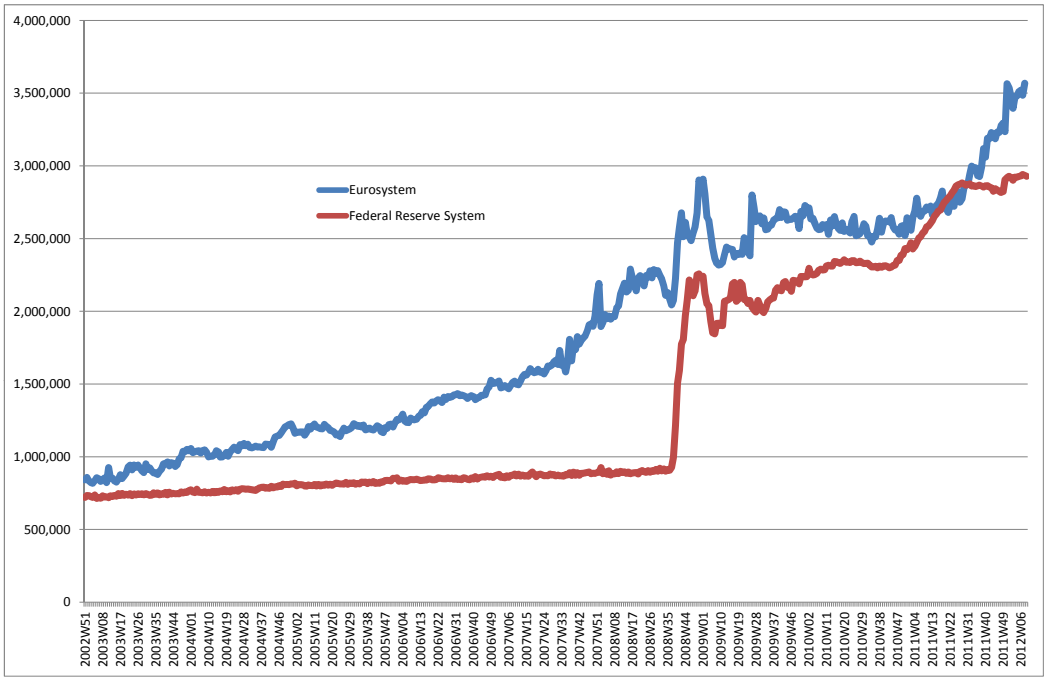
The world economy has been in a state of fragility since the outbreak of the global financial crisis in September 2008. While most emerging countries navigated the crisis with relative success and staged strong recoveries in 2009, many advanced countries are still struggling with recession or tremors in their banking systems. Since 2010, the European sovereign debt crisis has not only caused jitters in the global financial markets but has also sparked worries about contagious effects around the world, increasing the volatility of international capital flows.

The central banks of all major advanced economies responded to the global financial crisis and the ensuing recession with unprecedented monetary expansion by lowering interest rates to historically low levels and pursuing unconventional monetary policies, such as large asset-buying programmes. As shown in Figure 1, both the Federal Reserve System and the Eurosystem have seen remarkable expansions of their balance sheets since September 2008. The extremely accommodative monetary policies in the major advanced countries have caused a surge in global liquidity. Moreover, the resulting large interest rate differentials have incited carry trades and capital flows into emerging economies with higher risk-adjusted rates of return. Capital flows to emerging countries have been further reinforced by rather bleak growth prospects in advanced countries. The monetary expansion in Europe and the United States (US) caused Brazil's president Dilma Rousseff in March 2012 to voice her concerns about the resulting "monetary tsunami" that was making its way to emerging economies.

Figure 2 shows that prior to the global financial crisis net private capital flows to emerging countries rose from USD 149 billion in 2002 to an all-time high of USD 1,244 billion in 2007. This upward trend in net private capital flows to emerging countries was reversed in 2008: net inflows were halved to USD 619 billion as financial institutions in advanced countries scrambled to liquidate assets, even profitable ones in emerging markets, wherever they could in the face of the liquidity crunch on the US and European markets. The result was a global credit crunch in the last quarter of 2008 and first quarter of 2009 that was felt in emerging countries as well. Even though the US was the epicentre of the crisis, the global flight to safety into US Treasury bills, along with a reversal of carry trades, led to large capital inflows into the US during the crisis and caused a strong appreciation of the US dollar (McCauley / McGuire 2009). By 2010, however, net flows to emerging countries had again reached an impressive USD 1,040 billion. In 2011, net flows to emerging markets ebbed to an estimated USD 910 billion as the European sovereign debt and banking crisis increased funding difficulties among European banks. The need for liquid assets and the introduction of new European Union capital requirements caused European banks to cut back their international exposure and sell assets in emerging markets at the end of 2011.[1] The Institute of International Finance projects net private capital inflows of USD 746 billion to emerging economies in 2012 and

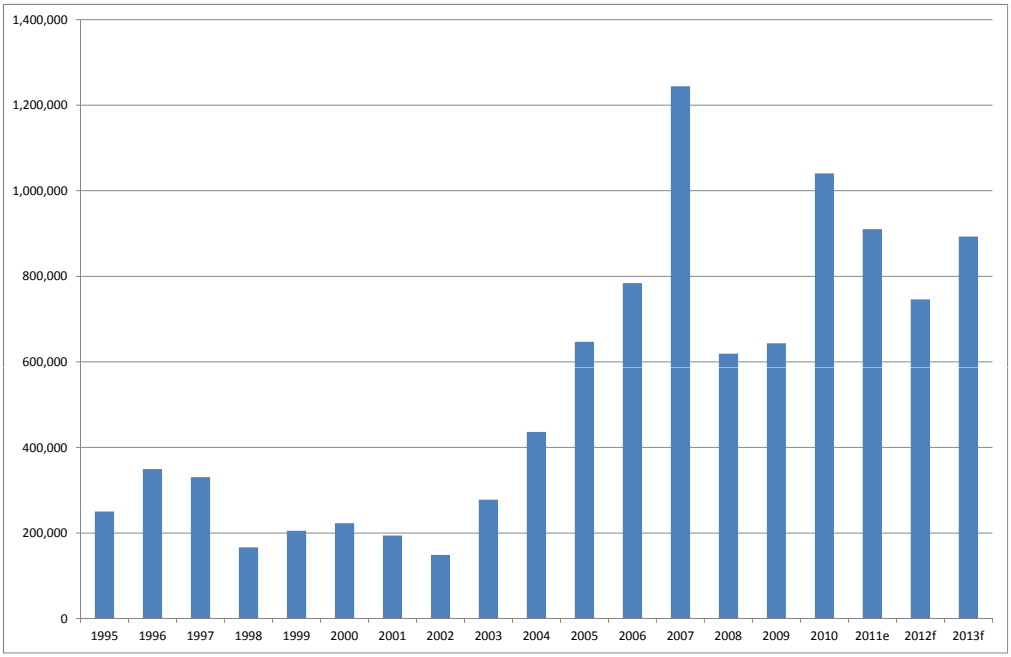
1 The European Banking Authority requires major European banks to increase their core capital to 9% of risk-weighted assets by mid-2012.

Figure 1: Total assets of the Eurosystem and the Federal Reserve System (in USD millions)



Source: Compiled by the author based on data from the ECB and the Federal Reserve.

Figure 2: Net private capital inflows to emerging markets (in USD millions)



Note: The 2011 figure is estimated (e); figures for 2012 and 2013 are forecasts (f). Net private capital inflows to emerging markets (EM) represent flows of capital (both equity and debt) from foreign private sector investors and lenders. "Net" means that foreign investors' withdrawals of capital are subtracted. Outward investments by EM residents ("capital outflows") are not taken into account here. Net inflows to EM from official sector sources are also excluded. The sample includes a geographically diverse group of the 30 largest EM countries, i.e. those which account for the vast majority of global capital flows to EM.

Source: Compiled by the author based on data from IIF (2011, 2012).

USD 893 billion in 2013. Compared with historical standards, these are enormous sums that emerging economies will have to absorb.

The rapid increase in global liquidity and the large-scale net capital flows to emerging countries have raised serious concerns, not least in the recipient countries, about adverse effects; these include the danger of overheating, exchange rate appreciation pressures, inflationary pressure on consumer and asset prices, and risks to financial stability. The historical experience of many emerging countries, not least during the global financial crisis, highlights the risk of a rapid reversal of capital flows, followed by a possible financial and currency crisis. There have also been concerns about the inflationary consequences of excessive global liquidity for commodity prices, including those of agricultural commodities.

Against this backdrop, the contributions in this volume discuss the spillover effects of expansionary monetary policies in advanced countries on emerging economies, and the risks that excessive global liquidity and abundant capital flows to emerging economies entail for macroeconomic and financial stability in these countries. Several chapters also discuss policy options for reining in these risks, ranging from capital account management and prudential policies in source and recipient countries to an enhanced monitoring of global capital flows.

Menzie Chinn evaluates the prospects for rebalancing the global economy, the implications of the current two-speed global recovery, and policy options in both advanced and emerging economies. In the advanced countries, Chinn urges a looser monetary policy to help deleveraging. The macroeconomic difficulties confronting the advanced economies will ensure continued capital flows to the emerging markets. To deal with these, Chinn believes that emerging market policymakers should first resort to macroeconomic measures, including countercyclical fiscal policy and an abstention from heavy foreign exchange intervention against exchange rate appreciation; this would also facilitate macroeconomic rebalancing.

Feng Zhu presents empirical evidence concerning the cross-border effects of the Federal Reserve's quantitative easing policy. He shows that the Fed's asset purchase programmes had a broad, immediate, and sizeable impact on global financial markets. In the early stage, with the global economy slipping into a major slowdown, these balance sheet policies may have contributed to global financial stability and aided the recovery of emerging economies by strengthening trade credit and supporting demand. But as many emerging economies have returned to solid growth, Zhu highlights that such measures may also have increased the risk of overheating, high inflation, and volatile capital flows. In particular, fears of disruptive capital inflows and currency appreciation pressures may dissuade emerging market central banks from raising policy rates. Zhu cautions that further extraordinary monetary stimulus packages in advanced countries may create difficult challenges for emerging market central banks.

Marcel Förster, Markus Jorra and Peter Tillmann investigate the importance of common components among international capital flows with different destinations. They apply a dynamic factor model in order to gauge the extent to which international capital flows are correlated on a global level, and they identify global and regional factors in flows from a large set of industrial and emerging economies. Their results suggest that the global factor is common to capital flow cycles on the whole, but that a large degree of heterogeneity among countries can be attributed to either regional or country-specific determinants. In other words, their findings suggest that capital flows to emerging economies are not only

(or primarily) driven by global "push" factors, but that country- and region-specific "pull" factors also play an important role. Hence they stress the importance of domestic policies in emerging countries; these policies, they believe, can have a considerable impact on capital flows and can also limit such adverse consequences of capital inflows as asset price booms and real appreciation of the domestic currency.

Ulrich Volz discusses the relation between global liquidity and commodity prices. Cointegration analysis indicates a positive long-term relation between global liquidity and the development of commodity prices over the last three decades, a relationship that was driven by global liquidity. That is, food and commodity price inflation were apparently driven by monetary expansion in the world's major economies. Volz highlights the dilemma that arises when the central banks of all major advanced economies simultaneously engage in expansionary monetary policies as a means of stabilising their respective economies and financial sectors: the resulting global liquidity shock feeds commodity and food price inflation. While he regards expansionary monetary policies as indispensable in times of severe economic and financial crisis, Volz urges policymakers to think of the negative side-effects and to consider stricter regulation of commodity markets, especially agricultural commodity markets, in order to avoid driving up prices through a further flow of liquidity into these markets.

Ralph de Haas scrutinises the role of foreign banks in emerging markets and the impact of these banks on financial stability. Based on his analysis of the Great Recession, he draws two policy lessons: First, the crisis underlined the importance of funding structures for banking stability. In particular, it became clear that excessive wholesale funding can expose banks to periods of illiquidity in wholesale markets. To reduce their vulnerabilities, foreign and domestic banks should therefore focus more on local funding. This requires the development of a local-currency deposit base and local-currency bond markets, each of which would reduce the need for banks to borrow and lend in foreign exchange. Second, the recent crisis underscored the risk that multinational banks may pass on shocks from home to their host countries and the magnitude of these effects if foreign bank affiliates are of local systemic importance. De Haas therefore demands improvements in the supervisory framework for multinational banking groups in order to ensure better coordination, cooperation, and information exchange among supervisors, thus preventing a recurrence of the shock spillovers seen during the recent crisis.

Anton Korinek makes the welfare-theoretic case for regulating capital flows based on the notion that such flows impose externalities on the recipient countries. Just as environmental pollution produces externalities that reduce societal well-being if unregulated, capital inflows to emerging markets produce externalities that make such economies more prone to financial instability and crises. As Korinek explains, different forms of capital inflows result in different probabilities of future capital outflows and different payoff characteristics in the event of a crisis; this in turn leads to different externalities. Optimised macroprudential policy should aim precisely at offsetting these externalities. He illustrates this with a sample evaluation of the magnitude of externalities created by various types of capital inflows to Indonesia. He also points out that policy measures for regulating capital inflows should be regularly adjusted to meet changes in the financial vulnerability of the respective economy. Since the externalities of foreign capital rise during booms, when leverage increases and financial imbalances

build up, and new capital inflows create smaller externalities after a crisis has occurred and economies have de-leveraged, optimal capital flow regulation should therefore be strongly procyclical.

Y. V. Reddy, who served as Governor of the Reserve Bank of India between 2003 and 2008, reviews the Indian experience with capital account management over the past two decades. He highlights the importance of integrating management of the capital account with other policies – especially fiscal management, regulation of the financial sector, and monetary policy – and points out that capital account management should be treated as an essential component of countercyclical policies at all times, even when recourse to it is taken as a purely temporary measure. In Reddy's view, capital account management should involve both pricing and administrative measures and aim at managing inflows as well as outflows. Since the nature of capital flows and the complexity of operations of financial intermediaries keep changing, there should be sufficient flexibility for modifying the various measures and altering their relative priorities. Reddy emphasises that the critical part of capital account management relates to the financial sector and that therefore the most important instrument of capital account management should be regulation of the financial sector.

Stephany Griffith Jones and Kevin Gallagher put forward a counter-cyclical approach for avoiding capital flight from advanced to developing and emerging countries. In particular, they propose that macroprudential regulatory measures in recipient countries be coupled with actions by advanced countries to discourage capital outflows and risk-taking on the part of their economies while encouraging productive use of capital within their own economies. The prime aim of regulating cross-border capital flows in both recipient and source countries is to reduce systemic build-ups of risk in both, thus reducing the risk of future crises. The US above all should establish prudent capital regulations or levy taxes on the outflow of speculative capital. Measures to discourage short-term outflows would encourage the liquidity created by the Fed to stay in the US and be used for promoting productive investment. Griffith-Jones and Gallagher hence emphasise that managing excessive capital outflows from developed countries, especially from the US, would constitute a clear win-win situation by benefiting both the US economy and developing economies which are being harmed by excessive short-term inflows.

Jo Marie Griesgraber scrutinises the role of the Financial Stability Board (FSB) and its recommendations regarding emerging markets and developing economies. While she praises the merits of many of the FSB's recommendations regarding the regulation and surveillance of banks and non-bank financial institutions, the management of exchange rates, and an increased reliance on domestic currency loans, she criticises the FSB's failure to address the basic vulnerability of emerging and developing economies to the volatile global financial system. She compares the FSB's recommendations to *"tinker toys holding back a tsunami, unable to withstand the storms when foreign markets for exports dry up, domestic capital flees, and commodity prices sky-rocket or collapse"*. Griesgraber points out that emerging markets and developing economies have a strong stake in the stability of the global financial system but only scant opportunity to participate in the design of that system's management and re-regulation. Especially the poorest developing countries are more often than not excluded from decision-making processes that will shape the future of their financial markets. She calls for the FSB, as well as the Standard Setting Bodies, to become more inclusive, transparent, and accountable.

Bernd Braasch highlights the benefits of extended global monitoring of international capital flows. Global monitoring should focus on all aspects that contribute to a better assessment of the stability of the financial system as a whole. This requires a better understanding of how the main global players and drivers of international capital flows behave and how that behaviour changes the structures of financial markets. He calls for a more thorough analysis of the role and behaviour of institutional investors. In his view, this should become a major component of the monitoring of global capital flows. Braasch argues that a better understanding of international investors and their portfolio strategies and rebalancing activities will enable financial authorities to better identify the sources of capital flow volatility, contagion, and spillovers as well as the areas of vulnerability in macroeconomically sound countries. This would help policymakers to design better responses to external shocks and changes in international crisis transmission channels. It would also enhance the effectiveness of early warning systems and help improve regulatory frameworks.

Renato Baumann describes the effects of volatile international capital flows on the Brazilian economy. Besides contributing to an inflation of asset prices, with hints of an asset bubble, the large capital inflows to Brazil also contributed to an overvaluation of the exchange rate. This in turn had a clear effect on the export sector, with export performance becoming increasingly dependent on agribusiness while the share of manufactures declined. Even though the European crisis caused foreign portfolio investment in Brazil to fall by about 40% in 2011, Baumann sees the Brazilian economy in a comfortable and stable macroeconomic position with relatively low levels of net public debt, a relatively small current account deficit, and foreign exchange reserves exceeding total external debt.

Last but not least, *Akkharaphol Chabchitrchaidol* discusses the role of regional macroeconomic surveillance and monitoring in coping with the current macroeconomic challenges of the East Asian region. Since the Asian financial crisis, the ASEAN+3 countries have made considerable progress in terms of regional financial cooperation.[2] The Chiang Mai Initiative, which was launched in 2000 as a network of bilateral central bank swaps, was expanded and transformed into a multilateral arrangement among all ASEAN+3 member countries (as well as Hong Kong, SAR) in 2010. This new arrangement, the Chiang Mai Initiative Multilateralisation (CMIM), was complemented in April 2011 by the ASEAN+3 Macroeconomic Research Office (AMRO). AMRO's role is to function as a surveillance mechanism that keeps track of the economic and financial soundness of members, to make policy recommendations, and to continue monitoring once CMIM funds are disbursed. In view of increasing uncertainty and volatility in the East Asian region in 2012, Chabchitrchaidol highlights the growing importance of timely and effective region-wide surveillance as a means of assessing effects and remedies in individual economies. Given policy risks both within and beyond the control of individual countries, or potential system-wide shocks such as currency wars, beggar-thy-neighbour policies, or unforeseen tail events, cooperation will be crucial as we go forward to avoid lose-lose outcomes which may otherwise prevail.

2 ASEAN+3 consists of the ten member countries of the Association of Southeast Asian Nations (Brunei, Cambodia, Indonesia, Laos, Myanmar, Malaysia, Philippines, Singapore, Thailand, and Vietnam) plus China, Japan, and South Korea.

I believe the contributions in this publication provide valuable insights into the current challenges emanating from global liquidity for macroeconomic and financial stability in the world economy, and emerging countries in particular. They provide different perspectives and offer original policy recommendations for dealing with the challenges posed by excessive global liquidity and volatile international capital flows. I hope they will contribute to a better understanding of the current challenges and formulating appropriate policy responses.

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Global rebalancing with financial stability: possible, feasible, or unlikely?

Menzie D. Chinn

In this chapter I will address three key questions facing policymakers: First, what are the prospects for global rebalancing? Second, how is the two-speed global recovery evolving? And third, what can policy accomplish?

Imbalances: past, present and future

The prospects for rebalancing are assessed here from the following perspective: the global economy was unbalanced before the financial crisis of 2008, with current account surpluses in China and the oil exporting countries matched by deficits primarily in the United States (US). While imbalances shrank during the period 2007–09, during the ensuing Great Recession, we can now see surpluses and deficits again expanding.

The source of these imbalances has been the topic of an extensive and heated debate that is far too complicated to recount here. I would argue that while intertemporal consumption smoothing and the dearth of profitable investment projects in East Asia are partly to blame, I think that the existence of distortions in domestic financial markets in the United States attracted excess savings from the rest of the world.[3] The abdication of regulation on the part of the Bush Administration, aided and abetted by the anti-regulatory ethos of the Greenspan Fed, ensured that the capital inflows that came with the current account deficit would manifest themselves in the form of a massive boom. The resulting bust in consumption led to a short-term improvement in the current account as imports fell faster than exports.

With the resumption of growth, there were hopes that global rebalancing would occur, that is, that demand in China and East Asia would reorient itself away from exports and towards domestic consumption while US aggregate demand would shift towards tradable goods. It was never clear that the first part of the equation would occur, and it's certainly clear that the second part is not occurring with sufficient rapidity to make an impact over the next couple of years.

At this juncture, I think it is useful to recount what our models can tell us. In work with Barry Eichengreen and Hiro Ito, we have highlighted the fact that given projected growth rates, and the historical norms that have governed the behaviour of current account balances over the medium term, a persistence of current account balances can be predicted (cf. Chinn / Eichengreen / Ito 2011). On the other hand, it is also true that our models have done a poor job of predicting the level of current account balances for key countries like the US and China, especially during the 2006–08 period. That is, while budget balances explain some of the deterioration in the US current account, and the lack of both financial and institutional development explain some of the surpluses of China, movements of these factors do not enable us to track external developments in these economies.

In our forensic analysis, we found that the extent of misprediction during the 2006–08 period was well explained by housing price appreciation and private bond market growth during the preceding 5-year period. In addition, increasing leverage in the household

3 See Chinn and Frieden (2011) for this position.

sector was clearly associated in a subset of countries with a deterioration in current account imbalances. The unfolding of those trends – particularly in the United States, but also in the United Kingdom – may very well result in greater current account convergence than we predict with our statistical model.

For China, since our model is unable to capture the behaviour of Chinese surpluses during the 2000s, I'm particularly loathe to make predictions based solely on our statistical model. Suffice it to say that to date we have not seen evidence that the rapid internal rebalancing of China's spending patterns is having an effect on substantial shrinkage in Chinese current account balances.

The two-speed recovery, accentuated

The foregoing analysis was based on medium term-trends and a statistical analysis of current account balances over the medium term. However, to reach the medium term, one must first make it through the short term, and this is where the prospects look particularly unfavourable.

The two-speed recovery – fast growth in the emerging markets coupled with a halting recovery in the advanced countries – has become almost a cliché. That being said, recent events, including the rapidly escalating level of uncertainty, coupled with an observable slowdown in GDP growth in advanced countries (and Europe in particular) have served to accentuate this situation. To the extent that US growth slows or goes negative, that would certainly effect a short-term decrease in the US current account deficit. However, a downturn would definitely complicate rebalancing in the advanced countries, including structural adjustments of labour and pension policies, as well as fiscal consolidation in the United States.

Would the emerging market economies escape from a shock to advanced economies? There is a widely held view that the developing world has "decoupled" from the advanced economies. I think it is important to distinguish between secular and cyclical decoupling. While trend growth in the emerging markets seem to have split away from trends in advanced economies, it is not clear that the same is true for the business cycle. In particular, considering the extent to which trade flows collapsed during the 2008–09 global recession, I think it would be foolhardy to assert that emerging market growth would be largely unaffected.

What can policy do?

There are several policy sets that we can consider. While it is always good to consider the scope of policy coordination, I will organise my discussion with the assumption that the policies are undertaken largely in an independent fashion.

For the sake of argument, I will concede to the political constraints that largely take further expansionary fiscal policy off the table in the advanced economies. However, I do retain hope that the current levels of fiscal stimulus will be somewhat maintained.

In the advanced countries, a looser monetary policy is urgently needed. Attempts to reduce the debt burden in the U.S. – to deleverage – have not had much impact. Although private

sector debt seems to be declining as a share of income, much of the decline is the result of defaults rather than an actual paying down of private debt. We are in fact less than halfway through the deleveraging process, which typically takes six to seven years. Only if nominal GDP grows more rapidly than nominal debt will the debt burden shrink, and we have not yet started that process. Additional measures are urgently needed if we are not to suffer through stagnant growth for years – if not relapse into recession.

Ken Rogoff, the well-known proponent of conservative central banking, has recently suggested *"trying to achieve some modest deleveraging through moderate inflation of, say, 4 to 6 per cent for several years"* (Rogoff 2011).

How might a modest increase in inflation in this period of economic slack and a modest depreciation, be accomplished? Although the Fed has adopted an explicit inflation target, I believe that, given the exigent conditions facing the US economy, the Fed should adopt a flexible inflation target, one that conditions the target inflation rate on the rate of unemployment. Jeffry Frieden and I have laid out such an argument (Chinn / Frieden 2012), following the proposal by the Chicago Fed's Charles Evans (2011) to keep the Fed funds rate near zero, and augmenting this with other quantitative measures, so long as unemployment remains above 7% or inflation stays below 3%. Clearly, the Fed is close to hitting its inflation target, but it is certainly nowhere close to reaching anything close to its output target. Conditioning the inflation target on the unemployment rate means that inflationary expectations will remain anchored.

In Europe, the problem is definitely more complicated, given the fragmented nature of the policy authorities, fiscal and monetary. However, it is clear that here too, the current approach of country-by-country rescheduling of debt is not in and of itself sufficient to address the problems of the debtor countries. A clear commitment, such as that proposed by Frieden and myself, to faster euro-area inflation would make a solution easier to the extent that real wage adjustment would be facilitated. Of course, this measure should enhance, not replace, aggressive measures to reschedule sovereign debt in the crisis countries and recapitalise European banks.

The macroeconomic difficulties confronting the advanced economies ensure continued capital flows to the emerging markets. There, policymakers have responded with a mixture of conventional macro policies, less conventional capital controls, and prudential regulations.

The use of capital controls and prudential regulations in managing recent capital flows to the emerging markets merits some discussion. I think that the use of these measures should not be rejected out of hand. However, I think that the efficacy of such measures has yet to be demonstrated fully, although there is some evidence that controls on inflows may be useful.[4]

Until such time as we have a more solid grasp of the efficacy of such measures, it seems that the first resort should be to the macroeconomic measures we know will work. These include countercyclical fiscal policy and abstention from heavy foreign exchange

4 See Ostry et al. (2011); Habermeier / Kokenyne / Baba (2011).

intervention against exchange rate appreciation.[5] Prudential regulation on the other hand is a good idea on other grounds, including enhancing domestic financial stability.

This policy prescription, I think, is relevant for some emerging market economies, particularly in East Asia, where more rapid currency appreciation would help prevent overheating while re-allocating much-needed aggregate demand to the advanced economies. Here, China's policy choices are of key importance. While more rapid appreciation of the Chinese currency would not be in and of itself sufficient to achieve global rebalancing, it would be the fastest- working measure and would facilitate adjustment toward a more domestically-oriented growth paradigm. The remaining East Asian currencies would also be likely to follow China's lead, thereby facilitating adjustment for the region as a whole.

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5 See Chapter 3 on "Managing Large Capital Inflows" in the IMF's World Economic Outlook of October 2007 (IMF 2007). The chapter concludes that resisting capital appreciation by use of sterilised intervention does not typically work in the face of sustained capital inflows. Moreover, post-inflow growth is typically lower as a consequence of such measures.

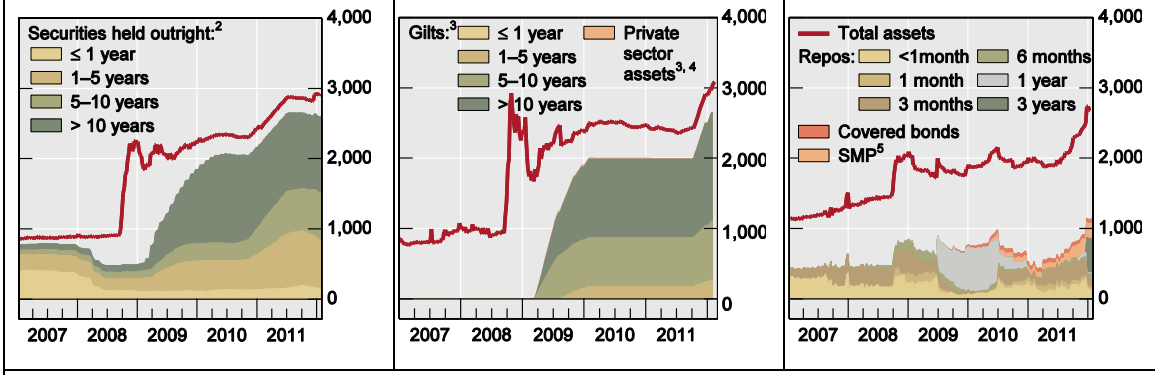
US quantitative easing: spillover effects on emerging economies*

Feng Zhu

The 2007–2009 global financial crisis and the ensuing recession have significantly changed the environment in which central banks perceive and implement monetary policy. As policy rates were lowered rapidly to close to zero, policymakers lost their traditional lever for influencing longer-term rates by changing interest rates at the very short end. Bernanke and Reinhart (2004) suggest three policy options in this situation: first, shape public expectations about the future path of the policy rate; second, increase the size of the central bank balance sheet beyond the level needed to keep the policy rate at zero; and third, change the composition of the balance sheet in order to affect the relative supply of securities held by the public.

Several central banks in the major advanced economies have implemented such policies, known as quantitative easing. Asset purchase programmes focusing on longer-dated government bonds have been established with the aim of lowering interest rates, reviving credit flows, and stimulating economic activity. Consequently, the balance sheets of the US Federal Reserve, the Bank of England, and the European Central Bank have all recorded a sharp expansion in the second half of 2008 (Figure 1). In addition, the balance sheets of the Federal Reserve and the Bank of England have become dominated by holdings of government bonds with maturities of five years and above.

Figure 1: Central bank balance sheet size and maturity[1]



Notes: (1) In billions of units of national currency. For the Bank of England and the Federal Reserve, breakdown by remaining maturity; for the Eurosystem, breakdown of outstanding repo operations by original maturity. (2): Includes agency debt securities, MBS and US Treasuries held outright; face value. (3): Holdings of the Asset Purchase Facility; proceeds. APF transactions are undertaken by the Bank of England Asset Purchase Facility Fund Limited. The accounts of the Fund are not consolidated with those of the Bank. The Fund is financed by loans from the Bank, which appear on the Bank's balance sheet as an asset. (4): Includes holdings of sterling commercial paper, secured commercial paper and corporate bonds financed by the issue of treasury bills and the Debt Management Office's cash management and by the creation of central bank reserves. (5): Securities held under the Securities Markets Programme (SMP).

Source: Compiled by the author based on data from Datastream and national data.

* The views expressed in this article are those of the author and do not necessarily reflect those of the Bank for International Settlements. This paper is based on Chen et al. (2011).

Recent US asset purchase programmes

The role of central bank balance sheet policies has changed over time as the advanced economies went through different phases of the financial and economic cycle. Initially such policies focused on providing ample liquidity to stabilise financial markets and shore up confidence. These included various term facilities set up by the Federal Reserve and also currency swaps agreed upon among central banks. As the crisis subsided, balance sheet policies placed greater emphasis on lowering borrowing costs and easing credit conditions for the private sector so as to promote growth and employment. Asset purchase programmes became more prominent along with central bank commitments to maintain very low interest rates for an extended period of time.

The Federal Reserve has been among the most active central banks in implementing balance sheet policies. Its recent quantitative easing measures include:

- The Large-Scale Asset Purchase (LSAP) programme, announced in November 2008, for purchasing up to USD 600 billion in agency mortgage-backed securities and agency debt. From March 2009 to March 2010, the Federal Reserve committed to buy an additional USD 850 billion of such securities and USD 300 billion of longer-dated Treasury bonds (LSAP1);
- LSAP2, announced in November 2010, for a further purchases of USD 600 billion in longer-term Treasury securities until mid-2011;
- The Maturity Extension Program (MEP), announced in September 2011, for extending the average maturity of the Federal Reserve's portfolio of Treasury securities by 25 months to about 100 months by the end of 2012.[6] To do so, the Federal Reserve plans to exchange USD 400 billion of Treasuries with residual maturities of 3 months to 3 years for those with 6–30 years of residual maturity.

Using an event study methodology with 1- and 2-day event windows, Meaning and Zhu (2011, 2012a) have measured financial market responses to the major announcements of the US asset purchase programmes based on cumulative changes in a number of key financial indicators. The announcements had an immediate and significant impact on US sovereign bond yields across the maturity range during LSAP1. The announcement effects were much less pronounced for later programmes. In addition, the impact also affected assets other than purchased sovereign bonds. For example, LSAP1 announcements led to sizeable reductions in corporate bond yields and prompted significant depreciations in the nominal effective exchange rates of the US dollar (7.7% in two days) during LSAP1.

International spillover effects of central bank asset purchases

Do the balance sheet measures recently adopted by the Federal Reserve have significant international spillover effects? If so, are such effects beneficial or detrimental? The answers are not straightforward. In a world of highly integrated finance and trade, leakage from domestic policy is unavoidable, although the size of such leakage to the emerging economies may differ across countries depending on the strength of cross-border transmission channels.

6 Meaning and Zhu (2012a, 2012b) examined the impact of changes in the size and maturity structure of the Federal Reserve's Treasury securities holdings on US Treasury bond yields and found that the MEP can have a sizeable impact provided that there is no large-scale intervention by the Treasury.

One view is that central bank asset purchases, combined with a very loose monetary policy stance in both advanced and emerging economies, may further increase the already abundant global liquidity. This creates tensions for some emerging economies concerned with overheating, inflation and potential financial stability risks. In addition, extraordinary monetary stimulus on top of persistent interest rate and growth rate differentials can lead to large and volatile capital flows. Such flows may exert strong upward pressure on exchange rates, credit growth, and asset prices in the recipient countries.

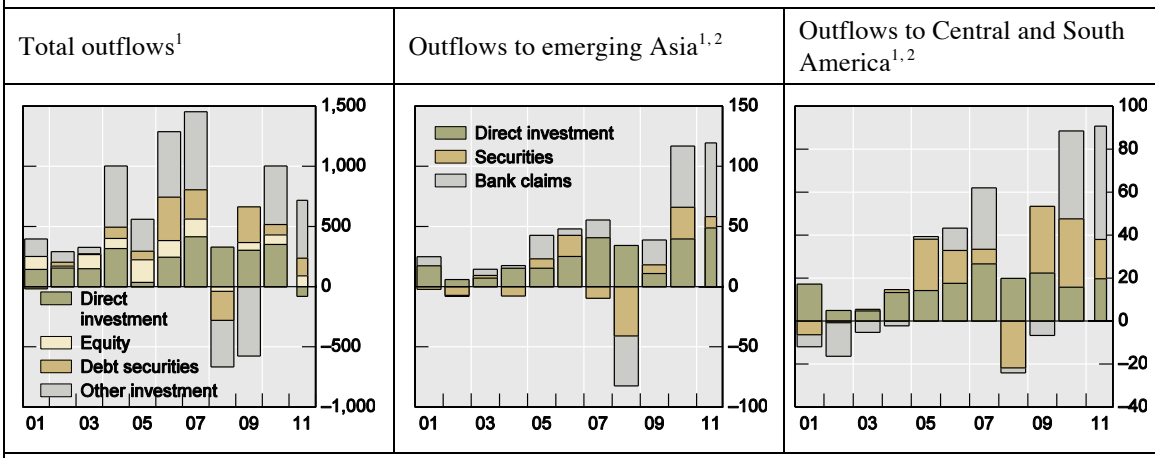
Channels of international transmission

There are several cross-border transmission channels through which central bank balance sheet policies may operate. First, there is a global portfolio rebalancing channel, since foreign and domestic assets can be imperfect substitutes for each other. For instance, US Treasury securities are often perceived as a safe asset and are widely held by global investors. As quantitative easing lowers US long-term bond yields, investors are likely to adjust their portfolios to include more emerging market assets of similar maturity and risk characteristics, boosting asset prices and reducing interest rates in the emerging economies.

Second, through an exchange rate channel, quantitative easing can exert strong appreciation pressures on emerging market currencies against the major international reserve currencies. This affects both trade and capital flows. US quantitative easing can also boost exports from emerging economies through easier trade financing and increased spending.

Third, a global liquidity channel operates through bank lending and asset prices. Because the global capital market is highly integrated, large-scale asset purchases and commitment to very low policy rates for an extended period of time in one economy boosts global liquidity. Low interest rates and abundant liquidity create incentives for credit expansion, encouraging banks and investors in both advanced and emerging economies to take on greater risks. In addition, large and persistent interest rate differentials can spur carry trades and capital flows into emerging economies which provide higher risk-adjusted rates of return (Figure 2). These forces can lead to significant inflationary pressures on consumer and asset prices.

Figure 2: US capital outflows[1]



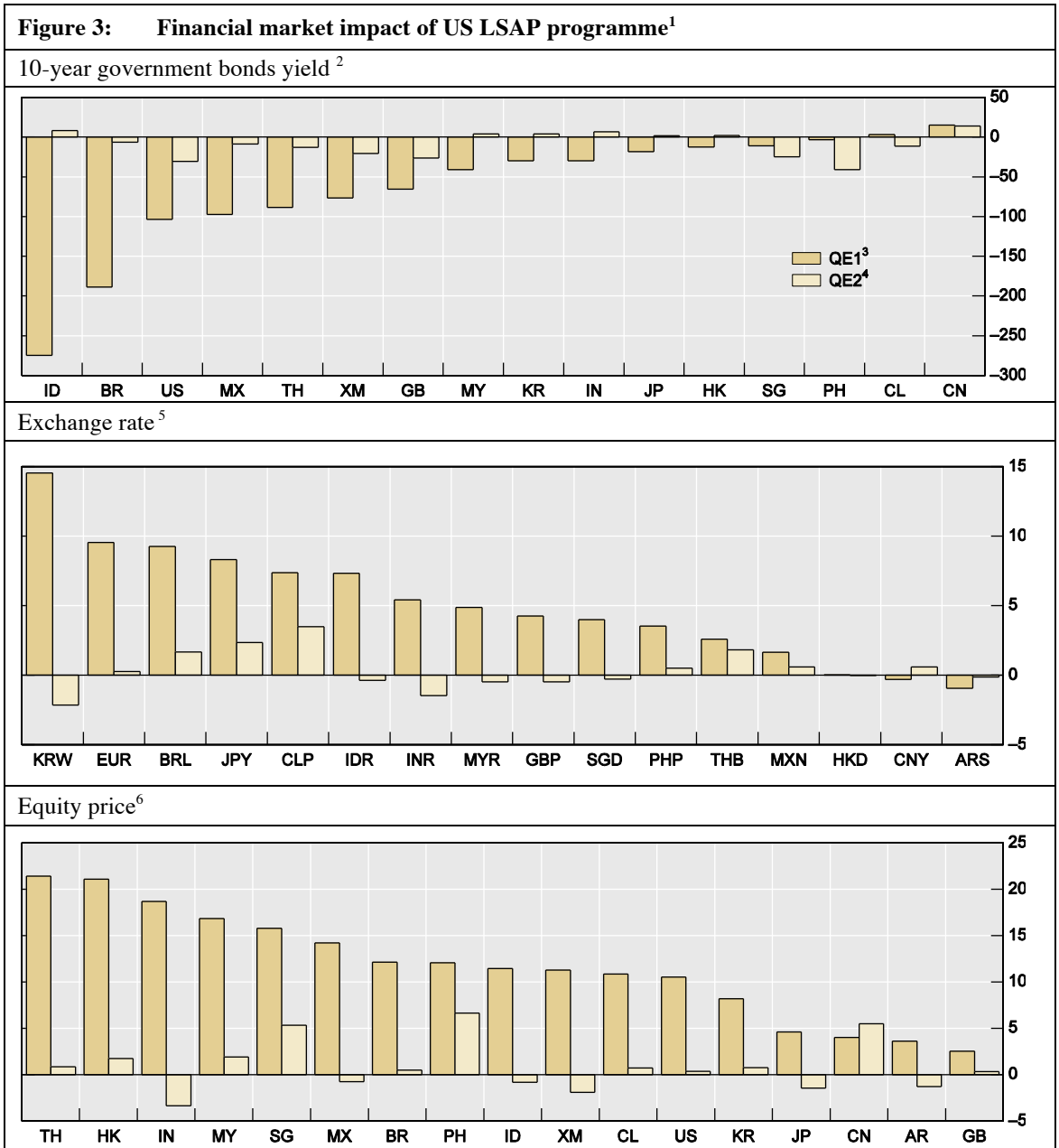
Notes: (1) In billions of US dollars. The figure for 2011 is based on the first two quarters (annualised). (2): US-owned private assets vis-à-vis emerging Asia / Central and South America.

Source: Compiled by the author based on data from the IMF's International Financial Statistics and the US Bureau of Economic Analysis.

Evidence of international spillovers

The Federal Reserve's asset purchase programmes have had a broad, immediate, and sizeable impact on global financial markets.[7] Recent data indicate that, although total US capital outflows have not been exceptional since the start of the LSAP programme in November 2008, bank lending to emerging Asia and Latin America and flows into those regions' debt securities have increased sharply since 2010 (Figure 2).

Figure 3: Financial market impact of US LSAP programme[1]



Notes: (1): Cumulative percentage change two days after the Large Scale Asset Purchase programme announcement dates. (2): In basis points. (3): Announcements made on 25 Nov 2008, 1 Dec 2008, 16 Dec 2008, 28 Jan 2009, 18 Mar 2009, 29 Apr 2009, 24 Jun 2009, 12 Aug 2009, 23 Sep 2009 and 4 Nov 2009. (4): Announcements made on 10 Aug 2010, 27 Aug 2010, 21 Sep 2010, 12 Oct 2010, 15 Oct 2010 and 3 Nov 2010. (5): A positive change indicates appreciation against the US dollar; in %. (6): In %.

Source: Compiled by the author based on data from Bloomberg and national data.

7 Chen, Filardo, He and Zhu (2011) provide a detailed analysis of the global financial impact of the announcements of asset purchases by central banks in the advanced economies.

Based on an event study with a two-day window, Chen et al. (2011) found a significant impact in terms of cumulative global financial market responses to the major announcements by the Federal Reserve of its asset purchase programmes (Figure 3). First, LSAP1 announcements had the greatest impact on sovereign bond yields, reducing the 10-year yields by an average of over 80 basis points across emerging Asia and Latin America. Notably the announcements had a greater impact on yields in many emerging economies than in the United States itself. For example, the announcements lowered the 10-year yields by over 100 basis points in Indonesia, Brazil, Mexico and Thailand. LSAP1 announcements reduced corporate bond yields by over 50 basis points in Latin America and in other advanced economies. Indeed portfolio rebalancing appeared to be a powerful channel of cross-border transmission.

Second, LSAP1 announcements provided strong support to global stock markets, boosting equity prices by over 10% in the emerging markets (Figure 3). In particular, equity prices rose by about 20% in Thailand, Hong Kong and India, and by between 10–17% in Malaysia, Singapore, Mexico, Brazil, the Philippines, Indonesia and Chile. LSAP1 helped rebuild confidence and stabilise emerging financial markets.

Third, emerging market exchange rates tended to strengthen following LSAP1 announcements. The Korean won, Brazilian real, Chilean peso and Indonesian rupiah appreciated by between 10–15% against the US dollar.

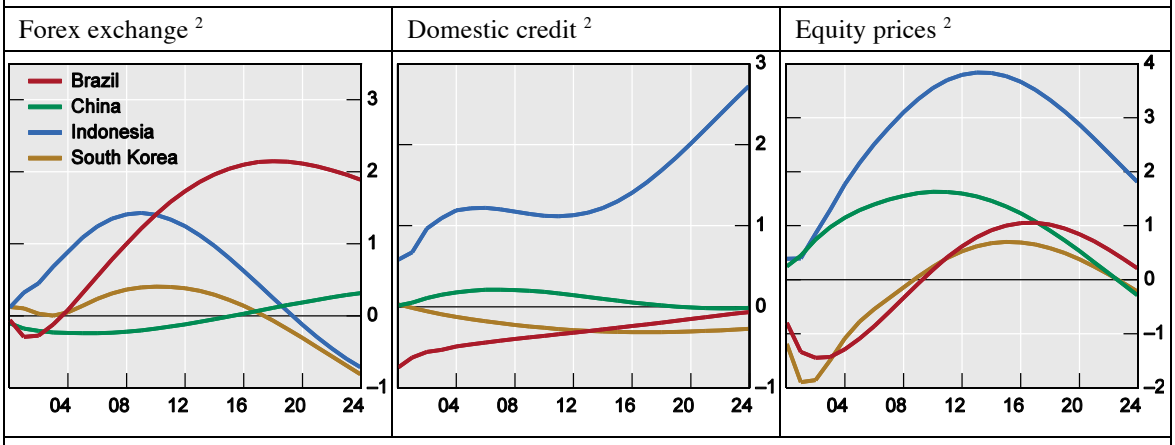
The results also suggest much smaller market reactions to LSAP2 and MEP than those to LSAP1. Part of the reduced influence reflects the different sizes of LSAP1, LSAP2 and MEP. In addition, the "novelty" or surprise factor associated with LSAP1 might have waned over time as markets became better acquainted with quantitative easing, and "more of the same" failed to evoke market reactions of similar magnitude.

Chen et al. (2011) examined the cross-country macroeconomic impact of US quantitative easing with a global vector autoregressive (VAR) model, using the US term spread between the 10-year Treasury bond yield and the 3-month bill rate as an indicator of post-crisis monetary policy. They found that large-scale purchases of longer-dated domestic assets shrink the US term spread, which in turn influences pricing in global financial markets.

Model estimates indicate that a 23-basis-point reduction in US term spread (one standard deviation of US term spread shocks) leads to an almost 2% increase in currency appreciation pressure on the Brazilian real over 12 months (Figure 4). The term spread shock increases domestic credit in Indonesia by almost 3% and has an even greater impact on equity prices. The impact differs across countries, e.g. the impact on Korea is smaller.

The spillover effects can be perceived as beneficial or harmful in different circumstances. In the early stage, with the global economy slipping into a major slowdown, balance sheet policies might have contributed to global financial stability and helped emerging economies recover by strengthening trade credit and supporting demand. But as many emerging economies returned to solid growth, such measures might have increased the risks of overheating, high inflation and volatile capital flows there. Moreover, fears of disruptive capital inflows and currency appreciation pressures tend to dissuade emerging market central banks from raising policy rates.

Figure 4: International impact of US monetary easing[1]



Notes: (1): Estimates are from a global vector autoregressive (GVAR) model based on data from January 1996 to 2010 December. The impulse responses are not significantly different from the GVAR estimates for the sample period ending in December 2006, suggesting the international transmission mechanism might have largely stayed in place following the global financial crisis. (2): In %.

Source: Chen et al. (2011).

Conclusion

Recent quantitative easing measures by the Federal Reserve significantly reduced yields of longer-term government bonds and raised the prices of other financial assets in both advanced and emerging economies. Such changes may be accompanied by increased financial stability risks in emerging markets arising from cheap money and large and rising global liquidity. A sharp balance sheet expansion due to the Federal Reserve's asset purchases, if it persists, may affect inflation expectations globally. Furthermore, it can be difficult for central banks to time correctly their unwinding of large asset holdings given uncertainties in assessing current economic prospects. The government, with large fiscal deficits to finance, may not welcome central bank sales of government bonds. The impact of such sales on global markets and the risks of large and sudden reversals of capital inflows to the emerging economies are also hard to evaluate.

Given these caveats, any gains from further quantitative easing have to be weighed against possible costs and risks, taking into account their likely externalities. Diverging growth prospects in the advanced and emerging economies suggest that the multi-speed recovery may persist, and further extraordinary monetary stimulus could represent a challenge for many emerging economies.

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The comovement of international capital flows: evidence from a dynamic factor model

Marcel Förster, Markus Jorra and Peter Tillmann

Introduction

The recent financial crisis in the United States and other advanced economies was accompanied by strong swings in global capital flows. Capital flows to emerging countries received particular attention and reappeared on the agenda of international financial diplomacy. In emerging Asia, for example, economies experienced sharp increases in net inflows in response to tensions in the capital markets of advanced economies in 2007 and early 2008, followed by net outflows immediately after the failure of Lehman Brothers in September 2008 and massive inflows again thereafter.

The extent to which capital flows to different countries are linked, i.e. the degree of comovement of capital flows, is a key question for policy makers. Put differently, the appropriate policy response to capital inflows depends on the driving forces behind capital flows. If investors carefully discriminate between countries, thus sending funds as a response to the recipient countries' fundamentals such as growth prospects or as a response to returns differentials with respect to advanced economies, capital is said to be driven by pull factors. If, however, investors treat emerging countries similarly, irrespective of domestic fundamentals, thus responding mostly to global developments such as abundant liquidity, financial stress or weak growth prospects in mature economies, capital flows are said to be driven by push factors. Moreover, in the past a crisis in one country has often been contagious, leading to "sudden stops" of capital inflows or even withdrawals in neighbouring or even remote countries.

Although domestic economic policies may naturally influence pull factors, such policies have by definition no impact on the nature and the strength of push factors. The Economist (2011) recently argued that flows *"may have less to do with [the receiving countries'] long-term prospects than with temporary factors such as unusually loose rich-world monetary policy, over which they have no control."* Therefore, it is important to gauge the extent to which flows are correlated on a global level. This chapter seeks to shed light on the degree of comovement of capital flows and discusses results from a dynamic factor model suitable for disentangling flows for a large set of countries into global, flow-related, and regional factors.

The role of global factors in driving capital flows is an unresolved issue. Milesi-Ferretti and Tille (2011) have shown that the retrenchment of capital flows at the peak of the financial crisis at the end of 2008 was highly heterogeneous across time, across types of flows, and across geographic regions. Forbes and Warnock (2011), in contrast, attribute an important role to global factors, a somewhat less important role to contagion, and a less prominent role to domestic pull factors. While most of the existing studies focus on capital flows with a quarterly frequency, the recent study by Fratzscher (2011) is based on portfolio flow data at daily, weekly and monthly frequency. Fratzscher shows that idiosyncratic pull factors originating in emerging market economies dominated during the recovery from the global crisis. In a study prepared for the World Economic Outlook, the IMF (2011) addresses this issue. Estimates of time dummies and regional dummies in a simple panel of capital flows suggest that a common factor plays a minor role for capital flows.

Evidence from a factor model

To assess the importance of the common components among different types and destinations of capital flows, we estimate a dynamic factor model for a large set of industrial and emerging economies. The full empirical specification as well as the complete set of results can be found in Förster, Jorra and Tillmann (2012). Here we briefly present some selected findings.

In a simple factor model the comovement of observables is captured by a small set of factors linked to all variables. This approach has been successfully applied to answer diverse research questions using various national macroeconomic data sets, where movements of the common factors typically explain a large fraction of the variables' variances. The basic assumptions of the simple model, however, appear less convincing in an international setting. Here, regional developments which affect only a subset of economies and series are likely to be at least as important as global factors. We therefore use the Dynamic Hierarchical Factor Model introduced by Moench and Ng (2011) and refined by Moench, Ng and Potter (2011) to address these issues. The model allows us to disentangle capital inflows into a global factor, a factor for each type of capital inflow, and a regional factor affecting groups of countries. Factors affecting all countries, i.e. the global factor as well as the type-specific factors, could be interpreted as push factors. The remaining dynamics can then be attributed to regional and idiosyncratic determinants, i.e. pull factors. By doing this we can separate country-specific and regional-specific variations that would otherwise be spuriously subsumed by the estimated global factor. As a result, we can analyse whether global effects, such as surges in portfolio or foreign direct investment, or group-specific characteristics such as regional investment booms in Eastern Europe, or even the contagious nature of the Asian crisis are the driving forces behind a country's capital inflows.

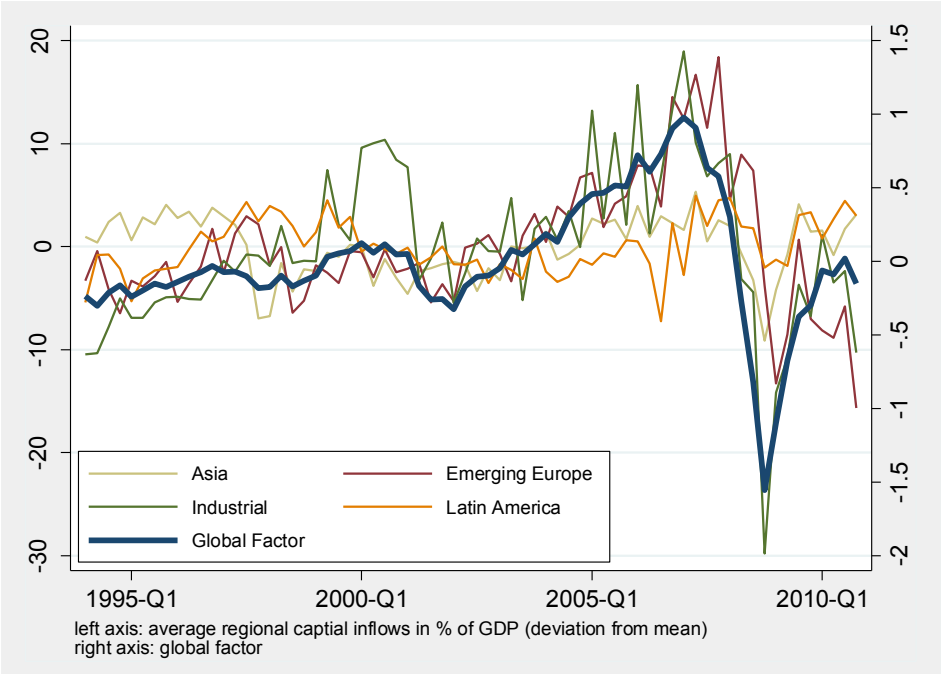
Following recent research that highlights the reduced information content of net capital flows (Forbes / Warnock 2011; Broner et al. 2011), our focus is on *gross inflows* measured in percent of GDP. We further differentiate between portfolio, foreign direct investment and other flows using quarterly data from the IMF's International Financial Statistics.[8] After excluding major financial centres we end up with a sample of 47 countries with data from 1994Q1 to 2010Q4. Our sample period thus covers the Asian crisis, the debt crises in Latin America and Russia, and the recent global financial crisis.

We construct seasonally adjusted capital-flow-to-GDP series which are generally judged stationary according to standard univariate and panel unit root tests. Following the World Bank's classification we then group the country-specific data into four geographical blocks: Asia, Emerging Europe, Latin America, and industrialised countries.[9] For a given type of capital inflow the dynamic factor model estimates a separate block factor for each of these country groups.

8 Given the limited data coverage for emerging economies we augment our data set by adding information from a few national sources.

9 The World Bank's geographical classification is simplified by merging the "South Asia" and "East Asia & Pacific" block into one block (Asia). Furthermore, Israel and South Africa are allocated to the Emerging Europe and Asia block, respectively.

Figure 1: Capital inflows – regional averages and the global factor



Source: Förster / Jorra / Tillmann (2012).

A first impression of regional differences with respect to the role of the global factor can be obtained from Figure 1, which shows region-specific average capital inflows along with our estimate of the global factor. As a first key finding, the global factor extracted from the large set of countries closely reflects capital flows to industrial countries and transition economies in Eastern Europe. Flows to emerging Asia or Latin America, in turn, appear only loosely connected to conditions reflected by the global factor. The financial crises in Asia, Russia and Brazil are associated with only a small decline in the global factor.

As a second result, the factor decomposition reveals the impact of the recent financial crisis on international capital flows. At the peak of the crisis the connection between the global factor and all flow series intensifies, suggesting that the pattern of comovement changes substantially during severe crises. Towards the very end of the sample, flows to emerging Europe became disconnected from the global factor, while Latin America shows a much stronger link to the global factor than before the crisis. To summarise, the results do not support the notion of capital inflows being predominantly pushed into emerging economies by global conditions. Deteriorating global economic conditions might, however, increase the probability of a sudden stop in capital flows.[10]

Conclusions

Our preliminary results suggest that the global factor does a good job of tracking overall capital flow cycles, but leaves a large degree of heterogeneity attributable to either regional or country-specific determinants. This suggests that domestic policy has

10 For all other findings including variance decompositions, results for different types of capital inflows, and many robustness checks the reader is referred to Förster, Jorra and Tillmann (2012).

considerable room to affect capital flows and, if this is deemed appropriate, also to limit the consequences of capital inflows such as asset price booms and a real appreciation of domestic currencies.[11] Recently, capital controls have often been seen as the *ultima ratio* in a situation in which a country receives massive capital inflows driven by global determinants over which domestic policy has no control. Our results suggest that this is less often the case than previously thought. Thus, the primary responsibility for dealing with large and volatile capital flows remains with domestic policymakers.

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11 See Pradhan et al. (2011) for a thoughtful discussion of the appropriate policy responses.

Global liquidity and commodity prices

Ulrich Volz

Introduction

The prices of most commodities – including food and other agricultural commodities – floated around the same level between 1980 and 2000 but underwent a sharp upturn thereafter (Figure 1). Prices peaked in 2008, plunged during the global financial crisis, and started a strong rebound at the beginning of 2009. As pointed out in the report that the G20 Study Group on Commodities presented at the Cannes Summit in November 2011, *"[t]hese commodity price movements present important policy challenges world-wide"* (G20 2011, 5). In particular, increases in the prices (and price volatility) of food and other agricultural commodities can have dire consequences for the world's poorest people.[12] Agricultural commodity price developments have therefore stirred an intensive public and policy debate and have motivated a flurry of academic research on the dynamics which drive food price inflation and volatility and the most appropriate policy responses.[13]

There have been two major approaches to explaining recent price developments in commodity markets. The first explanation centres on supply and demand factors. According to Trostle (2008), Krugman (2008), Irwin, Sanders and Merrin (2009), Hamilton (2009), Kilian (2009), and others, the rapid growth of emerging market economies, not least China and the other BRICS, increased world demand for all kinds of commodities including food and oil and led to fast price increases until mid-2008.[14] Prices crashed when demand contracted sharply with the outbreak of the global financial crisis.

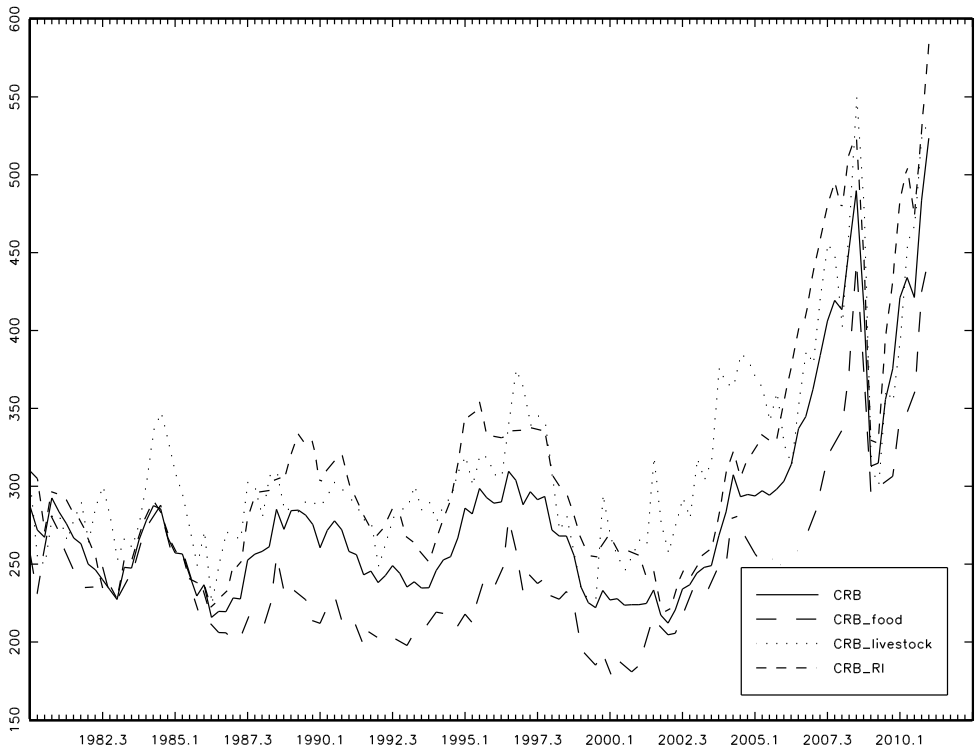
Other researchers, in contrast, point to a growing presence of financial investors in commodity-related markets and a resulting "financialisation" of global commodity markets (e.g., Tang / Xiong 2010; Gilbert 2010; UNCTAD 2011) as the underlying reason behind these price developments. According to this explanation, an increasingly important role of commodities as an asset class for investors has led to large flows of investment into commodity markets, especially into index investments and other commodity derivatives, and has contributed to growing trading volumes in commodity futures markets. This has led to a synchronised boom-and-bust of seemingly unrelated commodity prices, driving commodity prices "away from levels justified by market fundamentals, with negative effects both on producers and consumers" (UNCTAD 2011, vii).

12 Food price increases and volatility affect poor people in different ways (cf. Braun / Tadesse 2012). Most importantly, they affect real income and increase income instability. The magnitude of these effects depends on the share of income derived from agriculture and the share of food expenditure in a household's budget.

13 See von Braun and Tadesse (2012) and FAO et al. (2011) for an overview of the problems associated with food price inflation and volatility, and for policy recommendations.

14 In addition to growing demand from emerging economies, supply and demand factors that are frequently cited as contributing to price increases in agricultural commodities and a sharp downward trend in world aggregate stocks include slower growth in production due to low investment or adverse weather conditions, growing demand for biofuels, rising energy prices that increase the costs of agricultural production, and protective policies adopted by exporting and importing countries. See, for instance, Trostle (2008).

Figure 1: Development of commodity and food prices, 1980–2011



Note: CRB: CRB Spot Index (broad index comprising metals, textiles and fibres, fats and oils); CP_food: CRB Foodstuffs (hogs, steers, lard, butter, soybean oil, cocoa, corn, Kansas City wheat, Minneapolis wheat, sugar); CP_livestock: CRB Livestock and Products (hides, hogs, lard, steers, tallow); CP_RI: CRB Raw Industrials (hides, tallow, copper scrap, lead scrap, steel scrap, zinc, tin, burlap, cotton, print cloth, wool tops, rosin, rubber).

Source: Compiled by the author based on data from the Commodity Research Bureau / Thomson Reuters.

Is "global liquidity" to blame?

In a recent paper with Ansgar Belke and Ingo Bordon (Belke / Bordon / Volz 2012), we investigated the effects of "global liquidity" – casually defined as the liquidity created by the world's major central banks – on food and commodity prices. Using different measures of global liquidity and various indices of commodity and food prices for the period 1980–2011, we analysed the interactions between global liquidity and commodity and food prices on a global level. For our empirical analysis we used a global cointegrated vector-autoregressive model.

In our analysis we included liquidity and output measures for a group of major advanced and emerging economies, representing approximately 80% of world GDP in 2011 and presumably a considerably larger share of the global financial markets. We also took into account the nominal effective exchange rate of the US dollar to allow for dollar valuation effects, and included export data of emerging and developing economies to the rest of the world as proxies for demand-driven development of commodity and food prices. In order to understand the interactions between monetary aggregates, interest rates, inflation, and food and commodity prices on a global level, we mainly focused on long-run equilibrium relations.

Our results provide insight into the links between monetary policy and commodity and food price inflation. We found support for the hypothesis that there is a positive long-term relationship between global liquidity and the development of food and commodity prices. The latter adjust significantly to the cointegrating relationship and exhibit a long-term co-movement with liquidity on an international level. Global liquidity, in contrast, does not adjust; rather it "drives" the relationship.

In other words, over the three decades that we observed, food and commodity price inflation were apparently driven by monetary expansion in the world's major economies. Our results can be seen as supporting the view of a "financialisation of commodities" in which food and commodity prices are impacted to a large extent by flows of (portfolio) investment into commodity markets with an eye to returns, and not merely by demand from the real economy. Our findings corroborate research by Gilbert (2010, 420), among others, who concludes that "index futures investment was the principal channel through which monetary and financial activity have affected food prices over recent years".

While we are not forecasting food and commodity price developments in our paper, the analysis suggests that further price hikes may be in store given current expansionary monetary conditions in Europe and the United States.

Policy options

Our findings highlight the dilemma that arises when the central banks of all major advanced economies engage simultaneously in expansionary monetary policies as a means of stabilising the respective economies and financial sectors, causing a large global liquidity shock that feeds commodity and food price inflation. While such expansionary monetary policies may be necessary to respond to financial crises, economic contraction, high unemployment and deflationary tendencies, our analysis suggests that there may be pronounced negative side-effects in terms of commodity and food price increases.

From a policy perspective, what should be done? Whilst expansionary monetary policies are indispensable at times of severe economic and financial crisis, policymakers should take into account the negative side-effects and consider stricter regulation of commodity markets, especially agricultural commodity markets, in order to prevent a further flow of liquidity into these markets. In spite of differing views on the role of speculation in driving commodity prices, a broad consensus exists regarding the need to improve information and transparency in commodity futures markets, particularly in over-the-counter (OTC) markets (see e.g. FAO et al. 2011). Building on this consensus, regulatory authorities should swiftly implement the *"Principles for the regulation and supervision of commodity derivatives markets"* (IOSCO 2011) prepared by the IOSCO Task Force on Commodity Futures Markets at the request of the G20 leaders at the Seoul Summit in November 2010.

Building on and going beyond the International Organization of Securities Commissions (IOSCO) principles, several concrete measures should be considered to enhance transparency and improve the functioning of commodity markets – and curtail the flow of liquidity into these markets:[15] (i) registration of all OTC derivative trades in a trade repository; (ii) imposition of appropriate position limits on individual market participants

15 See also the recommendations in UNCTAD (2011) and FAO et al (2011).

in order to restrain the engagement of non-commercial investors in commodity markets; (iii) regulation of high volume and frequency trading in commodity markets, and (iv) introduction of a marginal transaction tax for all transactions in commodity markets. Such measures, if introduced in all major markets, would discourage non-commercial participants such as commodity index funds, swap dealers, and money managers who have no involvement in the physical commodity trade (in contrast to commercial participants such as farmers, traders and processors) from "excessive" speculation in commodity markets. These regulatory provisions could be adjusted over time, to allow for changing market conditions and new insights into their effectiveness and to limit potential unintended side-effects.

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Foreign banks and financial stability: lessons from the Great Recession

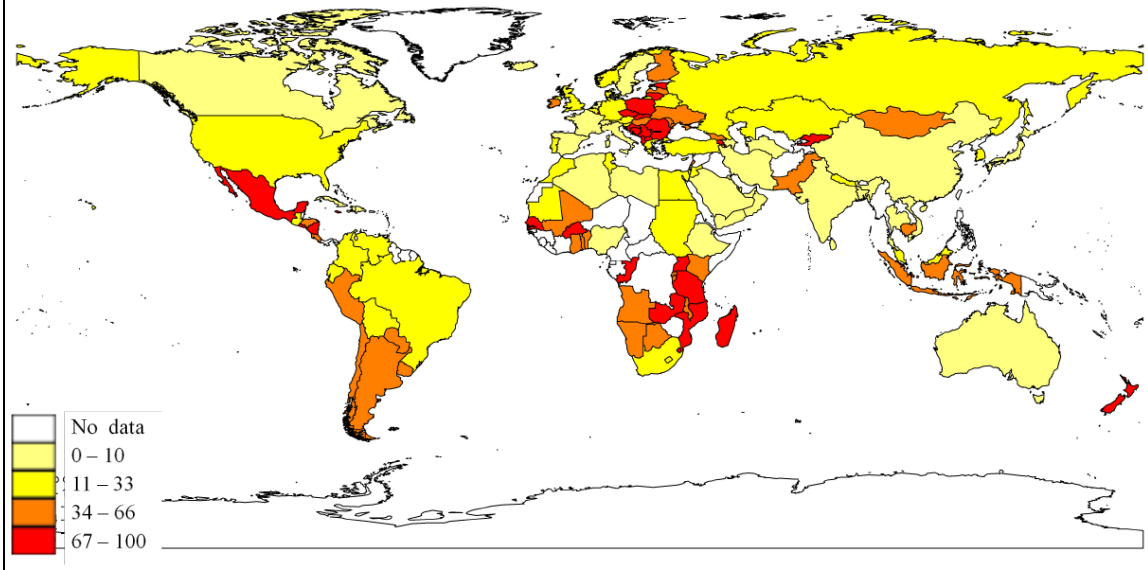
Ralph De Haas

Introduction

The rapid process of financial globalisation over the past three decades has resulted in high levels of foreign direct investment in banking sectors across the world (Figure 1). Spanish and Portuguese banks have developed a stronghold in Latin America on the back of cultural and trade links between this region and the Iberian Peninsula. Nigerian and South African banks have created pan-African banks, while various European banks operate African affiliates as well. In New Zealand, most banking assets are currently owned by foreign, mainly Australian banks.

Yet banking integration has perhaps advanced the most between Western and Eastern Europe. After the fall of the Berlin Wall, Western European banks bought former state banks and opened new affiliates, both branches and subsidiaries, across Emerging Europe. Banks with saturated home markets were attracted to the region due to its scope for further financial deepening at high margins. Policy makers stimulated banking integration because of the presumed positive impact on both the efficiency and stability of local banking sectors. Figure 1 shows that, as a result, in many Eastern European countries between 67% and 100% of all banking assets are now in foreign hands.

Figure 1: Foreign banks around the world



Note: Foreign-bank assets are shown as a percentage of total banking assets.

Source: Compiled by the author based on data from Claessens and Van Horen (2012) and EBRD.

What are the economic implications of this dominant role for foreign banks? To answer this question, we first briefly review the pre-crisis academic literature on foreign bank entry into emerging markets. We then discuss new empirical evidence that emerged after the 2008–09 financial crisis as well as the implications of this evidence for economic policy.

Pros and cons of foreign banks in emerging markets

Academic and policy discussions about the economic impact of foreign banks on emerging markets typically focus on three topics: changes in the *quantity*, the *efficiency*, and the *stability* of financial intermediation. We discuss these in turn.

Foreign bank entry and the quantity of financial intermediation

Foreign bank entry into emerging markets can help unlock access to foreign savings, increase investments, and speed up economic convergence. Although less capital tends to flow from rich to poor countries than theory would predict, Emerging Europe is one of the few regions where the Lucas paradox does not apply. Facilitated by the presence of foreign banks, the transition region has been quite successful in accessing foreign savings, using these to fund local business opportunities, and moving more quickly towards Western European living standards than would otherwise have been possible.[16]

Foreign bank entry and the efficiency of financial intermediation

Foreign banks may not only expand the amount of available savings, they may also transform savings more efficiently into investments. In emerging markets, foreign banks often introduce superior lending technologies and marketing know-how, developed for domestic use, at low marginal cost (Grubel 1977).[17] Evidence suggests that Emerging Europe, where commercial banks were still largely absent at the start of the 1990s, has reaped substantial efficiency gains due to foreign entry.[18] Foreign banks are not only efficient themselves but also generate positive spillovers to domestic banks (which for instance copy risk management methodologies).

An important issue is whether this higher efficiency comes at the cost of a narrower client base. Foreign banks may simply be more efficient because they cherry-pick the best customers and leave more difficult clients – such as opaque small- and medium sized enterprises (SMEs) – to domestic banks. Domestic lenders may be better positioned to collect and use "soft" information about opaque clients (Berger / Udell 1995) whereas foreign banks rely more on standardised lending technologies. Some evidence consequently indicates that foreign banks are associated with a relative decline in SME lending (Detragiache / Tressel / Gupta 2008; Gormley 2010; Beck / Martinez Peria 2010). Nevertheless, foreign banks increasingly apply technologies that use hard information, such as credit scoring, to lend to SMEs without the need to develop long-term lending relationships. Some recent studies therefore find that foreign banks may increase SME lending in the medium term as they adopt new lending technologies (De la Torre / Martinez Peria / Schmukler 2010). For Emerging Europe, the evidence also suggests that foreign bank entry has not led to a reduced availability of small business lending (De Haas / Ferreira / Taci 2006; De Haas / Naaborg 2006; Giannetti / Ongena 2008).

16 See EBRD (2009, Chapter 3) and Gill / Raiser (2012, Chapter 3) for empirical evidence.

17 In developed countries, foreign banks are generally *less* efficient than domestic banks as the advantages of incumbent banks tend to dominate those of new entrants (Claessens / Demirgüç-Kunt / Huizinga 2001).

18 See for instance Bonin, Hasan and Wachtel (2005), Fries and Taci (2005), and Havrylchyk and Jurzyk (2011).

Foreign bank entry and the stability of financial intermediation

Even if foreign bank entry is associated with more (and more efficiently delivered) credit, this advantage may be partly offset if that lending is highly volatile and contributes to economic instability. The empirical evidence on this issue focuses on three impacts that banking integration can have on financial stability in host countries.

First, there is abundant evidence that foreign banks have a stabilising effect on aggregate lending during *local* bouts of financial turmoil.[19] Compared to stand-alone domestic banks, foreign bank subsidiaries tend to have access to supportive parent banks that provide liquidity and capital if and when needed. De Haas and Van Lelyveld (2006) confirm such a stabilising role for Emerging Europe, and De Haas and Van Lelyveld (2010) for a broader set of countries.

Second, foreign bank entry may expose a country to *foreign* shocks. Because parent banks reallocate capital across borders (Morgan / Rime / Strahan 2004), capital may be withdrawn from country A when it is needed in country B. Peek and Rosengren (1997, 2000a) show how the drop in Japanese stock prices starting in 1990, combined with binding capital requirements, led Japanese bank branches in the United States to reduce credit. Van Rijckeghem and Weder (2001) find that banks that are exposed to a financial shock in either their home country or another country reduce credit in their (other) host countries. Schnabl (2012) shows how the 1998 Russian crisis spilled over to Peru, as banks – including foreign-owned ones – saw their foreign funding dry up and had to cut back lending.

While foreign bank subsidiaries can transmit foreign shocks, lending by such local brick-and-mortar affiliates is still considerably less volatile than cross-border lending by foreign banks (García Herrero / Martinez Peria 2007). Peek and Rosengren (2000) find for Latin America that cross-border lending did in some cases diminish during economic slowdowns, whereas local lending by foreign banks was much more stable. Similarly, De Haas and Van Lelyveld (2004) find that reductions in cross-border credit to Emerging Europe have generally been met by increased lending by foreign bank subsidiaries, either because new subsidiaries were established or because the lending of existing affiliates increased.

Third, foreign bank ownership may also affect the sensitivity of the aggregate credit supply to the business cycle. Because multinational banks trade off lending opportunities across countries, foreign bank subsidiaries tend to be more sensitive to the local business cycle than domestic banks (Barajas / Steiner 2002; Morgan / Strahan 2004). However, if the population of foreign banks in a country is sufficiently diverse in terms of home countries, this diversity may make *aggregate* lending more stable. In line with this, Arena, Reinhart and Vázquez (2007) argue on the basis of a dataset comprising 20 emerging markets that the presence of foreign banks has contributed somewhat to overall bank lending stability in these countries.

19 See Dages, Goldberg, and Kinney (2000); Crystal, Dages, and Goldberg (2002); Peek and Rosengren (2000b); Goldberg (2001); Martinez Peria, Powell, and Vladkova Hollar (2002); and Cull and Martinez Peria (2007).

To sum up, the empirical evidence available before the 2008–09 crisis suggests the following:

(1) Foreign banks improve credit availability in emerging markets and make the delivery of credit more efficient. At least in the short term, small firms may benefit less from this.

(2) Foreign bank entry may exacerbate business and credit cycles, in particular if parent banks are mostly from the same home country or region.

(3) Foreign bank entry reduces the economic impact of local financial crises.

(4) Foreign bank entry increases the vulnerability of a country to foreign shocks.

New evidence from the Great Recession

The Lehman Brothers bankruptcy on 15 September 2008 triggered a flurry of research into how multinational banks transmitted this unexpected shock across borders. Many of these banks were either directly exposed to the sub-prime market or indirectly affected by the US dollar illiquidity. It became more difficult for parent banks to support their foreign subsidiary networks with capital and liquidity, and this had knock-on effects for Emerging Europe.

Popov and Udell (2012) show how Western banks with relatively little capital and high financial losses propagated the crisis by reducing the credit supply of their Eastern European subsidiaries. Opaque firms with few tangible assets were affected the most. In line with this, De Haas, Korniyenko, Loukoianova and Pivovarsky (2012) find that foreign bank subsidiaries in Emerging Europe reduced lending earlier and faster than domestic banks.[20] Yet foreign banks that took part in the "Vienna Initiative" were somewhat more stable lenders.[21]

The stabilizing effect of the Vienna Initiative is confirmed by Cetorelli and Goldberg (2011a) on the basis of aggregate data from the Bank for International Settlements. They find that multinational banks transmitted the crisis to emerging markets via a reduction in cross-border lending[22] and local subsidiary lending. Importantly, stand-alone domestic banks – many of which had borrowed heavily on the international syndicated loan and bond markets before the crisis – were forced to contract credit as well. Ongena, Peydró-Alcalde and Van Horen (2012) also stress the funding heterogeneity among domestic banks in Emerging Europe. Wholesale-funded domestic banks were much less stable than domestic banks that relied on deposit funding. Similarly, Rocholl, Puri and Steffen (2011) show how German *Landesbanken* with US sub-prime exposures reduced retail credit more than unaffected banks. This was especially true for domestic banks that relied on wholesale rather than deposit funding.

20 Barba Navaretti et al. (2010) argue that multinational banks were a stabilising force as they displayed a stable loan-to-deposit ratio. Their analysis is limited to the years 2007–08, while much of the credit crunch took place in 2008–09.

21 The Vienna Initiative was established towards the end of 2008 as a public-private coordination mechanism to guarantee macroeconomic stability in Emerging Europe. Various multinational banks signed country-specific commitment letters in which they pledged to maintain exposures and to provide subsidiaries with adequate funding.

22 See De Haas and Van Horen (2011, 2012) for evidence on the rapid decline in cross-border lending during the 2008-09 crisis, in particular by distant and relatively inexperienced international lenders.

Outside Europe, multinational banks also contributed to crisis transmission. De Haas and Van Lelyveld (2011) analyse an international sample of banks and find that during the recent crisis multinational bank subsidiaries had to curtail credit growth about twice as much as stand-alone domestic banks. The latter relied more on deposits and were better positioned to continue to lend. Subsidiaries of parent banks that used more wholesale funding had to reduce credit the most. Cetorelli and Goldberg (2011b) find that US banks with a high pre-crisis exposure to asset-backed commercial papers became more constrained when *off*-balance sheet commitments became *on*-balance sheet commitments. This affected foreign affiliates as funds were reallocated towards the parent, although this effect was mitigated for large "core" affiliates. Finally, Kamil and Rai (2010) show that crisis transmission to Latin America was less severe in countries where foreign banks were lending through subsidiaries rather than across borders. Subsidiaries that had mostly funded themselves locally and to a lesser extent through international wholesale markets or through their parent banks were particularly stable credit sources.

Policy lessons from the Great Recession

When we compare the pre-crisis evidence on the impact of foreign bank entry on financial stability with more recent findings, two lessons stand out.

First, the crisis underlined the importance of funding structures for banking stability. In particular, it has become clear that an excessive use of wholesale funding exposes banks to bouts of illiquidity in wholesale markets. Before the crisis, policy makers and academics had focused instead on the potentially adverse effects of depositor runs, largely ignoring the risks in the increasingly important wholesale markets.

The recent crisis also made it clear that funding structures matter for both foreign and domestic banks. While foreign banks had easy access to parent bank and wholesale funding, many domestic banks were increasingly able to access international wholesale markets as well. When the crisis struck, it was these domestic banks that felt the pinch the most and turned out to be the weakest links. They almost immediately lost access to cross-border borrowing and had no recourse to a supportive group structure.

Important funding differences came to the fore among foreign bank subsidiaries as well. The Latin American experience has shown that deep financial integration through a large-scale presence of foreign banks may go hand in hand with financial stability if sufficient local deposit and wholesale funding is available. Some (but not all) multinational bank subsidiaries in Emerging Europe may have to adjust their funding model in this direction. These subsidiaries will increasingly have to stand on their own financial feet by raising local customer deposits and topping these up with wholesale funding if and when required. This will be easier for and more relevant to subsidiaries that target retail rather than corporate clients.

To make an increased focus on local funding a realistic option, some countries have more work to do in terms of developing credible macroeconomic frameworks – including flexible exchange rate regimes and inflation targeting – that facilitate the development of local-currency bond markets (see Zettelmeyer / Nagy / Jeffrey 2010). Such frameworks have helped Latin America to de-dollarise and subsequently create a more stable form of financial integration. Adherence to credible macroeconomic policies will also help foster a

local-currency deposit base and reduce the need for banks, both foreign and domestic, to borrow and lend in foreign exchange (Brown / De Haas 2012).

Second, while the Japanese experience of the 1990's had already shown (or perhaps forewarned) that multinational banks may pass on shocks from home to host countries, what remained underappreciated until recently is how large these effects can be if foreign bank affiliates are of local systemic importance. Nowhere has this been more evident than in Emerging Europe where in many countries one or several of the top 3 banks are in foreign hands. It was this combination of foreign ownership and systemic importance that threatened financial stability in the region and necessitated the *ad hoc* establishment of the Vienna Initiative. It also highlighted the inadequacies in the supervisory framework for multinational banking groups.

Better coordination, cooperation, and information-exchange between supervisors are not only necessary to prevent shock spillovers, but also because the alternative – forcing banks to cut up their subsidiary networks into strings of completely independent banks – may be costly. Such fully "ring-fenced" subsidiaries are costly to the bank groups themselves, because the sum of ring-fenced pools of capital will be larger than the current group capital as banks can no longer exploit the benefits of international diversification. There may be costs at the macroeconomic level too as banks can no longer use their internal capital market to raise funding where it is cheapest and must allocate it to the most worthy investment projects.

Ideally, one would therefore like to move towards an integrated supervisory regime that would still allow banks to operate multinational networks through which capital and liquidity can be allocated according to their most productive uses. Prudential limits on subsidiaries' foreign funding (i.e. *partial* "ring-fencing") may then cushion the cross-border transmission of future financial shocks. At a minimum, such supervisory "integration" could take the form of more harmonisation and the creation of a level playing field, strengthening the colleges of supervisors on multinational banks, as well as setting up (*ex ante* and binding) burden-sharing agreements (Goodhart / Schoenmaker 2009). The most far-reaching solution would entail the creation of a pan-European supervisor for large groups. Whatever option is chosen, forced subsidiarisation through full ring-fencing may be second-best and may reflect the inability of national supervisors to reach a satisfactory level of cross-border cooperation and burden-sharing.

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Emerging market economies after the crisis: trapped by global liquidity?*

Anton Korinek

Four years after the global financial crisis of 2008–09, the advanced economies of the United States, Europe and Japan are still in a liquidity trap, where zero nominal interest rates are insufficient to raise output to its potential level. Central bankers have provided ample liquidity to their ailing economies through various forms of monetary easing. Although the target of these actions has been domestic, their effects are felt worldwide. Global investors have used part of the additional liquidity to invest abroad, leading to massive capital flows to emerging market economies, thus driving up exchange rates and inflating asset prices.

Policymakers in the affected economies have justifiably been worried about the consequences: as Reinhart and Reinhart (2008) have pointed out, massive capital inflows are all too often followed by severe crashes that impose enormous social costs. Furthermore, policymakers felt that if they followed the standard prescriptions for cooling down their overheating economies – i.e. cutting government spending or raising domestic interest rates – they would make themselves even more attractive to global investors and risk a further increase in capital inflows. In short, they felt "trapped by global liquidity".

A growing chorus of academics, perhaps most famously reflected in Stiglitz (2002), has argued that emerging economies should therefore impose regulations on international capital flows. Country after country, from Brazil to Indonesia, Korea, Peru, Taiwan and Thailand, has followed their advice in recent years. In a notable reversal of earlier policies, the International Monetary Fund (IMF) has given its blessing to capital controls under certain circumstances (see Ostry et al. 2010).

Externalities of capital flows

Korinek (2010b) makes the welfare-theoretic case for regulating capital flows based on the notion that such flows impose externalities on the recipient countries. Just as environmental pollution produces externalities that reduce societal well-being if unregulated, capital inflows to emerging markets produce externalities that make such economies more prone to financial instability and crises. By implication policymakers can make everybody better off (i.e. achieve a Pareto-improvement) by regulating and discouraging the use of risky forms of external finance, in particular foreign currency-denominated debts.

Risky forms of capital inflows create externalities because individual borrowers find it best to ignore the effects of their financing decisions on aggregate financial stability. They take the risk of financial crisis in their economy as a given and do not recognise that their individual actions contribute to this risk. In a way they face a "prisoners' dilemma" – if they could all agree to use less risky financing instruments and less external finance

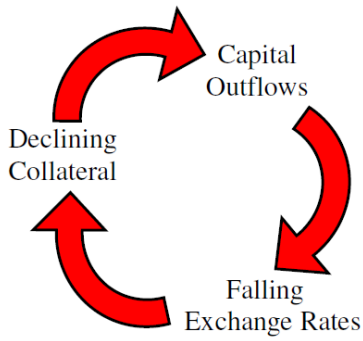
* This article is partially based on Korinek (2010a, b, 2011b, 2012). For background papers please visit http://www.korinek.com

overall, the economy as a whole would become more stable and everybody would be better off. This creates a natural role for policy intervention.

Mechanism of financial crises

The economic rationale for capital flow regulations derives from a specific market imperfection that plays a crucial role during emerging market financial crises: international investors typically demand explicit or implicit collateral when providing finance. However, the value of most of a country's collateral depends on exchange rates: it rises in good times when exchange rates appreciate; it declines in bad times when exchange rates depreciate but when access to finance is most needed. When an emerging economy is hit by an adverse economic shock, its exchange rate depreciates, the value of its domestic collateral declines, and international investors become reluctant to roll over their debts. The resulting capital outflows depreciate the exchange rate even further and trigger an adverse feedback cycle of declining collateral values, capital outflows, and falling exchange rates (see Figure 1).

Figure 1: Feedback loops during emerging market crises



Source: Compiled by the author.

This financial feedback loop, sometimes referred to as Fisherian debt deflation or simply as the deleveraging cycle, can amplify economic shocks so that a relatively small initial shock leads to large declines in exchange rates, borrowing capacity, and economic activity coupled with large capital outflows. As shown in Korinek (2010b), rational private agents do not internalise their contribution to such feedback loops and therefore impose externalities on the rest of the economy.

Magnitude of externalities

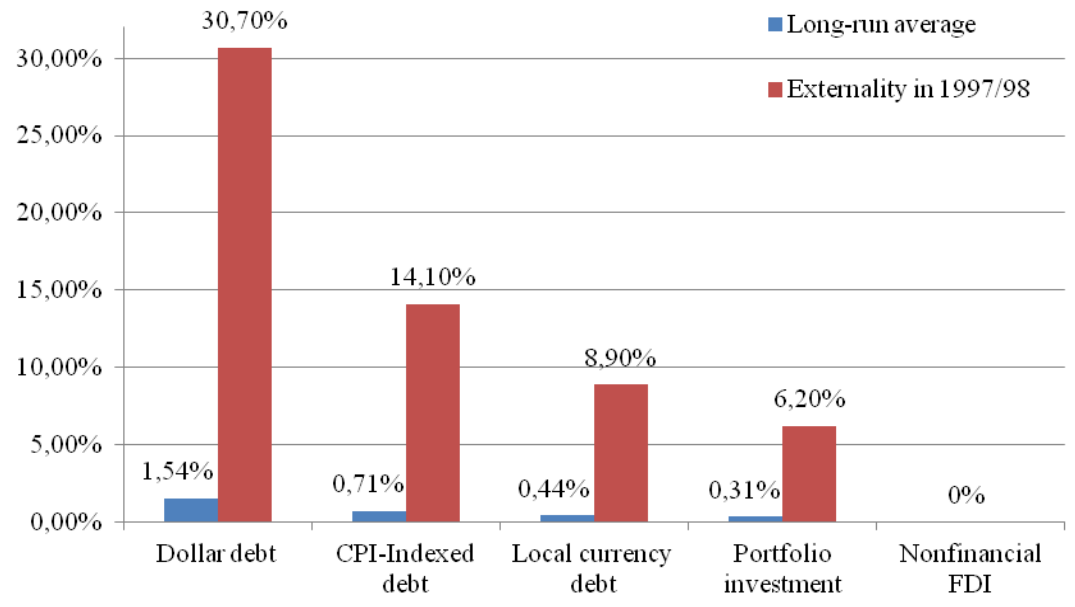
This theory of externalities based on financial vulnerabilities provides a clear framework for how to determine the optimum magnitude of policy measures. The reason why capital inflows expose an economy to financial fragility is that they may reverse precisely when the economy is experiencing financial difficulty and trigger the described feedback loops.

Different forms of capital inflows result in different probabilities of future capital outflows and different payoff characteristics in the event of a crisis; this in turn leads to different externalities. Optimal macroprudential policy should aim precisely at offsetting these externalities.

If an emerging economy takes on dollar debts and subsequently experiences a financial crisis, the exchange rate depreciates and the domestic value of the debt increases sharply, implying that dollar debt imposes a large negative externality. Consumer price inflation (CPI)-indexed debt protects borrowers against the risk of exchange rate fluctuations, imposing smaller externalities. Local currency debts and portfolio investments play an insurance role, since both the value of the local currency and equity markets tend to go down during crises. Finally, non-financial foreign direct investment (FDI) often stays in the country when a financial crisis hits; in those instances it does not impose any externalities.

Figure 2 reports a sample estimation of the annual magnitude of externalities created by various types of capital inflow to Indonesia (see Korinek (2010b) for a detailed description of the analytical method employed). For each type of capital flow, the blue bar to the left represents the average magnitude of externalities over the past two decades, whereas the red bar on the right captures the externalities imposed during the 1997–98 financial crisis.

Figure 2: Feedback loops during emerging market crises



Source: Korinek (2010b).

Dollar debt, for example, imposed a long-run average externality of 1.54% annually on the Indonesian economy over the past two decades. However, during the East Asian crisis of 1997–98, the externality reached 30.70%, justifying a tax of equal magnitude on the eve of the crisis. More generally, optimal policy measures on capital inflows should be regularly adjusted for changes in the financial vulnerability of the economy (see Jeanne / Korinek, 2010). The externalities of foreign capital rise during booms, when leverage increases and financial imbalances build up. After a crisis has occurred and economies have de-levered, new capital inflows create smaller externalities, justifying a zero tax in bad times when a country seeks to attract more capital. Optimal capital flow regulation should therefore be strongly procyclical. For dollar debt, a tax between 0% and 30%, with an average of 1.5%, can be justified for the case of Indonesia.

International spillover effects of capital controls

When one emerging economy imposes capital controls, capital is naturally diverted to other countries, as documented e.g. by Forbes et al. (2011) and Lambert, Ramos-Tallada and Rebillard (2011). The economic mechanism for this is simple: if a country such as Brazil imposes a new tax on capital inflows, then Brazil's demand for capital declines. But given the lower demand, the world interest rate must fall to re-equilibrate the market: at a lower world interest rate, worldwide investors will find it less enticing to save, i.e. supply is lower, and other countries find it more attractive to borrow, i.e. demand is higher.

As discussed in Korinek (2012), the decline in the world interest rate is the natural mechanism through which the market re-equilibrates demand and supply and is necessary to clear markets. Technically speaking, we may call the decline in the world interest rate a pecuniary externality, but we know from the first welfare theorem that pecuniary externalities do not matter for Pareto efficiency in a well-functioning and relatively complete market, such as the world market for capital. In short, the diversion of capital from Brazil to other countries is the efficient response of the market system to the new balance of supply and demand for capital.

Since the described spillover effects of capital controls are Pareto efficient, it follows that it is neither necessary nor desirable to control them. In fact, welfare would be reduced if the world interest rate was not allowed to adjust in response to capital controls, and if capital was not allowed to seek its next-best destination. The pecuniary externalities arising from optimal capital controls should therefore not be subjected to international oversight.

However, in many instances, the recipients of the capital flows diverted from Brazil are themselves emerging economies that struggle with a flood of capital inflows. This has led to concerns that Brazilian capital controls may have "bubble-thy-neighbour" effects on other countries, as expressed e.g. in Forbes et al. (2011). In response to an increase in Brazilian capital controls, the supply of capital to Brazil's neighbours increases and the interest rate at which they can borrow declines.

Arms race of capital controls

If Brazil's neighbours also suffer from the described financial stability externalities, then this increased supply is a mixed blessing: it reduces the interest rate that countries pay on their loans, but it also increases the danger of financial instability and the associated externalities. However, as Korinek (2012) describes, they can simply respond to this higher danger by imposing or raising capital controls of their own.

The result may look like an arms race, but is actually the efficient equilibrating process (or *tatonnement* process) of the market: in response to Brazilian controls, capital flows are diverted and generate greater externalities in neighbouring countries, e.g. Peru. As a result, it may be best for Peru to impose capital controls, which in turn pushes some of the capital back to Brazil. This may lead to yet higher capital controls in Brazil, and so forth. The end result is that each country converges to its optimal level of capital flows and capital controls.

The findings so far are based on the premise that countries are able to effectively implement capital controls – if policymakers faced externalities but did not have the policy tools to address them, then the resulting equilibrium would be inefficient.

Korinek (2012) studies a number of situations in which the effectiveness of capital controls can be increased via concerted action among source and destination countries. First, if capital controls are costly and the marginal cost increases in accordance with the magnitude of the controls, for example because they create ever-greater incentives for circumvention, then it may be desirable to share the burden of regulation between source and destination country. Secondly, if source countries are better able to distinguish between risky and safe forms of capital flows than destination countries, for example because authorities in the source country have regulatory control over the banks from which the flows originate, then it is of course desirable to involve source country authorities in the regulatory process.

Involving the authorities of the source countries may be desirable for an additional reason: when policymakers impose taxes on capital flows, they collect tax revenue. By the same token, when policymakers impose quantity restrictions on capital flows, the agents who are subject to the restrictions earn an implicit rent. If capital flows are partially restricted by regulators in source countries, they are the ones who can collect the tax revenue.

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Capital account management: the Indian experience and its lessons

Y. Venugopal Reddy

Until 1992, India had tight control over its capital and current accounts. As part of the reforms that were implemented following the 1991 currency crisis, a new regime of external sector management was adopted. This was based on the report of a high-level committee concerning the balance of payments. The major features of the regime involved (a) a full liberalisation of the current account; (b) restricting the current account deficit to a sustainable level, assessed through the level of normal capital flows (initially placed at 2% of Gross Domestic Product [GDP]); and (c) an active management of the capital account.

The regime also involved efforts to build up foreign exchange reserves to an appropriate level, taking into account not only import needs but also overall payment obligations in the short-term. In managing the capital account, priority was given to non-debt inflows over debt inflows. With respect to debt, short-term debt was not permitted except for trade-related purposes. The possibility of capital account transactions being undertaken in the guise of current account transactions was noted. Hence, appropriate safeguards were provided. These included repatriation and surrender requirements for export earnings, and reasonable monetary limits on automatic access to current account transactions in services. These measures were followed up with appropriate legislative changes to strengthen the framework. In particular, India's Foreign Exchange Control and Regulation Act was replaced by the Foreign Exchange Management Act. At that time, when this framework was put in place, the idea was to ensure a non-disruptive movement of India's economy to greater integration with the rest of the world economy, as considered appropriate. In this regard, while the appropriateness of immediate current account convertibility was recognised, the approach to capital account liberalisation was somewhat ambivalent. The law assured full current account convertibility as a rule, with scope for exceptions, and empowered the Reserve Bank of India to manage the country's capital account with the approval of government.

In 1997, there was a widespread feeling that full capital account convertibility should be a natural corollary of the reform process undertaken in 1991–1992. However, there were apprehensions about the possible risks of sudden and full capital account convertibility, and the need to undertake capital account liberalisation in accordance with progress in fiscal consolidation, the level of foreign exchange reserves, and reforms in the banking system, especially with regard to the problem of too high a level of non-performing assets. A committee appointed to recommend measures for capital account convertibility presented a set of preconditions for full convertibility and a road map to that goal.

With the onset of the Asian financial crisis of 1997–1998, extensive use was made of administrative measures regarding financial flows into the capital account. Intervention in the foreign exchange markets was undertaken by the Reserve Bank through public sector commercial banks. Due to the imposition of harsh economic sanctions by the US government in May 1998 (a response to India's detonation of nuclear devices), special mechanisms were considered for obtaining capital flows from non-resident Indians through the issuance of bonds. In brief, the range of instruments for managing volatility in financial markets, in particular foreign exchange markets, increased.

In 2003 there was some apprehensiveness that excessive capital inflows might destabilise the Indian economy. In order to counter this, several steps were taken which included tightening the limits on external commercial borrowing by corporations and the rules for approval of this. In any case, there was no outstanding sovereign debt in foreign currency, except through bilateral or multi-lateral aid institutions. There were strict limits on the holding of sovereign debt by non-residents. During this period, the approach to capital account management included a formal distinction between households, corporations and the financial sector regarding the pace and extent of liberalisation of the capital account. Prudential regulations and regulations on capital transactions over the financial sector were liberalised in a very cautious manner. There was greater liberalisation (though with some limits on overseas exposure in connection with the net worth of a corporation) for operations of resident real sector corporations, particularly regarding the acquisition of equity in the form of foreign direct outward investment by Indian corporations. This process enabled a large number of Indian corporations to make acquisitions outside the country, and thus relieved the pressure caused by capital inflows into the economy. The limited cross-border operations of non-financial firms were considered more stable than those undertaken by the financial sector. The restrictions on foreign exchange transactions of individual households were liberalised, but the mobilisation of household savings for purposes of capital account transactions by financial intermediaries was restricted.

In view of the size and volatility of the capital inflows that were anticipated during 2004, and the possible cost of intervention in the foreign exchange markets, an innovative "market stabilisation scheme" was introduced. Basically, this scheme is a substitute for bond issues by the central bank for sterilisation with government bonds. This scheme permitted what would normally have been a quasi-fiscal burden of sterilisation operations to be more transparent and to be reflected in the government budget. This also promoted a careful assessment of the costs and benefits of capital account management by the government. The bonds issued are no different from treasury bonds, except that a specified amount for sterilisation is transparently frozen and not utilised by the government. These operations were reversed, however, when the global financial crisis struck in 2008. The pace of liberalisation of the capital account was also coordinated with the countercyclical policies that were undertaken both by monetary policy and in regulation of the financial sector. In undertaking these measures, the inadequacies of interest rates and fiscal tools by themselves in countering volatility were recognised. Furthermore the objective was to avoid commitment to a predetermined level of the exchange rate, but rather to moderate excessive volatility. What "excess volatility" means has never been defined, but over time larger movements in exchange rate were tolerated. Thus the boundaries between volatility and flexibility were not rigidly defined. The major criticism of this system has been that the scheme compromises the independence of the central bank. However, the position taken by the Reserve Bank has been that this compromise in favour of coordination was essential in order to manage the "trilemma", the impossibility of having a fixed exchange rate, a fully liberalised capital account, and an independent monetary policy at the same time.

By 2006, pressure mounted on the Reserve Bank to liberalise the country's capital account further, and hence another committee was appointed. This committee recommended further relaxation of capital account management, but the framework of 2003 remained in place. In conformity with the global fascination for accelerated growth in the financial sector, the Indian government appointed a committee to suggest measures for making Mumbai a regional international financial centre; and another committee to make

recommendations on comprehensive reforms in the financial and external sectors. The two reports, which were submitted in 2008, remain largely unimplemented today.

With the onset of the global financial crisis in 2008, instruments of external borrowing, including short-term debt, were used to increase capital inflows. Similarly, the ceiling on interest rates offered by commercial banks for deposits from non-residents, both in foreign currency and in domestic currency, was raised. Permissions for external commercial borrowing were issued more liberally. Financial intermediaries were able to revise foreign currency resources more liberally. These measures, supplemented by interventions in the foreign exchange market by the Reserve Bank and the reversal of operations under the "market stabilisation scheme", helped moderate volatility in the exchange rate in Indian markets, despite the huge impact of the global financial crisis on global liquidity.

Lessons of the Indian experience

On the basis of the Indian experience with capital account management, the following lessons may be drawn, recognising that these lessons may not be of universal validity:

First, it is necessary to integrate management of the capital account with other policies, especially fiscal management, regulation of the financial sector, and monetary policy. In 2006, the Reserve Bank mooted serious consideration of a tax on transactions in the financial sector, but this did not find favour with government. It is possible to maintain that such supplementary policies might have moderated the cost of sterilisation.

Second, capital account management should be treated as an essential component of countercyclical policies. For example, the Indian real estate bubble was moderated through regulation of the financial sector, but the government remained reluctant to impose adequate restrictions regarding capital inflows. This impacted to some extent on asset quality, in spite of the limited exposure of banks, when the correction took place in 2008–2009.

Third, management of the capital account cannot be divorced from developments in foreign exchange markets as well as developments in the current account.

Fourth, it is necessary to ensure that there is full commitment on the part of public policy-makers both at the level of the government and the central bank to manage the capital account actively and to ensure the credibility and effectiveness of such a policy. This policy commitment is essential to resisting the inherent tendency of market participants to counter such actions. Many market participants tend to gain from excess volatility until a collapse is feared and at that stage, there may be an appeal from them for policy intervention in one form or another.

Fifth, capital account management may involve both price and administrative measures, and these measures should not be confined to managing inflows, but should also include the management of outflows whenever appropriate.

Sixth, it is necessary to recognise that in developing countries the capacity of the central bank to intervene at the time of a currency depreciation is limited by constraints in the availability of foreign exchange reserves. The central bank has a greater capacity to intervene at times of appreciation, since purchases are made with its own currency, over

which there are no supply constraints. Hence, any policy involving a reduction in volatility must exercise the necessary caution in the strategies adopted in both cases. Further, in the face of limitations on effective management of depreciation, there is an enhanced need to moderate excessive appreciating pressures in order to avoid possible over-shooting and disruptive corrections.

Seventh, the nature of capital flows and the complexity of the operations of financial intermediaries keep changing, and hence there should be sufficient flexibility for modifying these measures and altering the relative priorities among them.

Eighth, it should be clear that capital account management is a tool that is necessary at all times, even when recourse to it is taken as a purely temporary measure. Furthermore, the perception that the central bank is credibly committed to avoiding excess volatility has an influence on the expectations and actions of market participants. In fact, treating capital account management as a temporary measure would imply that recourse to the former is itself a sign of recognition of a problem.

Ninth, the critical part of management of the capital account relates to the financial sector, where the stability of financial institutions and the exchange rate are closely intertwined. Hence, the most important instrument of capital account management should of necessity be regulation of the financial sector. In this regard, the operations of financial institutions which concentrate on cross-border transactions require special monitoring and intense regulation. Their operations have a tendency to overtly and covertly undermine efforts aimed at capital account management. Global financial conglomerates are particularly prone to operations of a cross-border nature, which undermine capital account management. Furthermore, the unhedged foreign currency exposures of non-financial corporations need to be monitored by the financial intermediaries, and the regulators need to be cognizant of this in view of the possible impact of the exchange rate on the portfolios of financial intermediaries.

Finally, any set of measures involving the capital account would require discrimination based on residential status or on the currency of denomination in contracts, and often on the basis of both. The limitations on effective capital account management are set by a country's legal framework and the space available for public policy at the national level, taking into account the relevant bilateral, regional or multilateral treaty obligations that the country has entered into.

Avoiding capital flight to developing countries: a counter-cyclical approach*

Stephany Griffith-Jones and Kevin P. Gallagher

Introduction

Developing countries have in recent years again become the destination for speculative capital flows, with inflows reaching pre-crisis levels. Many of these nations are deploying prudential capital regulations to stem these inflows. Macroprudential regulatory measures in recipient countries could be coupled with action by advanced countries in order to discourage capital outflows and risk-taking from their economies, so as to encourage the productive use of capital within their own economies; such measures would also avoid excessive exchange rate strengthening in developing economies, both supporting their own growth and helping to avoid possible future crises within these developing economies.

Indeed, one important aim of regulating cross-border capital flows in both recipient and source countries is the reduction of systemic risk build-up in both, thus reducing the risk of future crises. We argue therefore that such measures for managing excessive capital outflows from developed countries, especially from the US, could be a *clear win-win*, as they would benefit both the US and the developing economies. The only ones to lose would possibly be financial institutions, with regard to short-term profits; however, we have seen the disastrous results of defining economic policies solely to maximise profits for the financial industry, whilst neglecting their impact on systemic financial and macroeconomic stability and on the real economy.

Capital flows in the wake of the crisis

As nations across Asia and Latin America still have a long way to go in terms of income growth, foreign investment is welcomed by them. The problem is that the sheer volume and composition of these flows implies that a large part of them are short-term and volatile in character and do not go into productive investment. Furthermore, massive inflows of short-term capital have been causing asset bubbles and currency appreciation in developing countries, making macroeconomic policy difficult and increasing the risk of future crises; appreciation of exchange rates also discourages exports and import substitution by national production.

Short-term capital inflows have been flocking to the developing world largely through carry trade and other mechanisms, usually using derivatives. Since the crisis began, interest rates have been very low in the US and other industrialised nations. There is clear evidence over the last thirty years that there is a broad correspondence between periods of accommodative monetary policy in advanced economies and capital flows to emerging market economies, as well as the reverse, with each monetary tightening producing capital flow reversals and often crises in emerging countries.

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In the recent period, increased US liquidity and low interest rates have prompted US financial institutions to decrease their risk-taking in the US, thus leading to little or no creation of credit, which is the main transmission channel of monetary expansion to domestic economic activity. This has, however, increased risk-taking abroad, channelling it to nations with higher interest rates with an eye to rapid returns and better growth prospects in the medium term. Speculative short-term flows push up the value of emerging market currencies and create asset bubbles. It is for this reason that the US was criticised at the G20 meeting in Seoul in late 2010. For example, Brazil, with high interest rates, had seen an appreciation of over 40%, due in part to the carry trade, and was most vocal in Seoul. But this is a problem in many emerging and even low-income developing countries which, like Uganda, experience excessive short-term inflows during long periods.

In contrast, emerging markets again experienced a "flight" to safety away from their economies from September to December 2011 when the Eurozone began to jitter – once again reversing much of the flows of the previous year and accentuating volatility.

Prudential regulations in developing countries

Emerging and developing economies have a "new" set of options which several are pursuing now to stem the tide. One of them is to engage in prudential capital account management by taxing, putting unremunerated reserve requirements, or discouraging excessive capital inflows by other means. Taken as a whole, these measures are not a panacea, but they do help to provide greater monetary policy autonomy to these countries; this is essential, since their growth rates are high, and it is essential for them to avoid not only inflation in goods and services, but also asset price bubbles and overvalued exchange rates.

Many nations such as Brazil, China, Argentina, Taiwan, Thailand, South Korea, Peru, and Indonesia have put in place various forms of capital account regulations to limit excessive inflows. Such controls have been recently sanctioned by the International Monetary Fund (IMF) – a very significant shift. However, the support by the IMF for capital account regulations has some limitations.

Indeed, capital account management measures follow a mountain of economic evidence gathered in academia and by the international financial institutions, most notably the National Bureau of Economic Research in the US, the IMF, the United Nations, and the Asian Development Bank, indicating that capital account management by developing countries is a useful tool of policy when accompanied by broadly prudent macro-economic policies. In February of 2010, IMF economists published a staff position note entitled "Capital inflows: the role of controls", empirically showing that capital controls not only work but were "associated with avoiding some of the worst growth outcomes" (Ostry et al 2010, 13) of the current economic crisis. The paper concludes that the "use of capital controls – in addition to both prudential and macroeconomic policy – is justified as part of the policy toolkit" (Ostry et al. 2010, 5).

That IMF report singles out measures such as taxes on short-term debt (like Brazil's) or requirements whereby inflows of short-term debt need to be accompanied by an unremunerated deposit to be placed in the central bank for a certain period of time (as practiced in the past by nations such as Chile, Colombia, and Thailand). The goal of these

measures – which are often turned on when capital flows start to overheat and turned off when such flows cool – is to prevent massive inflows of hot money that can appreciate the exchange rate and threaten the macroeconomic stability of a nation.

The IMF's findings came at an appropriate time. In the wake of the US Federal Reserve's quantitative easing and other measures to loosen monetary policy, the carry trade had again started bringing speculative capital to developing countries, with the risk of disrupting their recovery from the crisis (even though, as mentioned before, there have been episodes in late 2011 of brief reversals of such flows). As José Antonio Ocampo (2011, 5) writes "monetary expansion may be largely ineffective in industrial countries but can generate large externalities on emerging markets".

To make the proper deployment of capital account management effective however, at least four obstacles need to be overcome. First, after a while investors tend to creatively evade prudential capital management through derivatives and other instruments. Second, US trade and investment agreements make capital controls difficult to implement. Third, speculative capital can still wreak havoc because hot money blazes past countries that successfully deploy controls to reach nations that do not. Fourth, the massive scale of capital flows from source countries may overwhelm relatively small countries even though they use capital account management of their inflows.

Brazil started imposing a tax on hot money inflows back in 2009 and has been fine tuning it ever since, not only because of the volume of flows but also because the regulations were being evaded. Some investors have loop-holed controls by disguising short-term capital as foreign direct investment, or through currency swaps and other derivatives, or by purchasing American depositary receipts (ADRs).

ADRs are issued by US banks and allow investors to buy shares of firms outside the US – enabling investors to purchase Brazilian shares in New York and thereby skirt controls in Brazil. In a step in the right direction, Brazil moved to put a 1.5% tax on ADRs to stem speculative circumvention of the controls. Thus, a Brazilian bank or investor that deposits shares with foreign banks will be charged the tax. Most recently (mid-2011), Brazil has started taxing net foreign exchange derivative positions above a certain level – an interesting measure, as it may help curb excessive pressure on the national currency to become too strong while helping to avoid evasion of other capital account management measures. It would be helpful for emerging economies to exchange their experiences regarding capital flow regulation and evasion of the controls and to analyse which measures have had better economic outcomes.

Secondly, since 2003, US trade and investment treaties have made prudential management of capital accounts by developing country trading partners difficult if not impossible by mandating the free flow of capital to and from a country, regardless of that country's level of development – for instance, in trade deals with Chile, Peru, and Singapore. (Singapore and Chile initially resisted these measures, but ultimately agreed to the treaties.) Pending deals with Colombia and South Korea would also ban prudential capital controls. Other higher-income countries and trade partners – such as Canada and Japan – grant countries the right to use the macroeconomic tool, or at least grant exemptions to prevent or mitigate crises.

The third problem is that capital will simply flow past nations that successfully deploy controls to nations that do not, implying negative externalities for the latter. Some

economists, such as former IMF economist Arvind Subramanian, propose full-fledged coordinated capital controls among all emerging market economies to circumvent the problem. This idea may have some merit, but of course not all emerging markets will agree to coordinate. We propose attacking the problem at its source, that is, in the countries where the flows originate.

The fourth, and serious, problem is that if interest differentials are important, the incentive for investors to come into emerging economies is very strong, and the scale of capital account management required by the emerging country to resist them is very large; this is particularly the case because global capital markets are so large and so mobile, and can thus overwhelm the financial markets of relatively small emerging and developing economies. Again complementary measures in the source countries would help tackle the issue. Although the measures proposed below are aimed primarily at the US, which is currently the main source of carry trade, such measures would be even more effective if coordinated with other advanced countries that are sources of short-term capital outflows or risk-taking.

Regulate the carry trade in the United States

As pointed out, actions taken by developing and emerging economies regarding their capital accounts may not be enough to stem the massive wall of money coming towards them at times. Therefore it may be desirable to complement these measures with actions by the countries where the capital is coming from, especially the US. Given that most of the carry trade effect in the near future will come from the US, US authorities could start regulating the outflow of capital due to the carry trade. As pointed out, though the scale may be greater now, there have been several previous episodes where very loose US monetary policy contributed to surges in capital flows to developing economies, episodes that mostly ended in tears. As far back as 1998 D'Arista and Griffith-Jones (2008) argued for measures such as unremunerated reserve requirements to discourage excessively large portfolio outflows from source countries.

At present, the US could introduce measures to discourage excessive carry trade flows from that country to the rest of the world, and especially the developing countries. This could be done, for example, by taxing such flows on the spot market; furthermore, foreign exchange derivatives that mimic spot transactions could have higher margin requirements to discourage them. Alternatively, such foreign exchange derivatives could also be taxed at a level equivalent to the tax on foreign exchange spot transactions, on the notional value of that derivative, such as non-deliverable forwards. Interesting lessons could be drawn, for example, from the recent experience of Brazil in taxing foreign exchange derivatives, which also seems to show the feasibility of such taxes. There are two routes through which US monetary easing is transmitted abroad: (a) the money and credit supply channel, which implies higher capital outflows and less credit creation in the US and (b) the derivatives channel, whereby the fixed risk budget of US banks or hedge funds is allocated more towards risk-taking with emerging economies and less towards risk-taking in the US. The proposal sketched above would attempt to curb both routes when and if desirable, that is when both excessive capital and risk-taking go abroad.

Such an approach would benefit the US economy, since the purpose of monetary easing is precisely to encourage increased lending and risk-taking in the US, and not for funds to be

channelled abroad. It would benefit emerging countries, whose economies are being harmed by excessive short-term inflows that could cause future crises. It would thus be a big win-win situation for the world economy.

The results of the US Congressional elections unfortunately make it difficult for the US government to pursue the first-best policy to keep its economy recovering: further fiscal expansion, for a time. As Keynes taught us, and as we have seen during numerous crises, private investment and consumption will not recover on their own (due both to over-leveraging and lack of confidence) without the stimulus of aggregate demand, which only governments can give in these particular circumstances. Once a recovery is on track, fiscal policy needs to contract in order to avoid both overheating and excessive public debt.

The Fed has already brought the short-term interest rate to zero, that is, Ben Bernanke, to his credit, has ventured into the emergency toolkit. The Fed chairman should be applauded for his willingness to think past convention. As one of the last policy-makers in developed countries with significant economic power, he is an important voice for expansionary economic policy.

On its own, however, a looser US monetary policy seems not to be enough to restore the US economy to growth; supportive fiscal policy would be highly desirable, as would other measures to stimulate aggregate demand. Furthermore, easy monetary policy may contribute to a further overheating of asset prices and exchange rates in the emerging economies; this could not only complicate macroeconomic management for them now but also increase the risk of future crises.

To ensure that looser monetary policy helps the US economy grow, institutional mechanisms and a broader framework need to be found in order to channel the additional liquidity created by the Fed as credit *into the real economy*. The key is to expand credit to small and medium-sized enterprises, starved for funds as they are at present, and to finance large investments in infrastructure, including those required to generate clean energy and energy conservation. Institutional innovations may be necessary to achieve this, such as the creation of an Infrastructure Fund, possibly with the addition of special institutions dedicated to lending to small and medium enterprises. Indeed, in the US, the Federal Reserve could, for example, possibly use some of the liquidity it creates to purchase bonds of a US Infrastructure Fund or Bank; this would both provide credit to a key sector for future development and lead to an increase in aggregate investment and demand.

Internationally, if the US were to dig into the emergency toolbox again, it could impose prudent capital regulations or taxation on the outflow of speculative capital from the US via mechanisms such as the carry trade. As discussed above, this might help to avoid future crises which would harm not only the emerging countries but also the US and the world economy. Taxation may have some important advantages. Firstly, taxes are more difficult to avoid or evade, since they involve not merely authorities like the Federal Reserve but also the Internal Revenue Service, whose enforcement mechanisms are possibly stronger.[23] Secondly, such taxation could generate some additional revenue for a US Government with a large budget deficit, surely an attractive feature. However, the tax

23 We thank Nelson Barbosa for this point relating to the Brazilian experience.

would need some *ex-ante* flexibility on rates so that it could be modified according to the level of outflows and derivative positions. Complementary to introducing measures like new taxes to discourage outflows of capital or increased risk-taking abroad, it seems clearly desirable – in the US and elsewhere – to reduce existing tax biases (i.e. tax loopholes) which favour such flows; indeed, this could be a first step to discourage excessive short-term outflows.

Measures to discourage short-term outflows would make it easier to keep the liquidity created by the Fed within the US and improve the chances of going toward productive investment.

Road to the G20

Re-orienting capital flows for productive development and resulting growth should be a key priority as world leaders prepare for the next G20 meetings. Prudential capital account regulations, deployed in both the industrialised and developing worlds, should be examined as one instrument to achieve this aim. Coordination between developed and developing countries on this issue would be desirable; an advantage here is the fact that the aims of both developed and developing countries often coincide. However, it does not seem desirable for such coordination to be imposed multilaterally, since no institution at present seems to have the governance needed to be trusted as appropriately representing the collective interests of all countries. Nevertheless, the IMF could continue to be a useful forum for exchanging experiences of capital account management (by both developed and developing countries) and possibly providing a useful, voluntary forum for informal coordination – at least in cases where all countries involved desire such a role to be played.

To rectify some of the problems related to capital flows, industrialised nations (especially the US) should consider regulating the carry trade and providing safeguards in their trade treaties in order to allow developing nations to deploy prudential regulation. Developing countries should also impose prudential regulations. The Financial Stability Board, or another relevant body, as well as national regulatory authorities, should play a watchdog role regarding those who evade these regulations.

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What role for the FSB?

Jo Marie Griesgraber

The appearance of large quantities of global liquidity coincided with the end of the Bretton Woods agreement in the 1970s, when Eurodollars, money without a country, were free to seek the highest returns. This phenomenon could only expand when computers enabled currencies to move with the speed of light, and the ideology of neoliberalism ordained that this was the best desirable goal. Secrecy jurisdictions in the Caribbean, New York and London ensured that all this could happen without the nuisance of taxes.[24] The financial crisis beginning in 2007 was not the first financial disaster created in the so-called "advanced economies" to swamp the developing world, but it is the current and continuing disaster that peoples and governments of the world have yet to master (Rodrik 2011).

In this context, developing countries are instructed to develop sophisticated regulations and competencies for dealing with the onslaught of financial flows – whether into the country or out of the country. They are also warned that they must stay abreast of rapidly changing financial innovations.

How do developing countries, especially the poorest, train and retain skilled financial professionals when their first priorities are food, clean water and sanitation, primary and secondary education, preventive and restorative health care, roads, electricity, and communication? Why must scarce resources be diverted to gaining an understanding of complex financial instruments instead of meeting basic human needs? The hard answer to these questions is "They must", because the situation will be worse unless floods of liquidity are managed in order to slow them down and thereby reduce the loss of jobs, livelihoods, and resources.

What options are available for developing countries to deal with global financial flows? The best options – capital controls, regulations in the sending countries, and the transparency of banking, taxes, corporate profits and losses – could be realised in the medium term. Campaigners throughout Europe, the US, and parts of the global South are insisting on an automatic exchange of information between countries on all earning and taxes; the disclosure of the beneficial owners of all corporations, trusts, foundations registered in any secrecy jurisdiction (e.g., London, Switzerland, Delaware, the Cayman Islands); ending transfer mispricing and the practice of hiding gains in low tax jurisdictions and posting losses in high tax jurisdictions; and reversing trade agreements that require host countries to offer all benefits and present no barriers to foreign financial services.

The immediate options for Emerging Markets and Developing Economies (EMDEs) involve national level regulations, transparency, and coordination as presented in *Financial Stability Issues in Emerging Market and Developing Economies*, a recent paper submitted to the G20 Finance Ministers by the World Bank, the International Monetary Fund (IMF), and the Financial Stability Board (FSB) (hereafter, the FSB

24 See Chwieroth (2010) and Shaxson (2011).

paper).[25] The paper identifies financial issues and makes corresponding recommendations regarding EMDEs, notably recommendations relating to the regulation and surveillance of banks and non-bank financial institutions (both large and small), management of exchange rates, and increased reliance on domestic currency loans.

Regarding banks, the FSB paper reflects the influence of Louis Kasekende and Victor Murinde – the former was one of the paper's authors – on the need for low-income and other developing countries to exercise caution in incorporating recommendations of the Basel Committee on Banking Supervision aimed at reining in the largest banks in advanced economies.[26] EMDE domestic banks have frequently rushed to implement the Basel agreements, resulting in unnecessary domestic credit restrictions. They raised reserve requirements to levels in excess of their needs, thereby limiting the resources available to lend to the local economy and leaving them capable only of lending to the national government.

International banks with branches and/or subsidiaries in EMDEs are charged to share information on the financial well-being of the overall institutions and include host country managers in oversight committees and any international supervisory colleges.

Non-bank financial institutions within the EMDEs tend to be small in absolute size but significant within the local economy. These include micro-financial institutions, cooperatives, and mutual funds. Micro-finance is highlighted for its overall lack of regulations. With investments coming from outside the country, often in hard currency, the cost of loans becomes subject to international currency rates, and repayment must also be in values equivalent to hard currency. Large foreign banks, attracted by the high interest rates and the high rates of repayments, are among the investors in micro-finance.

The FSB paper encourages local regulators to have domestic banks and non-bank financial institutions use domestic currency in their operations, thereby enabling greater local control over interest rates and reducing unexpected cross border flows and currency exchange fluctuations.

It acknowledges that exchange rate policies are one tool over which EMDE governments have some control, hence the recommendation to increase the use of local currency by local banks and non-bank financial institutions alike. Another tool for expanding reliance on and increasing the legitimacy of domestic currency is the expansion of domestic capital markets. If capital is available from local sources, the difficulties of repaying international debts are reduced. Domestic capital is also expected to involve longer-term investments in the real economy. In contrast, a flood of hard currency into

25 See FSB, IMF and World Bank (2011). The authors included some experts from emerging markets and developing economies; this was appropriate given that the latter were the objects of study and recommendations. The G20 summit in Pittsburgh established the FSB, bringing together national and international regulators to promote systemic financial stability. The G20 group drives the FSB agenda; in turn the FSB reports to the G20 Finance Ministers and Central Bankers. The Chair designates working groups to develop consensus recommendations and present them to the Plenary. In its biennial meetings, the Plenary accepts working group reports by consensus, with implementation depending on national action. Final reports and full membership of the FSB are available on its website (www.fsb.org). The small secretariat works from the Bank for International Settlements offices in Basel, Switzerland.

26 See Kasekende, Bagyenda and Brownbridge (2011) and Murinde and Mlambo (2011).

or out of a country can cause wild gyrations in the exchange, inflation and interest rates. Too much inflow of hard currency results in inflation and currency appreciation, harming the export economy. When interest rates are raised to reduce inflation, they reduce access to domestic credit and long-term investments in the real economy. Such volatility motivates middle and upper class individuals to hold their wealth outside the country, where it is less likely to lose its value. In short, when a wave of foreign currency moves out, it can carry with it more funds than it originally carried in. The FSB paper asks finance source countries to take steps to lessen the outflow.

The FSB paper further recommends floating bonds in local currency instead of international currency. It also suggests the use of derivatives as protection against currency rate volatility. In such instances, the EMDEs would again be using some of the instruments that were central to the present financial crisis. With caution, these could be useful.

Despite the merits of many of its recommendations, the FSB paper fails to address the basic vulnerability of EMDEs to the volatile global financial non-system. The recommendations are like tinker toys holding back a tsunami, unable to withstand the storms when foreign markets for exports dry up, domestic capital flees, and commodity prices sky-rocket or collapse as the EMDEs become more or less useful places for the wealthy to park their capital.

The FSB paper does give a nod in the direction of other issues which may be relevant to the EMDEs, but are addressed *"in other G20/FSB workstreams [such as] the management of sizeable and volatile capital flows; the design of policy measures to address the risks arising from systemically important financial institutions; the development of macro-prudential policy frameworks; the creation of effective resolution tools and regimes for financial institutions; strengthening the oversight and regulation of the shadow banking system; and reforming the functioning of over-the-counter derivatives and commodities markets"* (FSB / IMF / World Bank 2011, 3). The FSB paper does encourage, in the case of resolutions or bankruptcies of financial institutions in the home country, the sharing of information with host countries and their participation in resolution committees. Strangely when recommending the use of over-the-counter derivatives to expand and strengthen the use of local currencies, the FSB paper remains silent regarding their regulation. Regrettably, none of these other workstream papers benefit from the inclusion of non-G20 voices and perspectives.

EMDEs clearly have a strong stake on the global stage in the stability of the global finance system, but they also have scant opportunity to participate in the design of that system's management and re-regulation. The era of the closed, self-sufficient state as an option has ended. It is essential that EMDEs invest their best brains in participating in the FSB, the Standard Setting Bodies (SSBs), and the IMF in order to ensure that informed, respected voices articulate the likely impact of any proposed regulation on countries and peoples least able to sustain the harm from financial crises.

Acting on the decision of the G20 in Toronto, the FSB recently created six regional consultative groups: the Americas, Asia, the Commonwealth of Independent States,

Europe, the Middle East, and Sub-Saharan Africa.[27] Each is co-chaired by a G20 member and a non-G20 member, and is comprised of a "reasonable" number of additional non-G20 countries to keep the size manageable, plus the private sector. The G20 Co-Chair will present the findings to the biannual meetings of the full membership of the FSB; the non-G20 Co-Chair will be present at the plenary as an observer. The FSB website describes the meetings' initial agendas in broad categories and identifies countries which participate but not individuals. Clearly, the quality of these regional consultative groups is of the essence (Lombardi 2011).

The 13 SSBs that also participate in the FSB generally await reform.[28] Some have become more inclusive, expanding their membership to include the full 24 member states of the FSB. All require much more transparency. And none has yet incorporated principles of accountability.

Even with these reforms, the poorest EMDEs are usually absent from the room, and hence, for all practical purposes, do not exist when decisions are made that will shape the future of financial markets. This need not be the result of malice – it is simply that those not in the room do not have a voice and can and do suffer from negative "externalities".

All these useful recommendations emanating from the FSB have yet to be implemented on national levels. Further, they must be accompanied by the more fundamental changes of generalised use of capital controls and financial transaction taxes to slow the flow of global finance and put it at the service of the real economy.[29] Above all, financial transactions must be exposed to the cleansing sunlight of transparency that can reduce the torrents of illicit financial flows and open up secrecy jurisdictions.

27 The FSB Charter stipulates that the FSB *"will consult widely amongst its Members and with other stakeholders including private sector and non-member authorities. The consultation process will include regional outreach activities to broaden the circle of countries engaged in the work to promote international financial stability"* (FSB 2009, Article 3).

28 According to the FSB website, the Standard Setting Bodies (SSBs) include the FSB itself, the IMF and the World Bank, as well as the more usually recognized bodies: the Basel Committee on Banking Supervision, the Committee on the Global Financial System, the Committee on Payment and Settlement Systems, the Financial Action Task Force on Money Laundering, the International Association of Deposit Insurers, the International Association of Insurance Supervisors, the International Accounting Standards Board, the International Auditing and Assurance Standards Board, the International Organisation of Securities Commissions, and the Organisation for Economic Cooperation and Development.

29 See Stiglitz et al. (2006).

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International capital flows and institutional investors*

Bernd Braasch

Introduction

The financial crisis has clearly revealed that we need a deeper knowledge of the underlying reasons for capital flows, their volatility, their rapidly changing compositions, and in particular, the main drivers of capital flow. In this respect there is a broad consensus among policy makers from advanced, emerging market economies (EMEs) and developing countries alike. But how to achieve this is another matter owing to lack of transparency, the increasing importance of shadow banking, and a lack of timely and internationally comparable data. This chapter highlights the potential benefits of extended global monitoring of international capital flows and calls for more thorough analysis of the role and behaviour of institutional investors.

Portfolio strategies and capital flow volatility

Increases in capital flow volatility have been driven by the same factors which have fuelled the ongoing process of financial globalisation, namely the institutionalisation of savings, the marketisation of finance, the process of creating new financial instruments, and the accompanying, increasing shift of financial risks to private households and firms. This development has been enhanced by financial liberalisation and deregulation, as has been described in myriad articles. Thus the influences of the so-called push and pull factors as determinants of the volume and direction of international capital flows are also well-known.

But relatively little attention has been paid to the real drivers of capital flows: those institutions and investors that are moving markets with their cross-border investment decisions and rebalancing activities. When looking for underlying reasons and stable relationships between financial variables across borders, we have to monitor the main actors and their strategies. To use the term "drivers" for interest rate differentials, spread levels, growth differences etc. is in my view misleading. True, they may indeed build the financial environment or, to continue this metaphor, the car, but its speed and direction is determined by those who use the car, namely the international investors. Their portfolio strategies and rebalancing activities can explain significant aspects of capital flow volatility, contagion, spillovers and the vulnerabilities of macroeconomically sound countries.

A deeper and ongoing monitoring of the behaviour of institutional investors as one pillar in the monitoring of global capital flows can deliver significant progress. The portfolio strategies of institutional investors and globally active banks build an important hinge between the *financial* and the *real* sphere of the economy. Two points should be highlighted in this context. Firstly, there is no doubt that portfolio decisions are increasingly *influencing* fundamental variables and prices, which in turn are major driving

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* The views expressed here are solely those of the author and should not be attributed to the Deutsche Bundesbank.

forces for the whole economy of a country. But secondly, their decisions are *not always guided* by fundamentals. The efficiency of portfolio strategies does not always correspond with the needs of fundamental or macroeconomic efficiency.

Benefits of enhanced global monitoring

The main objective of monitoring global capital flows more closely is to enhance global and national financial stability. Such global monitoring should focus on all aspects that contribute to a better assessment of the stability of the *financial system as a whole*. This includes a better understanding of how the main global players and drivers of international capital flows behave and how that behaviour changes the structures of financial markets. This would help policymakers design better responses to external shocks and changing international crisis transmission channels (Braasch 2010). This applies not only to the main objective – prevention of a new financial crisis of the dimension of the 2008 Global Financial Crisis – but also with regard to improving the process of information gathering and analysis in order to make progress towards more effective regulation on a global and regional level.

The current financial crisis has underlined the importance of global monitoring, among other things, because ongoing financial globalisation has enhanced the influence of global financial factors for national financial markets. For example, the variance of EME spreads is increasingly influenced by global factors such as global liquidity and institutional investors' risk appetite. Some empirical studies have drawn the conclusion that up to 50% of spread variance in selected EMEs is influenced by these global factors (González Rozada / Yeyati 2006).

This development not only casts light on the stronger dynamics of contagion but also on spillover effects into the real economy. This produces another argument in favour of enhanced global monitoring: the transmission of shocks from the financial sector into the real sphere of the economy has become much broader and more complex. It is no overstatement to say that the strong, unexpected worldwide synchronicity of the sharp global decline in real activities after the Lehman shock was caused mainly by global financial factors and that the latter are of increasing importance for national and global business cycles. Global monitoring of international capital flows could therefore significantly deepen our knowledge of the dynamically changing interdependencies between the financial and the real sphere of the economy. This in turn would provide valuable information for improving the integration of changing financial structures, including prevalent assumptions about the behaviour of globally active banks and institutional investors, into macroeconomic models.

A further lesson to be drawn from the financial crisis is that most financial (soundness) indicators and early warning systems failed to send reliable early warnings of the build-up of distortions or severe tensions in the financial system. Despite the fact that many financial institutions raised warnings or issued critical assessments of the sustainability of sector-specific developments, there were hardly any reliable indications of the dynamics of potential contagion, the possible channels through which shocks could be transmitted, and the weakness of complex financial structures. Global monitoring of international flows could facilitate or support the required restructuring of early warning systems. A

better knowledge of investor strategies and rebalancing activities would complement or support these efforts and enhance the effectiveness of early warning indicators.

Moreover, improved global monitoring could also support various vulnerability exercises. The financial crisis has shown very clearly that even EMEs which have sound macroeconomic conditions and have been successful in strengthening their regulatory framework were nevertheless heavily affected by at least the first wave of the crisis. Global financial factors, in particular the strategic behaviour of globally active banks and institutional investors, can contribute significantly to explaining the vulnerabilities of EMEs under the changed financial environment. The increasing importance of this argument is underlined by a recent empirical study by Turner (2009), which has drawn the conclusion that although macroeconomic stability is without a doubt an important factor, macroeconomic factors during the global financial crisis were of no significance with regard to sudden stops or the outflow of liquidity. In other words, macroeconomic factors hardly made a difference. Other empirical studies, such as Didier, Love and Martinez Peria (2010), concur that the main channel of transmission during the global crisis was financial. Even when all the hurdles and restrictions of empirical studies are acknowledged, the challenge is clear. An improved system of monitoring would deepen our knowledge of the implications of a deeper integration of EME financial markets into the world economy (CGFS 2009).

In addition, an improved global monitoring system would be instrumental for improving regulatory frameworks. Greater transparency of international capital flows is a necessary pre-condition for creating the most effective regulatory framework, targeted regulation, and the best kind of regulatory measures. Last but not least, global monitoring could help shorten the time lag between recognising a build-up of financial distortions, the emergence of a financial crisis, and data needs.

"Optimal" assignment of roles

We must also evaluate an appropriate assignment of roles in monitoring capital flows and global liquidity on a global, regional and national level. This is all the more necessary against the background of the changing institutional environment, with recently created institutions such as the European Systemic Risk Board (ESRB) or the ASEAN+3 Macroeconomic Research Office (AMRO), each of which issues its own assessments of financial stability.

The main criterion for clarifying the assignment of roles is the question of which institution has a comparative advantage. On a global level, the International Monetary Fund (IMF) has a clear comparative advantage, in particular with regard to the monitoring of financial structures, financial innovations, changing global transmission channels, response patterns, and the vulnerabilities of countries. Considering the primacy of crisis prevention, an improvement in surveillance, monitoring and deepened analysis are not only significant elements of a New Financial Architecture but should also be the most relevant elements of the IMF mandate in the longer term. It is important to have an institution which focuses on the *ongoing monitoring* of changes in the financial transmission channel. Monitoring might also have hidden potential for gaining better insights into the most relevant changes in the financial transmission channel and shortening the time lag between the first financial shock and targeted measures to contain

contagion and spillover effects. I share the growing view among economists that we will never have a perfect model and all necessary prospective information needed to make accurate assessments; nevertheless, the disparity between models and reality has currently become too great.

The IMF should closely cooperate with the Bank for International Settlements (BIS), using its extensive database and knowledge of global banking activities. It is important to ensure an independent assessment, analysis and formulation of policy implications; this might be primarily discussed and translated into action by the Financial Stability Board. The IMF should also seek to intensify or build cooperation with regional bodies such as the ESRB and the EU Commission in Europe, or AMRO in East Asia, to benefit from the comparative advantages of regional institutions such as better knowledge of the respective region or greater proximity to national regulatory authorities in the region (cf. McKay / Volz / Wölfinger 2011).

Capital flow management – G20 recommendations, experiences and further challenges

The G20 countries discussed the challenge of Capital Flow Management (CFM) under the French G20 Presidency in 2011 (cf. G20 Finance Ministers and Central Bank Governors, 2011). The significance of drawing "coherent conclusions from country experience" should not be underestimated, since enhancing financial stability in the ongoing process of financial globalisation is a long-term challenge. This is particularly true with regard to the growth of global capital flows and its implications for financial stability.

At its core, the capital flow problem is not pre-dominantly a cyclical phenomenon or a reflex response to the financial crisis and current conditions of excess global liquidity. Institutional investors themselves emphasise that it would be an oversimplification to blame accommodative monetary policies in advanced economies. Furthermore, they acknowledge that the problems of capital flow volatility will not be overcome with a more normal monetary stance in the US, Japan or on the part of European central banks.

To a considerable extent, strong and volatile capital flows are a long-term, structural challenge and are part and parcel of the "New Normal", a situation characterised by globally acting investors and an increasing weight of EMEs in the world economy. The dimension of this New Normal was reinforced by a recent study of the Bank of England which forecasts that by 2050 more than 40% of all external assets will be held by the BRIC countries, up from a current 10% (Speller / Thwaites / Wright 2011, 3).

From the perspective of a central bank, the main objectives of capital flow management should be to enhance national and global financial stability, provide protection on the fringes of monetary policy, strengthen the robustness of the financial system, and secure a free flow of capital. Therefore it is worth emphasising that the G20's "coherent conclusions" also imply that macroeconomic stability should be the first line of defence, since macroeconomic stability has proven to be the most effective way of dampening capital flow volatility. A further set of measures should focus on enhancing the stability and shock absorptive capabilities of financial systems by means of macroprudential measures. And as a more medium,o-long-term strategy, countries should develop and deepen their domestic financial markets, in particular bond markets. I fully agree with

colleagues at the Bank of England that the problem of "missing markets" is one of the most important challenges ahead (cf. Bush / Farrant / Wright 2011).

According to the "coherent conclusions", capital controls should be only temporary, transparent, and targeted to dampen risks which might endanger financial stability. Capital flow management measures should not delay necessary macroeconomic adjustment or try to keep exchange rates at unsustainable levels. Germany's experience with controls on capital transactions in the 1960s and 1970s showed that these measures were unsuccessful in stabilising exchange rates and safeguarding a primarily domestically oriented economic policy against external influences. An ongoing convergence of approaches among different countries could further help to dampen capital flow volatility.

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Global liquidity and the Brazilian economy*

Renato Baumann

Since the early 1980s, a liberalisation of financial markets world-wide has led to a process that is commonly referred to as financial globalisation. More flexible rules were applied to new financial agents, and new types of financial instruments were created, allowing the emergence of large globally operating investment banks and the development of a shadow financial sector, with financial firms that were not subject to the strict norms which were traditionally mandatory for commercial banks. Moreover, international liquidity has boomed since the beginning of the 1980s. The figures are quite impressive (cf. Palma 2011): between 1980 and 2007 the stock of global financial assets increased ninefold in real terms, reaching USD 241 trillion, or 4.4 times the world output. From 1997 to 2007 the number of over-the-counter derivative contracts involving credit default swaps jumped 170-fold, with the amounts involved reaching 11 times the value of global output. At the same time, between 1990 and 2007 the total number of hedge funds and funds of funds grew from 610 to nearly 10 thousand, with assets of nearly USD 2 trillion.

Where have all these resources gone? In some countries – typically the East Asian economies – the increased availability of international resources was used to complement domestic savings in financing a high investment rate. Other countries, like several Latin American economies, have absorbed a good deal of these resources while keeping their investment rates relatively low, so that most of this additional liquidity was driven towards consumption. This made them vulnerable when external financing dried up, leading to a series of debt and currency crises in Latin America in the 1980s and 1990s. As the sovereign debt crisis that erupted in Europe in 2010 has shown, several (mostly Southern) European countries also used inflowing capital resources for debt-fuelled consumption or non-productive investment.

The availability of a significant amount of fresh resources, coupled with increased degrees of freedom in financial innovation and the mushrooming of new financial agents, have led to a self-feeding process in which higher liquidity has fostered new businesses; the resulting higher income has motivated higher prices of stocks and assets, and this has stimulated yet other financial operations, in some cases mixing and disguising good and bad credits. This process was given the "green light" by credit risk rating agencies, hence being perceived as safe and sound, and involved additional agents, such as insurance companies, to cope with the risks of credit default. At the same time, several multilateral agencies recommended opening up capital accounts so that the countries could benefit from this huge new wave of opportunities. With hindsight, the scenario comprised all the required components for a huge financial bubble.

Problems started to emerge when the business cycle in the major economies lost its dynamism and several agents started to experience difficulties in paying for their operations. Thus in 2007 a set of difficulties showed up in the housing sector in the US, but bigger surprises followed from the – until then unsuspected – degree of involvement of the banking sectors in other countries in these operations. A second, even more

* Opinions here are my own and do not necessarily correspond to the position of the Institute of Applied Economic Research or the Universidade de Brasília.

worrying set of surprises followed when it became clear that the payment difficulties were not restricted to the private sector but also comprised the sovereign debt of a number of Western European countries. 2010 is seen, therefore, as the starting point of a second, more worrisome wave of the financial crisis.

Whereas Latin American countries experienced huge capital outflows during the global financial crisis of 2008–09, international lending started to resume in 2010. As a response to the global financial crisis, unprecedented amounts of liquidity were created by the world's major central banks. The surge in global liquidity led to large inflows of capital to emerging countries, including those in Latin America. These capital flows gave rise to harsh criticism, especially vis-à-vis the Federal Reserve, which was accused of using expansionary monetary policy to force a devaluation of the US dollar and threatening financial stability in emerging countries.

However, the turbulences in Europe have also started to affect capital flows to Latin America, which according to recent World Bank data saw an estimated decline of 12.6% in overall net capital inflows in 2011 (World Bank 2012). Portfolio inflows fell by an estimated 60% in 2011. Foreign direct investment (FDI), which is less volatile than other financial flows and accounts for a large proportion of financial flows to Latin America, remained resilient[30]. But the 29% growth of net FDI inflows to the region in 2011 is still markedly lower than the 43% growth in 2010.

The still unresolved situation in the euro area is likely to result in low output growth in the coming years, as well as less availability of resources worldwide. This raises the question of what could be the actual impact of this new situation for other regions, such as Latin America, which has experienced a significant inflow of resources (USD 1.6 trillion) in the period 1990–2010, according to Palma (2011).

As far as the relation with the euro area is concerned, several Latin American economies have benefitted in recent years from the liquidity of the euro market, as well as from the inflow of direct investment of European origin. In broader terms, there have been significant gains stemming from the boom in commodities prices, as well as from the increase in exports to Asia, particularly China.

This means that the present European problems might affect Latin America through (at least) three channels: a reduction of credit lines (which might affect export credit), a reduction of FDI flows, and fewer trade opportunities. The latter aspect is related not only to direct Latin American-European trade, which might suffer from fewer imports by European countries: a major concern is also the extent to which the overall fall in European imports might affect the dynamism of the Chinese economy, a major importer of Latin American products. The external equilibrium of several Latin American economies depends in great part directly on their export performance to China.

Among the most obvious characteristics of the inflow of resources in the Brazilian economy in recent years is a boom in FDI, reaching USD 69 billion in 2011 (an increase of 32% over the previous year, corresponding to 2.7% of GDP) as well as the fact that most of this investment is directed to the service sector, whose share in total inflow of FDI

30 Regional data have been largely influenced by Brazilian figures.

went up from 28% in 2010 to 46% in 2011. This is the counterpart of a number of factors, among them the ample availability of international liquidity on the lookout for investable projects, the lack of better investment opportunities in OECD economies, and specific features of the Brazilian economy, namely the improvement in income of lower population strata as well as the perspective of business opportunities related to deep-sea oil production, the 2014 World Cup, and the 2016 Olympic games.

An inflow of such magnitude, when directed to non-tradable sectors, often affects asset prices. As a matter of fact, the housing price index increased by 7.8% and 7.5% in 2010 and 2011 respectively, whereas the national wholesale price index varied only by 5.9% and 6.5%. This took place parallel to a GDP increase of 7.5% in 2010 but only 2.9% in 2011. This clearly indicates an asset bubble.

Another effect of this massive inflow of resources is the overvaluation of the exchange rate: between 2007 and 2010 it is estimated that the Brazilian real accumulated an overvaluation of 18.5% against the US dollar and 16% against a basket of 13 other currencies, according to FUNCEX (2011). This has had a clear effect on the export sector, with export performance becoming increasingly dependent on agribusiness while the share of manufactures drops. This in turn led Brazilian authorities to relate the lack of export competitiveness to proactive exchange rate policies of other trade partners and to blame the monetary authorities of OECD economies (the US in particular) for their lax monetary policies.

The central aspect of the crisis, namely fiscal/financial disequilibrium, has affected foreign portfolio investment. The net inflow of portfolio investment in Brazil came down from USD 63 billion in 2010 to USD 25 billion in 2011 (BCB 2012). And even though Brazil has adopted one of the highest interest rates in the world, foreign investment in government bonds was more than halved, from USD 30 billion to USD 11 billion over the same period. At the same time, profit remittances increased from USD 30 billion in 2010 to USD 38 billion in 2011, as subsidiaries had to provide resources to their headquarters.

In spite of these movements Brazil can count on a number of alternative policy instruments hardly found elsewhere. The Brazilian economy presents a quite different macroeconomic situation than that of economies in the euro area. Net public debt has gone down from 60% of GDP in the early 2000s to 40% in 2011, much less than the more than 100% observed in several European countries.

In the external sector, total debt accounts for 12% of GDP but is surpassed by total foreign currency reserves (14% of GDP). The current account deficit is thus only 2% of GDP, well within the "acceptable margin". This is in principle a rather comfortable situation.

Domestic credit has gone up from 22% of GDP in 2002 to 47% of GDP in 2011, with three relevant associated characteristics. First, most of this increase results from credit provided by public banks, an instrument that proved important in the 2008 crisis. Second, since the adjustments of the financial sector back in 1995, the Brazilian banking system has operated with more strict performance criteria than those required by the Basel Agreements, making it less vulnerable. Third, this movement is parallel to an improvement in income distribution and to the incorporation of low income strata into the consumption market.

These features mean that a good deal of the recent growth of the Brazilian economy is related to the dynamism of the domestic market. Yet some analysts are worried about the investment rate being too low at only 18% of GDP since this may lead fairly soon to a lack of productive capacity and hence inflationary pressure.

At the same time, however, as already said, a good deal of the comfortable situation in the external accounts follows from the trade surpluses obtained in trade with China and with other countries in the region. In this environment, what are the policy margins for coping with an external liquidity crisis?

Brazilian authorities have a number of alternatives at hand: First, in case of a draught on credit lines, a share of the country's foreign currency reserves can be used to sustain export financing (very much as in 2008). Secondly, a lack of liquidity can also be dealt with by relaxing the compulsory deposit which banks must hold at the central bank (ranging from 20% over savings deposits to 42% on deposits on checking accounts). Thirdly, Brazil has attracted unprecedented amounts of FDI, and this provides foreign exchange inflows that might help to compensate for eventual outflows motivated by an external crisis. Fourthly, the low level of public debt provides room for fiscal manoeuvring by the Brazilian government in case of a crisis. Stimulus to domestic demand can and has been provided via tax reduction. Fifthly, as in 2008, public banks can be used in order to channel credit into the productive sector. And last but not least, a more expansionary monetary policy can be adopted by reducing the real interest rate, among other possibilities.

The major concern relates to current Chinese demand for imports. A fall in Chinese demand for commodities would not only negatively affect international prices, but would actually impose a constraint on the Brazilian trade balance, given the relatively low competitiveness of manufactured exports.

In the medium run, the margin for relying on consumption by the lowest income strata looks increasingly narrow, and some re-designing of the macro policy will be needed, with a much higher rate of investment. This will, of course, require a number of parallel initiatives, comprising adjustment of the fiscal structure, improvement of the infrastructure, and the supply of a better qualified labour force.

In summary, the present crisis in the euro area is bound to have negative spillover effects in many other regions. Latin America as a whole is in a special situation in that this is a crisis generated elsewhere – one which finds the region with a much better system of macroeconomic administration than before, with improved conditions in terms of income distribution and a more stable banking sector.

More specifically, the Brazilian economy can count on a number of policy instruments that have proved to be quite important in previous liquidity crises. The major concern refers to the trajectory of global trade: a significant slowdown of opportunities would find the Brazilian economy heavily dependent on commodities for its trade balance and with less ability to compete in other export sectors.

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AMRO's role in regional economic surveillance and promoting regional economic and financial stability*

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Over the past few years, much debate has focused on the benefits of regional financial cooperation, given that a global financial architecture in which the International Monetary Fund (IMF) plays a central institutionalised role already exists. In Asia, developments in this area have unfolded continuously since the 1997 Asian crisis, while recent events in Europe have forced those countries to rethink their levels of cooperation and coordination within the region. Each of these regional financial development processes has been aimed particularly at helping that region to better tackle economic and financial crises, both by individual countries and by the region as a whole. In East Asia, regional financial cooperation was most visible in the setting up of the financial support facility known as the Chiang Mai Initiative in 2000. In 2010 it was expanded and transformed as the Chiang Mai Initiative Multilateralisation (CMIM) into a multilateral arrangement among all ASEAN+3 member countries (as well as Hong Kong, SAR).

Regional arrangements for dealing with global liquidity: putting the cart before the horse?

José Antonio Ocampo (2010) has broken down the concept of financial cooperation into four basic components: macroeconomic policy dialogue, economic policy surveillance, liquidity support during crisis, and exchange rate coordination. While recent troubles in Europe have further dampened the already weak impetus for exchange rate coordination in the East Asia region, financial cooperation in East Asia has remained steadfast in pursuing and strengthening cooperation in the first three areas. This stems from an implicit understanding that the basis for building confidence to tackle crises is twofold: having the required funds available for financial support when needed, and having the right information and policy-making support in place to establish confidence.

In the case of East Asia, finding funds for financial support during crises turned out to be the simplest component of financial cooperation. This ease was no doubt a result of the ample foreign currency reserve positions of most ASEAN+3 economies. As a result, the CMIM's founders went ahead and put their money on the table, first through a series of bilateral swaps, followed by a multilateralisation agreement, all the while recognising that setting up an institutionalised framework for managing CMIM funds would be a challenging task that would require care, since it would determine how effective the CMIM remains over the longer term. To prevent this challenge from delaying such a setup, the CMIM was established in 2010 with a sole commitment: that of creating a "CMIM Surveillance Unit" with responsibility for monitoring, assessing, and reporting on the macroeconomic status and financial soundness of all CMIM parties and the possible occurrence of macroeconomic and financial problems. The surveillance unit would also be responsible for assisting in timely formulation of policy recommendations. Should the

* The views expressed in this article are the views of the author and do not necessarily reflect the views or policies of AMRO.

CMIM be called upon for assistance, the unit would also be responsible for ensuring that lending covenants were met.

The CMIM members recognised early on the difficulty in establishing overnight a credible surveillance unit which could fulfil these functions. Since building a credible and workable institutional structure from scratch would take substantial time and resources, these functions were effectively "outsourced" to the world's best-recognised provider of such duties, namely the IMF. Explicitly linking disbursement of even part of the CMIM's resources to the IMF was a direct reflection of the CMIM's lack of in-house mechanisms for ensuring that loans would be repaid. The link with the IMF, in lieu of the region's own surveillance mechanisms, assured observers not only that the issue of moral hazard was being taken seriously, but also that the CMIM was a viable institution which could assure lenders that they would see their money again; it did so by ensuring that crisis-afflicted borrowing countries took proper, remedial policy actions to ensure the repayment of loans, much in the style of the IMF.

Filling the gap in regional financial cooperation

Behind the scenes, the CMIM members worked to set up what would eventually become the groundwork for the CMIM's institutional framework in the form of the ASEAN+3 Macroeconomic Research Office, or AMRO. In early 2009, the ASEAN+3 finance ministers announced at a Special Meeting in Phuket that the regional surveillance mechanism would need strengthening to be robust and credible enough to facilitate prompt activation of the CMIM, specifically through the establishment of an independent regional surveillance unit to promote objective economic monitoring. In their statement, the finance ministers also explicitly conditioned a delinking of more than the current 20% from the IMF until *"[a]fter the above surveillance mechanism becomes fully effective in its function"* (ASEAN+3 Finance Ministers 2009).

The ultimate goal of AMRO, as mandated in the agreement for setting up the CMIM in March 2010, was to create a surveillance mechanism that would keep track of the economic and financial soundness of members, assist in making policy recommendations, and continue monitoring after CMIM funds were disbursed. In order to circumvent the administrative, bureaucratic, and legal hurdles of 14 economies which would be required to set up AMRO as an international organisation, AMRO was established in April 2011 and registered in Singapore as a research office with the legal status of a Limited Company. Setting up this temporary incarnation while the hurdles toward transformation into an international organisation were being worked through would allow AMRO to begin functioning immediately. Its quick setup from scratch is a testimony to the ASEAN+3 members' political determination to set up a working institutional framework as soon as possible. It also reflects the dynamism and political will to achieve tangible milestones in regional financial cooperation in times of urgency, rather than being mere symbolism and watered-down resolve, as some critics have noted.

A unique role and place in regional surveillance

Although linkage with the IMF is in place to ensure efficiency of disbursement, CMIM members have gone to great lengths to point out that AMRO does not aim to duplicate the surveillance functions of the IMF. AMRO is expected to leverage its regional advantages

and capabilities in macroeconomic surveillance and monitoring, particularly its ability to understand the idiosyncratic challenges facing countries in the region from a home-grown perspective.

Two key features of AMRO's regional surveillance are apparent. Firstly, AMRO plays a unique role in the ASEAN+3 surveillance mechanism through its participation in the ASEAN+3 Economic Review and Policy Dialogue process. This process, with its closed-door meetings, provides ASEAN+3 countries with a platform for peer review, dialogue, pressure, and cooperation. It allows a tightly-knit group of senior officials in the region to search for and find ways of addressing the most pressing economic and financial issues, both at the domestic and regional levels. Sharing experiences and enhancing the understanding of other members' problems and their responses to various issues have been a basic part of these gatherings.

Secondly, AMRO's own setup, with a staff of professionals from the region, ensures greater understanding of the financial and fiscal constraints and prospects of the members. AMRO can draw upon the benefits of being both small and in touch with the region through its close contact with stakeholders and member authorities. This setup has placed AMRO in a unique position, with close and direct access to the top economic policy-makers in the region. In the past, these high-level meetings culminated in a finance minister-level meeting which from 2012 onwards will be transformed into more encompassing meetings between the finance ministers and central bank governors. Beginning in 2011, AMRO has participated in these meetings as an advisor, consultant and stakeholder. The greater sense of ownership by members of AMRO in the region also helps to foster this special relationship between AMRO and the ASEAN+3 countries.

It is worth noting that a special relationship does not necessarily translate into a "cosy" one. One of the most crucial aspects of AMRO's surveillance is its independence from authorities. From the start, AMRO was established as an independent entity with no strings to any existing institution or any government office or ministry. AMRO's core team members are full-time staff that are independently sourced and not seconded from member countries. While close collaboration with the IMF, Asian Development Bank, and other international financial institutions is welcome, AMRO's surveillance is conducted independently of the surveillance work of other institutions.

Achieving effective surveillance

AMRO's approach to regional surveillance is indeed different in many ways from the IMF's approach. Keeping in mind that one of the means of effective surveillance is through collective pressure, AMRO's approach is through peer pressure rather than public pressure. AMRO's discussions with authorities of member countries are limited to confidential advisory services within the group, and do not consist in pointing out potential problems to the public at large. In the current context, *not* publishing reports and surveillance results can create benefits by permitting a more comprehensive exchange of views and perspectives between the AMRO team and the members' economic policymakers and technocrats, thus preventing issues from becoming politicised. This makes authorities more likely to be open to comments and criticisms. Furthermore, non-publication does not imply a lack of transparency among the members, and does not

preclude or prevent AMRO from performing straightforward and frank assessments within the confines of its own membership.

Members need to be comfortable with the surveillance unit; the surveillance unit in turn needs to build trust and credibility and to engage with the authorities closely even in normal times. Being a small, tightly-knit group makes it possible for AMRO to focus surveillance on all members evenly at all times and to engage constructively with authorities on an on-going basis. In this way, AMRO hopes to build trust over time. This would be more difficult in larger institutions, where focused engagement with any particular country tends to develop only when that country is in crisis.

Helping the region cope with macroeconomic challenges

AMRO was established to facilitate analysis of economic and financial conditions both regionally and in individual economies. Its regional context and overview across the membership helps illuminate the effect of external shocks on both the region and its individual economies without obscuring variations in each country's circumstances and experiences.

As a regional institution, AMRO's role is to take a region-wide view of risks and their implications. For example, in analysing shocks, it is necessary to understand how they affect our largest members, Japan and China (who together account for close to 80% of the region's GDP), and also to understand how developments in these two economies affect other members. We need to recognise that these transmissions can be complex, given interlinkages through trade and production, as well as through the banking and financial channels within the region itself.

Where possible, AMRO needs to provide policy recommendations for national policies as well as on how to take joint action on issues affecting the region as a whole. That is, AMRO's mission is to recommend cooperative action where needed, either with or without calling upon the CMIM. In the latter case, AMRO needs to continue to build up its capacities and to establish credibility for its own lending conditionality, independent of IMF programmes, in order to assist in crisis resolution.

It is worth noting that both the members and the public in general should have realistic expectations of what AMRO can achieve within a reasonable period of time. Discussions over the past year have reflected high expectations for AMRO, not only in its core function of conducting effective regional economic surveillance, but also in becoming a strong, permanent CMIM secretariat that might eventually manage liquidity support to member economies in times of turmoil. More ambitious plans are being discussed for creating new instruments and increasing the pool of funds, all of which would remain reliant on AMRO's analyses, recommendations, and even management. The risk, then, is of stretching AMRO's resources too thinly before its capacity is ready.

Going forward: AMRO and regional financial cooperation

One important lesson that East Asia may have learned through the gradual process of ever-tighter financial cooperation since the 1997 Asian crisis – a lesson reaffirmed in the recent Euro-area crisis – is that financial cooperation, rather than coordination, is the way

forward. It may be unrealistic to discuss policy coordination until the basic surveillance mechanisms and a culture of peer review and constructive criticism are more widely accepted. Recent attempts in large international fora and their limited success in achieving transnational policy coordination – as a means of bringing about global rebalancing, for instance – further indicate that policy coordination is difficult to swallow for any country, given the heterogeneous nature of international institutions and members.

In view of increasing uncertainty in the ASEAN+3 region in 2012, triggered among other things by debt problems in Europe and the US, the increasing volatility these problems bring to Asian markets, and the greater risk of shocks, timely and effective region-wide surveillance is becoming increasingly important as a means of gauging effects and remedies on individual economies. Given policy risks both within and beyond the control of members, or potential system-wide shocks such as currency wars, beggar-thy-neighbour policies, or unforeseen tail events, cooperation will be crucial as we go forward to prevent us from ending up in lose-lose outcomes which may otherwise prevail. This will depend upon successfully building strong institutions for providing the groundwork for regional cooperation and managing and following through. Both by bringing such issues to the table and coordinating cooperative outcomes, AMRO is in a unique regional position to point out the risks and facilitate agreement on how to address such challenges. It can help prevent the region from reaching an uncoordinated but destabilising equilibrium where all parties are worse off.

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