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Bernd Braasch*

Global Monitoring of International Capital Flows

Increasing global capital flows are principally beneficial for the improved international allocation of capital, credit and risks, but this process is not without risks for global financial stability. Expanded global monitoring of international capital flows should deepen our knowledge of the underlying reasons for increasing capital flow volatility. As part of a system of global monitoring, the portfolio and rebalancing strategies of globally active banks and institutional investors could contribute significantly to a better understanding of market dynamics, contagions, spillovers into the real economy and the vulnerabilities of countries.

The financial crisis clearly revealed that we need deeper knowledge of the underlying reasons for capital flows, their volatility, their rapidly changing compositions and in particular their main drivers. In this respect there is a significant consensus among advanced economies, emerging markets and developing countries. But due to a lack of transparency, the increasing importance of shadow banking and a lack of timely and internationally comparable data, the question of how to achieve this is more complicated. This article puts the potential benefits of the expanded global monitoring of international capital flows into the forefront and aims at tackling the following key questions:

- Why is the intensified global monitoring of international capital flows important?
- What are the main underlying reasons for increasing international capital flow volatility?
- What can the portfolio strategies of globally active banks and institutional investors tell us about capital flow volatility and its implications?
- What appears to be the most effective assignment of roles at the global, regional and national levels?

Main Objectives of Global Monitoring

The main objective of the intensified monitoring of global capital flows is to enhance global and national financial stability. Global monitoring is focused on all facets which contribute to a better assessment of the stability of the financial systems as a whole and enhance progress in creating a global risk map, as has been proposed by the Issing Committee. The increasing volume of international capital flows is beneficial as long as they contribute to a more efficient allocation of credit and capital. In recent decades, however, international capital flows were among the main transmission mechanisms of external shocks across markets and countries. Expanded global monitoring, which is one of the most important challenges ahead, is not primarily focused on the ups and downs of exchange rates, yields or interest rates. It is rather focused on the determinants of capital flows, the behaviour of the main global players, the resulting changes in the structure of financial markets – which build the main response pattern to external shocks – and changing international transmission channels. This is not only true with regard to the main objective – to prevent another financial crisis of this dimension – but also with regard to support for the process of information gathering and analysis to make progress towards more effective regulation at the global and regional levels.

The current financial crisis has irrefutably underlined the importance of global monitoring for several reasons.

Global financial factors are of increasing importance for national financial markets and for explaining the increasing dynamics of contagions. Empirical studies show that, for example, 50% of the variance of emerging market economies' (EMEs) spreads is influenced by global factors such as global liquidity and institutional investors' risk appetite.

Interdependence between the financial and real spheres has grown. The transmission of shocks from the financial into the real sphere of the economy has become broader and much more complex. Global financial factors are of increasing importance for national and global business cycles, and the dynamically changing financial transmission channel is among the main determinants of chang-

* Financial Stability Department, Deutsche Bundesbank, Germany.

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es in the interdependence between the financial and real spheres of the economy. The strength and speed of spillovers into the real economy have been underestimated by most macroeconomic models. Most of those financial variables that have become main early indicators of the real business cycles in most industrial countries and many EMEs are dominantly influenced by international or global factors, with increasing spillovers into the real economy and the increasing synchronisation of national real business cycles around the world. For example, according to World Bank estimates before the crisis, a 200 basis point increase in the spread level of emerging market economies would dampen world economic growth in the following year by about 1% against the baseline scenario. The extent to which financial factors have gained in importance might also be reflected in the fact that macroeconomic models could not explain about one-third of the increase in housing prices in the USA or around one-third of the decrease in world trade.

Vulnerabilities of countries: global financial factors are of increasing importance in explaining why even EMEs with stable macroeconomic frameworks have been hit by the financial crisis. With the ongoing process of financial globalisation, real macroeconomic factors or balances alone do no longer fully explain the vulnerability of countries. For some markets or countries, empirical studies do not find any significant differentiating effects with regard to different levels of macroeconomic stability. There is no doubt that macroeconomic stability is of overwhelming importance for financial stability and the capabilities of countries to weather external shocks to the economy. The financial transmission channel explains most of the strength of the economic rebound and the fast spread of the crisis across countries and into the real economy. Some recent empirical work does not find any significance of the real channel in some countries. This has also been true for those EMEs which have made good progress during the last decade in enhancing macro stability, banking supervision, regulation and market infrastructure. Enhanced global monitoring can contribute to explaining the underlying reasons for this development and to improving preventive measures. Expanded monitoring could also deepen our knowledge of capital account liberalisation and the implications of the deeper integration of EMEs' financial markets into the world economy.[1]

Global monitoring supports the development of changing financial structures and their integration into macroeconomic models. Most of the macroeconomic models failed to explain the implications of the current financial crisis. There is a strong consensus that it is exceptionally challenging but essential to incorporate the effects of financial globalisation into these models, including the reaction functions of main players and changing financial structures and expectations. Therefore, monitoring and in-depth analysis of institutional investors could provide valuable input for achieving progress in restructuring macroeconomic models.

Global monitoring supports the necessary restructuring of financial soundness indicators (FSIs) and early warning systems and the necessary changes in surveillance. The financial crisis has without any doubt revealed weaknesses of financial soundness indicators. There is growing consensus that most early warning systems and financial soundness indicators failed to give reliable early warnings with regard to the build-up of financial distortions and severe tensions. This is in particular due to the fact that most of them do not capture financial market developments or asset inflation sufficiently. It stands in line with the aspects mentioned above: while the significance and weight of the financial sector have increased in many respects, the monitoring and evaluating in the surveillance framework have been dominated by real macroeconomic variables, as is the case with the FSIs. But this crisis has shown that there is a need to restructure the FSIs, incorporating more relevant financial indicators. Better knowledge of investors' strategies and rebalancing actions can complement these efforts and enhance the effectiveness of early warning indicators.

Global monitoring provides additional valuable information on the most efficient kind of regulation. Without any doubt, the G20 has made much progress in enhancing regulation of the banking sector – we now have access to most of the relevant information in this area. This is less true for international capital flows or the so-called shadow banking system. Almost immediately after the outbreak of the current financial crisis, politicians reacted with two responses: bemoaning a significant lack of transparency on the one hand, and declaring the need for more effective regulation on the other. But more transparency is a necessary pre-condition to create the most effective regulatory framework, one with targeted regulation and the best kind of regulatory measures.

Global monitoring could contribute to shortening the time lag between the build-up of financial distortions that lead to financial crises and a recognition and assessment of data needs. One of the main objectives is to achieve more progress toward timely monitoring and shortening the recognition lag with regard to which channels financial tensions will use to work their way

1 Committee on the Global Financial System, Capital flows and emerging market economies. CGFS Papers, No. 33, January 2009.

through the financial system and, more importantly, the build-up of financial imbalances.

In many countries, work on developing a macroprudential framework has intensified since the financial crisis. While it makes sense that the macroprudential approach aims at strengthening the stability of the whole financial system, this challenge differs significantly depending on the geographical level. While national monitoring is more focused on the banking and non-banking financial systems, the thematic scope of global monitoring is much broader, as mentioned above. Many of the trends are quite new, and it is too early to draw final conclusions.

What Are the Main Underlying Reasons for Capital Flow Volatility?

There is no need to argue that there is no one-size-fits-all approach to capturing the main underlying reasons for capital flow volatility. In a first and tentative step, increasing capital flow volatility has been driven by the same factors which have been fuelling the ongoing process of financial globalisation, namely the institutionalisation of savings, marketisation and the creation of new financial instruments accompanied by an increasing shift of financial risks to private households and firms. This development was enhanced by liberalisation and deregulation, as has been described in a myriad of articles. The influences of the so-called push and pull factors are also widely acknowledged as determinants of the volume and direction of international capital flows. Empirical studies can only deliver limited answers, i.e. the different weight of push or pull factors over time.

All these factors can only explain a small part of the whole story, though, and thus it comes as a surprise that relatively little attention has been given to the real drivers of capital flows: those institutes and investors that are moving markets with their cross-border investment decisions and rebalancing activities. Looking for underlying reasons and stable relationships among financial variables across borders, we have to monitor the main actors and their strategies. It is in my view absolutely confusing and misleading to use the term “drivers” for interest rate differentials, spread levels, growth differences, etc. All of these might build the financial environment or, to further use this metaphor, the car, but the speed and direction are determined by those who use the car, international investors. Therefore, I would like to focus more on their portfolio strategies and what they can tell us about capital flow volatility, contagions, spillovers and the vulnerabilities of sound countries.

What Can Portfolio Strategies Tell Us about Capital Flow Volatility and Its Implications?

Recent decades have been characterised by the increasing importance of institutional investors and the weight of their assets under management. This process of professionalisation of savings and investment decisions has significant implications, which have to be assessed in the light of the current financial crisis. There is no doubt that globally active institutional investors contribute to the more efficient global allocation of capital, a process which facilitates the catch-up processes of emerging market economies and developing countries. But this development is not without tensions and increased risks.

Initial analyses of the behaviour of institutional investors before and during financial crises provide very fruitful insights into the reasons for the market dynamics and the flows of contagions and spillovers. Without deeper knowledge of these strategies, no sustained and substantive progress towards a stable new financial architecture is achievable. Moreover, the portfolio strategies of institutional investors play a very important function as a link between the financial and the real sphere of the economy and changing interdependencies.

Knowing the portfolio strategies and the main determinants of the rebalancing of these investments could facilitate more timely and effective monitoring. With this information, it would be possible to generate some kind of a global risk map – also for institutional investors – opening a spectrum of information enabling the International Monetary Fund and the Financial Stability Board to at least partly make an ex ante assessment of financial stability issues and of the strength and direction of portfolio flows and rebalancing effects.

Therefore, deeper and realtime observation of this behaviour as one pillar of monitoring can deliver significant progress. Despite an increasing number of empirical studies, the following recommendation has not lost any validity – just the opposite is the case:

> There is need for those responsible for safeguarding financial stability at both the national and international level to understand the way various types of investors behave and react to market conditions. In an increasingly liberalized financial market place of global proportions, understanding and managing market dynamics and their associated risks is the best insur-

ance against excessive volatility that leads to costly crises.[2]

The argument that there is insufficient access to relevant data is by no means convincing. In a financial system that is increasingly driven by markets and in which banking activities are declining in importance, it is essential that this growing sector be sufficiently monitored. Reference to the confidentiality of these data is also misleading. First of all, no bank suffers much when providing data for monetary policy reasons. Second, we do not need data for individual funds but rather aggregated data for different investor groups.

The importance of expanded monitoring is due to the increasing quantitative importance of institutional investors. The value of assets under management (stocks) of institutional investors has increased tremendously during the past decade and a half and now significantly exceeds the real GDP in many countries. This concentration of savings in the hands of a few portfolio managers and strong competition enhance the search for yield and diversification, thereby fuelling the cross-border flows – the current significant rebound of portfolio flows into EMEs is only one example. Moreover, the relation between the portfolios of institutional investors to the market capitalisation in some EMEs is impressive. For example, the rebalancing of one per cent of the portfolio of an advanced economy's institutional investor into some Latin American or South Asian countries can reach between one-third and two-thirds of the market capitalisation of the recipient country.[3] The consideration of stocks alone can be misleading; even more important is the share of different investor groups in market turnovers. For example, hedge funds have relatively few stocks compared with pension funds or investment funds, but their trading activity levels in local currency bond markets can reach to around 40%.

With regard to the main surprises during the financial crisis – the dynamics of contagions, the strength of real dampening effects, the synchronicity of business cycle downturns not captured by macroeconomic models and stress tests, the fact that even countries with stable macroeconomic conditions were affected[4] – the different strategies of international investors can explain many of them. Some of the most significant examples should be sufficient in this framework. They are discribed below.

Dynamics of contagions. Global market liquidity and the risk appetite of institutional investors explain most of the variance of bond spreads and other important variables in the financial transmission channels. The portfolio strategies of this investor group can deepen our knowledge of the dynamics of contagions and provide important arguments as to how and to what extent countries are or will be affected by the disturbances. Studies which were focused on these issues with regard to the recent financial crisis show that the different responses of institutional investors were important determinants of differences in the spreading of the crisis or limited regional effects (e.g. the tequila effect). Often, institutional investors withdraw portfolio investments from all countries of an asset class when the risk-return perspectives in only one of these countries become less favourable – without considering the fundamentals in these countries. It is acknowledged that the rebalancing activities of institutional investors and contagion effects are stronger when they are leveraged. Empirical work emphasises that a leveraged investor has strong incentives to reduce his investments not only in one country with increasing imbalances or risks but across all asset classes or countries. While it is now well known that leverage effects play a significant role in transmitting crisis events and explaining market dynamics, there is less progress in integrating these results into broad macroeconomic models. Those models tackling these issues show that volatility is not only a result of rebalancing activities but also a strong amplifier of crises:

> …[w]hen asset returns are positively correlated, the loss-constraint rule is unique among the portfolio management rules in explaining why an investor might reduce both risky asset positions due to a volatility event. This implies that there are plausible portfolio management rules that explain contagious selling of risky assets due to volatility events.[5]

Changing interdependencies. Even these simple findings have very important implications for the assessment of country vulnerability and the question why even countries with stable macroeconomic frameworks were hit by at least the first wave of the financial crisis. While portfolio investors orient their decisions on the risk-return profiles of their portfolios without – at least periodically – paying much attention to fundamental criteria, these rebalancing activities cause many real adjustments even in those countries with sound economic frameworks. Thus, if one country has bad news, other

2 Third World Economics, No. 1987/188, 16 June - 15 July 1998.

3 C. Raghavan: Institutional funds – the main channel for market turbulence, TWN, Third World Network; www.twnside.org.sg/title/main-cn.htm.

4 B. Braasch: Financial Market Crisis and Financial Market Channel, in: Intereconomics, Vol. 45, No. 2, 2010, pp. 96-105.

5 G.J. Schinasi, R.T. Smith: Portfolio Diversification, Leverage, and Financial Contagion, in: IMF Staff Papers, Vol. 47, 2000, No. 2, pp. 159-176.

countries in the portfolio of the investor suffer strong outflows for reasons unrelated to real economic ones. It is no longer appropriate to assess the vulnerability of countries solely on the basis of traditional real indicators. In fact, Turner could not find any significant effect from the usual determinants for the vulnerability of countries or country groups during the current crisis.[6] Other empirical studies on EMEs and the determinants of asset prices draw the conclusion that a real transmission channel could not be detected or established.[7] These results have been underlined by recent studies. From an analysis of cross-country differences in the output impact, Bergmen et al. draw the conclusion that "the main avenue of transmission of the shock appears to have been financial channels, particularly through rapid credit growth and high leverage, with the damage aggravated by pegged exchange rates."[8] All these developments are enhancing the importance of the global financial transmission channel.

Therefore, it is to be welcomed that a paper by Forster et al. for the ECB also came to the conclusion that "a broad macro-prudential regulatory and supervisory framework is needed to reduce the possible risk and the negative feedback effects between the financial and the real sector, both domestically and internationally."[9] The authors emphasise "the importance of expanding the monitoring framework for financial flows" and propose "a few elements of the policy actions that could contribute to a more efficient and sustainable allocation of cross-border flows."[10] "Given the lessons from the global financial crisis, it appears essential to expand the analysis of cross-border financial flows in order to better assess the financial transmission channel and identify financial fragilities."[11]

Portfolio strategies vs. macroeconomic efficiency. One aspect clearly deserves more attention since it is of overwhelming importance for building a more stable new financial architecture. As mentioned before, the portfolio strategies of institutional investors and globally acting banks build an important link between the financial and the real sphere of the economy. Two arguments should be highlighted in this context: first, there is no doubt that portfolio decisions increasingly influence fundamental variables and prices, which are significant driving forces for the whole economy of a country. But – and this is the second argument – their decisions are not always guided by fundamentals. The efficiency of portfolio strategies may not always correspond with the needs of fundamental or macroeconomic efficiency. To put it in a nutshell, individual rationality may not correspond with collective or macroeconomic rationality. Those discrepancies are the most severe deficits for the long-run stability of an economic system as a whole or – to formulate it from the perspective of economic order policy – this case of "rationality trap" would be the "core melt accident" of any market economic system!

In this context, one of the more obvious questions is to what extent these potential divergences are a reason for the more careful assessment of preconditions under which more market-led exchange rates could support the process of real rebalancing. There is broad agreement based on experience that financial markets are exposed to herd behaviour, misalignments, procyclicality, insufficient orientation towards fundamentals, etc. Movements in the exchange markets that mirror these developments are therefore also exposed to the distortions mentioned above. Thus, we should carefully assess the arguments of some observers regarding the extent to which the preconditions are fulfilled to enable more market-driven exchange rates to be a more effective adjustment mechanism in the real sector of the economy. This may be a highly sensitive issue, but one must consider that exchange rates are predominantly driven by financial factors rather than by real factors.[12] Deeper analyses of the portfolio strategies of institutional investors and globally acting banks and of the extent to which they are guided by fundamentals are needed

6 P. Turner: How have local currency bond markets in EMEs weathered the financial crisis? Paper presented at the 2nd International Workshop on Implementing G8 Action Plan: Lessons of the crisis and progress made in developing local currency bond markets in EMEs and developing countries, Deutsche Bundesbank, 12-13 November 2009.

7 T. Didier, I. Love, M.S. Martinez Peria: What explains stock markets' vulnerability to the 2007-2008 crisis? The World Bank, Policy Research Working Paper No. 5224, March 2010. – "Not surprisingly, given the nature of the crisis and the fact that we are focusing on financial markets, we found that the main channel of transmission was financial. We also found evidence of a wake-up call in the first stage of the crisis, when countries with vulnerable banking and corporate sectors exhibited a higher comovement with the US market. On the other hand, despite a collapse in trade across countries, we did not find support for this channel of transmission." (p. 17)

8 P. Berkmen, G. Gelos, R. Rennhack, J.P. Welsh: The Global Financial Crisis: Explaining Cross-Country Differences in the Output Impact, IMF Working Paper, 09/280, December 2009, p. 12.

9 K. Forster, M. Vasardani, M. Ca'Zorzi: Euro area cross-border financial flows and the global financial crisis, ECB Occasional Paper series, No. 126, July 2011.

10 Ibid., p. 35.

11 Ibid., p. 36.

12 "Exchange rates are increasingly determined by financial transactions, which overwhelm trade and other current transactions in their magnitude." R.N. Cooper: Exchange rate choices, in: J. Sneddon Little, G.P. Olivei (eds.): Rethinking the International Monetary System, Federal Reserve Bank of Boston, Conference Series 43, June 1999, pp. 99-123, p. 114.

for clarification. What, for example, are the implications of empirical findings that financial market models for explaining the "fair value" or equilibrium level of exchange rates increasingly differ from the results of more real-based models?[13] This is all the more relevant since it is well known that exchange rates are mainly driven by financial determinants. Thus, intensified global monitoring could contribute to clarifying this argument, too.

"Optimal" Assignment of Roles

We also have to evaluate an appropriate assignment of roles in monitoring capital flows and global liquidity at the global, regional and national levels. This is all the more necessary given the changing institutional environment with, for example, the European Systemic Risk Board (ESRB) in Europe or the Asean+3 Macroeconomic and Research Office, which provide their own assessments of financial stability. And the Bank of International Settlements (BIS), the European Commission and other institutions will also come up with their own assessments.

The assignment of roles has to be clarified not dogmatically but in a systematic manner. The main criterion is which institution has a comparative advantage? At the global level, the IMF has a clear comparative advantage, in particular with regard to the monitoring of financial structures, financial innovations, changing global transmission channels and response patterns, and the vulnerabilities of countries. Considering the primacy of prevention, expanded surveillance 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 focused on the continuous monitoring of changes in the financial transmission channel. Monitoring may have further potential to come closer to the most relevant changes in the financial transmission channel and to shorten the time lag between the first financial shock and targeted measures to contain contagion and spillover effects. Some economists share the view that we will never have the right model and this kind of forward-looking information. But the distance between models and reality has become too large. And it is certainly not convincing when economists claim to have achieved sound transparency three months after the financial crisis but failed to have more solid and reliable information three months before the crisis.

13 Deutsche Bundesbank: Effective exchange rates from financial market data, in: Monthly Report, No. 4, April 2011, pp. 17-33.

Having a potential comparative advantage and using it are completely different points. We should put more analytical resources into this field, since it will deliver many valuable results which are preconditions for finding more efficient solutions for regulation and crisis management. This is among the main priorities for the IMF agenda. The IMF has the opportunity to use its contact to 187 countries – for example, in Article IV consultations – to systematically collect and utilise the most relevant data in a bottom-up and top-down approach. It is thus necessary to have strong and ongoing communication among the research, capital markets, statistics and country departments. Moreover, existing analytical capacity should be used for in-depth analysis of global capital flows and liquidity.

The analysis, the presentations of the results and the recommendations should be as independent as possible to enable them to become an international benchmark for political discussion. The IMF should closely cooperate with the BIS, with its deep insight into changing banking channels. It is important to share these views with the Financial Stability Board, which is closer to the political discussion and could contribute to enhancing the translation of sustainable empirical results into action at institutions like the OECD. At the regional level, the ESRB will play an important role. Its analysis reflects the assessment of central banks, which is important, since an appropriate balance and assignment of roles between monetary policy and macroprudential measures must be found. Moreover, the multilateral development banks have valuable regional and country-specific information, which should also be used in a global context. Furthermore, they are closer to regional political initiatives and best know the sensitivities and obstacles to furthering political initiatives.

Surveillance and global monitoring – are they different?

Building or expanding such a system of global monitoring is of overwhelming importance and among the highest priorities for a more preventive attitude of the IMF. In the context of organising such global monitoring, one of the key questions is whether surveillance is different from monitoring. Yes, for several reasons. Surveillance has historically been mainly focused on global real imbalances and the sustainability of exchange rate systems. The IMF has flexibly responded to the changing global environment by reforming or expanding the surveillance, but the result is a partly fragmented and intransparent system, which might be one reason for its limited traction. Surveillance is the "traditional" framework for assessing and presenting financial stability issues. But the key question is whether all of the new challenges can be met by some changes to the surveillance framework or whether there is a need for something new beside it. The tentative answer of this paper is that something new is necessary – surveillance and global monitoring are significantly different from one another. While multilateral surveillance has a constant rhythm (the World Economic Outlook and Global Financial Stability Report are prepared twice a year), monitoring is more of an ongoing task and more similar to early warning. Surveillance has to respond quickly to new topics and priorities on a highly volatile political agenda, for example, exchange rate systems. But global monitoring should not be affected by the high volatility of political topics. These and further arguments support the view that monitoring should be a separate system, the results of which should be incorporated and used in the surveillance framework as well as in the early warning exercise. Therefore, what we need to do is to build up a system of global monitoring.

Capital Flow Management – G20 Recommendations, Experiences and Further Challenges

The G20 countries discussed the challenge of Capital Flow Management under the French Presidency in 2011, resulting in the report "Coherent conclusions for the management of capital flows drawing on country experiences". This topic was one of few in the Cannes process upon which the G20 could achieve an agreement or common language. The importance of this significant step forward is still underestimated, since it is a long-term challenge.

The capital flow problematic is in its core not a reflex to the financial crisis or the current conditions of excess global liquidity. Institutional investors themselves emphasise that it would be an oversimplification to blame the accommodative monetary policy in advanced economies, acknowledging that the problems of capital flow volatility will not be overcome with a more normal monetary stance in the USA, Japan or the European central banks.

They point to the fact that strong capital flows are also a response to the "new normal". The weight of this new normal has been reinforced by a recent study by the Bank of England which came to the conclusion:

> The distribution of external assets shifts to emerging markets. By 2050, more than 40% of all external assets are held by the BRICs, up from the current 10%. ... Notwithstanding these caveats, it seems reasonable to envisage a future world in which the financial integration of EMEs is accompanied by a substantial rise in international capital flows relative to world GDP.[14]

The changes for some countries in the simulations of future capital flows presented in the paper are remarkable: "By 2050, China's share of worldwide gross external assets could be around 20%, only slightly lower than the United States, whose share falls from 30% to 23% over the same period."[15]

Against this background, some economists are assessing the current crisis in terms of multiple equilibriums and highlight the necessity of enhancing research under the precondition that the movement from one equilibrium to another not be subject to any severe tensions – and capital flows are among the main drivers of these movements.[16] This is all the more important since "[c]apital flows that are either *caused* by frictions, or caused by economic fundamentals but *interact* with frictions are more likely to lower global welfare, including by contributing to financial stability risks."[17]

From the perspective of a central bank, the main objectives of capital flow management should be to enhance national and global financial stability, to provide protection on the flanks of monetary policy, to strengthen the robustness of the financial system and to ensure the free flow of capital as a long-term objective. Therefore, it is really worth emphasising that the "coherent conclusions" also to some extent enhance a "hierarchy" of measures or strategies: macroeconomic stability is the first line of defence, as it proves most effective in dampening capital flow volatility. A further set of measures should be focused on enhancing the stability and shock absorptive capabilities of financial systems by macroprudential measures. And as part of a more medium- to long-term strategy, countries should develop and deepen their domestic financial markets, in particular bond markets.[18] As put forth in a recent Bank of Eng-

14 W. Speller, G. Thwaites, M. Wright: The future of international capital flows, Bank of England, Financial Stability Paper, No. 12, December 2011, p. 3.

15 Ibid., p. 13.

16 G.R.D. Underhill: In search of enduring financial stability: three sorts of equilibrium to think about, Paper presented at the 3rd annual conference hosted by the Central Bank of Peru and RBW, July 2011, Peru.

17 W. Speller et al., op. cit., p. 7.

18 B. Braasch: Guest post: the world needs to develop missing markets, Financial Times, 25 January 2012, http://blogs.ft.com/beyond-brics/2012/01/25/guest-post-the-world-needs-to-develop-missing-markets/.

land study, the problem of "missing markets" is one of the most important challenges ahead.[19]

Capital controls are a last line of defence which should be temporary, transparent and targeted to dampen risks to financial stability. Capital flow management measures should not delay necessary macroeconomic measures or try to hold exchange rates at unsustainable levels. An ongoing convergence of approaches among different countries could further the dampening of capital flow volatility.

But this is a long-term view rather than an appropriate description of the current situation. EMEs emphasise the necessity of considering country-specific circumstances and different financial structures and are therefore reluctant to agree to binding principles or guidelines. Accordingly, there are a broad variety of responses to capital flow volatility and financial shocks at the country level. But one important question remains – what is the global outcome of these different measures? Do they lead to more stability or less, and to what extent are capital control measures generating spillover effects into other countries?

These questions need further in-depth analysis. This is all the more necessary since an increasing share of capital flow volatility is caused by common global factors which are beyond the control of individual countries. For example, 50% of international portfolio flows are driven by global factors. What does this mean for the efficacy of national capital flow management measures? More global common determinants seem to be a further argument that we need deeper and expanded monitoring by the IMF in close cooperation with the BIS.

19 O. Bush, K. Farrant, M. Wright: Reform of the International Monetary and Financial System, Financial Stability Paper, No. 13, 2011.