Global Liquidity and Financial Contagion

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Transcript of the comments by Dr. Sukhdave Singh, Deputy Governor, Bank Negara Malaysia

For me, as a policy maker in an emerging market economy, living next to this pool of global liquidity is like living next to the sea. On a day-to-day basis, the tide comes in, the tide goes out. You learn to live with it. The sea is bountiful and to some borrowers it offers the opportunity of a cool escape from the searing heat of high domestic interest rates. Like the call of sirens to ancient mariners, it lures residents and regulators with its enchanting promise of easy liquidity and growing domestic equity and bond markets. However, this vast sea also holds many dangers. It is affected by fierce forces that can create violent and destructive waves. Even when it is calm, beneath that calm surface there are dangerous currents. To the unwary, who wade in too far, it can drag them to financial ruin, be they businesses, individuals, or governments. Beneath its surface are hidden rocks that can drive even successful economies to the bottom of the sea. The challenge for emerging market policy makers faced with this vast global pool of liquidity is not different from that faced by a fisherman who lives by the sea, and that is, how to benefit from the riches offered by the sea while avoiding the dangers. From that perspective, let me now briefly touch on five ways in which I believe global liquidity conditions can lead to domestic financial instability.

The first of these is the increased global financial integration and the spread of global banking. The financial crisis in the major economies can spread to the rest of the world through the network of financial relationships. Yesterday, we discussed the benefits of having foreign banks setting up as subsidiaries in our markets. In Malaysia, we have had some experience on the benefits of this, and those benefits go beyond what we discussed yesterday. Let me illustrate that point with a couple of examples. In the aftermath of the crisis in Europe, when the European banks were shrinking their balance sheets and pulling back from their overseas lending, someone noted that the European banks had claims of $64 billion on Malaysians, which is equivalent to about 23% of Malaysia's GDP. The concern was on the impact of a pullback by European Banks on capital flows and the availability of financing to Malaysian companies. What ultimately helped us to alleviate those concerns was showing that two-thirds of these claims were held by locally incorporated subsidiaries of European banks. Therefore, having foreign banks established as subsidiaries helped mitigate financial contagion from what was happening in Europe. Let me give you another example. Post-Lehman, I think this was in 2008. Hong Kong announced that it was offering a blanket guarantee on all deposits in the Hong Kong financial system. This was after Ireland did the same thing. The risk that Malaysia and Singapore faced was of destabilizing outflows and a flight of funds from our banking

systems to the banking systems that were protected by such blanket guarantees. Furthermore, if either Malaysia or Singapore were to then announce its blanket guarantee first, it could create destabilising outflows from the other's banking system. Consequently, Bank Negara Malaysia and the Monetary Authority of Singapore collaborated and synchronised the announcement of their blanket deposit guarantees. This example highlights one aspect of international collaboration; it is not so much about setting the same policies or compromising national policy objectives. Rather, it is about making sure that our policies do not destabilize our neighbouring economies and looking for opportunities where collaboration may lead to a more optimal policy outcome.

The second way that the financial contagion can spread to the domestic economy is through capital flows into domestic asset markets. These create asset bubbles and if the central bank doesn't intervene, the twin attraction of rising asset prices and an appreciating exchange rate is irresistible to foreign portfolio funds.

The third way is through interest differentials. Very low interest rate in advanced economies do not just attract yield-searching foreign funds to the higher yields in the emerging markets, they also create a very strong temptation for residents in emerging markets to borrow from abroad. We saw this type of vulnerability in some Asian economies during the period before the Asian financial crisis and more recently, in the Eastern European economies. It is something that policy makers should be vigilant about.

Then there are global liquidity spillovers into domestic liquidity that put downward pressure on domestic interest rates, leading to excessive borrowing, a decline in savings, increases in asset prices, and increases in leverage, which in turn increase the risks of financial imbalances developing and undermining financial stability. In the current episode of low interest rate, credit has grown very strongly in EMEs, and while this has supported consumption and domestic demand, it has also led to increased household, corporate, and government indebtedness.

Lastly, changes in the current account can be both the source, as well as an outcome, of changes in capital account. The traditional interpretation is that a country has a saving-investment gap and this results in a current account deficit, which then drives it to rely on foreign savings. But my observation is that with global surplus liquidity and large capital inflows, countries can have large capital inflows resulting in excess domestic liquidity and low interest rates. This then spurs domestic consumption and investment booms, leading to higher

imports and resulting in current account deficits or lower current account surpluses. Here, the adverse developments in the current account are an outcome of capital inflows.

Given the risks arising from the global liquidity, EMEs would certainly want to avail themselves to all the policy measures we discussed yesterday, including the use of capital flows management measures to manage disruptive capital flows. I am certainly aware of the "Dutch Disease" literature and the fact that successful economies can perversely be undermined by attracting large capital inflows. While taking these into account, the question I would like to pose and attempt to answer is: "What can EMEs do to beef up their buffers and increase their resilience against the risks arising from integration in the global financial system?" I am going to frame my answers within three broad categories: one, in terms of reducing external vulnerabilities, two, in terms of improving policy frameworks; and three, in terms of strengthening domestic economic fundamentals.

First, in terms of external vulnerabilities, I think storms in the global sea of liquidity are a source of concern, but for policy makers in EMEs, the consequential concern is how seaworthy is our own boat? Can it withstand a stormy sea? In my observation, capital flows often tend to accentuate domestic vulnerabilities and that can create the greatest risk of financial stability. Therefore, in a world of abundance, restraint is a virtue. Like the sirens of Greek mythology, the international banks may go around EMEs telling them how easy it is to get funding. However, like the ancient mariners, governments and corporates in EMEs have to aware of the dangers should they heed these sweet-sounding siren calls. It is a good time to re-finance old debt but it is never a good time to accumulate excessive debt. The temptation is strong, especially when the domestic interest rates are high. Central banks and regulators need to monitor the use of external financing by their residents to avoid an excessive build-up of short-term external debt. At the same time, policy makers need to focus on reducing domestic economic vulnerabilities that make the economy dependent on external savings. This includes persistently high domestic interest rates and current account deficits that are excessive. A related point is the need to be careful about the pace of capital account opening. Having capital controls does impose a cost on international business transactions, but liberalisation should be undertaken gradually. If liberalization does not work out as anticipated, or it creates vulnerabilities that were not foreseen, countries must have the policy space to step back.

Second, having sound and robust domestic policy frameworks are a source of resilience when confronted with a volatile global environment. The prudent conduct of monetary policy to ensure price stability and provide a supportive environment for sustainable growth is a key contribution of central banks. Ensuring that credit growth is not excessive and that it is not

channelled into unproductive uses is important to guard against future problems with excessive leverage and bad bank assets. Of course, fiscal policy also needs to be conducted prudently and this is to ensure that that there is fiscal policy space to respond to shocks. It also supports a more sustainable current account balance and it avoids over-dependence on external financing. A very important reason is that it is difficult to have good monetary policy when you do not have good fiscal policy. Having a sound regulatory framework for the financial system ensures that nothing falls between the cracks. It is also mitigates the excess liquidity leading to a large build-up of vulnerabilities in the financial system that could be highly risky should there be a withdrawal of that liquidity. The final point on policy frameworks is that policy makers must have enough policy instruments. This we discussed yesterday. Let me just touch on three points.

- **Capital flows and capital control related measures**. My view is that capital controls are like quantitative easing (QE). They are not your standard policy instruments like QE is not conventional monetary policy, but it is good to have both of these policy instruments should you get into a difficult situation. As was discussed yesterday, capital controls come in a variety of forms. The mild ones are merely intended to introduce some friction in order to slow down the flows. The more aggressive ones are intended to completely stop either inflows or outflows and these latter types of capital controls are more appropriate when you have more dire economic and financial situations. The type and duration of the measures would very much depend on the situation. Here, I have to agree with the points made by Professor Kevin Gallagher. While the IMF has reluctantly moved its institutional stance on capital flow management measures, it is unfortunate that the old Washington consensus view continues to prevail among many policy makers in the advanced economies, including those in charge of trade policies. EMEs that enter into trade and investment agreements with the advanced economies risk having their policy space severely constrained in terms of their ability to manage capital flows.
- **Foreign exchange reserves.** Reserves are an important policy buffer for economies that are becoming globally financially integrated. However, it is not just the level of reserves that is important but also the sources of their accumulation. There are temporary sources of reserves and there are more permanent sources of reserves. Current account surpluses, FDI and remittances by residents working abroad create more permanent reserves whereas short-term portfolio flows and external borrowings create more temporary reserves. Even if they are high, reserves built from temporary sources can quickly diminish when there is a reversal of global liquidity.

- **Exchange rate.** Among EMEs, a floating exchange rate is probably optimal but it should be managed when there is excessive volatility or risk of overshooting. Combined with adequate foreign exchange reserves, it broadens the policy options when confronted with capital flows. When there are outflows, and the exchange rate is depreciating, increasing interest rates may have limited effectiveness. Also, depending on the duration, such a strategy carries the risk of damaging the rest of your economy. I also believe that higher interest rates would not be able to compensate for other weaknesses within the economy that may be driving those capital outflows. In the current environment, where you have zero interest rates and QEs in major economies, central bankers do not want their interest rates to look too attractive for fear of the type of suitors that they would attract. My impression is that in the recent period, central banks and monetary authorities have paid more attention to capital flows, global interest rates and their exchange rates in setting their own monetary policy stance than they did before the current prevalence of QE driven liquidity.

My third and final point on increasing resilience has to do with domestic fundamentals. Firstly, having a diversified, flexible and competitive economy is a key strength in dealing with instability from the external sector, whether it is in the real economy or in the financial system. Secondly, having a strong and resilient financial system is an important source of strength against vulnerabilities rising from living in an integrated world. In the period after the onset of the financial crisis in the advanced economies, many Asian economies have been able to sustain growth because their financial systems were healthy and were able to finance and support domestic economic activity even as growth in the advanced economies disappeared. I do have a caveat to that though. What is a source of strength can easily become a source of weakness if it leads to an excessive build-up of debt and imprudent lending practices. Therefore regulatory and supervisory rigour and vigilance is an on-going necessity. Thirdly, having a deeper and more diversified financial system, while not a panacea, helps to intermediate capital inflows in a less distortionary manner. Therefore, aside from the banking system, it is worth developing the equity and bond markets as viable alternative venues for financing. Again, I say that with caveats. First, a larger and deeper financial system may attract increased capital flows, and consequently, lead to increased volatility of the exchange rate, the mitigation of which may require the central bank to hold a larger amount of foreign exchange reserves. The second caveat is that policy makers should not be too caught up in protecting domestic banks. The concern should be with the quality of financial services that our citizens are getting and the prices that they are paying for those services. Foreign competition may perform a useful function in spurring domestic banks to provide more innovative, more quality

financial services at lower prices. However, the process of bringing in foreign competition needs to be managed very carefully to ensure that it does not itself create financial instability or leads to financial activity that does not contribute to economic welfare. Final point, the biggest source of strength for a country is actually its own savers. One way to reduce reliance on risky external borrowings, especially in the context of supporting domestic economic activity, is actually to rely on domestic savings. However, to achieve this requires that savers feel confident that the value of their savings would be preserved. Otherwise, there is no incentive to save, or rather, no incentive to save domestically. In addition, it is necessary to have a safe and well-distributed banking network to collect those savings and intermediate them to the productive sector of the economy.

With that I conclude. Thank you.

Transcript of the comments by Louis Kasekende, Deputy Governor, *Bank of Uganda*

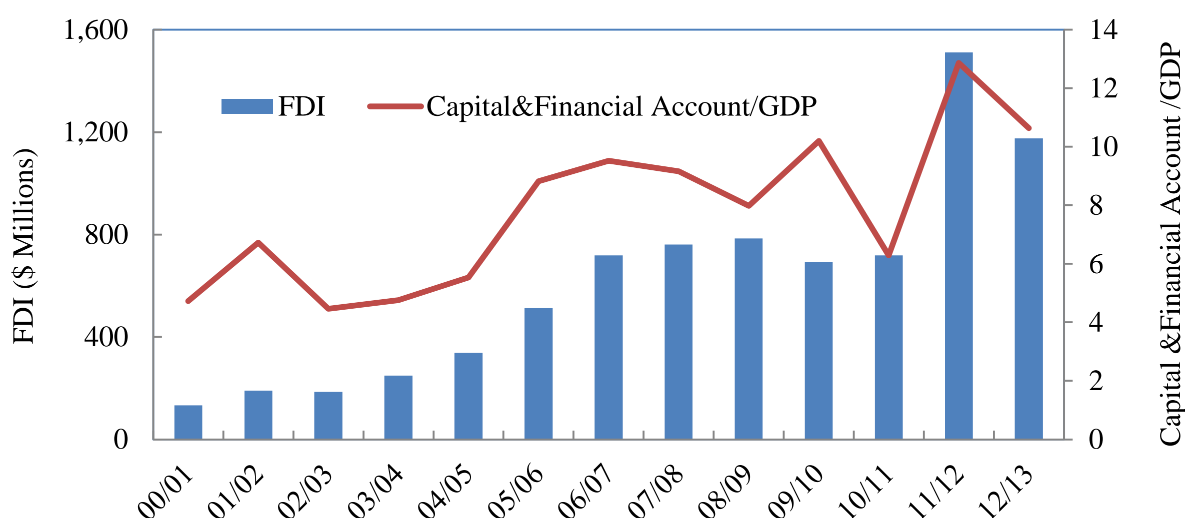
Introduction

Global liquidity and financial contagion have become increasingly important issues for macroeconomic and financial management, not just in the emerging market economies but also in the frontier markets in Africa which over the last decade have begun to attract external portfolio capital flows into their government securities markets and their banking systems. I want to sketch out the key lessons of the increased capital flows to frontier markets such as Uganda and the policy responses we have made to these challenges.

The magnitude of capital flows to Uganda

Following the removal of barriers to capital flows in 1997, Uganda's capital and financial account balance rose from 4.7 percent of GDP at the start of the century to 11 percent of GDP in 2012/13. The largest single component of capital inflows is foreign direct investment (FDI) which rose from US$186 million in 2002/03 to US$925 million in 2012/13 (4.3 percent of GDP), while net portfolio capital flows peaked at US$270 million in 2011/12. Although annual net portfolio capital flows are relatively small as a share of GDP (just over 1 percent at their peak), they are much more volatile than FDI. This volatility poses problems for economic management.

Figure 1: Uganda: Foreign Direct Investment in US dollar millions (lhs) and capital and financial account surplus as a percent of GDP (rhs)



Source: Bank of Uganda

The reasons for portfolio investment in Uganda are similar to those in other frontier and emerging markets. With strong economic growth and a relatively labour intensive economy, real rates of return to capital are much higher in Uganda than in the advanced economies; consequently there is a large interest rate differential between Uganda and the advanced economies. The one year Treasury Bill yield in Uganda is currently around 12 percent. The structural factors driving capital flows to frontier markets such as Uganda – the large interest rate differentials and their strong growth prospects - are unlikely to be reversed in the medium term, even with the tapering of quantitative easing in the advanced economies, provided that the economies of the frontier markets continue to be well managed and that political stability is maintained. Hence the challenge of managing the risks from capital flows to frontier markets will most probably intensify over the long term.

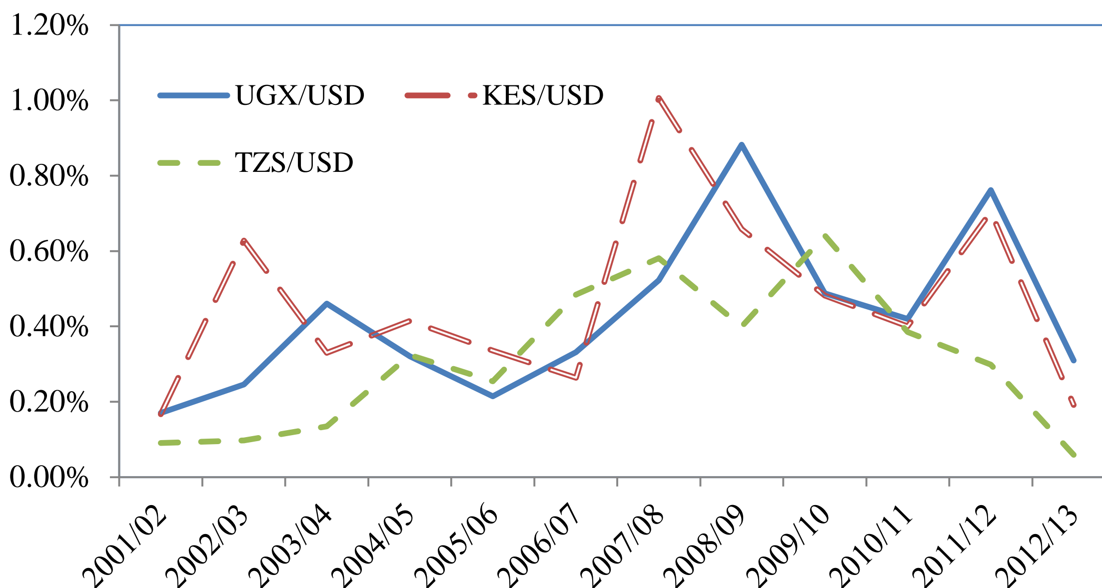
Policy makers are not indifferent to the composition of capital flows. FDI inflows clearly benefit the economies of frontier markets, because these economies need the technology and expertise that accompany FDI flows and because FDI raises the private investment rate which is essential for accelerating structural transformation. However, it is much less evident that portfolio capital flows generate significant benefits for frontier markets. Portfolio capital flows to Uganda are predominantly invested in swaps and deposits with the banking system or in government securities. Offshore holdings of government securities, as a share of the total holdings of these securities, peaked at 25 percent in June 2008 (just before the global financial crisis erupted) and now account for 15 percent of the total. While portfolio capital flows have helped to boost liquidity in the domestic market, their impact is not very important; most of the secondary market trading which takes place in the domestic securities market is between domestic investors.

Portfolio investment flows include foreign currency flows and are predominantly short-term investments, and highly volatile. This creates potential problems and risks for both macroeconomic management and financial stability.

The consequences for economic management

Portfolio capital flows have implications for economic management, related to their impact on the exchange rate and on financial system liquidity. Portfolio capital flows have had a significant impact on the volatility of the exchange rate in Uganda. Figure 2 below shows that the Ugandan and Kenyan exchange rates have been relatively more volatile than the Tanzanian exchange rate. Both Uganda and Kenya have open capital accounts whereas Tanzania imposes some controls on capital flows.

Figure 2: Daily Exchange rate volatilities of the Kenyan, Tanzanian and Ugandan currencies



Exchange rate volatilities are measured as the standard deviation of daily exchange rates during each year

Source: Bank of Uganda

Given thin foreign exchange markets, gross portfolio capital flows can be large enough to dominate other flows on a daily basis. If portfolio capital flows are sustained over several months, they can also cause persistent movements of the real exchange rate away from its equilibrium level. Both the short term volatility of the nominal exchange rate and persistent overvaluation of the real exchange rate are potentially very damaging for the competitiveness of traded goods industries and for incentives for private investment in these industries, which is clearly deleterious for long term economic development.

The implications for financial stability arise because a large share of offshore portfolio investment is invested directly in domestic banks, in the form of swaps and deposits, both in domestic and foreign currency denominated deposits. The main risk to financial stability is liquidity risk, because portfolio investment in bank liabilities is a form of short maturity non-core wholesale funding for the banks; funding which is inherently far more volatile than customer deposits. Short term offshore portfolio funding currently comprises less than five percent of total banking system liabilities in Uganda and hence the liquidity risk that this poses for the banking system is relatively small. Nevertheless it is possible that, if Uganda attracts larger portfolio capital flows in the future, domestic banks may become more dependent on short term external capital, as has been the case for banks in other developing regions of the world, which would heighten liquidity risk.

Policy responses

What are the implications for policy? The first priority for countries that face strong capital inflows is usually to preserve domestic monetary stability and minimize exchange rate misalignment and asset price volatility. To address the adverse exchange rate consequences of

portfolio capital flows, the Bank of Uganda (BOU) has maintained an essentially floating exchange rate, while interventions in the market are conducted with the aim of smoothing out volatility and avoiding sustained appreciation of the real exchange rate which would damage competitiveness.

The main tool of Uganda's exchange rate management is sterilized intervention in the foreign exchange market; intervention is fully sterilized to ensure that monetary policy can be focused exclusively on domestic policy objectives (inflation and output). The BOU has also aimed to build up international reserves, to provide a buffer to stabilize the exchange rate in the event of a sudden capital outflow. It would be optimal for frontier markets to formulate targets for the level of foreign exchange reserves which they hold which are linked, not just to months of import cover, but to the economy's exposure to short term foreign capital.

However sterilized intervention is also problematic if undertaken on a large and sustained scale, not least because of the costs incurred by central banks. The interest rate paid on the domestic securities used for sterilization is currently around 12 percent, whereas the BOU receives a very low interest rate on the investment of its foreign exchange reserves. Consequently, if portfolio capital flows become larger and are sustained, it may be necessary to consider alternative policy instruments to discourage such flows or to mitigate their risks, such as the imposition of cash reserve requirements on banks' offshore liabilities. At the very least, portfolio capital investment should not be given favourable treatment relative to similar investment by domestic investors, in terms of tax or reserve requirements. In principle a variety of capital flow management measures could be a useful part of the central bank's tool kit, but the challenge is to identify which specific measures can be effective in reducing volatility or discouraging large and sustained inflows of portfolio capital.

Despite the destabilizing nature of portfolio flows to the stability of countries like ours, recent studies have shown that making the economy more closed through capital controls may be largely ineffective.[1] Some countries have substituted prudential instruments for capital controls.[2]

To address the liquidity risks to financial stability requires deployment of effective macroprudential instruments. The first requirement for the central bank is to compile accurate high frequency data to monitor these risks. The BOU is now compiling data on banks' exposures to offshore investors, and the currency composition and maturity of these exposures, on a weekly basis.

The BOU is addressing the liquidity risk to banks entailed in their relying on short term wholesale funds from offshore investors through the application of the Basel III Liquidity Coverage Ratio (LCR), separately to both the domestic currency and foreign currency exposures of the banks. Under the LCR, banks are required to cover all of their short term

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[1] Fratzscher M., 2011 "Capital flows, push versus pull factors and global financial crisis" ECB Working Paper 1364/July 2011

[2] Subbarao D., 2013 "Capital Account Management" paper presented at Rethinking Macro Policy conference.

wholesale liabilities (with maturities of 30 days or less) with liquid assets. Prudential limits are also in place limiting banks' foreign currency mismatches by capping foreign currency positions to +/-25 percent of their capital. Furthermore, the foreign currency business rules limit banks' foreign currency lending to 80 percent of their foreign currency deposits**.** Uganda has also become the first country in East Africa to compile real estate price indices aimed at keeping track of risks from lending to the real estate market and we are now in the final stages of compiling a bank-wide loan to value ratio.

Transcript of the comments by Deepak Mohanty, Executive Director, Reserve Bank of India

I thank Mrs. Usha Thorat, Director, Centre for Advanced Financial Research and Learning (CAFRAL) for the opportunity of being a part of this very distinguished panel. With the "great moderation" of high growth and low inflation, consideration of liquidity almost fell off from the lexicon of central banks. Arguably, with central banks targeting interest rates, liquidity becomes endogenous. Of course, liquidity is the flip side of the same coin. If one were to target a very low interest rate, one would have to let go of liquidity.

While monetary policy is conducted by countries keeping in view their domestic objectives, liquidity cannot be confined to sovereign boundaries. The bigger and more systemic a country is, the greater is the spillover, particularly if it is a reserve currency country. The events leading up to the "great recession" made us cognisant of the role played by excessive global liquidity in the financial crisis. As the global economy pulled out of the great recession, liquidity played an even greater role in terms of unconventional monetary policy.

As recovery takes hold in advanced economies and central banks exit from their excessively accommodative monetary policy, liquidity for sure will play an important role, some glimpse of which we had in the May 2013 announcement of taper by the US Fed. Though market reaction was muted in the subsequent December 2013 Fed announcement of calibrated reduction of its bond purchase programme, how the situation will evolve is uncertain. But certainly, consideration of liquidity has come to occupy centre stage in policy analysis. The ebb and flow of global liquidity is of greater concern for emerging market economies (EMEs) like ours.

Against this backdrop, I will begin by reviewing the concept and the trend in global liquidity. I then highlight the impact of global liquidity on asset markets and EMEs before turning to our experience in managing the spillover.

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[*] Remarks by Deepak Mohanty, Executive Director at the *Conference on Capital Account Management and Macro-Prudential Regulation for Financial Stability and Growth* organised by the Centre for Advanced Financial Research and Learning (CAFRAL) and Initiative for Policy Dialogue (iPD), New Delhi, January 14, 2014. The assistance provided by Rajan Goyal, Rajeev Jain and Somnath Sharma is acknowledged.

Concept and Trend

Traditionally, liquidity is seen in terms of the balance sheet of the central bank or more broadly the balance sheet of the banking sector. It could be some measure of narrow money or broad money. However, financial innovation and technology has made it possible to generate substantial financial liquidity outside the monetary sector. The global financial crisis has prompted the Bank for International Settlements (BIS) and the International Monetary Fund (IMF) to come up with a much wider concept of global liquidity.

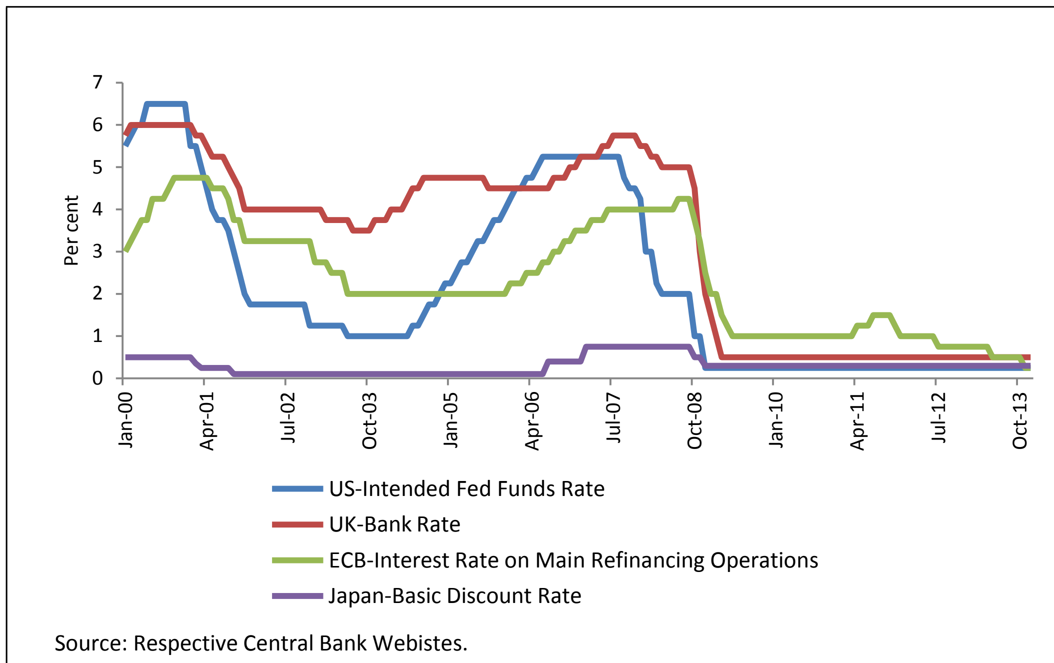
The BIS-IMF definition of the global liquidity emphasises on the "ease of financing" as a key attribute. It depends upon the existing macroeconomic environment, monetary policy stance, financial regulation and a host of other factors such as the pace of financial innovation and risk appetite that guide the actions of market participants.

Indicators of global liquidity can broadly be classified into two categories: price based indicators and quantity based indicators. Price based indicators tend to provide information about the conditions at which liquidity is provided, while quantity measures capture how far such conditions translate into the build-up of potential risks[1]. Policy rates, short-term interest rates, long-term interest rates, term spreads, deviations of levels from trends, and deviations of term spreads from trends are all regarded as important indicators of global liquidity conditions. On the other hand, quantity-based indicators of global liquidity measure both assets and liabilities of globally active financial intermediaries. Generally, it is the asset-side approach, which is considered more appropriate as it represents the actual extension of international credit. These two approaches represent the same underlying phenomenon and complement each other[2]. Let me now turn to the recent trend in global liquidity.

[1]BIS (2011), "Global liquidity - concept, measurement and policy implications", CGFS Publications No 45, November 2011.
[2]IMF (2013), ''Global Liquidity-Credit and Funding Indicators'', IMF Policy Paper, July 16, 2013.

Immediate rise in global liquidity in the post-crisis period was the result of unusual policy accommodation in the advanced economies. In an effort to prop up their financial systems, monetary authorities in the advanced economies resorted to aggressive monetary easing by reducing policy rates to near zero (Chart 1). However, the key channels of conventional monetary policy were impaired once policy rates approached the zero lower bound.

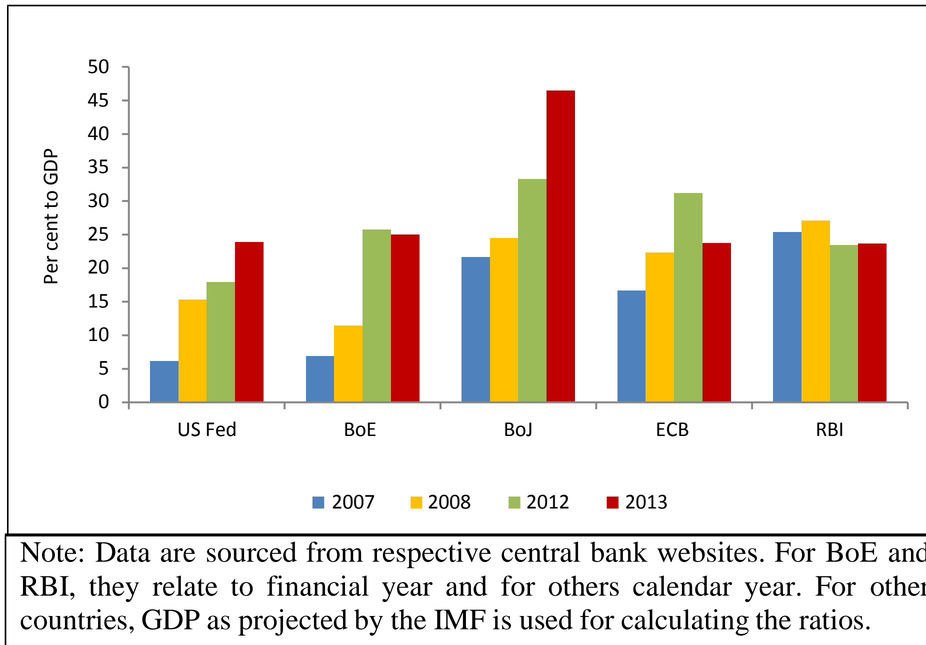
Chart 1: Key Policy Rates: Select Advanced Economies



Source: Respective Central Bank Webistes.

Recognising the limitations of conventional policy tools and the severity of the economic downturn, major central banks turned to substantial liquidity injection by expanding their balance sheets in various unconventional ways (Chart 2).

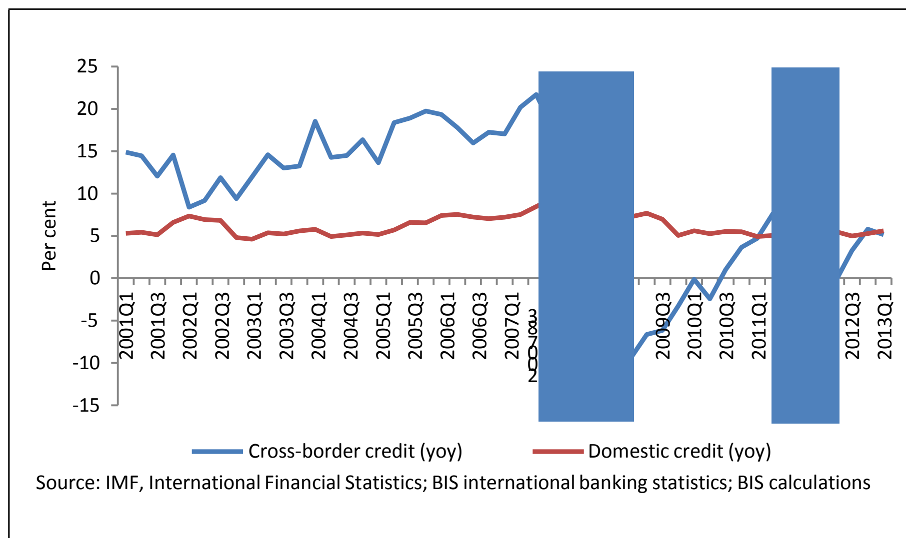
Chart 2: Central Bank Balance Sheets



Note: Data are sourced from respective central bank websites. For BoE and RBI, they relate to financial year and for others calendar year. For other countries, GDP as projected by the IMF is used for calculating the ratios.

In the run up to the crisis, there was a buildup of international cross-border credit which was followed by a large decline immediately following the crisis (Chart 3). Let me now turn to the impact of such ebb and flow of global liquidity on asset markets and the EMEs.

Chart 3: Year-on-Year Growth in International Claims



Source: IMF, International Financial Statistics; BIS international banking statistics; BIS calculations

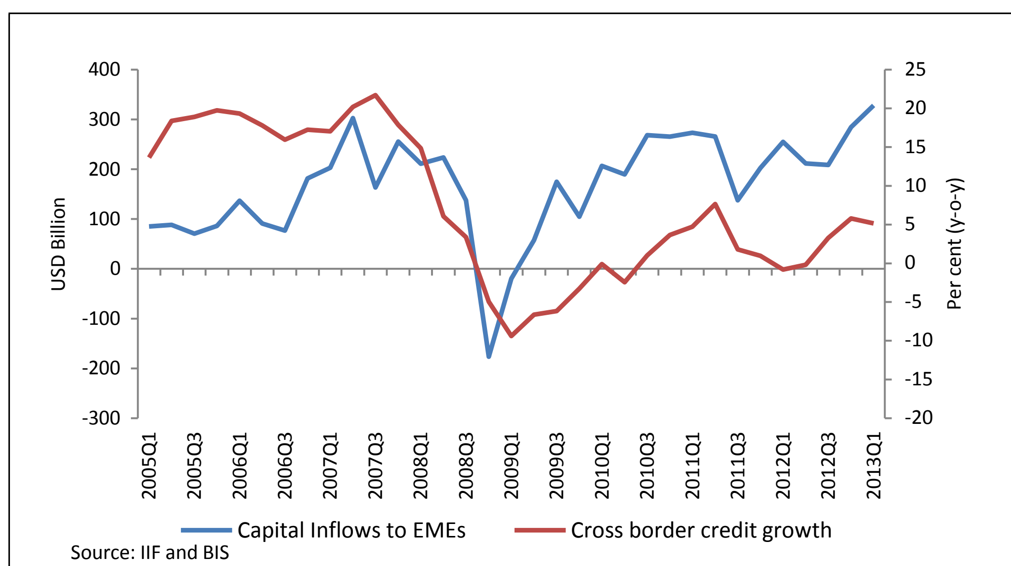
Impact on EMEs

An environment of excessive global liquidity has been associated with high capital inflows to EMEs. During the phase of excess liquidity, global investors seeking higher yields shift their portfolios towards emerging markets exhibiting

higher interest rates and better economic prospects. This is reflected in strong capital flows to EMEs, which may not always be consistent with their domestic fundamentals (Chart4). This has implications for exchange rates, domestic monetary and liquidity conditions and overall macroeconomic and financial stability.

While high and unstable capital flows can lead to macro and financial stability concerns, managing capital flows to minimise such concerns has costs. Global liquidity could potentially lead to over-heating through augmenting domestic liquidity; loss of competitiveness through exchange rate appreciation; and increased vulnerability to crisis through spillover to various segments of financial sector. Furthermore, fluctuations in global liquidity make capital flows to EMEs more unstable. This in turn makes it difficult for policymakers to assess and distinguish between the durable and transitory components of capital flows, constraining their ability to effectively pursue domestic policy objectives. In short, capital flows inconsistent with domestic absorptive capacities in EMEs complicate macroeconomic management.

Chart 4: Cross Border Credit Growth and Capital Inflows to EMEs



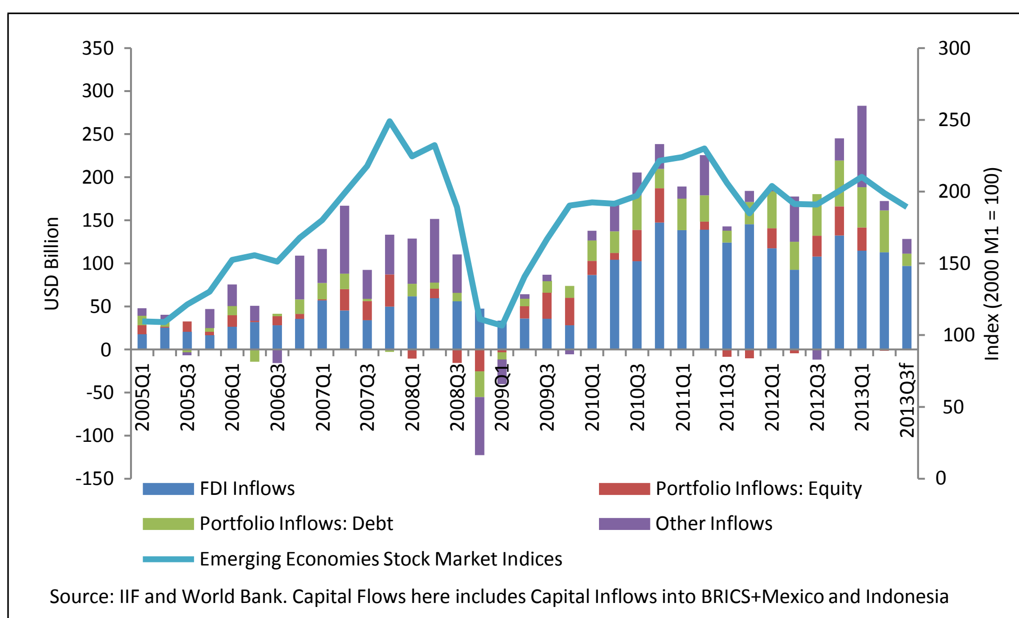
It is also argued that major central banks engaging in ultra-accommodative monetary policies at the same time give a large positive shock to global liquidity that feeds into commodity and food price inflation.[3] Easy access to wholesale funding

[3]Belke, Ansgar, Ingo Bordon and Ulrich Volz (2012), "Effects of Global Liquidity on Commodity and Food Prices", DIW Working Paper No.1199, Deutsches Institutfür Wirtschaftsforschung, Berlin.

markets saw increasing participation of major investment banks in the commodity market leading up to 2008 crisis[4]. Correlation between cross-border credit and international commodity prices suggests a possible link between global liquidity and financialisation of commodity markets.

In 2008, global capital inflows retreated from the EMEs. The resumption of capital flows to countries in 2009 with a strong growth outlook or appreciation expectations brought back pressures on the exchange rate and rising asset valuations, including equities (Chart5). Many emerging markets met these challenges with a mix of macroeconomic policies as well as macro-prudential and other capital flow management measures.

Chart 5: Emerging Economies Capital Flows and Stock Market Indices



Source: IIF and World Bank. Capital Flows here includes Capital Inflows into BRICS+Mexico and Indonesia

Let me now turn to the Indian experience in managing the spillover from volatility in capital flows.

Indian Experience

We have a deficit in the current account of our balance of payments (BoP). Hence, we are dependent on global financial markets to finance our current account deficit (CAD). The impact of capital flow volatility on our economy can best be

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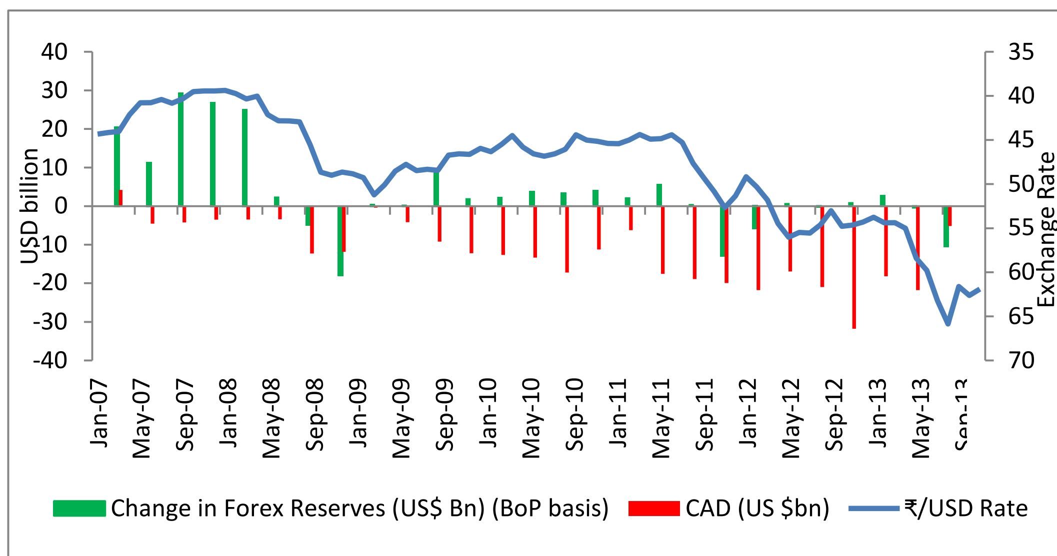
[4]Lane, Timothy (2012), "Financing commodities markets", Remarks at the CFA Society of Calgary, Calgary, Alberta, 25 September 2012.

captured in a snapshot by looking at the movement in our foreign exchange reserves and the exchange rate (Chart 6).

Chart 6: CAD, Forex Reserve Changes and Exchange Rate



We experienced a phase of high growth and low inflation prior to the crisis. Financing the current account was not an issue for two reasons: first, the CAD was small and second, capital inflows were far in excess of the absorptive capacity of the economy. Hence, capital inflows resulted in both the appreciation of the Rupee and accretion to foreign exchange reserves.

In the context of intervention in the foreign exchange market, the issue of cost of sterilisation invariably comes up for discussion. But the issue is a complex one: should one look purely at the financial cost measured largely in terms of interest rate differential between foreign and domestic interest rates? Should one look at the cost of non-intervention in terms of its implications for financial stability, which is of course difficult to quantify but perhaps easy to understand? In any case, the financial cost of sterilisation is in the nature of a quasi-fiscal cost: if it is borne by the central bank, profit transfer to the government reduces to that extent; if it is directly borne by the government, it is reflected in the budget. In addition, if sterilisation is done through raising unremunerated cash reserve ratio (CRR), the cost is borne by commercial banks, though they may benefit from easy liquidity. In its intervention operations, the Reserve Bank followed a cost sharing approach with the financial costs shared by the RBI, government and commercial banks. With the hindsight I

could venture to say that the liquidity buffers that were built up earlier helped during the crisis.

Deleveraging during the crisis led to reversal of capital flows. India's balance of payments came under pressure in Q3 of 2008-09 due to capital outflows. It became necessary to draw down reserves to finance the shortfall and maintain orderly conditions in the foreign exchange market. This led to a corresponding contraction in the base (reserve) money. The Reserve Bank, therefore, ensured the necessary expansion in net domestic assets (NDA) through conventional open market operations (OMO) involving outright purchase of government securities in the secondary market as well as provision of liquidity through repos under its daily liquidity adjustment facility (LAF).

Another instrument, which allowed the Reserve Bank to expand liquidity, was the unwinding of the market stabilisation scheme (MSS) securities[5]. The unwinding of MSS balances not only created the scope for adequate liquidity expansion by the Reserve Bank without expanding its balance sheet in any significant measure, but the timing of the unwinding could also be modulated in such a way that the large borrowing programme of the government was managed smoothly without exerting undue market stress. In addition, the reduction in cash reserve ratio (CRR) of banks from 9 per cent to 5 per cent released ₹ 1.6 trillion of primary liquidity. Liquidity expansion achieved through unwinding of MSS and reduction in CRR ensured that the Reserve Bank's balance sheet did not expand significantly, unlike in several other central banks. Thus the liquidity buffer built up in the pre-crisis period helped to ease both foreign exchange and rupee liquidity.

Since India witnessed stronger growth ahead of the global recovery, capital inflow revived during 2009-10 and 2010-11 and was reflected in significant appreciation of the Rupee. It was also supported by ample global liquidity conditions emanating from quantitative easing (QE). However, during the euro area crisis, deleveraging in European banking system again adversely affected capital flows to

[5] MSS securities are essentially short-term government securities, introduced in April 2004, as an instrument of sterilisation to partly neutralise the expansionary effects of surges in capital inflows. The amount sterilised through MSS remained immobilised in the Central Government's account with the Reserve Bank of India. As at end-September 2008, MSS amount stood over ₹ 1.7 trillion.

India towards the later part of 2011-12. In response, several policy measures were taken to encourage capital inflows, particularly giving greater access to international investors to domestic currency debt market.

Again, volatility in the financial market returned following the announcement in May 2013 of the US Fed's intention of likely tapering of QE. Portfolio outflows, particularly from the domestic currency debt segment, were substantial. This prompted the Reserve Bank to resort to somewhat unconventional monetary policy measures besides drawing down of foreign exchange reserves to meet the immediate shortfall. Let me give you the essence of the key measures.

- In terms of monetary policy, the upper bound of the policy rate corridor (i.e., MSF rate) was raised by 200 basis points and the quantity of central bank liquidity available through the LAF window was restrained. This had the desired effect of tightening the monetary conditions and raising the effective policy rate sharply to the MSF rate.
- In order to signal that the above measure is temporary so that the interest rates at the longer end do not harden, a form of operation twist was tried by conducting outright OMO purchase of government securities alongside sale of short-term government cash management bills. This inverted the yield curve, though accompanied by some increase in long-term rates.
- With a view to containing the current account deficit (CAD) on the balance of payments (BoP), gold imports were restricted.
- The non-resident deposit schemes and domestic banks' borrowing abroad were further liberalised with incentives for swapping these inflows directly with the Reserve Bank. This substantially augmented foreign exchange reserves despite some outflow on account of directly meeting the foreign exchange requirement of oil imports.

As portfolio capital outflows waned and BoP improved, stability returned to the foreign exchange market. This prompted the Reserve Bank to unwind the bulk of the exceptional measures and normalise monetary policy by restoring the policy interest rate corridor to its original configuration and the repo rate to its signaling role of policy.

Conclusion

Let me conclude. Excess global liquidity emanating from accommodative monetary policy stance in advanced economies has raised asset prices and imparted greater volatility to capital flows to EMEs. In episodes of liquidity stress, capital account and exchange rate management seem to override the domestic monetary policy objectives of growth-inflation considerations. As aptly observed by Hélène Rey (2013), "independent monetary policies are possible if and only if the capital account is managed".[6] In India, we experienced two episodes of severe stress on our balance of payments emanating from volatile capital flows which were managed with a combination of polity tools. Given that the central bank balance sheets in advanced
countries are still bloated and the actual taper starting now, considerable uncertainties remain for global financial markets and capital flows to the EMEs.

Thank you.

[6]Rey, Hélène (2013), "Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence", paper presented in 2013 Jackson Hole Economic Policy Symposium, Federal Reserve Bank of Kansas City.

Transcript of the comments by Manuel Agosin, Dean, Department of Economics, Universidad de Chile

The Chairperson of this panel, Dr. Usha Thorat, asked from participants to focus on five key topics. I will concentrate my remarks on one of them: How do emerging markets protect themselves from excessive exchange rate volatility when faced with changes in global liquidity and contagion? I will refer to the other questions, which are very much related to this key issue, as I go along. The stylized fact is that capital flows to emerging markets are largely exogenous. When capital is flying towards emerging markets, it is usually not going to one of them but it is going to be a whole set of them at the same time. In the same fashion, when there are sudden stops in capital inflows, it is often in the context of sudden stops being experienced by several countries at the same time. There is something in the international financial system that broadly accounts for capital inflows and capital outflows from emerging economies.

When interest rates are low in developed markets after the crisis, financial agents "discover" the virtues of emerging economies, where interest rates are normally much higher. In 1990s, it was the Asian miracle and the Latin American liberalizations that allegedly were making Latin America the land of the future. In the 2000s, it was the so-called BRICs and the discovery of Brazil, Russia, India, and China, as the economic powers of the 21st century; now we know that the miracle didn't last very long. Brazil is in deep trouble; Russia, China and India have experienced slowing growth rates.

We can call these co-movements in flows to emerging economies "contagion", if you will. There is contagion in the upside of the capital flow cycle and in the downswing. In addition, as my research shows, excessive capital inflows create fundamental imbalances in the recipient country (appreciated exchange rates, current account deficits, asset price bubbles), which sow the seeds of future sudden stops. This is what we saw in Asia, what we saw in Latin America, and what we are seeing in several countries (including India) right now. When capital flows out of an important country, investors begin to look at other countries that may exhibit the same disequilibria; or it may be that hedge funds and other investors have to sell good assets in order to meet collateral on assets that have gone bad. So there may be several reasons for contagion.

This is something that happens at the level of international financial markets. I found something very interesting: when interest rates in developed countries go down, the spread, the EMBI spread on emerging markets, they all go down at the same time; and when interest rates in financial centers are going up (for example, now we are seeing an uptick in the long rates in the US), then all the EMBI spreads in emerging countries rise at the same time. This is not a matter of one country or another country. My country, Chile, as one of the best pupils of the Washington Consensus, is pretty solid in its economic policies; nonetheless, the spreads on its sovereign debt (as well as the CDS on sovereign debt) are very sensitive to interest rates in international markets. When international interest rates are going up, as they are now owing to the uptick in US long rates, Chilean and other emerging market borrowers are faced with even sharper increases, as their spreads rise in tandem with international rates.

Therefore, central banks need additional tools. One of the questions that Usha asked us was should central banks just worry about inflation targeting or should they need to worry about other things as well. They should obviously keep an eye on the exchange rate, which is extremely important for emerging markets. Exchange rates are much more important than for the US or Europe, simply because, if they are to grow, emerging markets have to produce newer tradables. They have to diversify their tradables. And if the exchange rate is very volatile or if it is appreciating during long periods of time, those new tradables simply will not emerge.

And central banks should also keep an eye for prudential purposes on the leverage of banks. They should keep an eye on domestic asset markets, particularly real estate. In my own country, there is a real estate bubble at this moment, largely because banks were intermediating between international markets and domestic markets. So real estate prices are certainly an important indicator for central banks to watch. Other indicators include stock market prices, and household and corporate indebtedness.

Since the world financial crisis, there has been a lot of interest in macro-prudential regulation. This interest is appropriate, but in emerging markets it should be designed with their characteristics in mind, which are quite different from those of developed markets. As noted below, most of the borrowing of banks from money markets takes the form of capital inflows. Therefore, macro-prudential regulation in emerging economies necessarily takes the form of some kind of prudential capital controls.

Is monetary policy enough? I translate this question the following way: Is central bank intervention in foreign exchange markets enough to stabilize the economy? Exchange-market intervention is clearly a monetary policy tool. Clearly, there is a lot more that can be done. To begin with, emerging markets can adopt exchange rate regimes that are not free floats, and several have tried that. Many have tried different regimes (crawling pegs, crawling bands, dirty floating, pegging to a currency basket) with varying degrees of success. One can understand perfectly well why central bankers prefer to keep things simple, like sticking to inflation targeting by moving the interest rate and forgetting about the exchange rate. However, this does not do their countries a lot of good. When capital inflows and outflows are transitory, the most flexible alternative is dirty floating. However, we never know how transitory "transitory" is. It could last a long time, and I will argue that in fact capital inflows usually come in long waves and retreat in long waves. This is what the data has shown from the 1970s onwards, and when this happens, it is very difficult to do dirty floating. You simply have to buy up too many reserves during the inflow periods, and you may run out of reserves during the outflow period. In fact, that is what I show here. I won't bother you with the numbers (they come from some research I did), but the point of the graph is that net capital inflows as a share of M2 are very large in emerging markets. They can represent between 10% and 25% during periods of inflows and they can fall to between -10% and -25% during periods of outflow. And these periods are normally quite long.

In developed markets, net capital flows as a percentage of M2 are much smaller. So in developed markets, intervention is certainly easier to bring about. In emerging markets net capital flows can be very large relative to the size of their financial markets. I took the M2 metric as representative because I had data for practically all the countries that I was studying. Here you have that capital inflow can be really huge relative to M2 during inflows and it can be huge during outflows as well. Therefore one needs more than monetary policy; i.e., more than exchange-market intervention. It certainly can be used, but it really needs to be supplemented with other policy tools.

When capital inflows are taking place, and they are sustained and large, this can be quite pleasant for a lot of people (except for producers of new tradables). Times are good, demand is expanding, asset prices are rising, and people feel rich. Tax revenues may also be going up. So governments don't feel any particular pressure to do much of anything rather than let the good times roll. However, when capital is flowing out, things can get very messy: the exchange rate is depreciating, unemployment is increasing, asset prices and output are falling.

At this point, the government has to do something but it has few policy tools to do it. This is the reason why intervention must take place when times are good and capital is flowing in. This intervention can take the form of foreign exchange purchases by the central bank, but should not exclude other measures.

As I show in another paper, large inflows always precede future sudden stops. Moreover, the longer the period of large inflows, the higher is the probability of a sudden stop. So it is good to have additional tools to moderate inflows. What can be done? Several countries have attempted capital controls. Jose Antonio made a very good summary of these measures yesterday and I won't repeat what he said or what is known about capital controls. My view is that the simpler the measures the better are the chances that they will be successful, and the easier they are to apply. Let's remember that in emerging markets applying measures is not a simple thing. You need very proficient people to do that, and the more complicated the measure, the easier they are to avoid or to evade. I will give you an example from my own country. In Chile, we had an unremunerated reserve requirement on everything but FDI. What happened? Many prospective foreign financial investors disguised their flows as FDI. They set up companies complying with Chilean law and brought in capital to invest short, not to invest in machinery and equipment and create new real assets.

Recently, Shin (2010) has suggested that, in a domestic context, banking crises really arise from the liabilities side: banks finance the creation of assets by borrowing from money markets. During boom periods, the share of such borrowing in total bank liabilities goes up sharply. When this is happening, he suggests that the boom can be moderated by a tax on bank borrowing from the money market. Now for emerging markets, this translates into a tax on borrowings from *foreign* money markets, because domestic money markets are pretty undeveloped. Banks in emerging markets are major participants in the carry trade. When interest rates in the international markets are as low as they have been since the international financial crisis, the temptation to borrow for lending on the domestic market must be very hard to resist, and the potential risks of depreciation are easily underestimated. When you can borrow at, say a rate of 1% or 2%, and lend in Brazil at 10% and 15%, then there is a big incentive to engage in this carry trade, especially because most agents also expect currencies to appreciate rather than depreciate.

The flows themselves will appreciate the currencies of the recipient countries. So agents engaged in the carry trade could easily make a killing both on the interest rates and potential

appreciation. Before any crisis emerges, there will be a long period of appreciation. There is also recent evidence that big corporates in emerging markets are increasingly participating in this trade through bond placements. The creditors are no longer banks; they are asset managers. Therefore, the potential problem in the carry trade is really not only bank lending, but also corporate bond placements or borrowing from banks by corporates. The problem of excessive capital inflow may arise not only from short-term borrowing, but also from longer-term borrowing from banks and non-banks.

Banking regulation is particularly important as a capital-account prudential measure. This is part of macro-prudential measures, which are particularly relevant to emerging markets. Asset-liability mismatches in foreign exchange can be extremely dangerous at the moment of a financial crisis. We have seen many companies going bankrupt owing to their foreign-exchange denominated debts, and many domestic banks having to be rescued by the authorities. So asset-liability mismatches in foreign currency are something to watch, particularly an important aspect of prudential banking regulation in emerging markets. Also, mismatches in foreign exchange derivatives that are intermediated by banks may also be extremely important. The increasing use of derivatives to move capital is something of concern and one has to keep an eye on this phenomenon. The Korean Central Bank has required banks to match assets and liabilities on foreign-exchange denominated derivatives.

A word on the current situation. We are witnessing a reversal in capital flows to emerging markets, and this has been accompanied by a change in appetite for assets that are viewed as being riskier, including those of emerging markets. Financial markets have soured on Brazil, Russia, India, and even on China, whose growth has decelerated and nobody knows whether that deceleration will deepen in the near future. Therefore, US long-term interest rates are going up and emerging market spreads are going up at the same time. Thus emerging markets are getting hit twice. Some emerging markets are better equipped than others to deal with the situation. Those with large current account deficits are clearly more vulnerable than those that have more reasonable current account deficits or have surpluses. Countries with large reserves can withstand a period of capital outflow. Again, the problem is that we don't know how long will it be.

These distinctions we love to make as economists between transitory and permanent phenomena, between short-term and long-term, are really quite fictitious because they are very hard to identify. Some countries have accumulated reserves not by running current

account surpluses but by the central bank buying up short-term capital inflows. They will certainly experience a combination of real exchange rate depreciation and foreign currency reserve losses. Other countries with large reserves are better equipped to handle capital outflows over a certain period of time. China is a biggest exception among emerging economies. My own country is experiencing capital outflow this moment, again with high reserves and with a fairly resilient policy framework. Some countries have not been sufficiently disciplined during the good times.

When there is a boom, agents tend to catch the "this-time-is-different "syndrome. In other words, people tend to justify why real estate and stock prices are rising and assume that the trend will go on, even when it has reached irrational levels. In my own country, we have been experiencing a boom in real estate prices, which may be abating with the downturn in economic activity. But until recently, banks were willing to provide mortgage financing without any down payment and without asking too many questions about the borrower's creditworthiness.

In good times, the easy availability of cheap credit has allowed governments to incur fiscal deficits and the private sector to borrow in excess, both of which have led to high current account deficits that are financed with the capital inflow surge. Since these surges reverse themselves, in spite of the belief that they never will, there is a day of reckoning. At this point, crisis management is the only thing a government or central bank can do.

To conclude, you prepare for the bad times during the good times. I think that is very important, and part of the policy framework must be an anti-cyclical fiscal policy (or at least an acyclical policy). This helps to cushion the cycle, and a flexible target for the cyclically adjusted balance helps. Again, I refer to my country where we have a target for the cyclically adjusted balance, but during the financial crisis, the Minister of Finance simply went overboard and ran a large nominal and cyclically adjusted deficit (the latter to the tune of 3.5% of GDP, when the target was for cyclically adjusted balance). This was possible because the country had accumulated resources in a sovereign wealth fund during the preceding commodity price and capital inflow boom.

Protecting the exchange rate from appreciation during the upswing with flexible but permanent capital account measures such as those that have been suggested in this meeting is also an important ingredient in the policy toolkit. An additional one is to engage in dirty floating during booms and accumulate additional foreign exchange reserves. Finally, the

central bank needs to give some guidance to the market as to where the long-term equilibrium exchange rate is likely to be. There is a proposal by John Williamson to have the central bank announce a band in which it believes the equilibrium rate to be. This band is soft in the sense that the bank may decide to defend it, but it is not committed to do so. Exchange rates tend to overshoot their equilibrium, owing to so-called chartist (i.e., speculative) behavior. Having a band to tell the market where the exchange rate is likely to be is a good idea.

In conclusion, I do believe that, in emerging economies, central banks have a lot more to do than just worrying about inflation even if the exchange rate regime is a formally a floating one.

Transcript of the comments by Amar Bhattacharya, Director of the Secretariat, Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development

I will bring a comparative perspective to the discussion, and I will do it in three parts based on the questions that had been posed: I will talk first about the latest wave of capital flows and its characteristics; I will then tie some of the threads that we have heard on policy responses and challenges for emerging markets; and finally, I want to talk about one last aspect that has not been highlighted, which is the importance of global financial safety nets for emerging markets.

Global Liquidity and Capital Flows

As we have heard that there has been a sharp increase in official liquidity due to the unprecedented expansion in the balance sheets of major central banks. What is striking is not just the increase, but also the flip side, which is a huge contraction in private liquidity. Private liquidity expanded very sharply in the period before the Lehman crisis, with banks and wholesale banking across borders playing a major role focused primarily on the advanced markets. After the Lehman crisis there was a sharp contraction, and global private liquidity remains well below pre-crisis levels. The contrast between emerging markets and advanced countries is very striking, in that capital flows to emerging markets have recovered, although they have been volatile (and I will come to that in a second), but capital flows amongst advanced countries have sharply declined. This is really a story about banks (which I will also come back to shortly).

Among flows to emerging markets, you see a great deal of variation across regions. I don't have the time today, but one can talk about individual regions and why this is taking place. There is also a clear story about the composition of capital flows. Essentially, FDI has remained relatively robust, though not throughout the period. What is noteworthy is that non-FDI flows– and in particular debt financing – have been sharply negative primarily due to a sharp contraction in cross-border bank lending. In the case of advanced countries, it was wholesale banking flows, particularly intermediated through European banks that provided for the huge cross-border boom that took place prior to the crisis. While the decline in bank lending has primarily affected advanced economies, emerging markets have also been affected by the de-leveraging of the banks. Some of this has now been replaced, as Manuel

said, by issuance of market-based finance, a lot of which is done by asset managers, which is something new and, importantly not without risk. The second issue, which is equally important, is the internationalization of corporates in emerging markets and the taking on of large amount of unhedged debt. I will discuss the incentives for that shortly.

Overall, these two very important changes in the structure of capital flows are occurring at this very moment. The fundamental driver for this has been the sustained interest differential between AEs and EMDCs, but also the very low interest rates in the advanced countries, as Manuel pointed out. This has created two major incentives: one is the search for yield, and the other is the incentive for un-hedged borrowing on the part of emerging markets, especially emerging market corporates. At the same time, we have to remember that we have lived through a period of huge changes in risk appetite. This has been primarily due to developments in the advanced economies; the Euro crisis has been the most significant but the stalemate with regards to the US debt ceiling also introduced a large measure of volatility during this period of continued capital flows. One result of this has been very significant exchange rate volatility. In the case of Brazil, for example, there was a huge appreciation of the Real and very large capital inflows, which was followed in the subsequent period by very significant depreciation. An important factor in this is the double bet that Manuel talked about, whereby private investors bring in money because yields are relatively high but they also anticipate that the exchange rate will appreciate with additional benefit. Of course, somebody has to pay the price of this, including the central banks. Thus increased exchange rate volatility in emerging markets has been an important characteristic of this most recent period and has been a source of vulnerability.

There is another important and not widely recognized shift that has taken place since the crisis.. A massive rebalancing has taken place in global trade balances driven by the emerging markets. Emerging markets other than China and Japan have swung from a surplus before the crisis to an aggregate trade deficit in the post-crisis period that is now greater in absolute magnitude than the US. This extraordinary shift has been facilitated by abundant capital flows but it also reflects the fact that emerging markets and developing countries have been the principal drivers of global growth and demand during this period. What is equally striking, and I think this is something Andrew had pointed out, is the flip side, which is that Europe went from a modest surplus to an extraordinary surplus. This is an important aspect of the rotation of the demand that needs to be addressed going forward.

This rebalancing and the contribution of emerging markets to global demand has led to increased macro-vulnerability, particularly in terms of increased current account and fiscal deficits. If you look at the graph in the presentation, you see that the five countries that came under most pressure – India, South Africa, Turkey, Brazil, and Indonesia - indeed have larger current account deficits and larger fiscal deficits than other emerging markets and developing countries. This fact is used to suggest that the markets are differentiating between “better performing” countries and “worse performing” countries. But let me reject that proposition quite unequivocally. The same fundamentals were evident for these countries one year ago, so why did the money come in? If these countries were so vulnerable, why were they the beneficiaries of all this money, and if the money is going out, is it really correct that these countries represent a significant solvency risk on the basis of which you would withdraw the money? Yes, there was some link between capital flows and credit risk, but it has not been of the order of magnitude that represents more than a cyclical risk. If you look at the impact of tapering, you see huge impact on emerging markets and developing countries. Again, is this really warranted given the fundamentals? To the contrary, fundamentals in emerging markets are substantially stronger than they are in advanced economies. When you look at debt levels adjusted for growth, even India looks pretty good compared to the United States or Europe. And the same is true in terms of the health of the financial sectors and the track record on policy adjustments. So this issue of fundamentals can be overdone in terms of emerging markets, and, as I had pointed out, emerging markets have been the drivers of the global economy. So one of the risks is that if we allow this beauty contest to simultaneously constrain emerging markets to lower levels of debt and current account deficits, it won’t be just bad for the emerging markets, it will be bad for the global economy.

Policy Challenges for Emerging Markets

Let me then come to the policy challenges facing emerging markets in a world capital flow volatility. Looking at the recent ebb and flows, you find that all emerging markets used a degree of exchange rate flexibility to cushion themselves. On the other side, everybody has used a certain degree of foreign exchange intervention. Emerging markets have also deployed a wide range of macro-prudential measures, and in this sample, Brazil, Indonesia and to some extent South Africa, used direct and targeted capital account measures as well.

I want to spend some time on macro-prudential measures. Emerging markets have deployed macro-prudential measures with a far greater degree of frequency and a far greater degree of

diversity than advanced economies, and a lot of these macro-prudential measures have been targeted at un-hedged forex exposures, as should have appropriately been the case. You also find, for example, that they have used reserve requirements, counter-cyclical capital requirements, and ceilings on credit growth with greater frequency. So a lot of action now is not in what we used to consider capital account management measures in a narrow sense, but rather on macro-prudential measures. Some of these are steady state, and appropriately so, because it is important to focus on the balance sheet and not just on the flows. Overall, this has been an area where emerging markets have deployed a wide array of measures, and the micro data shows that this has had a very positive impact on financial institutions, with financial institution risks in emerging markets having been contained as a result. So what accounts, then, for this greater volatility of emerging markets, despite their fundamentals - both their macro-fundamentals and financial sector fundamentals - being better than those of advanced economies? I argue that a major contributing factor is the lack of deep, liquid resources which they can tap.

The Importance of the Global Financial Safety Net for Emerging Markets

We learnt from the crisis that, in a world of uncertainty and multiple equilibria, you need strong firewalls, in order to persuade the markets that we are not going to allow short-term borrowing to take us towards an abyss. We also realized, unfortunately, that early action on this is critical. The drawn out discussions on the firewall was certainly one of the reasons why this crisis lasted long as it did.

We are now moving towards a multi-layered global financial safety net, with central banks swap arrangements, regional financing arrangements, build-up of international reserves, and augmentation of IMF instruments and resources. As far as central banks swaps are concerned, amongst major advanced economies, we have moved from relatively modest sums before the Lehman crisis to an unprecedented expansion and now to virtually unlimited swaps amongst major central banks. Some emerging markets and some smaller advanced economies were included in these swap arrangements originally, but are no longer part of it. So there is now a system where the advanced economies have unlimited swaps in order to deal with potential instability, but there is no equivalent cover for emerging markets. What emerging markets have done is of course build up reserves, but there is a big problem with this approach, in that while reserves can be useful in dealing with tides, but they are not very helpful in dealing with Tsunamis. This is because the use of reserves is seen as a signal of vulnerability. Thus,

while it is good to have a cushion of reserves, they are not costless as Louis mentioned. The ability to use them in times of crisis is actually limited. Moreover, the amount of reserves compared to the gross liabilities is very small and it will always be very small when you compare it to the external liabilities. As such, it is not possible to achieve adequate cover, except perhaps for China.

I don't want to spend time on the regional financing arrangements (RFAs). There are initiatives underway to buttress RFAs but these are subject to some inherent limitations and exclude many emerging markets. There are discussions under way as you know on the contingency reserve arrangements amongst the BRICS. But these arrangements are still relatively modest in magnitude and subject to covariant risk, and in some sense they are unable to really deploy when you have huge, systemic risk. So while they are important and will play a role, they again are not enough to deal with Tsunamis.

That takes me to the IMF. The IMF's resources have been significantly augmented since 2009. The Fund's resources have been increased in two ways. . First, through something called New Arrangements to Borrow, which is a structured arrangement but a time-bound one. When the European crisis deepened, there was also a supplementary bilateral program, to which emerging markets contributed quite significantly. But both of these, the New Arrangements to Borrow and the 2012 bilateral borrowings, are temporary arrangements. Once the 2010 quota is increased and the board amendment comes into place, we will get an increase in quotas of about $250bn, which would double the existing level of quotas, but, when compared to the central bank swaps arrangement, it is relatively modest. So the Fund needs a permanent resource base that is suitable for a world of volatile capital and contagion, and nothing short of a trillion dollar fund would be credible for the kinds of volatility that we are thinking about. The whole purpose of an adequate arsenal is not to deploy it but for markets to know that emerging markets and others have access to this in addition to the reserves that they have. It is also important to make clear that the conditions under which it is given do not arise because of problems with fundamentals, but rather because markets now are much more volatile and liquidity mechanisms are necessary to deal with this. At this moment, therefore, getting a permanent increase in IMF resources and getting the governance changes to go with it must be something which we put full force behind. So while we are talking about the domestic measures, we must also be mindful of the international measures that need to be taken.

Questions to the Panel

Aaron Mehrotra (BIS Hong Kong): I wanted to ask the panel about their views on FX intervention as a policy tool going forward both to deal with FX volatility and also to affect monetary conditions in the economy because it was shown both in the presentations by Deepak and Amar that central bank balance sheets have become very big, and in this region in particular they have become very big. So then this also implies that sterilized intervention has become very costly as a policy tool. Would this mean that then central banks will allow more volatility in the exchange rate, going forward?

Mythili Busnurmath (Economic Times) : I have three questions, and I will be very brief. My first question is to Sukhdave Singh. You spoke about excessive debt but how do you measure what is the word "excessive" mean? It is a very subjective word. Do you measure it in terms of total flows; do you measure in terms of country's absorptive capacity, the debt service coverage ratio, what is excessive? Is it country specific, are there any rules?

My second question is to Manuel Agosin from Chile. You talked about fiscal policy being acyclical or anti-cyclical. In a poor democracy, where fiscal policy almost necessarily by definition is expansionary, what is the additional responsibility cast on the monetary policy?

My third question is to Deepak Mohanty from the Reserve Bank of India. Very often we have been talking about adequacy of reserves. Earlier we measured in terms of number of months of import, then we expanded in terms of short-term debt i.e. residual maturity then we increased to what percentage of portfolios flows, but now I find the present Governor of the Reserve Bank of India talking in terms of about number of months of current account deficit. What is the logic and how sustainable is this kind of argument?

Devasish Prusty (Ministry of Commerce): My specific question to Louis Kasekende from Bank of Uganda. You spoke about designing real estate price indices. What sort of data structure do you factor in? Do you take into account the property prices in residential sector or in the commercial sector? Do you have kind of a central registry which talks about the quarterly or the periodic fluctuations in the prices? Could you elaborate more on that?

Stephany Griffith-Jones (IPD): I thought the panel was absolutely outstanding. Mr. Singh told us that when you liberalize the capital account, you should have the policy space to step back. I totally agree but the problem is I think political economy. From what Louis told us and what Manuel told us, can you restore capital controls, isn't it too difficult to do? This is partly because the markets develop and partly because from the position of the domestic financial sector, the international is so big. Isn't it better just perhaps not to open it completely and leave the space there? Secondly, I thought Manuel's presentation was excellent, but he says that the capital flows amongst developed countries are on the whole smaller. That was true in the past, in the reversals. But the flows into Spain in particular and even more into Greece and the reversals were actually bigger than in Latin America in the 1970s and 80s. I think in a way this raises a tactical question whether the issue should be posed as one of emerging markets being more vulnerable than the developed countries or

should we pose it as a general problem of volatility of the financial markets? It is also in the interest of the developed economies to have these kinds of broader defenses and this brings me back to the excellent point I think that Amar made about the need for a bigger fund. I think we should say that on behalf of the emerging countries and of the low-income countries, but it's also true for Greece, and Spain and Ireland, that we all need a bigger fund; we all need maybe even more prudential capital account management.

Shyamala Gopinath (Former Deputy Governor, RBI): What Louis mentioned that in Uganda, one source of instability is the amount of liabilities in the banks. Clearly that is an important source of vulnerability because banks can't default on their loans. In the capital account management policy that we have, there is a hierarchy of capital flows. We have allowed corporates to borrow, and except in certain exceptional cases circumstances, banks can't guarantee those foreign currency borrowings. So the lender is actually taking a risk on the corporate, and corporates failures don't really impact the system or create instability in the system. But if we allow banks to intermediate foreign currency borrowings, even having with limits on currency and maturity mismatches do not help, as eventually the liabilities have to be paid for by the banks, and if the banks can't pay, the central bank have to provide liquidity to them. The liquidity risk is therefore much higher when foreign currency liabilities of banks go up, and even if you have lent in foreign currency you may or may not be able to get back the funds when you actually need them. One needs to distinguish between the different kind of liabilities and on whose books these liabilities actually sit.

Nemat Shafik (IMF): You all talked about intervention in various forms. I wanted to ask any member of the panel, how you decide whether what you are facing is a tide or a Tsunami? Because human nature is such that and every country I have seen treats positive shocks as permanent and negative shocks as temporary. Interventions like capital flow management, exchange rate policy, macro-prudential policy, can work against tides, but Tsunamis require adjustment. How do you decide whether you are facing a tide or a Tsunami and how you decide whether to use exchange rate interventions, macro-prudential or capital flows management as your preferred tool, depending on whether you are facing a tide or a Tsunami?

Joseph Stiglitz: I want to raise a perspective of thinking about what central banks and central bank regulatory policies do. We haven't talked at all about industrial policies. It's been implicit in several of the remarks – recognition that monetary policy is also industrial policy. If you have an overvalued or undervalued exchange rate, it affects industrial structure; if you have a volatile exchange rate it affects the structure of the economy. The first issue is that to what extent monetary authorities should really think about how their policies affect the structure of the economy.

The second question is one raised by Mr. Singh which is that we talk about inviting foreign banks to improve the quality of financial institutions. I do encourage people if they want to learn about predatory lending, and abusive credit card practices, market manipulations to encourage American investment banks to come into countries because they really have superb talents in these areas. But in a more serious way, a lot of the recent literature in

industrial policy has talked about the benefits of learning-by-doing, the infant economy argument for industrial policy. The World Bank has been focusing in the last 5 years on the role of industrial policy in structuring the economy, and an important aspect of learning is learning how to lend, learning who are good borrowers, and this actually in some ways has showed up in the data that countries that have had more financial market liberalization i.e. have brought in more foreign financial institutions, tend to have done less SME lending and have grown more poorly. Once you think about this as an aspect of industrial policy that it is important to learn how domestic institutions learn about lending, and it may not be the optimal way to outsource financial services. Malaysia has done a very good job in many areas of learning from foreign companies that have come into their country but it won't happen on its own. They had explicit policies for maximizing the learning. I did want to comment on how you think about that within the financial sector.

The other comment/question I want to make is the issue about whether you should through tax; try to regulate liabilities or the assets side of the balances sheet. In a way this relates to the issue that Adair talked about yesterday, he said lot of the problem is not the flows of finance but the wrong form of the flows. So the question is, on the one hand, should government tax or discourage different types of liabilities side, and on the assets side, put in place speed bumps and other instruments. No matter where, you may need to impose certain things on the asset side and certain things on the liability side.

And the final couple of comments are one, that not just taxes are relevant but tax deductions. We actually have tax structures in many countries that encourage debt, and if you think that foreign liabilities are more dangerous than domestic liabilities, then you should remove that tax deductibility. It is not only taxing, it is actually re-subsidizing. Finally, I have always worried about distinction between bank borrowing and corporate borrowing for the following reasons. When we started regulating some of the bank activities like on predatory lending, what banks did is created corporations that they lent to, and the corporations engaged in predatory lending. So you can get better behavior in the banks but the banks then help create institutions that circumvent. Then the question is all the exposures are really on the bank's balance sheet in the end, the banks are looking at what is going on. And the question therefore is do we really have to have some more holistic regulatory framework.

Answers by the Panel

Sukhdave Singh, Louis Kasekende, Deepak Mohanty, Manuel Agosin, Amar Bhattacharya

Sukhdave Singh: Let me address the issues related to intervention. I think certainly any policy that you do has a cost with it. Monetary policy has a cost. I think you have to weigh that against the alternative. With respect to intervention, I remember a talk with a businessman shortly after we liberalized our exchange rate and we were talking to him that don't depend on the exchange rate, you must improve your productivity, and all that in order to gain sustainable competitiveness. He came back and he said, it takes me 1 year to drive down my cost by 5 per cent, if your exchange rate moves by 10 per cent, you have put me back. And that is really the issue that when your exchange rates moves up that much in a relatively short period of time, there is a cost to the economy. This is not related to

fundamentals. I am all for your exchange rate moving in response to your changes in fundamentals as an economist, price changes do send important signals to the economy. But when you have this type of volatility, you are committing suicide. I mean you are imposing cost on your businesses which they don't necessarily need to bear and as a policy maker the onus is on you because it is your responsibility. Yes, there is a cost and you have to deal with it.

Going back to whether it is a tide or tsunami, I mean, I think generally if I take the recent experience, our assessment in Malaysia is that generally we have been dealing with tides, and who do we have to thank for this? Not the Federal Reserve, actually it is the Europeans. Every time there was some concern with Europeans, there was capital outflow. This type of volatility we can deal with, that is why our reserves are there. But imagine another scenario, where we had a Tsunami of capital flows that just kept coming in and coming in and of course you can't allow the exchange rate to bear all of this, you had to intervene and then you run into the fiscal cost of it. That would have been a major issue, and in those situations that's when talks of CFMs actually become more and closer to reality.

Now, in terms of excessiveness of debt, I think there are various matrices out there in terms of what excessive debt could be, and in terms of the sustainability of the debt, but I think at the end of the day, my view on this is that as with everything in life, when you are dealing with something that potentially could be risky, moderation is actually the best policy. When you are borrowing now, think of the potential scenarios that you could get into down the line because what the investment banks will tell you. I mean investment banks have come to us to invest our reserves in commodities. So they will sell you all sorts of things but you have to be prudent enough to decide what will be the potential implication, I mean if there is a change in the government's fiscal position, can it still sustain the repayments on that debt.

One final point was addressed to me by Joseph Stiglitz is this issue of encouraging competition. It is absolutely necessary, if you allow for a free for all for the foreign banks to come in, they will set up in your urban centers and they will take the cream of the lending essentially and they will have no interest in serving your social purposes. This is why I think you have to have the necessary rules of the game, and in our case, the rules of the game have to do exactly in terms of lending to SMEs and also in terms of our agenda with respect to financial inclusion. So when we allow branching for example we have a requirement that for each urban branch that you open, you also have one in the semi-urban and in the rural areas. You can have these type of conditions on which foreign banks come in. It doesn't mean that you have to allow foreign banks to come on their own terms, you specify the terms.

Manuel Agosin: Let me try to talk about sterilized intervention first. Clearly central banks should not give it up. In fact in my own country, which adheres to an inflation targeting regime, whenever the central bank stepped out of it and did sterilized intervention, it was quite successful but contrary to conventional wisdom that says that sterilized intervention cannot be successful, eventually it was. However, it has a limit. I mean if you have 5 years, 10 years of capital inflows exceeding 5 per cent of GDP like it happened during the 90s;

sterilized intervention can be extremely costly to the central bank. The central bank can incur losses that are very significant. So there is a limit to that.

Stephany's question about the European countries that have run into problems; I feel that this is more or less an example of what I was saying. First, you had a reduction in interest rates in Europe, enormous reduction with the introduction of the Euro and large capital flows to the periphery to finance what? In many cases, either real estate or as we heard yesterday, consumption. So at some point the bubble burst and with the consequences that we know. I think clearly it is not just the matter of being emerging market or not, it is matter of how big the capital inflow is relative to your domestic financial markets.

Joseph's point about central banks doing the industrial policy well I have made the same point to my colleagues at the Chilean central bank without any success. They don't believe that they are doing industrial policy but they certainly are doing anti-industrial policy by either letting the exchange rate appreciate too much or making it too volatile.

Finally, the problem with some of the companies, with some of the corporates in our country is that they have gotten pretty big. Our big corporates are big not only in our country; they are big in the world economy. You take the Chilean groups; Chile is a little country but has big companies that are investing in many places. These are agents for borrowing in financial markets. I do not know what the solution is but at least one can flag the problems.

Louis Kasekende: In my personal experience, the problem that we have faced as the central bank is on the objectives, and mission creep and come out, telling the public that we could deliver on certain things. If you can tell the public that you can deliver on inflation, you are judged by that; I think that is the easiest position for a central bank, but once you start getting into, there is now talk about industrial policy, you talk about exchange rate, you have so many objectives that in most cases central banks do not have instruments to deliver on all these objectives. Having made that general comment, I come back to this issue of interventions and sterilized interventions, I think it will remain, but as I say in the case of Uganda, it will always be subordinated to the other objective of price stability.

How do you tell whether it is a tide or a Tsunami? Policy making can be very interesting. You can come up with rules and say if the exchange rate moved by so much on single day then I will move, but even if it moves at that level there are cost considerations that come in, and you resist the market and there are times when it resists rulesand hence there is an element of art that comes on a day to day management of central banks.

On the issue that you have raised on prudential, may be related back to what Joseph was saying, in the case of Uganda we have resisted using capital control measures. There has been a debate but we have resisted using capital control measures. But you can use prudential. Deterrence of prudential measures is much higher than when you start talking about controls, what assets you should accumulate. So that is the sort of starting point for us. We have used prudential measures and they have worked for us but I think we need to continually assess the effectiveness of these prudential regulations, but for now they have worked. I take your point of a holistic regulatory framework that one might want to think about.

My last take is on the real sector survey. We do talk to estate agents, do regular surveys of estate agents, and I think as of now we are doing it on a quarterly basis; send a questionnaire, they give us information, and we have constructed the price index that we are looking at. Over time we will be having maybe registries in Uganda where some of the deals in are placed. The other problem you have with sales is that once you impose a tax most of the people do not want to disclose the prices at which they have either bought or sold their house because of taxation. There are problems but we do use indices.

Deepak Mohanty: Three questions to me. FX volatility: do you have to care; yes one has to care about it. Is it only through interventions you can manage it? Not necessarily, there are other tools through which it could be done. If it is a managed currency then obviously no one cares about the volatility and public good and also as financial stability considerations, but again emerging markets don't have that kind of luxury. Because it could be done through other tool like what is happening in Japan and many commentators would think that lowering your interest rates and doing so much on QE essentially you are trying to weaken your exchange rate. People are managing their exchange rate even in advanced country.

The other question that whether it is costly, answer to that is both no and yes. One thing that is less realized that in case of emerging market economies that we have to grow our balance sheet. Central bank balance sheet reserve money has to grow; I have to grow my balance sheet by 10 per cent every year so the choice that I have whether I do it by expanding my foreign assets or by domestic assets. Given our situation where the fiscal deficit is so high and to enhance my balance sheet strength, so there is no cost up to that. Beyond a point then you can build some reserves for precautionary purposes and beyond that one can really talk about the cost.

Mythili's question, how much reserve is adequate? I don't think anything is adequate because you cannot put a number into that. Going by the latest experience that all the countries, irrespective of low or high of reserves, they got hit by this process. So that is what has happened, except China, all the currencies got affected by that process. Even India had 280 – 290 billions of reserves, but what was the talk? When we are going to the Fund? Because even the market didn't see that 280 billion which can be easily financed even if the current account expands for a 2 trillion economy can finance at least a year or two without much of a problem. But that much was also not seen as adequate. So I don't really know what really adequate level of reserves.

And finally to Joseph's question whether the central banks are really thinking of industrial policy? I don't know but certain they worry about the financial stability considerations because then we would have to also see the balance sheet of corporates and the private sector, and we do worry about the unhedged exposure and the impact exchange rate movement could have on their balance sheets.

Amar Bhattacharya: As a last speaker, just let me say I agree with everything that has been said. I wanted to maybe just close by answering a question that Usha, you had posed which is what should central banks then do. From the discussion we agree that price stability is the

central focus but it is not enough. Second, I would say that exchange rate volatility will have to be a much greater concern of central banks and yes, foreign exchange intervention is one instrument, but you have to think about others, and some of those are macro-prudential in nature and we should look at experiences of countries and identify what macro-prudential tools can help both in a steady state sense but also in a time varying.

And third, you have to worry about financial stability or financial risk embedded in balance sheets. That has to be a very important function of central banks, and I am with Joseph in the sense that I would not take such a benign view of risk in the corporate sector, that it is not systemic. In the case of India, the pressures really came from corporate treasurers running for cover, so you cannot take the view that risk does not matter. So I think these three dimensions: price stability, excessive exchange rate volatility and its impact on the real economy and financial stability have all got to be concerns of central banks.