Rakesh Mohan: Global financial crisis and key risks – impact on India and Asia

Remarks by Dr Rakesh Mohan, Deputy Governor of the Reserve Bank of India, at the IMF-FSF High-Level Meeting on the Recent Financial Turmoil and Policy Responses, Washington DC, 9 October 2008.

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The turmoil in the international financial markets of advanced economies, that started around mid-2007, has exacerbated substantially since August 2008. The financial market crisis has led to the collapse of major financial institutions and is now beginning to impact the real economy in the advanced economies. As this crisis is unfolding, credit markets appear to be drying up in the developed world. With the substantive increase in financial globalisation, how much will these developments affect India and other Asian emerging market economies (EMEs)?

India, like most other emerging market economies, has so far, not been seriously affected by the recent financial turmoil in developed economies. In my remarks today, I will, first, briefly set out reasons for the relative resilience shown by the Indian economy to the ongoing international financial markets' crisis. This will be followed by some discussion of the impact till date on the Indian economy and the likely implications in the near future. I then outline our approach to the management of the exposures of the Indian financial sector entities to the collapse of major financial institutions in the US. Orderly conditions have been maintained in the domestic financial markets, which is attributable to a range of instruments available with the monetary authority to manage a variety of situations. Finally, I would briefly set out my thinking on the extent of vulnerability of the Asian economies, in general, to the global financial market crisis.

Financial globalisation: the Indian approach

The Indian economy is now a relatively open economy, despite the capital account not being fully open. The current account, as measured by the sum of current receipts and current payments, amounted to about 53 per cent of GDP in 2007-08, up from about 19 per cent of GDP in 1991. Similarly, on the capital account, the sum of gross capital inflows and outflows increased from 12 per cent of GDP in 1990-91 to around 64 per cent in 2007-08.[1] With this degree of openness, developments in international markets are bound to affect the Indian economy and policy makers have to be vigilant in order to minimize the impact of adverse international developments on the domestic economy.

The relatively limited impact of the ongoing turmoil in financial markets of the advanced economies in the Indian financial markets, and more generally the Indian economy, needs to be assessed in this context. Whereas the Indian current account has been opened fully, though gradually, over the 1990s, a more calibrated approach has been followed to the opening of the capital account and to opening up of the financial sector. This approach is consistent with the weight of the available empirical evidence with regard to the benefits that may be gained from capital account liberalisation for acceleration of economic growth,

[1] It may be noted that India is more open as compared to the US: the ratio of current receipts and current payments was 41 per cent of GDP in the US in 2007, while capital inflows and capital outflows were around 15 per cent and 10 per cent, respectively.

particularly in emerging market economies. The evidence suggests that the greatest gains are obtained from the opening to foreign direct investment, followed by portfolio equity investment. The benefits emanating from external debt flows have been found to be more questionable until greater domestic financial market development has taken place (Henry, 2007; Prasad, Rajan and Subramanian, 2007).

Accordingly, in India, while encouraging foreign investment flows, especially direct investment inflows, a more cautious, nuanced approach has been adopted in regard to debt flows. Debt flows in the form of external commercial borrowings are subject to ceilings and some end-use restrictions, which are modulated from time to time taking into account evolving macroeconomic and monetary conditions. Similarly, portfolio investment in government securities and corporate bonds are also subject to macro ceilings, which are also modulated from time to time. Thus, prudential policies have attempted to prevent excessive recourse to foreign borrowings and dollarisation of the economy. In regard to capital outflows, the policy framework has been progressively liberalised to enable the non-financial corporate sector to invest abroad and to acquire companies in the overseas market. Resident individuals are also permitted outflows subject to reasonable limits.

The financial sector, especially banks, is subject to prudential regulations, both in regard to capital and liquidity (Mohan, 2007b). As the current global financial crisis has shown, liquidity risks can rise manifold during a crisis and can pose serious downside risks to macroeconomic and financial stability. The Reserve Bank had already put in place steps to mitigate liquidity risks at the very short-end, risks at the systemic level and at the institution level as well. Some of the important measures by the Reserve Bank in this regard include, first, restricting the overnight unsecured market for funds to banks and primary dealers (PD) as well as limits on the borrowing and lending operations of these entities in the overnight inter-bank call money market. Second, large reliance by banks on borrowed funds can exacerbate vulnerability to external shocks. This has been brought out quite strikingly in the ongoing financial crisis in the global financial markets. Accordingly, in order to encourage greater reliance on stable sources of funding, the Reserve Bank has imposed prudential limits on banks on their purchased inter-bank liabilities and these limits are linked to their net worth. Furthermore, the incremental credit deposit ratio of banks is also monitored by the Reserve Bank since this ratio indicates the extent to which banks are funding credit with borrowings from wholesale markets (now known as purchased funds). Third, asset liability management guidelines for dealing with overall asset-liability mismatches take into account both on and off balance sheet items. Finally, guidelines on securitization of standard assets have laid down a detailed policy on provision of liquidity support to Special Purpose Vehicles (SPVs).

In order to further strengthen capital requirements, the credit conversion factors, risk weights and provisioning requirements for specific off-balance sheet items including derivatives have been reviewed. Furthermore, in India, complex structures like synthetic securitisation have not been permitted so far. Introduction of such products, when found appropriate, would be guided by the risk management capabilities of the system.

The Reserve Bank has also issued detailed guidelines on implementation of the Basel II framework covering all the three pillars with the guidelines on Pillar II being issued as recently as on March 27, 2008. In tune with RBI's objective to have consistency and harmony with international standards, the Standardised Approach for credit risk and Basic Indicator Approach for operational risk have been prescribed. Minimum capital-to-risk-weighted asset ratio (CRAR) would be 9 per cent, but higher levels under Pillar II could be prescribed on the basis of risk profile and risk management systems. The banks have been asked to bring Tier I CRAR to at least 6 per cent before March 31, 2010. After analyzing the global schedule for implementation, it was decided that all foreign banks operating in India and Indian banks having a presence outside India should migrate to Basel II by March 31, 2008 and all other scheduled commercial banks encouraged to migrate to Basel II in alignment with them but not later than March 31, 2009.

In addition to the exercise of normal prudential requirements on banks, the Reserve Bank has also successively imposed additional prudential measures in respect of exposures to particular sectors, akin to a policy of dynamic provisioning. For example, in view of the accelerated exposure observed to the real estate sector, banks were advised to put in place a proper risk management system to contain the risks involved. Banks were advised to formulate specific policies covering exposure limits, collaterals to be considered, margins to be kept, sanctioning authority/level and sector to be financed. In view of the rapid increase in loans to the real estate sector raising concerns about asset quality and the potential systemic risks posed by such exposure, the risk weight on banks' exposure to commercial real estate was increased from 100 per cent to 125 per cent in July 2005 and further to 150 per cent in April 2006. The risk weight on housing loans extended by banks to individuals against mortgage of housing properties and investments in mortgage backed securities (MBS) of housing finance companies (HFCs) was increased from 50 per cent to 75 per cent in December 2004, though this was later reduced to 50 per cent for lower value loans. Similarly, in light of the strong growth of consumer credit and the volatility in the capital markets, it was felt that the quality of lending could suffer during the phase of rapid expansion. Hence, as a counter cyclical measure, the Reserve Bank increased the risk weight for consumer credit and capital market exposures from 100 per cent to 125 per cent.[2]

An additional feature of recent prudential actions by the Reserve Bank relate to the tightening of regulation and supervision of Non-banking Financial Companies (NBFCs), so that regulatory arbitrage between these companies and the banking system is minimized. The overarching principle is that banks should not use an NBFC as a delivery vehicle for seeking regulatory arbitrage opportunities or to circumvent bank regulation(s) and that the activities of NBFCs do not undermine banking regulations. Thus, capital adequacy ratios and prudential limits to single/group exposures in the case of NBFCs have been progressively brought nearer to those applicable to banks. The regulatory interventions are graded: higher in deposit-taking NBFCs and lower in non-deposit-taking NBFCs. Thus, excessive leverage in this sector has been contained.

Various segments of the domestic financial market have been developed over a period of time to facilitate efficient channelling of resources form savers to investors and enable the continuation of domestic growth momentum (Mohan, 2007a). Investment has been predominantly financed domestically in India – the current account deficit has averaged between one and two per cent of GDP since the early 1990s. The Government's fiscal deficit has been high by international standards but is also largely internally financed through a vibrant and well developed government securities market, and thus, despite large fiscal deficits, macroeconomic and financial stability has been maintained. Derivative instruments have been introduced cautiously in a phased manner, both for product diversity and, more importantly, as a risk management tool. All these developments have facilitated the process of price discovery in various financial market segments.

The rate of increase in foreign exchange market turnover in India between April 2004 and April 2007 was the highest amongst the 54 countries covered in the latest Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity conducted by the Bank for International Settlements (BIS). According to the survey, daily average turnover in India jumped almost 5-fold from US $ 7 billion in April 2004 to US $ 34 billion in April 2007; the share of India in global foreign exchange market turnover trebled from 0.3 per cent in April 2004 to 0.9 per cent in April 2007. There has been consistent development of well-functioning, relatively deep and liquid markets for government securities, currency and derivatives in India, though much further development needs to be done. However, as large segments of economic agents in India may not have adequate resilience to withstand

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[2] The status in India with regard to proposals in the April 2008 Report of the Financial Stability Forum (FSF) is given in Annex.

volatility in currency and money markets, our approach has been to be increasingly vigilant and proactive to any incipient signs of volatility in financial markets.

In brief, the Indian approach has focused on gradual, phased and calibrated opening of the domestic financial and external sectors, taking into cognizance reforms in the other sectors of the economy. Financial markets are contributing to efficient channelling of domestic savings into productive uses and, by financing the overwhelming part of domestic investment, are supporting domestic growth. These characteristics of India's external and financial sector management coupled with ample forex reserves coverage and the growing underlying strength of the Indian economy reduce the susceptibility of the Indian economy to global turbulence.

Impact of the crisis on India

While the overall policy approach has been able to mitigate the potential impact of the turmoil on domestic financial markets and the economy, with the increasing integration of the Indian economy and its financial markets with rest of the world, there is recognition that the country does face some downside risks from these international developments. The risks arise mainly from the potential reversal of capital flows on a sustained medium-term basis from the projected slow down of the global economy, particularly in advanced economies, and from some elements of potential financial contagion. In India, the adverse effects have so far been mainly in the equity markets because of reversal of portfolio equity flows, and the concomitant effects on the domestic forex market and liquidity conditions. The macro effects have so far been muted due to the overall strength of domestic demand, the healthy balance sheets of the Indian corporate sector, and the predominant domestic financing of investment.

As might be expected, the main impact of the global financial turmoil in India has emanated from the significant change experienced in the capital account in 2008-09 so far, relative to the previous year (Table 1). Total net capital flows fell from US$17.3 billion in April-June 2007 to US$13.2 billion in April-June 2008. Nonetheless, capital flows are expected to be more than sufficient to cover the current account deficit this year as well. While Foreign Direct Investment (FDI) inflows have continued to exhibit accelerated growth (US$ 16.7 billion during April-August 2008 as compared with US$ 8.5 billion in the corresponding period of 2007), portfolio investments by foreign institutional investors (FIIs) witnessed a net outflow of about US$ 6.4 billion in April-September 2008 as compared with a net inflow of US$ 15.5 billion in the corresponding period last year.

Similarly, external commercial borrowings of the corporate sector declined from US$ 7.0 billion in April-June 2007 to US$ 1.6 billion in April-June 2008, partially in response to policy measures in the face of excess flows in 2007-08, but also due to the current turmoil in advanced economies. With the existence of a merchandise trade deficit of 7.7 per cent of GDP in 2007-08, and a current account deficit of 1.5 per cent, and change in perceptions with respect to capital flows, there has been significant pressure on the Indian exchange rate in recent months. Whereas the real exchange rate appreciated from an index of 104.9 (base 1993-94=100) (US$1 = Rs. 46.12) in September 2006 to 115.0 (US$ 1 = Rs. 40.34) in September 2007, it has now depreciated to a level of 101.5 (US $ 1 = Rs. 48.74) as on October 8, 2008.

Table : Trends in Capital Flows (US $ million)				
Component	**Period**	**2007-08**		**2008-09**
Foreign Direct Investment to India	April-August	8,536		16,733
FIIs (net)@	April – Sept 26	15,508		-6,421
External Commercial Borrowings (net)	April- June	6,990		1,559
Short-term Trade Credits (net)	April- June	1,804		2,173
Memo:				
ECB Approvals	April-August	13,375		8,127
Foreign Exchange Reserves (variation)	April-September 26	48,583		-17,904
Foreign Exchange Reserves (end-period)	September 26, 2008	247,762		291,819
Note: Data on FIIs presented in this table represent inflows into the country and, thus, may differ from data relating to net investment in stock exchanges by FIIs.				

With the volatility in portfolio flows having been large during 2007 and 2008, the impact of global financial turmoil has been felt particularly in the equity market. The BSE Sensex (1978-79=100) increased significantly from a level of 13,072 as at end-March 2007 to its peak of 20,873 on January 8, 2008 in the presence of heavy portfolio flows responding to the high growth performance of the Indian corporate sector. With portfolio flows reversing in 2008, partly because of the international market turmoil, the Sensex has now dropped to a level of 11,328 on October 8, 2008, in line with similar large declines in other major stock markets.

As noted earlier, domestic investment is largely financed by domestic savings. However, the corporate sector has, in recent years, mobilized significant resources from global financial markets for funding, both debt and non-debt, their ambitious investment plans. The current risk aversion in the international financial markets to EMEs could, therefore, have some impact on the Indian corporate sector's ability to raise funds from international sources and thereby impede some investment growth. Such corporates would, therefore, have to rely relatively more on domestic sources of financing, including bank credit. This could, in turn, put some upward pressure on domestic interest rates. Moreover, domestic primary capital market issuances have suffered in the current fiscal year so far in view of the sluggish stock market conditions. Thus, one can expect more demand for bank credit, and non-food credit growth has indeed accelerated in the current year (26.2 per cent on a year-on-year basis as on September 12, 2008 as compared with 23.3 per cent a year ago).

The financial crisis in the advanced economies and the likely slowdown in these economies could have some impact on the IT sector. According to the latest assessment by the NASSCOM, the software trade association, the current developments with respect to the US financial markets are very eventful, and may have a direct impact on the IT industry and likely to create a downstream impact on other sectors of the US economy and worldwide markets. About 15 per cent to 18 per cent of the business coming to Indian outsourcers includes projects from banking, insurance, and the financial services sector which is now uncertain.

In summary, the combined impact of the reversal of portfolio equity flows, the reduced availability of international capital both debt and equity, the perceived increase in the price of equity with lower equity valuations, and pressure on the exchange rate, growth in the Indian corporate sector is likely to feel some impact of the global financial turmoil. On the other hand, on a macro basis, with external savings utilisation having been low traditionally, between one to two percent of GDP, and the sustained high domestic savings rate, this impact can be expected to be at the margin. Moreover, the continued buoyancy of foreign direct investment suggests that confidence in Indian growth prospects remains healthy.

Impact on the Indian banking system

One of the key features of the current financial turmoil has been the lack of perceived contagion being felt by banking systems in EMEs, particularly in Asia. The Indian banking system also has not experienced any contagion, similar to its peers in the rest of Asia.

A detailed study undertaken by the RBI in September 2007 on the impact of the sub-prime episode on the Indian banks had revealed that none of the Indian banks or the foreign banks, with whom the discussions had been held, had any direct exposure to the sub-prime markets in the USA or other markets. However, a few Indian banks had invested in the collateralised debt obligations (CDOs) / bonds which had a few underlying entities with sub-prime exposures. Thus, no direct impact on account of *direct exposure* to the sub-prime market was in evidence. However, a few of these banks did suffer some losses on account of the mark-to-market losses caused by the widening of the credit spreads arising from the sub-prime episode on term liquidity in the market, even though the overnight markets remained stable.

Consequent upon filling of bankruptcy under Chapter 11 by Lehman Brothers, all banks were advised to report the details of their exposures to Lehman Brothers and related entities both in India and abroad. Out of 77 reporting banks, 14 reported exposures to Lehman Brothers and its related entities either in India or abroad. An analysis of the information reported by these banks revealed that majority of the exposures reported by the banks pertained to subsidiaries of Lehman Bros Holdings Inc. which are not covered by the bankruptcy proceedings. Overall, these banks' exposure especially to Lehman Brothers Holding Inc. which has filed for bankruptcy is not significant and banks are reported to have made adequate provisions.

In the aftermath of the turmoil caused by bankruptcy, the Reserve Bank has announced a series of measures to facilitate orderly operation of financial markets and to ensure financial stability which predominantly includes extension of additional liquidity support to banks.

RBI response to the crisis

The financial crisis in advanced economies on the back of sub-prime turmoil has been accompanied by near drying up of trust amongst major financial market and sector players, in view of mounting losses and elevated uncertainty about further possible losses and erosion of capital. The lack of trust amongst the major players has led to near freezing of the uncollateralized inter-bank money market, reflected in large spreads over policy rates. In response to these developments, central banks in major advanced economies have taken a number of coordinated steps to increase short-term liquidity. Central banks in some cases have substantially loosened the collateral requirements to provide the necessary short-term liquidity.

In contrast to the extreme volatility leading to freezing of money markets in major advanced economies, money markets in India have been, by and large, functioning in an orderly fashion, albeit with some pressures. Large swings in capital flows – as has been experienced between 2007-08 and 2008-09 so far – in response to the global financial market turmoil have made the conduct of monetary policy and liquidity management more complicated in the recent months. However, the Reserve Bank has been effectively able to manage domestic liquidity and monetary conditions consistent with its monetary policy stance.

This has been enabled by the appropriate use of a range of instruments available for liquidity management with the Reserve Bank such as the Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR)[3] stipulations and open market operations (OMO) including the Market Stabilisation Scheme (MSS)[4] and the Liquidity Adjustment Facility (LAF). Furthermore, money market liquidity is also impacted by our operations in the foreign exchange market, which, in turn, reflect the evolving capital flows. While in 2007 and the previous years, large capital flows and their absorption by the Reserve Bank led to excessive liquidity, which was absorbed through sterilisation operations involving LAF, MSS and CRR. During 2008, in view of some reversal in capital flows, market sale of foreign exchange by the Reserve Bank has led to withdrawal of liquidity from the banking system. The daily LAF repo operations have emerged as the primary tool for meeting the liquidity gap in the market. In view of the reversal of capital flows, fresh MSS issuances have been scaled down and there has also been some unwinding of the outstanding MSS balances. The MSS operates symmetrically and has the flexibility to smoothen liquidity in the banking system both during episodes of capital inflows and outflows. The existing set of monetary instruments has, thus, provided adequate flexibility to manage the evolving situation. In view of this flexibility, unlike central banks in major advanced economies, the Reserve Bank did not have to invent new instruments or to dilute the collateral requirements to inject liquidity. LAF repo operations are, however, limited by the excess SLR securities held by banks.

While LAF and MSS have been able to bear a large part of the burden, some modulations in CRR and SLR have also been resorted, purely as temporary measures, to meet the liquidity mismatches. For instance, on September 16, 2008, in regard to SLR, the Reserve Bank permitted banks to use upto an additional 1 percent of their NDTL, for a temporary period, for drawing liquidity support under LAF from RBI. This has imparted a sense of confidence in the market in terms of availability of short-term liquidity. The CRR which had been gradually increased from 4.5 per cent in 2004 to 9 per cent by August 2008 was cut by 50 basis points on October 6[5] (to be effective October 11, 2008) – the first cut after a gap of over five years – on a review of the liquidity situation in the context of global and domestic developments. Thus, as the very recent experience shows, temporary changes in the prudential ratios such as CRR and SLR combined with flexible use of the MSS, could be considered as a vast pool of back-up liquidity that is available for liquidity management as the situation may warrant for relieving market pressure at any given time. The recent innovation with respect to SLR for

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[3] At present, banks are required to hold 25 per cent of their net demand and time liabilities (NDTL) in Government (and some other approved) securities. As against this requirement of 25 per cent, banks holdings of SLR securities were 26.7 per cent of their NDTL as on September 12, 2008. Thus, banks held nearly 1.7 per cent excess SLR securities – equivalent to Rs. 700 billion – which could be used by banks to avail of liquidity from the Reserve Bank under the daily LAF operations.

[4] In view of sustained large capital flows on the one hand and the finite stock of government securities with the Reserve Bank, and the absence of the option of issuing central bank securities under the RBI Act on the other hand, a new scheme, Market Stabilisation Scheme (MSS), was introduced in April 2004 to manage the large capital flows. Under this scheme, the Reserve Bank has been empowered to issue government Treasury Bills and medium duration dated securities exclusively for sterilization purposes, so as to manage liquidity appropriately. The proceeds collected under MSS auctions are kept in a separate identifiable cash account with the RBI, and can be used only for redemption and/or buy back of securities issued under the MSS. The payments for interest and discount on MSS securities are not made from the MSS Account, but shown in the Union budget and other related documents transparently as distinct components under separate subheads. The MSS securities are indistinguishable from normal government Treasury Bills and dated securities. The introduction of MSS has succeeded broadly in restoring LAF to its intended function of daily liquidity management (see Mohan (2006)).

[5] On a review of the evolving liquidity situation in the context of global and domestic developments in the context of the abrupt changes in the international financial environment subsequent to the October 6th announcement, it was decided, on October 10, 2008, to reduce the CRR by 150 basis points to 7.50 per cent of NDTL with effect from the fortnight beginning October 11, 2008 instead of the 50 basis points reduction announced on October 6, 2008. As a result, an amount of about Rs. 600 billion would be released into the system (instead of the injection of Rs 200 billion announced earlier).

combating temporary systemic illiquidity is particularly noteworthy. The relative stability in domestic financial markets, despite extreme turmoil in the global financial markets, is reflective of prudent practices, strengthened reserves and the strong growth performance in recent years in an environment of flexibility in the conduct of policies.

Active liquidity management is a key element of the current monetary policy stance. Liquidity modulation through a flexible use of a combination of instruments has, to a significant extent, cushioned the impact of the international financial turbulence on domestic financial markets by absorbing excessive market pressures and ensuring orderly conditions. In view of the evolving environment of heightened uncertainty, volatility in global markets and the dangers of potential spillovers to domestic equity and currency markets, liquidity management will continue to receive priority in the hierarchy of policy objectives over the period ahead. The Reserve Bank will continue with its policy of active demand management of liquidity through appropriate use of the CRR stipulations and open market operations (OMO) including the MSS and the LAF, using all the policy instruments at its disposal flexibly, as and when the situation warrants.

Impact on Asian EMEs

In contrast to the previous episodes of global turmoil, EMEs have exhibited relative resilience, though equity market and exchange rate pressures have intensified in recent days. So far, the investment sentiment is positive for the Asian EMEs reflecting their strong economic performance and, for some countries, favourable investment opportunities associated with elevated commodity prices, though they have adjusted downwards in recent times, while being somewhat volatile. Credit policy reforms, better structuring of banking sector debt and improved fiscal positions have also played their role making the EMEs resilient from the crisis. In addition, large foreign exchange reserves, particularly in Asia, also provide a degree of protection against possible sudden stops. Another factor that could be of relevance for this favourable situation is the relatively smaller presence of foreign banks in the Asian banking sector. This is evident from the fact that the share of banking assets held by foreign banks in these economies generally lies between 0 and 10 percent (Global Development Finance, 2008).

The spillovers to the EMEs from the current global financial market crisis have occurred mainly in and through financial markets, reflecting the relatively high level of integration of such markets in the global financial system. In this respect, there have been four major spillovers, *viz*., (i) a rise in the price of risk; (ii) a reduction in international bond issuance; (iii) a sell-off in equity markets; and (iv) some unwinding of carry-trade positions. The major EMEs in Asia have been recording surpluses on the current account in recent years, with the exception of Korea and India. Thus, the vulnerability of Asia, other than Korea and India, is relatively contained to that extent. It is in this context the foreign exchange markets in India and Korea have experienced greater pressure in recent times.

Despite the fact that no significant macroeconomic disruption has taken place in EMEs, some vulnerabilities exist. There are indications that the current crisis will have some implications in terms of higher funding costs and raising external finance, particularly, for lower rated firms. Further, countries with significant foreign bank presence, mostly in East European economies, might be vulnerable to financial stress faced by a parent bank. Similarly, slowdown in advanced countries might impact the remittances to EMEs.

As regards the impact of financial turbulence on the real sector, Asian EMEs may not be entirely immune to slowing growth in developed economies. For East Asian economies, since most of these economies are small and their trade sector (export plus imports) as proportion of GDP varies at a significantly higher level between over 200 per cent and 60 per cent as opposed to the weight of domestic demand as in India, it could be an area of concern for these countries. Therefore, for these set of countries, the crises could be transmitted through the trade channel. While strong regional sources of growth within EMEs may be a mitigating factor, most EMEs still retain substantial trade linkages with developed economies. In Asia, while intra-regional trade has been growing rapidly over recent years, much of this activity is still driven by developed economies as a major destination for final goods.

According to the analysis contained in the IMF's latest Global Financial Stability Report (October 2008) (IMF, 2008a), both domestic and global factors are important in explaining the movement in equity prices in the EMEs. Correlation of equity markets in EMEs with those in the advanced economies has risen, suggesting a growing transmission channel for equity price movements. Amongst the three group of EMEs (Latin America, Asia and Emerging Europe), the spillover from global factors is found to be strongest in Latin American EMEs followed by Emerging Europe and Asia. The wealth effect of stock market changes on consumption and investment, although statistically significant, is found to be weaker in EMEs vis-à-vis the advanced economies. Furthermore, such wealth effects tend to play out gradually.

During the financial turmoil, commodity prices may have been pushed higher to some extent by increased demand for commodities as a hedge against a depreciating US dollar and possibly also as a hedge against higher inflation. As global growth slows, a fall in commodity prices represents a downside risk to commodity-exporting EMEs, which is particularly relevant for some Latin American EMEs. In an extreme scenario, where commodity prices fall dramatically, this could have significant implications for economies that have had a heavy reliance on the performance of commodities in recent years, and might furthermore pose some risks to the financial stability in these countries. On the other hand, Asian EMEs which are commodity importers may benefit from the correction in global commodity prices. This may alleviate inflationary pressures in these economies and may provide the necessary flexibility to monetary policy in these countries. However, the beneficial impact of softening commodity prices is getting partly eroded by the depreciation pressures in some of the EMEs, thus, limiting to some extent the manoeuvrability available to the monetary policy.

Overall, while the real sector in the major Asian EMEs has held up relatively well, it needs to be recognised that the financial crisis in the US has deepened significantly over the past couple of months and there are signs of its spreading to the mature economies in Europe. The deepening and widening of the financial crisis is already getting reflecting in elevated volatility in the financial markets of key EMEs and widening of spreads of the EME assets. Although a large amount of liquidity has been injected by the central banks of the major advanced economies, short-term market rates remain well above policy rates. Financing costs for the EMEs have increased over the past few weeks and could thus deteriorate in the coming months. If the financial crisis were to linger longer and the economic activity in these regions slows down significantly, the adverse impact on the real economies in the major EMEs could turn out to be stronger than that has been observed so far. According to the IMF's latest World Economic Outlook (October 2008) (IMF, 2008b), major advanced economies are already in or close to recession and the recovery is likely to be unusually gradual. Global output growth (at purchasing power parity (PPP) exchange rates) is now seen at 3.0 per cent in 2009, down from the likely 3.9 per cent in 2008 and the robust growth of almost 5 per cent each during 2006 and 2007. Growth in advanced economies is projected to decelerate from an average of 2.8 per cent during 2006-2007 to 1.5 per cent in 2008 and only 0.5 per cent in 2009. Policy rates have been cut in a coordinated manner, an unprecedented move, by central banks of major advanced economies on October 8, 2008 in view of the substantial downside risks to growth. Thus, financial headwinds – both through reduced capital flows, widening of spreads and elevated volatility in domestic financial markets of the EMEs and through weakening of demand in major advanced economies – have increased downside risks of the major EMEs, especially for the relatively more open economies in the region.

Concluding observations

India has by-and-large been spared of global financial contagion due to the sub-prime turmoil for a variety of reasons. India's growth process has been largely domestic demand driven and its reliance on foreign savings has remained around 1.5 per cent in recent period. It also has a very comfortable level of forex reserves. The credit derivatives market is in an embryonic stage; the originate-to-distribute model in India is not comparable to the ones prevailing in advanced markets; there are restrictions on investments by residents in such products issued abroad; and regulatory guidelines on securitisation do not permit immediate profit recognition. Financial stability in India has been achieved through perseverance of prudential policies which prevent institutions from excessive risk taking, and financial markets from becoming extremely volatile and turbulent.

Annex*

Financial Stability Forum (FSF) Report: status

In the wake of the turmoil in global financial markets, the FSF brought out a report in April 2008 identifying the underlying causes and weaknesses in the international financial markets. The Report contains, *inter alia*, proposals of the FSF for implementation by end-2008 regarding strengthening prudential oversight of capital, liquidity and risk management, enhancing transparency and valuation, changing the role and uses of credit ratings, strengthening the authorities' responsiveness to risk and implementing robust arrangements for dealing with stress in the financial system. The Reserve Bank had put in place regulatory guidelines covering many of these aspects, while in regard to others, actions are being initiated. In many cases, actions have to be considered as work in progress. In any case, the guidelines are aligned with global best practices while tailoring them to meet country-specific requirements at the current stage of institutional developments. The proposals made by the FSF and status in regard to each in India are narrated below:

1. Strengthened Prudential Oversight of Capital, Liquidity and Risk Management

(i) *Capital requirements:*

Specific proposals will be issued in 2008 to:

- *Raise Basel II capital requirements for certain complex structured credit products;*
- *Introduce additional capital charges for default and event risk in the trading books of banks and securities firms;*
- *Strengthen the capital treatment of liquidity facilities to off-balance sheet conduits.*

Changes will be implemented over time to avoid exacerbating short-term stress.

(ii) *Liquidity:*

Supervisory guidance will be issued by July 2008 for the supervision and management of liquidity risks.

(iii) *Oversight of risk management:*

Guidance for supervisory reviews under Basel II will be developed that will:

- *Strengthen oversight of banks' identification and management of firm-wide risks;*
- *Strengthen oversight of banks' stress testing practices for risk management and capital planning purposes;*

- *Require banks to soundly manage and report off-balance sheet exposures;*

Supervisors will use Basel II to ensure banks' risk management, capital buffers and estimates of potential credit losses are appropriately forward looking.

(iv) *Over-the-counter derivatives:*

Authorities will encourage market participants to act promptly to ensure that the settlement, legal and operational infrastructure for over-the-counter derivatives is sound.

The road-map for the implementation of Basel II in India has been designed to suit the country-specific conditions. The phased implementation process got underway with the Basel II Accord being made applicable to foreign banks operating in India and Indian banks having operational presence outside India with effect from March 31, 2008. All other commercial banks (except Local Area Banks and RRBs) are encouraged to migrate to Basel II in alignment with them but in any case not later than March 31, 2009. The process of implementation is being monitored on an on-going basis for calibration and fine-tuning.

The minimum capital to risk-weighted asset ratio (CRAR) in India is placed at 9 per cent, one percentage point above the Basel II requirement. Further, regular monitoring of banks' exposure to sensitive sectors and their liquidity position is also undertaken. In India, off-balance sheet vehicles in the form of SPVs for the purpose of securitisation are in existence for which extensive guidelines, in line with the international best practices, have already been issued. Liquidity facilities to such SPVs are subject to capital charge. Banks have been required to put in place appropriate stress test policies and relevant stress test frameworks for various risk factors by March 31, 2008.

In order to further strengthen capital requirements, the credit conversion factors, risk weights and provisioning requirements for specific off-balance sheet items including derivatives have been reviewed. Further, in India, complex structures like synthetic securitisation have not been permitted so far. Introduction of such products, when found appropriate, would be guided by the risk management capabilities of the system.

The Reserve Bank had issued broad guidelines for asset-liability management and banks have flexibility in devising their own risk management strategies as per board-approved policies. However, in regard to liquidity risks at the very short end, the Reserve Bank has taken steps to mitigate risks at the systemic level and at the institution level as well. The Reserve Bank has introduced greater granularity to measurement of liquidity risk by splitting the first time bucket (1-14 days, at present) into three time buckets, *viz.,* next day, 2-7 days and 8-14 days. The net cumulative negative mismatches in the three time buckets have been capped at 5 per cent, 10 per cent, and 15 per cent of the cumulative cash outflows.

The Reserve Bank had recognised the risks of allowing access to unsecured overnight market funds to all entities and, therefore, restricted the overnight unsecured market for funds only to banks and primary dealers (PD). Since August 2005, the overnight call market is a pure inter-bank market. Accordingly, trading volumes have shifted from the overnight unsecured market to the collateralised market.

Greater inter-linkages and excessive reliance on call money borrowings by banks could cause systemic problems. The Reserve Bank has, therefore, introduced prudential measures to address the extent to which banks can borrow and lend in the call money market. On a fortnightly average basis, call market borrowings outstanding should not exceed 100 per cent of capital funds (*i.e.,* sum of Tier I and Tier II capital) in the latest audited balance sheet.

Recognising the potential of “purchased inter-bank liabilities” (IBL) to create systemic problems, the Reserve Bank had issued guidelines in March 2007 prescribing that IBL of a bank should not exceed 200 per cent of its net worth (300 per cent for banks with a CRAR more than 11.25 per cent).

2. Enhancing Ttransparency and Valuation

(i) Robust risk disclosures:

- *The FSF strongly encourages financial institutions to make robust risk disclosures using leading disclosure practices at the time of their mid-year 2008 reports.*
- *Further guidance to strengthen disclosure requirements under Pillar 3 of Basel II will be issued by 2009.*

(ii) Standards for off-balance sheet vehicles and valuations: Standard setters will take urgent action to:

- *Improve and converge financial reporting standards for off-balance sheet vehicles;*

Develop guidance on valuations when markets are no longer active, establishing an expert advisory panel in 2008.

(iii) Transparency in structured products:

Market participants and securities regulators will expand the information provided about securitised products and their underlying assets.

The Reserve Bank has, over the years, issued guidelines on valuation of various instruments/assets in conformity with the international best practices while keeping India-specific conditions in view. In order to encourage market discipline, the Reserve Bank has developed a set of disclosure requirements which allow the market participants to assess key pieces of information on capital adequacy, risk exposure, risk assessment processes and key business parameters which provide a consistent and understandable disclosure framework that enhances comparability. Banks are also required to comply with the Accounting Standard (AS) on Disclosure of Accounting Policies issued by the Institute of Chartered Accountants of India (ICAI).

In recognition of the fact that market discipline can contribute to a safe and sound banking environment and as part of the ongoing efforts to implement the Basel II Accord, the Reserve Bank issued guidelines on minimum capital ratio (Pillar 1) and market discipline (Pillar 3) in April 2007 and guidelines for Pillar 2 (supervisory review process) were issued in March 2008. Under these guidelines, non-compliance with the prescribed disclosure requirements would attract a penalty, including financial penalty.

3. Changes in the Role and Uses of Credit Ratings

Credit rating agencies should:

- *Implement the revised IOSCO Code of Conduct Fundamentals for Credit Rating Agencies to manage conflicts of interest in rating structured products and improve the quality of the rating process;*
- *Differentiate ratings on structured credit products from those on bonds and expand the information they provide.*

Regulators will review the roles given to ratings in regulations and prudential frameworks.

The Reserve Bank has undertaken a detailed process of identifying the eligible credit rating agencies whose ratings may be used by banks for assigning risk weights for credit risk. Banks should use the chosen credit rating agencies and their ratings consistently for each type of claim, for both risk weighting and risk management purposes. Banks are not allowed to “cherry pick” the assessments provided by different credit rating agencies. If a bank has decided to use the ratings of some of the chosen credit rating agencies for a given type of claim, it can use only the ratings of those credit rating agencies, despite the fact that some of these claims may be rated by other chosen credit rating agencies whose ratings the bank has decided not to use. External assessments for one entity within a corporate group cannot be used to risk weight other entities within the same group.

Banks must disclose the names of the credit rating agencies that they use for the risk weighting of their assets, the risk weights associated with the particular rating grades as determined by the Reserve Bank through the mapping process for each eligible credit rating agency as well as the aggregated risk weighted assets as required.

In India, complex structures like synthetic securitisations have not been permitted so far. As and when such products are to be introduced, the Reserve Bank would put in place the necessary enabling regulatory framework, including calibrating the role and capacity building of the rating agencies.

4. Strengthening the Authorities' Responsiveness to Risks

- *A college of supervisors will be put in place by end-2008 for each of the largest global financial institutions.*

In the Indian context, there has been exchange of supervisory information on specific issues between the Reserve Bank and few other overseas banking supervisors/regulators. Supervisory cooperation has been working smoothly and efficiently.

The Mid-Term Review of October 2007 had announced the constitution of a Working Group to lay down a road-map for adoption of a suitable framework for cross-border supervision and supervisory cooperation with overseas regulators, consistent with the framework envisaged in the Basel Committee on Banking Supervision (BCBS). A Working Group was constituted in March 2008 and is in the process of finalising its Report. A number of overseas regulators of countries such as the USA, the UK, Canada, Hong Kong, Australia and Singapore have been formally approached to share systems and practices, including legal positions, in the matter of supervisory cooperation and sharing of information with overseas regulators. The response from a few countries has been received and is being examined. The “Supervisory College” arrangement for this purpose is also being examined by the Group.

5. Robust Arrangements for Dealing with Stress in the Financial System

- *Central banks will enhance their operational frameworks and authorities will strengthen their cooperation for dealing with stress.*

In the Reserve Bank, there is an institutional arrangement in place to oversee the functioning of the financial markets on a daily basis. There is a Financial Market Committee monitoring and assessing the functioning of different financial markets. Based on such an oversight, appropriate and prompt action is taken, whenever necessary.

The Reserve Bank has the necessary framework for provision of liquidity to the banking system, in terms of Sections 17 and 18 of the Reserve Bank of India Act, 1934. The regular liquidity management facilities of the Reserve Bank include the LAF, OMO and MSS besides standing facilities such as export credit refinance (ECR) and the liquidity facility for standalone PDs. The Reserve Bank can undertake purchase/sale of securities of the Central or State Governments and can purchase, sell and rediscount bills of exchange and promissory notes drawn on and payable in India and arising out of *bona fide* commercial or trade transactions for provision/absorption of liquidity for normal day-to-day liquidity management operations as also for provision of emergency liquidity assistance to the banks under the lender of last resort function.

The Reserve Bank is empowered under the existing legal framework to deal with the resolution of weak and failing banks. The Banking Regulation Act provides the legal framework for voluntary amalgamation and compulsory merger of banks under Sections 44

(A) and 45, respectively. The Deposit Insurance and Credit Guarantee Corporation (DICGC) offers deposit insurance cover in India. The mergers of many weak private sector banks with healthy banks have improved overall stability of the system. Not a single scheduled commercial bank in the country has capital adequacy ratio which is less than the minimum regulatory requirement of nine per cent.

*** Source: Annual Policy Statement for the Year 2008-09, Reserve Bank of India.**

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