7 LESSONS FROM THE CRISIS AND FUTURE CHALLENGES

7.1 Unlike other financial crises, the seeds of the recent crisis were sown in advanced economies particularly the US. This crisis erupted there in the summer of 2007 and subsequently spread over to other parts of the world. It is now clear that multiple factors were responsible for the crisis. The proximate cause of the crisis might be the collapse of the housing cycle in the US and the associated rise in delinquencies on sub-prime mortgages, which imposed substantial losses on many financial institutions and shook investors' confidence in credit markets, but certain macroeconomic factors were also operating at the global level which enabled such booms to build up.

7.2 An inter-temporal comparison of crises shows that although the unfolding of recent financial turmoil embedded some new elements, more fundamental constituents have remained the same (see Chapter 2). The recurrence of crises reflects a basic pro-cyclicality in the system, which is characterised by a build-up of risk-taking and leverage in good times and an abrupt withdrawal from risk and an unwinding of leverage in bad times. Empirically it has been found that the patterns of asset prices in recent episode of crisis are reminiscent of those in other major financial crises episodes. The overall size of the US housing boom and its dynamics including rising house prices in excess of 30 percent in the five years preceding the crisis and peaking six quarters prior to the beginning of the crisis, bear remarkable resemblance to housing prices developments during some previous banking crises in advanced economies, *e.g.*, Finland, (1991); Japan, (1992); Norway, (1987); Sweden, (1991); and Spain, 1977 (Reinhart and Rogoff, 2008). Again, the prolonged US credit expansion in the run-up to the crisis is similar to earlier episodes, except that this time it was concentrated in one segment, *i.e.*, the sub-prime mortgage market. Nonetheless, there were some new dimensions with respect to its transmission and amplification that played an important role. These new dimensions included (i) the widespread use of complex and opaque financial instruments; (ii) the increased interconnectedness among financial markets, nationally and internationally, with the US at the forefront; (iii) highly leveraged financial institutions; and iv) the central role of the household sector.

7.3 The collapse of the US sub-prime mortgage market as the immediate cause of the global financial crisis revealed that some financial products and instruments have become so complex that they posed considerable risk to the global financial system which, in turn, led the world economy to a crisis in a synchronised mode. However, in order to understand the causes of the crisis, it is important to distinguish between the factors that contributed to rising defaults in the US sub-prime housing loan market and those factors that amplified these losses and resulted in major dislocations in financial markets. Factors that were directly responsible for rising losses in sub-prime housing can be identified as (i) the low interest rate/benign macroeconomic environment that encouraged lending and risk taking in a search for higher yield by investing in more complex financial products; (ii) regulatory structures that encouraged the increased use of securitisation and the expansion of the 'originate and distribute' mortgage model; (iii) less attention to credit quality; (iv) lack of due diligence among investors; and (v) weaknesses in risk management systems and regulatory oversight. Other factors that contributed and exacerbated the crisis included (i) the lack of transparency inherent in complex structured financial products in the over-the-counter market (OTC); (ii) difficulties and inexperience in using fair value accounting during periods of stress; (iii) weaknesses in risk management systems across all financial market participants, particularly with regard to liquidity risk; (iv) insufficient disclosure about exposures and risks; (v) high degrees of leverage; and (vi) over-reliance on credit ratings and shortcomings in the credit ratings of structured products. More broadly, high leverage has been a significant factor amplifying losses, leading to some financial institutions to sell securities in the falling markets as they faced margin calls on earlier price falls. This contributed to downward price spirals (G-20 Study Group, 2008). In short, both macro and micro factors contributed to the financial crisis.

7.4 As a result of financial crisis - characterised by heightened systemic risks, falling asset values, and tightening credit - business and consumer confidence suffered a setback across countries and precipitated a sharp slowing in global economic activity. The impact on output, employment, trade and financial flows has been severe (see Chapter 3). In fact, with increasing trade and financial integration between advanced and emerging market economies (EMEs), the effects of the crisis have proved to be more contagious. In addition to the impact on GDP growth, the financial crisis impacted capital flows to EMEs through flight to safety and rising home country bias.

7.5 The synchronised nature of the crisis due to its potential contagion brought together governments and central banks across the globe for co-ordinated efforts in exploring ways to minimise the catastrophe in the world financial system. Therefore, the responses were manifold. Some short-term actions aimed at sustaining market liquidity and capitalisation, as concerns about losses from bad assets increasingly raised questions about the solvency and funding of core financial institutions. According to IMF (2009d), policy responses to global developments have been rapid, wide-ranging, and frequently unorthodox, but were too often piecemeal and failed to arrest the downward spiral. With the consequent impact of the collapse of Lehman Brothers, authorities in major mature markets attempted to instil confidence that no other potentially systemic financial institution would be allowed to fail. As discussed in Chapter 4, in the US and the Europe, significant direct capital support and guarantees were provided to a number of major banks that had toxic assets. More broadly, authorities have followed multifaceted strategies involving continued provision of liquidity and extended guarantees for bank liabilities to alleviate funding pressures, making available public funds for bank recapitalisation, and announcing policy measures to deal with distressed assets. However, this did not prove to be very convincing for financial markets due to the lack of details on these policies and the exit strategies. As inflation concerns dwindled and the macroeconomic outlook deteriorated further, central banks across the world resorted to a range of conventional and unconventional policy tools to support the economy and ease credit market conditions. Similarly, policy responses in EMEs, in response to moderating growth rates and rising external pressures due to decline in exports and capital flows, have varied considerably. Many countries, especially in Asia and Latin America, have been able to use policy buffers to alleviate pressures, letting exchange rates adjust downward but also used reserves to counter disorderly market conditions and to augment private credit, including, in particular, to sustain trade finance.

7.6 Simultaneously, besides the quick policy response, efforts at the domestic as well as global level began to introspect on the regulatory and supervisory oversight in light of the factors contributing to the evolution of the crisis. A number of high-level committees and working groups were constituted at the multilateral level to assess the changes required in the world financial system and to make recommendations on restructuring the regulatory and supervisory frameworks at the national and global level from the lessons thrown up by the crisis. The initiatives taken so far with respect to financial regulation and supervision have already been discussed (see Chapter 4). However, the views emerging for future reforms in this area are discussed and analysed in this chapter as reforms in the financial supervision and regulation are expected to evolve after sufficient deliberations on each of the complex aspects. Due to increasing globalisation, the contagion of the crisis traversed to the EMEs, including India. The impact on various sectors of the Indian economy and the policy responses by the authorities are detailed in Chapters 5 and 6. The recent crisis appears to be 'beyond compare' despite the fact that it shares some important features with previous crisis. It had some unique characteristics relating to both its causes and its dynamics (Papademos, 2009). A number of important issues have emerged relating to the prevention and management of crisis which allow us to draw relevant lessons for both market participants and policy-makers. The analysis of underlying factors – whether macroeconomic or microeconomic – that were responsible for evolving and intensifying the crisis raises issues about the role of public authorities, *viz.*, central banks, supervisors/regulators and governments in safeguarding financial stability.

7.7 The crisis has certainly questioned the efficacy of the existing institutional framework and available policy instruments at the national as well as international levels in ensuring global financial stability. It also raises skepticism about the functioning of financial markets and institutions, in particular their capacity to price, allocate and manage risk efficiently. The events of the past two years have revealed weaknesses in both private sector risk management and inadequacies in the public sector's oversight of the financial system. Thus, the lessons are not only manifold but also relevant for a diverse set of authorities entrusted with the task of maintaining financial stability. Most of these lessons, *albeit* not always straightforward, are not only most immediately applicable to the major advanced economies but also have a broader relevance for EMEs. The recent global crisis resembles past episodes of crisis in some dimensions. For instance, it is essentially an abrupt adjustment to past imbalances resulting from strong credit growth, fuelling higher equity and house prices. In addition, conventional factors such as asymmetric information once again explain the rapid spreading of the crisis to other parts of the financial system and other countries. Nonetheless, the recent crisis is distinct from other episodes of crisis notably regarding the massive underpricing of risk and explosive lending to non-creditworthy households (sub-prime mortgage debtors) prior to mid-2007. Furthermore, all the past crises, whether global or regional ones, were essentially traditional retail banking and currency crises.

7.8 The recent financial crisis also seems to share some similarities and dissimilarities with the East Asian crisis of 1997-98. For instance, both crises occurred because the volume of international financial flows increased considerably in recent decades. This evolution was underpinned by many factors including the deregulation of markets, which lifted capital controls in many developing countries, *de facto or de jure*; the high returns available on portfolio investment in East Asian financial markets; and the improvement of the general economic outlook. Another similarity with the recent global situation is the fact that the East Asian crisis also did reveal inadequacies in the management, supervision and regulation of financial institutions. While the instability of cross-border capital flows and exchange rate volatility played a crucial role in causing the East Asian crisis, they played only an incidental role during the recent crisis. Capital flows to EMEs turned volatile in late 2008 but only in response to the crisis, and did not play any fundamental causative role. As far as other distinctions between the East Asian crisis and the recent crisis is concerned, apart from the fact that the recent one originated in the US and European financial systems and not in EMEs, policy responses to the recent crisis appear to be more bold, comprehensive, and contra-cyclical. This time, the policy authorities attempted to strengthen aggregate demand as well as maintain credit availability to households and businesses. This was in sharp contrast to what occurred in Asia in 1998 where the high domestic interest rate policies adopted to encourage the retention of resources in national economies initially attracted further capital inflows and external borrowing by domestic residents. This had led to financial institutions and the private sector assuming a growing level of foreign currency risk, which eventually made East Asian economies more vulnerable to external shocks. Nonetheless, the present challenge for policymakers is to build upon the lessons of all the past crises.

7.9 Against this background, this chapter attempts to draw lessons from the crisis and identify some of the future challenges. Section I of the chapter covers the lessons for the central banks, while Section II elucidates the lessons for financial regulation and supervision. Section III brings out certain lessons on international policy co-ordination followed by the role of international financial institutions in Section IV. Issues coming out of global imbalances and macroeconomic management are discussed in Section V, lessons for fiscal policy in Section VI and the role of credit rating agencies in Section VII. A proper balancing between the real and financial sectors is emphasised in Section VIII. The lessons for EMEs and India are detailed in Section IX. The major challenges for policymakers have been discussed in Section X. Finally, Section XI presents the concluding observations.

I. LESSONS FOR CENTRAL BANKS

7.10 With the occurrence of any economic and financial crisis, the role of central banks becomes critical. During the recent financial crisis, central banks became the first line of defence in sharp contrast to their standard association with lagged transmission and lender of last resort. In doing so, central banks reinvented themselves towards the unconventional and unprecedented role. With the experience of the Great Depression, central banks around the world, including the US Federal Reserve which was often criticised for continuing deflationary policies and aggravating the situation during that time, have become more aware of the importance of monetary policy in regulating the economy. In this context, Friedman and Schwartz (1963) deserve credit for highlighting the role of monetary factors during the Great Depression in their book on US monetary history. The East Asian crisis was also partly attributed to the Japanese zero interest rate policy to fight deflation which helped create the carry trade that generated bubbles in Asia whose effects brought down Asian economies. In fact, a great deal of research on the causes of the Great Depression and other subsequent episodes of crisis suggests that central banks and other governmental agencies have an important responsibility to maintain financial stability. The central banks' role becomes crucial not only as lenders of last resort, but also because they are considered to be better equipped to look at both financial system and economic cycles. Central banks' proximity to the banking system provides them with an intimate knowledge of financial dynamics and they are supposed to provide a candid assessment on the evolving dynamics of the economy. In the recent crisis, central banks played a decisive and active role in limiting the impact of the crisis by taking rapid and innovative policy decisions, sometimes in co-operation with other central banks. Experience of crisis shows that there is a good case for bringing financial stability higher in the priorities of central banks. Thus, it is widely perceived that there is a need to revisit and redefine the role of central banks. In this context, the following issues have attracted attention in policy discussions.

Asset Prices and the Role of Monetary Policy

7.11 The recent financial crisis motivated a review of financial stability frameworks and, within that, the role of central banks in financial stability. The crisis has brought to the limelight the fact that financial imbalances and excesses were building up in an environment of macroeconomic stability and price stability. The pre-crisis consensus on the best practice in monetary policy framework as the one characterised by 'a single target' (*i.e.*, price stability) and 'a single instrument' (*i.e.*, short-term policy interest rate) has again become a subject of debate among policymakers and researchers. Price stability should be an important goal of money policy, but not the sole one. An important lesson of the crisis is that the single-minded focus on price stability may have yielded low and stable inflation in terms of prices of goods and services, but the lowering of returns in the commodity/service producing sectors could have diverted the search for yields to the financial sector. The primary lesson that emerged from the crisis is that financial stability can be jeopardised even if there is price stability and macroeconomic stability (Subbarao, 2009d). The myth of complementarily between price and financial stability proved to the wrong. In fact, contradictions are more clearly apparent now. Thus, it needs to be examined whether financial stability has to shift from being an implicit variable to an explicit variable of the economic policy.

7.12 The recent crisis has led to a debate whether economic policy should be used to rein in booms. If so, does this fall under the responsibility of monetary policy? Till the onset of the crisis, it was largely argued that price stability was necessary and (nearly) sufficient for economic growth and financial stability. However, success in stabilising goods prices was often accompanied by inflation in asset prices, causing unsustainable speculation that led to asset booms. During the pre-crisis period, inflation spread from financial asset prices to petroleum, and then to other commodities and food, as they were increasingly treated as financial asset classes subject to financial investment and speculation. It is not that the issue of money and credit being important for the analysis of asset price development is entirely new. After the Great Depression, Fisher (1932) investigated the reasons for various booms and depressions. Among other things, he stressed the role of monetary factors by pointing to the fact that in all cases real interest rates had been too low and thus monetary factors were aggravating the bubbles. Other studies focusing on other past episodes of asset price booms and busts apparently found substantial, *albeit* unintentional, monetary policy mistakes (Bordo and Jeanne, 2002; Borio, *et al.* 1994; Gerdesmeier, *et al*. 2009; Issing, 2002). Thus, the lesson that re-emerges from the crisis is that monetary policy decisions should be sensitive to the sources of inflation. It is now increasingly felt that central banks need to assess the impact of their policy on the broader canvas of macroeconomic stability rather than merely price stability. In fact, stability of all types is core to the goals of a central bank - price stability, output stability, financial stability - with the hierarchy of weights assigned to each flexibly according to underlying macroeconomic and financial conditions. The concept of national and global macroeconomic stability, therefore, also needs to be broadened.

7.13 Although there are contrasting arguments regarding the role of monetary policy in pricking asset bubbles, it has been increasingly emphasised that the relationship between monetary policy and asset prices needs to be revisited. The first school of thought perceives that asset prices are often subject to bubbles and crashes. These can have strong pro-cyclical effects that can also affect the stability of financial markets. Since central banks are generally held responsible for financial stability, they should monitor asset prices and try to prevent the emergence of bubbles (that invariably lead to crashes). In this view, the use of the interest rate is seen as an effective tool in preventing bubbles from emerging. For instance, Papademos (2009), Meltzer (2009) and Orphanides (2010) emphasised that one of the lessons from the recent crisis is that monetary policy tools should also be employed to prevent asset market excesses and the systemic and deflation risks they entail.

7.14 The second school of thought has been dominated by the famous Greenspan orthodoxy on asset price build-up. Bernanke and Gertler (2001) argued that central banks should disregard asset prices in their policy formulation. They found little, if any, additional gains from allowing an independent response of central bank policy to the level of asset prices. In support of this proposition, the first argument is that it is difficult to identify bubbles *ex ante*. It is argued that central banks may not have better information than markets to influence asset prices. The second argument is that even if a bubble can be identified *ex ante*, using the interest rate is ineffective in bursting a bubble. All that the central bank can do is to limit the damage once the bubble bursts (Grauwe *et al*. 2008). Bernanke (2010) accorded greater priority to efforts towards strengthening the regulatory system. Mishkin (2008) and Taylor (2010) also did not see any role of monetary policy in bursting asset price bubbles. Arguing against the role of monetary policy, Mishkin (2008) opined that in most cases monetary policy should not respond to asset prices *per se*, but rather to changes in the outlook for inflation and aggregate demand resulting from asset price movements. Since it is difficult to identify asset price bubbles with certainty, any monetary policy response to misidentified bubbles may hamper the growth process. Similarly, monetary policy response to tackle an asset boom can interfere with the role of asset prices in allocating resources, particularly if there is uncertainty with regard to the presence, nature or extent of a bubble. In short, this school of thought perceives that monetary policy can do more harm than address the issue. Arguing that most central banks already have their hands full using one tool (the short-term interest rate controlled by the central bank) to hit two targets (low inflation and full employment), Calomiris (2009) argued that adding a third target to monetary policy of identifying and deflating asset bubbles would be undesirable as it would undermine the ability of central banks to use interest rates to meet the key goals of monetary policy. Instead, he recommends that prudential regulation is ideally suited to addressing asset market bubbles, since loose credit supply has been so closely identified historically with the growth of asset bubbles. Mohan (2009a) suggested that pre-emptive and calibrated monetary and regulatory measures would be better than an inertial monetary policy response.

7.15 Despite these contrasting arguments with their own merits and demerits regarding the role of monetary policy, it is realised that the policy of benign neglect of asset price build-up has failed and price stability does not necessarily deliver financial stability. The recent crisis clearly falsified the pre-crisis consensus view for monetary policy analysis, which builds upon models where financial conditions, *e.g.*, developments in asset prices, quantity of money and credit, play at most a very limited role in macroeconomic outcomes and transmission of monetary policy. Under that framework, they may reflect, or even anticipate; underlying economic conditions, but they do not provide any feedback on those conditions. The pre-crisis consensus view also rested on a presumption that strong asset price dynamics and misalignments tend to be associated with strong inflationary pressure. Thus, any central bank responding to a surge in inflation would be automatically addressing such financial imbalances. However, the dot-com boom and bust in 2000 and the recent global crisis coinciding with relatively low and stable inflation in most parts of world point towards a more explicit role for financial conditions in formulating monetary policy. Therefore, it is increasingly felt that the mandate of monetary policy should include macro-financial stability and not just price stability. Central banks should adopt a broader macro-prudential view, taking into account in their decisions asset price movements, credit booms, leverage, and the build-up of systemic risk. In fact, the stance of monetary policy, which is typically set in a forward-looking manner, should provide the lead indicator for the stance of macroprudential policies.This broader approach to monetary policy might require that concern for macro-financial stability be explicitly included in central banks' mandates. However, expectations should be realistic as even the best leading indicators are found to be imperfect.

7.16 With regard to the appropriate response of central bankers to a crisis, IMF (2009f) underscores that central banks have to assess (i) the potential gains from reacting to signs of emerging financial vulnerability, (ii) whether other policies can be used and (iii) the trade-offs between focusing output on stabilising output and inflation and attempting to reduce the risk of asset price booms and busts. In other words, there is definitely a greater role for monetary authorities to assess the signs of increasing macro-financial risks and to suggest a suitable policy response. Central banks should communicate their concerns on the sustainability of strong increases in asset prices and contribute to a more objective assessment of systemic risks. In this context, the recommendations of the Report of the G-30, "Financial Reform: A Framework for Financial Stability", *inter alia*, on the greater role of central banks in ensuring financial stability are also noteworthy. A recent Report of Squam Lake Working Group on Financial Regulation (June 2010) also emphasised that central banks should be the supervisors of overall financial stability.

7.17 To sum up, recent developments show that a crisis can emerge in any segment of the financial system. In view of this, there is no room for complacency for monetary and regulatory authorities. The lesson is that there is more to monetary policy than just fighting inflation. With excessive focus on inflation, some central banks ignored what was happening to their financial markets. Hence, central banks need to continuously monitor the nature of asset price booms and decide whether monetary policy has any role in minimising the risks associated with booms of a speculative nature. At least they need to assess the aggregate cost associated with inflation and asset prices, if they remain unchecked. For this, central banks may have to develop new measures of systemic risks so that the distinction between genuine and speculative booms can be made explicit. Even though the issue of explicit inclusion of asset prices in the mandate of monetary policy is still a debatable issue, central banks would, in any case, need to improve the underlying analytical framework of their monetary policy. It is essential that monetary policy strategy provides the framework for such analysis so that asset price movements, monetary and credit developments, the build-up of financial imbalances and the emergence of potential systemic risk are closely tracked.

Adequate Provision of Liquidity as a Lender of Last Resort

7.18 In addition to the conduct of monetary policy, a vital responsibility of central banks in most countries is to perform the role of lender of last resort (LOLR). At its core, the LOLR function is to prevent and mitigate financial instability through the provision of liquidity support either to markets or individual financial institutions. However, the recent crisis has brought to the fore the issue of the efficacy of central banks as LOLR and raised the question of whether the tools available with them are sufficient for confronting the challenges posed by a crisis (Bernanke, 2009c; Cecchetti and Disyatat, 2009). The failure of Lehman Brothers indeed demonstrated that liquidity provision by the Federal Reserve would not be sufficient to stop the crisis and substantial fiscal support was necessary. In fact, financial innovation in recent years greatly enhanced the reliance on markets for liquidity management. Financial innovations have also broadened the definition of liquidity, making it more difficult to differentiate between liquidity crisis and solvency crisis. Thus, experience shows that the concept of liquidity can no longer be confined to the ability of an institution to raise funds against the collateral of its assets ('funding liquidity'), but must now encompass its ability to dispose of assets quickly into deep markets at predictable prices ('market liquidity'). The recent crisis clearly demonstrated that channelling emergency liquidity assistance through the interbank market would not work if the interbank market was not functioning properly. As the crisis unfolded, a radically changed concept of the LOLR had to be put into practice by the central banks. Central banks provided extraordinary monetary accommodation to deal with all types of liquidity shortages faced by banks and financial institutions. Central banks expanded the scope of their operations by extending maturities, broadening the range of collateral, increasing the number of counterparties, and introducing swap lines. Further, guarantees and the direct purchase of a range of private sector securities were used.

7.19 The recent crisis has made it abundantly clear that the interaction of funding liquidity with market liquidity can create difficult challenges for central banks. Thus, central banks should envisage such runs in markets and not just banks, which given mark-to-market accounting, leads to threats to the liquidity and solvency of banks *via* changes in market prices. In this regard, based on developments in 2007 and 2008, IMF (2009e) reveals that unconventional tools like capital injections and asset purchases were more effective in reducing the default risks of banks than conventional tools in the post-Lehman period. In this connection, it is worth highlighting that the Reserve Bank had realised the need for unconventional policy options quite early in October 2007. The Reserve Bank in its Mid-term Review of Annual Policy of 2007-08 had stated that it was ready to take recourse to unconventional policy responses to developments in the financial markets.

7.20 Cecchetti and Disyatat (2009) argued that central banks are likely to require their operational frameworks to include (i) flexibility; (ii) far-reaching counterparties; (iii) a wide range of eligible collateral; (iv) clear communication of intended actions; (v) close co-ordination with fiscal authority; and (vi) close co-operation with other central banks. The crisis has provided useful guidance for re-designing central bank liquidity frameworks to facilitate more effective crisis management in future. It would be important for central banks to undertake further refinements and augmentation of their liquidity management frameworks not just for crisis management but also for day-do-day operational purposes and monetary transmission. In this context, mandated reserve requirements can ensure liquidity buffers that can be used in a crisis and also exploit synergies with payment system liquidity. An important consideration for the functioning of liquidity management as well as the payment system is the prescription of liquidity ratios in terms of the highest quality collateral as is the statutory liquidity ratio prescribed by the Reserve Bank of India. It is increasingly argued that Bagehot's view of the lender of last resort requires modification. As the financial system has become more complex, so have all facets of the role of central banks. The theory of the LOLR needs to be refined by identifying the nature of liquidity shortages that can occur in the modern financial system. It could be: (i) a shortage of central bank liquidity, (ii) an acute shortage of funding liquidity at a specific institution, or (iii) a systemic shortage of funding and market liquidity. The appropriate principles for central banks' LOLR support must be conditioned on the particular type of liquidity shortage that takes place. Bagehot's dictum of providing liquidity to illiquid but solvent banks at penal rates applies only to the benign situation of liquidity shortages. Otherwise, a systemic event would definitely require lending at an effectively subsidised rate compared with the market rate while taking collateral of suspect quality. Thus, central banks need to adopt a more flexible approach and strengthen their capacity to provide liquidity and respond to systemic shocks. This will help central banks restore confidence in short-term money markets in a phase of acute liquidity shortages of a systemic nature.

Communication with the Market

7.21 Another issue that recent global developments have highlighted, *albeit* rarely emphasised, pertains to the communication of central banks with the market. Although central banks have attempted to minimise the economic impact of the financial crisis, they have often faced criticism for either doing too much or too little. As mentioned above, due to lack of comprehensiveness on various policy responses, particularly in advanced economies, credit and financial markets remained unconvinced about the policy measures and did not react positively for some time. This underscores the importance of communication by policy authorities, including central banks, with the markets.

7.22 During the recent crisis, central banks in both advanced as well as EMEs resorted to various unconventional policy measures to instil confidence and stabilise the markets. However, uncertainty about the effectiveness of unconventional monetary policy and extraordinary measures might push the boundaries of monetary policy. Thus, these aspects can be dealt with by better communication by the central bank with markets (Mohanty, 2009). Central banks face several dilemmas in designing an appropriate communication policy. What should be communicated and to what degree of disaggregation is one set of issues. The second set of issues relates to the stage of evolution of internal thinking and debate when the information should be disseminated. The third set relates to the timing of communication with reference to its market impact. The fourth relates to the quality of information and the possible ways in which it is perceived. Thus, alleged incoherence or an element of ambiguity at times on the part of central bankers in explaining policies is as much a reflection of the complexity of the issues as it is of the differing perceptions of the variety of audiences to which the communication is addressed (Reddy, 2006).

7.23 In this context, Shirakawa (2009) elaborates "careful explanations while continuously evaluating both the positive and adverse effects of the steps taken become critical. Even during times of crisis, if central banks take time-inconsistent policy measures, this could rather have negative effects on confidence in the central bank and, as a result, reduce the effectiveness of monetary policy. At the end of the day, the central bank needs to communicate its aims and strategies in response to the characteristics of the problem the economy faces, and also needs to take policy measures which are consistent with the communication." Citing communication policy of central banks as an important tool, Bernanke (2009a) argues, "[e]ven if the overnight rate is close to zero, the Committee should be able to influence longer-term interest rates by informing the public's expectations about the future course of monetary policy……..To minimise market uncertainty and achieve the maximum effect of its policies, the Federal Reserve is committed to providing the public as much information as possible about the uses of its balance sheet, plans regarding future uses of its balance sheet, and the criteria on which the relevant decisions are based." Pointing out the lack of communication during the Northern Rock fiasco, Wood (2009) argues "[t]he authorities charged with maintaining financial stability should have a clear plan of action for when that stability is threatened. They should make clear in advance what that plan is, and, when it needs to be implemented, it should be announced that the plan is being used, and each stage in the crisis resolution described as it goes along…The unexpected will almost certainly happen during a crisis. When it does, there should be someone in overall charge of the response who can co-ordinate what is done to deal with unplanned for events. And this person should have a clear communication strategy to explain this response – ideally, this person should do the explaining." It is often argued that the monetary policy measures of the European Central Bank and the Federal Reserve are more predictable than those of the Bank of England (Ehrmann and Fratzscher, 2007).

7.24 Not only central bank policy measures need to be clearly communicated, the dissemination of information on economic outlook by central banks is also important. It is often argued that central banks have better information on economic outlook and assume special credence among market players as evident in the case of the communication policy of the Federal Reserve. However, it has also been argued that the forward guidance given by US monetary authorities contributed to a considerable underpricing of risk that was an important ingredient in the unfolding of the global financial crisis. Thus, the extent to which central banks should give forward guidance remains a subject of active debate. Nonetheless, during crisis, it becomes important for central banks to ensure that their communication with the market is clear enough to add certainty and predictability. It is also emphasised that clarity of communication over some of the withdrawal strategies, *i.e.*, unwinding of unconventional policies, is critical for markets. In addition to a well-defined strategy for unwinding unconventional policies, confidence in the financial system will be bolstered by clarity over future regulatory reforms needed to address systemic risks. In short, central banks have to reiterate explicitly their commitment to the stability of financial markets and the financial system. This will make their monetary policy implementation and transmission process more effective in future.

II. LESSONS FOR FINANCIAL REGULATION AND SUPERVISION

7.25 One of the most salient lessons to emerge from the crisis is that free markets should not necessarily be unregulated markets. In fact, market discipline and supervision should complement each other. Whilst the creation of complex financial securities from sub-prime mortgages given to borrowers with poor credit histories could be regarded as the catalyst for the recent crisis, the roots of the financial regulation problem go much deeper. All the influential reports from major international forums [*e.g.*, the G-20 Working Group I Report (2009), the de Larosière Report (2009), the Turner Review (2009), the Geneva Report (2009), and the Group of Thirty Report (2009)] have highlighted that one factor responsible for the crisis was the gap in the regulatory and supervisory aspects of the financial system. These reports raised a number of issues and identified possible directions in which the regulation of the financial markets may move. The G-20 Working Group I on "Enhancing Sound Regulation and Strengthening Transparency" reviewed the regulatory aspects and accordingly made recommendations to strengthen international regulatory standards, enhance transparency in global financial markets and ensure that all financial markets, products and participants are appropriately regulated.

7.26 Although diverse views still exist in certain areas, there is growing consensus in certain key areas, *viz.*, redefining the scope and boundaries of financial regulation and supervision, managing the pro-cyclicality in the system, strengthening capital and provisioning requirements, and refining valuation and accounting rules. It has been seen that even stricter regulation of the regulated part can push activity into the unregulated part (*e.g.*, SIVs and conduits). According to Buiter (2009), "What is clear is that a lot more regulation, and regulation different from what we have had in the past, will be required to reduce the likelihood of future systemic failures and to better align private and public interests." Some issues that need a closer review of regulators and supervisors are discussed below.

Importance of System-wide Approach

7.27 The recent financial crisis has exposed how important the inter-connections are among the banking system, financial markets, and payment and settlement systems. Such inter-connections make the overall financial system more prone to contagion of risks. Thus, since the onset of the crisis, the need to focus on systemic risk is increasingly recognised. It has become clear that regulators need to look at system-wide risk and not just individual institution-specific risk. The supervisors and regulators need to evaluate the financial system in its entirety, given the experience that developments in one area can often have a damaging impact elsewhere. In addition to having a vertical perspective on supervision, the horizontal interconnectedness across banks, financial institutions, markets and geographies also needs to be recognised in policy formulation.

7.28 It is evident that regulation and supervision were too firm-centric to see through to the systemic risk. In particular, policymakers missed the moral hazard implicit in too-big-to-fail firms outside the regulatory ambit (which prompted excessive risk-taking) and the negative externalities when firms too-interconnected-to-fail failed. Experience shows that regulation and supervision at the institution level is necessary, but may not be sufficient in such cases. Thus, it is necessary that the micro-prudential approach is supplemented by a macro-prudential approach. Although a number of policy institutions, particularly central banks, enhanced their analysis of systemic risks in recent years and many of the systemic vulnerabilities that caused or enhanced the current turmoil had in fact been identified, policy mechanisms to effectively translate these analyses into policy action have been lacking. Thus, financial sector authorities should have suitable macro-prudential tools to address systemic vulnerabilities.

7.29 The conventional wisdom that market discipline and self-regulation would deter excessive risk-taking by lightly regulated and unregulated institutions has become debatable. Thus, the important lesson involves understanding why markets often do not work the way they are meant to. There are many reasons for market failures. In this case, too-big-to-fail financial institutions had perverse incentives. It is evident that market discipline was ineffective even in constraining risk-taking outside the banking sector. Some unregulated entities were able to undertake credit and liquidity risks in a big way with a high degree of leverage. It has been realised that non-banking entities are systemically important as they carry the potential to impact the functioning of key financial markets and their confidence. Markets and regulators clearly failed to recognise the problems of flawed incentives, information gaps, procyclical lending, and risk concentrations behind the financial innovation boom. This shows the lack of a system-wide approach in regulatory and supervisory mechanisms, particularly across the advanced economies. Regulators and supervisors were not aware of emerging systemic risks associated with the interaction of regulated and unregulated entities, activities and markets (IMF, 2009a). This limited scope of regulation allowed financial innovations to happen without accompanying risk management practices. Regulators should ensure that financial institutions are less leveraged but more liquid.

7.30 The continuing growth in the size and complexity of many banking institutions in advanced countries exposed them to a wide array of potential risks, while at the same time making it more challenging for a single supervisor to have a complete view of firm-wide risks and controls. Such inadequacies could be attributed to fragmented regulatory structures and legal constraints on information sharing. Given the complex inter-linkages between banks and non-banks and the move towards conglomerates, it is important that regulatory loopholes are fixed to avoid regulatory arbitrage. Further, it is necessary that system-wide or macro-prudential oversight is adopted, which broadens the mandate of regulators and supervisors to encompass consideration of potential systemic risks and weaknesses as well. In the context of US, Bernanke (2009b) and Tarullo (2009) suggested that all systemically important financial firms, and not just those affiliated with a bank as provided for under the Bank Holding Company Act of 1956, should be subject to a robust framework for consolidated supervision. Likewise, Ram Mohan (2009) emphasised the need for examining whether all systemically important financial institutions must be subject to central bank regulation.

7.31 It is important to recognise that focus on only one part of the financial system can obscure vulnerabilities that eventually may prove very important. Thus, supervisory practices need to be revamped by making them more co-ordinated and multi-disciplinary. With the recent crisis, the assumption that the failure of a large bank would be more costly than the failure of a large non-bank also became questionable. The systemic importance of non-banks was not well appreciated. Thus, it is widely perceived that the scope of financial sector surveillance needs to be expanded to a wider range of institutions and markets. Emphasising on instituting a macroprudential approach to supervision, IMF (2009a) and Bernanke (2009b) suggest setting up a separate regulator to take care of systemic risk, although the efficacy of such proposals is doubted by Taylor (2010). Tarullo (2009) also suggests a major revamp of the regulatory and supervisory system to address the problem of systemic risk. However, it is important that the scope of regulation is expanded by national authorities in close co-ordination and under guidance provided by international bodies, such as the Financial Stability Forum and the Basel Committee on Banking Supervision. This is required to ensure broad consistency across jurisdictions. The G-20 Working Group I recommended that the boundaries of the regulatory framework should be reviewed periodically within national jurisdictions, in light of financial innovation and broader trends in the financial system. International bodies will promote good practice and consistent approaches in this area. In a similar vein, Turner Review (2009) recognised that that there was inadequate focus on the analysis of systemic risk and of the sustainability of entire business models, and a failure to design regulatory tools to respond to emerging systemic risks. The Geneva Report on the World Economy (Brunnermeier *et al.* 2009) also suggested a fundamental re-appraisal of the basis for financial regulation and sets out a proposal on how the existing Basel II regulations should be modified to incorporate macro-prudential goals.

7.32 In short, the principal lesson of the crisis is that an approach to supervision that focuses narrowly on individual institutions can conceal broader problems that are building up in the system. In order to ensure financial stability, macroeconomic as well as regulatory and supervisory policies need to be redesigned with a focus on mitigating systemic risks. Regulations need to be incentive-compatible, across institutions and over time, while balancing possible adverse impacts on innovation and efficiency. In the case of an institution whose distress may have systemic externalities, the regulatory structure should provide incentives enabling it to internalise such costs in its business planning and risk management. All systemically important financial institutions, markets and instruments should be subject to an appropriate degree of regulation and oversight, depending on their local and global systemic importance. In fact, size and interconnectedness need to be examined together when assessing systemic importance. The adoption of a macroprudential approach to financial stability by regulators and supervisors would help strengthen resilience in the financial system. However, this does not mean that micro-prudential factors are less important. In fact, the macro-prudential approach subsumes the rationale for its micro-prudential approach. The need is to understand and undertake the improvement of micro-prudential regulation and the development of macro-prudential regulation.

Policies to Mitigate Pro-Cyclicality in Regulation and Accounting

7.33 The recent crisis reflected the broad rise in risk-taking and leverage that took place in the preceding years. There was a build-up of risk-taking and leverage in good times and an abrupt withdrawal from risk and an unwinding of leverage in bad times. It is evident from recent developments that private sector behaviour and practices, prudential regulation, and macroeconomic policies can act to magnify cycles and have detrimental effects. To some extent, the fair value accounting system also operated in a pro-cyclical fashion to exacerbate financial stress. Subramanian and Williamson (2009a) argued "[t]he existing regulatory system not only fails to recognise that the dangers in the system were to a large extent due to cyclicality, but itself tends to reinforce the pro-cyclical tendencies." Thus, there is a need to re-examine the existing regulatory and institutional practices to ensure that they do not exert a pro-cyclical impetus.

7.34 According to IMF (2009a), there is an emerging consensus among market participants and regulators that current loan loss provisioning rules and practices tend to have a too short-term horizon, and are backward looking, thus recognising risks too late and allowing excessive risk-taking during economic upswings. In order to avoid the outsized effects of a crisis in future, new policy responses need to be identified that could help to mitigate pro-cyclicality. In this context, the G-20 Working Group on "Enhancing Sound Regulation and Strengthening Transparency" underscored the need to mitigate pro-cyclicality by promoting the build-up of capital buffers during economic expansion and by dampening the adverse interaction between fair valuation, leverage and maturity mismatches in times of stress. Andritzky *et al.* (2009) suggested that two issues require immediate attention, *i.e.*, (i) adapting prudential regulations so as to explicitly counter-cyclical tendencies; and (ii) encouraging larger liquidity buffers, perhaps even formal liquid asset minimums, to offset the under-pricing of liquidity risk by financial firms in upturns.

7.35 The Geneva Report (2009) proposed to tackle the issue of pro-cyclicality by adding a system of macro-prudential regulation to the existing system of micro-regulation. This would help increase banks' capital adequacy ratios during booms and reduce them in periods of crisis, providing a deterrent to increasing credit during the period of boom and an incentive to lend during the period of slowdown. Similarly, more aggressive provisioning requirements may help mitigate pro-cyclicality during periods of high credit growth during a boom. However, these measures are desired only once conditions in the financial markets stabilise. The rapid implementation of measures towards mitigating pro-cyclicality with inappropriate sequencing and timing may further destabilise financial markets and harm weak institutions. Concerns have also been raised that the enhanced risk-sensitivity in the Basel II capital requirements could exacerbate potential pro-cyclical behaviour. Suggesting the regulatory response to crisis, Turner Review (2009) recommended that regulators should take immediate action to ensure that the implementation of the current Basel II capital regime does not create unnecessary pro-cyclicality. This can be achieved by using 'through the cycle' rather than 'point in time' measures of probabilities of default. It also emphasised that the regulatory framework, in general, and its capital component, in particular, do not amplify the business cycle. In order to address the issue of pro-cyclicality, regulators have to focus on (i) improving and diversifying market risk management models, (ii) identifying factors that amplify cycles, (iii) undertaking more rigorous stress testing and (iv) adopting forward-looking procedures to capital calculations to dampen their inherent pro-cyclicality. In the same context, the High-Level Group on Financial Supervision in the EU (Chairman: Jacques de Larosière) in its report of February 2009 observed that it was not appropriate to blame the Basel II rules *per se* for being a major cause of the crisis. However, the report emphasised a fundamental review of Basel II.

Enhancing Transparency and Disclosure

7.36 Recent developments are testimony to the fact that when information is imperfect, markets often do not work well and information imperfections are key in finance and the associated externalities are pervasive. The major weakness that the crisis has highlighted is the lack of transparency inherent in complex structured finance products and in the OTC market that contributed to market liquidity drying up. Risk disclosure is found to be a key component of transparency in the case of structured products. The G-20 working Group I in its Report (March 2009) noted that, in many cases, investors and other market observers could obtain only minimal information about pricing, trading volumes, and aggregate open interest in various products that trade in the OTC markets.

7.37 In fact, there were many areas where a lack of transparency contributed to a loss of confidence, which intensified the crisis. One particular area was the case of over-the-counter securities such as asset-backed securities (ABS), commercial mortgage-backed securities (CMBS), residential mortgage-backed securities (RMBS) and collateralised debt obligations (CDOs) and their associated derivatives. In order to deal with the systemic consequences of opacity in counterparty risk, regulators must ensure that derivatives contracts are cleared through a clearing house, thereby eliminating the problem of measuring counterparty risk.

7.38 There was also a transparency issue associated with the ratings of structured financial instruments. Since structured finance products were too complex to be understood by the majority of the investor class, investors over-relied on credit ratings instead of undertaking adequate due diligence. This complexity also meant that exposures to sub-prime lending were difficult to determine, which contributed to difficulties in assessing counterparty risks. In addition, as markets deteriorated, concern regarding estimates of the fair value of assets rose. Turner (2009) observed that some banks were truly doing 'originate and distribute', but the trading operations of other banks (and sometimes of the same bank) were doing 'acquire and arbitrage'. Although it is clear that leverage played a role in the magnification of losses, it needs to be better understood how instruments that were designed to spread and diversify risks ended up concentrating the risks. The new model left most of the risk still somewhere on the balance sheets of banks and bank-like institutions, but in a more complex and less transparent manner.

7.39 Lack of transparency not only made the risk assessment mechanism of regulators inadequate but also restrained investors from exercising due diligence before taking investment decisions. Thus, the crisis underpinned the need for greater market transparency about the techniques, data characteristics, and caveats surrounding the valuation of complex financial instruments; improved information regarding OTC markets and clearing arrangements; and reporting of exposures (on and off-balance sheet) in a format that permits regulators to aggregate and assess risks to the system as a whole. In addition, the crisis brought out the weaknesses in public disclosures by financial institutions. Lack of adequate disclosure regarding the type and magnitude of risks associated with on and off-balance sheet exposures of banks and financial institutions damaged market confidence during the turmoil.

7.40 Efforts have already begun to address the issue of lack of transparency. In this direction, several accounting standard setting bodies have provided guidelines to clarify expectations for the valuation of financial instruments, including complex financial products. Further, the G-20 Working Group I (March 2009) observed that prudential supervisors in many jurisdictions have tried to encourage their internationally active financial institutions to enhance disclosure by adopting leading risk disclosure practices addressed in a report by the Senior Supervisors Group to the Financial Stability Forum (FSF). According to IMF (2009b), transparency measures would help final investors perform some of the due diligence currently outsourced to rating agencies, while also helping the latter do a better job of measuring tail risks.

7.41 In short, there is wide consensus on the need for reviewing financial regulation. The new global risk environment and the speed of developments have increased dramatically, leaving policymakers with less time for a suitable policy response. The key lesson for supervisors is the need to remain attentive to the emergence of new risks, particularly in the face of rapid financial innovations. They also need to take due cognisance of the increasing interconnectedness of the regulated and unregulated segments of the financial system. There is a need for regulation staying ahead of the curve, and for continually upgrading the skills and instruments for financial regulation and supervision. In addition, it needs to be ensured that prudential regimes encourage incentives that support systemic stability and discourage regulatory arbitrage, and assure effective enforcement of regulation. Increasing the effectiveness of supervision must be the top priority for supervisory institutions. At the same time, it needs to be ensured that over-regulation does not harm the dynamism of the economy or incentives for further innovations.

Effective Regulation of Cross-border Institutions

7.42 With greater global financial integration and the significant increase in cross-border lending and investment in the past decade, a financial crisis in one country or region could result in large negative effects on other economies. During the pre-crisis period, national supervisory authorities were not apparently active in sharing information and identifying a build-up of vulnerabilities in globally active and systemically important financial institutions. Thus, the crisis clearly revealed the limits of local policy responses in dealing with the activities of systemically important financial institutions operating at the global scale, markets and instruments.

7.43 In view of this, it becomes necessary to formulate a robust framework for regulating cross-border institutions that provides guidance on the roles and responsibilities of authorities in home and host countries. IMF (2009b) also emphasises the need to tackle political and legal impediments to the regulation and resolution of cross-border institutions. Highlighting the need for better co-ordinated supervision internationally and a robust global resolution framework, Mohan (2009b) argues that in order to avoid regulatory arbitrage, there is a need for greater consistency in the regulation of similar instruments and of institutions performing similar activities, both within and across borders.

7.44 In this context, some of the recommendations by Turner Review (2009) are noteworthy. These include (i) the establishment and effective operation of colleges of supervisors for the largest complex and cross-border financial institutions, (ii) off-shore financial centres to be covered by global agreements on regulatory standards, and (iii) enhancing international co-operation among supervisors, central banks and finance ministries for the pre-emptive development of crisis co-ordination mechanisms and contingency plans. Further, it suggested setting up a new European institution which will be an independent authority with regulatory powers, a standard setter and overseer in the area of supervision, and will be significantly involved in macro-prudential analysis while supervision of individual firms continues to be performed at the national level. The crisis has clearly pointed out the lack of an international legal framework that could guarantee a fair resolution in case a global firm/bank fails. Hence, policymakers from countries where large cross-border financial entities actively operate should co-operate and co-ordinate to address such legal constraints.

Resolution Mechanism for Non-banking Financial Institutions

7.45 One lesson that emerged from the crisis is the importance of a resolution mechanism for non-banking financial institutions in economies like the US as they provide a larger share of financial intermediation than banks. Thus far, the principle that guided regulators in the US was based on the premise that the failure of a bank would be much more damaging for the economy as a whole than the failure of a non-bank. This premise proved to be incorrect as the crisis unfolded. Non-banks are very large players in the derivative markets. In the absence of an adequate resolution mechanism for non-bank financial entities, authorities in US were not prepared to place a systemically important investment bank or hedge fund into Chapter 11 bankruptcy. In such cases, authorities have limited options. Goldstein (2008) suggested that large investment banks need to be under the supervision of the “prudential regulator”. There should be a resolution regime for systemically important non-bank institutions to complement the current regime for banks under the Federal Deposit Insurance Act. Tarullo (2009) observed that although in most cases federal bankruptcy laws provide an appropriate framework for the resolution of non-bank financial institutions, this framework does not sufficiently protect the public’s strong interest in ensuring the orderly resolution of non-depository financial institutions when a failure would pose substantial systemic risks. Thus, an appropriate resolution regime for non-banking financial institutions needs to be put in place to address the too-big-to-fail problem in countries like the US.

Mixing Commercial and Investment Banking

7.46 The Great Depression had shown that banks were simply too economically important to fail. With the occurrence of the recent crisis, it is argued by many that financial deregulation removed the very legislation designed after the Great Depression to stop them failing in the first place. It is widely perceived that one of the causes for the financial crisis has been deregulation and, in particular, the Gramm-Leach-Bliley Act (1999), the core of which was the repeal of the Glass-Steagall Act’s (1933) prohibition on the mixing of investment and commercial banking. The Gramm-Leach-Bliley Act facilitated the way for investment and commercial banks to merge, thus giving investment banks the incentive to take greater risks while reducing the amount of equity they are required to hold against any given dollar of assets (Hadar, 2009). Moreover, financial engineering had been rapidly changing the character of the financial services sector as a whole. Securitisation and associated derivative instruments were merging capital markets and traditional lending activities, which led to a shadow banking system. As a result, both the asset mix and sources of funding of many banks were shifting, sometimes dramatically (Tarullo, 2009). Most of the large commercial banks, facing the need to raise their own capital in competitive securities markets, relied increasingly on trading profits, in effect turning themselves into hedge funds. On the other hand, most of the large investment banks engaged in significant trading operations, increasingly used the repurchase-agreement market to fund themselves with what, in effect, amounted to short-term deposits. Such a blurring of the distinction between commercial and investment banking activities made the financial system more vulnerable.

7.47 The approval of the Gramm-Leach-Bliley Bank Reform Act in the US encouraged banks to engage in a much wider range of financial activities and to provide a full range of products and services without regulatory restraint. Such deregulation allowed increasingly risky innovations that made the system more vulnerable. A number of large banks were increasingly engaged, either directly or indirectly through their affiliates, in the process of securitisation by sponsoring and administering special purpose vehicles. At the same time, it has been argued that the Gramm-Leach-Bliley Act softened the impact of the crisis by allowing for the mergers and acquisitions of collapsing banks as the crisis unfolded. Kuttner (2007) also highlighted the repeal of the Glass-Steagall Act as a contributing factor to the mortgage crisis. Volcker (2009) emphasised the need to separate commercial and investment banking. Although the spate of financial innovations witnessed in recent years has made it impossible to re-segregate commercial and investment banking along the lines of the Glass-Steagall Act, the architecture of financial regulation in the US needs to be radically reformed to address the kind of risks that can emerge in a globalised world. In the context of the US, the Volcker Rule is being proposed as part of a reform agenda in the US under which banks will no longer be allowed to own, invest, or sponsor hedge funds, private equity funds, or proprietary trading operations for their own profit, unrelated to serving their customers. The proposal will place broader limits on the excessive growth of the market share of liabilities at the largest financial firms, to supplement existing caps on the market share of deposits.

7.48 In short, regulators need to ensure that (i) credit and equity cultures are not mixed, (ii) capital rules are targeted efficiently and (iii) the cost of leverage is sufficiently high to ensure that their size and risk-taking activities are appropriately contained. The crucial lesson of the recent crisis is that policymakers should regard financial regulations not as an economic burden on the market but as an investment for making financial systems more resilient to sudden disruptions and reducing future government bailout obligations.

Compensation Structure

7.49 An analysis of the crisis shows that compensation schemes were also partly responsible for excessive risk-taking. Compensation schemes encouraged managers to forsake long-run prospects for short-run returns. Market participants, *viz*., traders, loan managers, risk committees and boards of directors were given strong economic incentives to focus on short-term profits. According to BIS (2009), in some cases, profits calculated with complex mathematical models were used to determine rewards even when markets for the assets underlying the calculations did not exist and so they could not be sold. As a result, equity holders and asset managers were unduly rewarded for risk-taking because of their limited liability and the compensation system, respectively. However, the adverse impact of the downturn was largely borne by the creditors or the government. This shows that short-term factors in the design of financial contracts need to be corrected. In tune with the recommendations of various major reports on the financial crisis, a reform of the executive compensation schemes and practices should be an essential part of policy to secure financial stability. In this context, the squam Lake Report (June 2010) suggested deferment of a significant portion of compensation which could be contingent upon continuing health of the firms.

Efficacy of Financial Innovations

7.50 A rapid rise in financial innovations without accompanying risk management practices precipitated the crisis. Financial innovations like credit default swaps and collateralised debt obligations were expected to promote efficient allocation of risk and, hence, allow those market participants to bear the risk of an asset who could best afford it. Posen (2009) elaborated that non-financial companies freed from the burden of such risk were supposed to engage in more productive capital formation, generating growth for the entire economy. However, growth in new financial products outpaced fixed capital formation, both globally and in the US in a big way. There seems to be only a weak link, if any, between the growth of the innovative complex financial products and real corporate investment. In this context, the UN Report (September 2009) argued that unregulated market forces have provided incentives for the creation of an abundance of financial products with little relevance for meeting social goals and the under-production of financial products that support social goals. Thus, one of the roles of financial policymakers is to address these market failures in financial product development.

7.51 Even though financial innovations can benefit consumers, the financial system and the broader economy, their risks are not properly understood by market players. It appears that innovations were also aimed at injecting complexity to undermine regulation. In this context, public policy towards fostering and improving awareness of financial matters and promoting economic and financial education is also required. Buiter (2009) reveals that innovations considered to be genuine and potentially socially useful (interest rate swaps, securitisation, CDS) were often abused and became socially damaging. He stressed that these products should be properly vetted before they were permitted by the regulators. Moreover, banks need to evaluate more comprehensively the possible unintended consequences of new financial instruments and how these instruments will perform under stressed market conditions. Thus, it is necessary that innovations like securitisation – that has the capacity to enhance systemic efficiency and effectiveness – must be developed within a sound regulatory framework.

7.52 It is least likely that the process of financial innovations will come to a halt due to the crisis. Policymakers, however, have to decide how much to increase regulation and supervisory oversight of financial institutions dealing with such products. At the same time, they have to be cautious in their approach towards reforms by ensuring the enabling environment for genuine innovations. Over-regulation should not hamper the process of financial innovation. Instead, regulators should encourage responsible innovations that can be properly implemented and enhance consumer welfare. Posen (2009) suggested that even if many financial innovations are beneficial, all of them need to be monitored over the long term by regulators, as well as scrutinised before issuance, for their safety and effectiveness. In addition, financial institutions need scope for greater capital and liquidity on their balance sheets. This will help promote more prudent behaviour as a financial intermediary seeks to grow its balance sheet through product innovations. Financial innovations need to be pursued in the broader context of financial stability and have to necessarily correspond to the level of maturity of the financial system and the needs of the real economy. To sum up, regulators should allow "responsible innovation" that increases consumer welfare. In order to ensure that excessive regulation does not deny the benefits of financial innovation, regulators need better judgment and insight.

Policy Co-ordination between Monetary and Regulatory/Supervisory Authorities

7.53 The recent crisis highlights the fact that market self-regulation has limits. In order to avoid the possibility of market failure, monetary and regulatory officials need to co-ordinate better (than in the past), particularly during the build-up of asset-price bubbles. Authorities need to clarify the division of responsibilities so that in the event of banks facing financial stress, appropriate procedures are in place for sharing information, co-ordinating their respective roles, and designing strategies to resolve disputes. “Communication” failures evident during the recent crisis (*e.g.*, on the occasion of the bailout of Northern Rock) point to the issues involved in co-ordinating the actions of two separate agencies. Better co-ordination will bring consistency and coherence of policies of both sets of agencies.

7.54 During the recent crisis, it was realised that the proper flow of information among regulators, even within the same jurisdiction, was lacking due to imprecise legislation (IMF, 2009b). Emphasising inter-agency co-ordination, Subbarao (2008) argued that the respective roles of central banks, regulators, supervisors, and fiscal authorities regarding financial stability need to be revisited. Central banks should play a central role in maintaining financial stability and should have the necessary information base to do so effectively. This implies close co-operation among all the agencies entrusted with the task of maintaining financial stability. Better co-ordination between central banks and other supervisory and regulatory agencies can be achieved not only by putting in place institutional arrangements to achieve more efficient functioning of the financial system and more effective co-ordination of financial stability measures, but also by defining their respective mandates in promoting monetary and financial stability with greater clarity. Effective information sharing and close co-operation is essential not only for efficient crisis management, but also for avoiding negative spillovers, distortions to competition and regulatory arbitrage. The co-ordination mechanism needs to introduce greater coherence between the reality of an integrated market and the organisation of supervision.

7.55 Jenkinson (2007) opined that as markets become more interconnected, national as well as international regulators have to work more closely, co-operating in their oversight and operational activities and co-ordinating their risk assessments. However, there are two distinct viewpoints. For instance, Nier (2009) perceived a number of synergies between the tools already at the disposal of central banks and an expanded role in financial regulation and, thus, suggests that an expanded role for central banks in financial regulation may increase the effectiveness of financial regulation. Goldstein (2008) argued that “if one (say, the monetary authority) is constrained from doing much, then the other (say, the regulatory authority) will have to act more forcefully.” There is a need to improve the capacity of national authorities to respond to systemic crises by establishing mechanisms for co-ordination, both within and across borders.

7.56 The co-ordination between central banks and regulators is not only essential while dealing with the crisis but also important for designing concrete exit strategies to withdraw the market support given by many country authorities and frame a transition to a new and more stable financial market structure. This, however, requires careful planning and international co-operation in order to avoid market distortions and to promote a revival of markets at a reasonable level of systemic risk. In addition, more co-ordination is expected among finance ministries, central banks, and regulators while developing exit strategies from the monetary and fiscal expansions that were undertaken to slacken the pace of the slowdown.

7.57 To conclude, the failure of the concept of market self-regulation during the recent crisis has generated a great deal of debate on lessons for regulators and supervisors. Although there are variations in the views expressed, they broadly point towards lack of fundamental risk management, underwriting, basic financial management, better recognition of concentration risks (*e.g.*, asset, funding and counter-party) and proper governance structures. Given the fact that self-regulation by profit-oriented private financial firms has proved to be insufficient to meet the challenges presented by today's complex financial markets, the basic principle of democratic governance becomes all the more important as management incentives are found to be often at odds with those of the firm's ultimate owners. Further, the effects of large changes in financial markets that occurred in recent decades, such as the growth of securitisation, the increasing use of leverage, and the decline in the role of relationship banking have become overriding issues to be addressed. These facets of the crisis show that regulation is necessary and it is the responsibility of public policy to provide it.

III. INTERNATIONAL POLICY CO-ORDINATION

7.58 It is evident from the recent crisis that shocks can be transmitted across borders through non-traditional channels. Similarly, it has become clear that the failure of financial markets has negative externality on the real sector. However, these externalities are not explicitly taken into account in national policy decisions. In view of greater financial globalisation, safeguarding of financial stability becomes a more interdependent task, requiring effective co-ordinated international action aimed at addressing financial system vulnerabilities. It has been seen that even though national governments and central banks responded with every possible policy option, they were not able to revive positive sentiment because of the interconnectedness of the financial system and the positive and negative cross-border externalities to domestic policy actions. Most importantly, they found that sentiment and confidence were remarkably correlated across countries around the world. Events like the London G-20 summit in April 2009 show that in the age of globalisation, a financial crisis cannot be managed without global co-operation and global response. Thus, the international aspect of crisis response becomes more important than before, and it is important that policies are better co-ordinated across countries during crisis. Policy co-ordination, in particular, cross-country consultation on macroeconomic policies and consistency across some types of financial and monetary support, can lead to better outcomes during such periods.

7.59 With financial institutions and markets becoming more global in nature, international authorities, both policymakers and supervisors, are increasingly required to take a co-operative and co-ordinated approach to deal effectively with episodes of financial stress. Although some element of cross-border co-operation has been seen during the recent crisis, it was not perfect or very effective. International co-operation was particularly lacking in the areas of deposit insurance and other forms of guarantees of bank liabilities. Thus, one of the lessons from the crisis is that regulatory arbitrage needs to be avoided. This is possible only if international policy co-ordination is more harmonious and effective. Strauss-Kahn (2009a) stated that as the crisis broke, countries acted in an uncoordinated manner to expand lender-of-last-resort facilities, increase protection of creditors and depositors, and recapitalise banks with public funds. Thus, the lack of co-ordination had some destabilising effects, at least in the short term. Towards this end, it is suggested that key aspects of prudential regulations must be applied consistently across countries and across financial activities. This is particularly important to achieve a less fragile global financial system by strengthening financial regulation and supervision, not only of cross-border institutions but also of cross-border markets. Areas that need a better co-ordination mechanism at the global level include (i) co-ordination of resolution tools for financial entities, (ii) consistency and co-ordination in depositor and investor protection and (iii) clear legal obligations and powers to share information between home and host countries.

7.60 The Report of the Commission of Experts of the President of the United Nations General Assembly on Reforms of the International Monetary and Financial System (September 2009) identified that much of the effort to co-ordinate international economic policy has focused on putting constraints on countries whose behaviour is not systemically significant, while doing little about countries whose policies can have systemically significant consequences. Further, it needs to be realised that international liquidity has to become gradually less dependent on the monetary policies of a few countries that issue reserve currencies. Developed countries, in particular, need to be aware of the consequences of their negative externalities, and developing countries need frameworks to protect them from regulatory and macroeconomic failures in the major industrialised countries. In this context, the G-20 Working Group II has highlighted various areas of international policy co-ordination which need to be addressed in a short to medium-term perspective.

7.61 For better international policy co-ordination, the international financial architecture also needs a better system to deal with the impact of globalisation. It is important that there is compatibility in the activities and standards of national and international regulatory institutions. National policies can be more effective if co-ordinated internationally. Otherwise, co-ordination failure can result in further growing global imbalances and an increase in exchange rate and asset price volatility, which can make the growth recovery process more difficult. Similarly, international policy co-ordination needs to deter the protectionist measures introduced by some countries in response to the crisis, which may hamper the speed of global recovery. In fact, multilateral co-ordination becomes even more important to mitigate cross-border distortions for some types of interventions during the post-crisis period.

IV. ROLE OF INTERNATIONAL FINANCIAL INSTITUTIONS

7.62 The crisis has exposed fundamental problems, not only in national regulatory systems affecting finance, competition, and corporate governance, but also in the international institutions and arrangements created to ensure financial and economic stability. First, surveillance of global economic developments and policies which was supposed to be done by the international financial institutions, did not give sufficiently pointed warnings about the risks building up in the international financial system. The crisis has seriously dented the credibility of global financial stability architecture (Pattanaik, 2009). According to IMF (2009g), aggregate implications of individual risks remained uncovered and macro-financial issues were often viewed in isolation, and spillovers as well as feedbacks were not adequately explored. Second, arrangements for international liquidity and loans to support adjustment could not fill gaps adequately as the crisis deepened further and spread across EMEs, reflecting shortcomings in the design and size of lending instruments of multilateral institutions. Their inadequacy to take appropriate and timely actions to prevent the crisis has demonstrated the urgent need for reforms by undertaking an appraisal of the mandates of these institutions and their governance. Third, it needs to be examined whether the large reserve accumulation that took place in many emerging market countries was partly motivated by a lack of trust in institutions like the IMF. The IMF is, among its other functions, intended to be the global reserve-pooling organisation. IMF has to make a self-assessment about whether the reserve accumulation phenomenon has anything to do with the experiences of countries, previously hit by crisis over the past two decades, in dealing with the IMF.

7.63 Despite the fact that the role of international financial institutions like the IMF has been questioned since the onset of the crisis, there is a clear lesson for members of the Fund that the IMF has an important, continuing role, in co-operation with other institutions such as the World Bank, in providing potential financing to member governments in pre-crisis, incipient-crisis, and actual-crisis situations (Eichengreen, 2009b; Truman, 2009). For instance, at the end of 2008, IMF credit outstanding under GRA was SDR 17.5 billion which increased to SDR 37.2 billion at the end of 2009 (SDR 46.8 billion so far in 2010) and, more importantly, total forward commitment capacity was US$ 161.7 billion. Since in today's global economy and financial system, financial crises are inevitable, it is necessary that such institutions are supported by adequate resources to assist its members when they occur. Increasing the availability of financial resources that can be tapped in adverse market conditions and providing greater flexibility in terms of credit by multilateral institutions would certainly help in limiting the inclination of EMEs towards self-insurance in the form of massive build-up of official international reserves. Assuming that the crisis was a reminder that there is always a need for a global lender of last resort under certain circumstances, building support for the IMF to play this role effectively is emphasised.

7.64 It was felt in various quarters that international institutions have failed to prevent the crisis and were criticised for remaining slow to design and implement adequate responses. At the Pittsburgh G-20 Summit in September 2009, the role of the IMF in the emerging global economic order was comprehensively discussed. The G-20 forum emphasised the need to modernise the IMF's governance process which is a core element of efforts to improve its credibility, legitimacy, and effectiveness. It was perceived that the IMF should remain a quota-based organisation and that the distribution of quotas should reflect the relative weights of its members in the world economy, which have changed substantially in view of the strong growth in dynamic emerging markets and developing countries. Hence, the financial crisis underscores the need for shifting patterns of global governance, including the greater inclusion of developing countries in multilateral financial as well as international standards-setting bodies. In this regard, the most crucial area of governance reform is to ensure a meaningful quota and voice reform, which is underway in the IMF and has been completed in the World Bank.

7.65 Emphasising the greater role of international financial institutions, the report of the Commission of Experts of the President of the United Nations General Assembly on Reforms of the International Monetary and Financial System (Chairman: Joseph E Stiglitz) released in September 2009 recommended that the international community must give more consideration to the long-term consequences of 'too big to fail' institutions if they are to design sound public policies for the world economy using the lessons of this crisis.

7.66 Given the evidence that Bretton Woods institutions were ill-prepared to face the challenges of crisis, the immediate priority should be to ensure that the Fund has adequate resources to fulfil its role in helping to resolve the recent crisis. In January 2009, it was proposed to double the IMF resources. The G-20 summit and International Monetary and Financial Committee in April 2009 endorsed the proposal, agreeing to an immediate increase of US$ 250 billion and a subsequent trebling of IMF resources through an expanded New Arrangements to Borrow (NAB). Another issue is with regard to exploring the scope for providing an alternative to reserve accumulation as an insurance mechanism by increasing IMF resources and through the flexible credit line. It may be noted that IMF made a general SDR allocation equivalent to about SDR 161 billion (US$250 billion) in August 2009 in order to provide liquidity to the global economic system by supplementing the Fund's member countries' foreign exchange reserves. In addition, IMF made special SDR allocation of SDR 21.5 billion (about US$34 billion) on September 9, 2009.

7.67 In addition to the issues of adequacy of resources, most of the recent reports on the financial crisis have pointed out that multilateral institutions like the IMF need to be reformed in terms of governance as well as upgrading their surveillance mechanism. There seems to be a strong *prima facie* case for better integration of macro-financial linkages into monetary policy considerations, which institutions like the IMF need to incorporate into their regular surveillance process. The Fund can play a key role in reducing uncertainty and the likelihood of inconsistencies, by reporting on the unwinding process through its surveillance mechanisms, additional monitoring, and technical support. At the same time, reforms are also needed in order to enhance their legitimacy and accountability. The G-30 Report stressed the need to enhance the effectiveness of IMF advice to governments on their economic policies, strengthen its authority and ensure that it has the capability to mobilise the actions necessary to avoid crises and mitigate systemic vulnerabilities. In this context, the G-20 Working Group III was tasked with advancing the actions covered in the November 2008 Leaders' Declaration dealing with the reform of the IMF. It emphasised the urgency of accelerating changes to the IMF so that it can more effectively fulfil its mandate. Such changes should address any underlying deficits in resources, lending instruments, and governance structures, with a view to enhancing legitimacy, ownership and efficiency, and clarifying the roles and responsibilities of the Fund. It also recommended the Action Plan as immediate and proposed medium-term measures in reforming the Fund. Further, international institutions like the IMF and the Financial Stability Board (FSB) should collaborate in such a way that there is no ambiguity with regard to their respective roles and co-ordination mechanisms.

7.68 The main message for the IMF that emerges from the crisis is with regard to the need for strengthening its surveillance of policies and markets. Its surveillance mechanism should attempt to indicate clearly when it perceives potential threats to national and global financial stability. IMF (2009g) suggests the establishment of a joint Fund–FSF early warning system (see also Chapter IV). In short, the Fund must enhance not only its resource adequacy but also capability to identify and prevent potential crises and do whatever it takes to get ahead of the curve on a real-time basis. The Fund should equip itself to issue confidential warnings to systemically important countries and a more open communication of risks whenever developments in their economies or financial sectors give cause for concern.

V. GLOBAL IMBALANCES AND MACROECONOMIC MANAGEMENT

7.69 The global macroeconomic imbalances might not be the direct triggering factor behind the crisis, but they certainly were a part of the problem. Profound asymmetries, particularly in major stakeholder economies, led to domestic as well as external imbalances at the global level and the recent crisis can be considered as a disorderly unwinding of the past build-up of imbalances. With persisting global imbalances, there were relatively low interest rates worldwide for much of the 2000s that drove investors to seek higher yields. On the other hand, relative stability in financial markets, reflecting the low cost of funds and strong economic growth, led to significant underpricing of risk. Policymakers failed to sufficiently take into account growing macroeconomic imbalances that contributed to the build-up of systemic risks in the financial system and in housing markets. In this context, Reddy (2006a) had noted, "[W]e view that global developments, particularly those in the world financial markets, have the most direct and serious impact on the financing conditions in the emerging markets. Any abrupt and disorderly adjustment to global imbalances may have serious adverse implications." Recognising these developments and highlighting the consequences of the global imbalances, the Prime Minister of India, Dr. Manmohan Singh, noted "[w]hile to some extent mismatches in current account positions are to be expected –and even desirable –in the global economy, large disparities raise concerns about unsustainability and hard landings. The process of correcting imbalances can be disruptive if it is sudden and unexpected. The present level of global imbalance cannot be sustained forever. It calls for action both from countries having current account surpluses and those having current account deficits. A co-ordinated effort is necessary to correct the imbalances to prevent a sudden downturn. International financial institutions need to play a proactive role in this regard."

7.70 In a statement (November 2008) of the G-20 Summit, the role of global imbalances in the crisis was highlighted, "[m]ajor underlying factors to the current situation were, among others, inconsistent and insufficiently co-ordinated macroeconomic policies, inadequate structural reforms, which led to unsustainable global macroeconomic outcomes. These developments, together, contributed to excesses and ultimately resulted in severe market disruptions." Smaghi (2008) and Dunaway (2009) argued that early policy response to rising global imbalances could have made the crisis less damaging. In short, had the symptoms of building up of external imbalances been taken more seriously with appropriate policy action, it may have been possible to lessen the adversity of the recent crisis. Thus, dealing more aggressively with global imbalances in the incipient stages would have been the best policy response in the pre-crisis period.

7.71 With the crisis, concerns about global imbalances have not disappeared. As elaborated by the IMF's World Economic Outlook (April 2009), the financing of current account deficits, particularly in the US, may still be problematic in the coming years due to (i) a decline in the attractiveness of the US assets attributable to rising debt concerns, (ii) the possibility of a lasting increase in home bias and (iii) a decline in cross-border gross capital flows. This may entail higher risk of an eventual disorderly unwinding of global imbalances. To deal with such scenarios, policymakers of major stakeholder countries may have to use macroeconomic and structural policies to rebalance savings and investments in their jurisdictions. They should also use regulation to help reduce systemic risk stemming from capital flows. Multilateral consultations among the major stakeholder countries, as was initiated by the IMF in recent years, should continue so as to avoid any disorderly adjustment in global imbalances. Unless there is a co-ordinated policy response that supports global demand, the possibility of further exacerbation of global imbalances cannot be ruled out. In this context, the UN Report (2009) argues that for countries facing the threat of high volatility in export earnings and global financial flows, it is rational to increase precautionary savings so as to insure themselves against future potential calamities. While it is rational for individual countries to have a self-insurance mechanism in place against another crisis through the build-up of external surpluses and foreign reserves, it weakens aggregate demand. Thus, there is a need to develop alternate ways of providing insurance so that not only is aggregate demand in surplus countries strengthened but also global financial stability is ensured in the long run by gradually narrowing global imbalances.

VI. LESSONS FOR FISCAL POLICY

7.72 Whilst Keynesian policies had an enormous impact on post-war economic policy, the oil crisis during the 1970s led policymakers to perceive inflation targeting as more suitable to deal with high inflation and unemployment from a supply shock. It was also acknowledged that Keynesian policies were, at best, a short-term remedy as governments running deficits for too long may result in an adverse impact on aggregate demand. Notwithstanding these academic debates regarding the short-term or long-term effectiveness of the Keynesian policies that emerged in response to the Great Depression, these policies seem to have significantly influenced the response of policymakers to the recent crisis. During the phase of a steep downturn, various governments had to take over substantial amounts of private-sector liabilities and implement countercyclical fiscal policy (see Chapter IV).

7.73 In this context, it is pertinent to discuss an important lesson from the Japanese experience of the 1990s that Keynesian policy *per se* may not always work. While Japan undertook huge fiscal stimulus packages repeatedly in the 1990s, the banking sector was unable to dispose of its non-performing loans. As a result of payment uncertainty, economic shrinkage persisted for many years (Kobayashi, 2008). Thus, it is important that fiscal policy is accompanied by policy measures towards making the banking and financial system more resilient. Drawing a central lesson from the Great Depression and from Japan in the 1990s, Costello *et al.* (2009) also emphasised that policymakers have to ensure that the financial sector is reformed and recapitalised so that it can resume performing its vital intermediation function. However, from a short-run perspective, it seems that Keynesian policies do work. It has been observed that countries like Australia that initiated well-designed fiscal stimulus programmes earlier are likely to emerge from the crisis faster. Even during the aftermath of the East Asian crisis, it was observed that the fiscal response of the Korean government focusing on improving the balance sheets of the financial and corporate sectors enabled the economy to recover much faster than others. Interestingly, the orthodox strategies of cutting the deficit by raising taxes or curtailing public expenditures to restore confidence were often prescribed to EMEs whenever they faced a crisis. In contrast, in the recent crisis, it has been observed that rather than undertaking fiscal tightening measures to revive confidence, governments in both advanced and emerging market economies had to undertake discretionary fiscal policy measures that could better help tackle the recession by generating aggregate demand.

7.74 The pursuance of an active discretionary fiscal policy during the recent crisis has shown the importance for countries to consolidate during good economic times and to build a ‘fiscal reservoir’ from which they can draw in periods of ‘drought’. Experience shows that many countries including the US and euro area failed to do so. The financial crisis, therefore, suddenly burdened them with further high fiscal deficits and debt ratios. Their room for fiscal manoeuvre, particularly in the euro area countries, was very limited, as was their capacity to adopt effective counter-cyclical measures when they were most needed. The need for a more prudent fiscal policy is clearly manifested in recent episode of Greek debt crisis. It is important that countries contain their fiscal deficits to a level which is consistent with their ability to meet debt-service obligations.

7.75 According to IMF (2009c), the crisis highlighted two important lessons for fiscal policy. First, those countries which could not limit their fiscal deficits during the boom period might find it difficult to initiate counter-cyclical fiscal measures due to limited fiscal space. The second issue is with regard to the structure of taxation. In most countries, the tax system is biased toward debt financing through deductibility of interest payments. The bias to higher leverage increases the vulnerability of the private sector to shocks, and should be eliminated. Thus, fiscal buffers should be established in good times and a rule-based framework can reinforce this principle, especially since asset price increases can conceal a less robust underlying fiscal position by temporarily boosting tax revenues. Similarly, tax policy also encouraged debt financing in recent years. It is found that tax distortions can lead to high leverage. Such tax rules could usefully be changed. In short, the crisis has underscored the need for putting the fiscal policy on a stronger footing during the boom period. In addition, according to Stark (2009), developments in government bond yield spreads since September 2008 have shown that, in uncertain times, financial markets increasingly discriminate between countries on the basis of their creditworthiness, including fiscal fundamentals. Thus, unless countries focus on undertaking a fiscal consolidation process during the upturn of their economic cycle, any additional fiscal measures undertaken during the downturn would not only aggravate the issue of fiscal sustainability but would also have implications for the behaviour of market players in cross-border financial markets. As mentioned above, concerns about sovereign solvency and liquidity in Greece and their impact on financial market conditions provide ample evidence in this regard.

VII. ROLE OF CREDIT RATING AGENCIES

7.76 An analysis of the crisis provides evidence that credit rating agencies failed to detect the worsening of the financial market conditions and to adapt their ratings in time. They also failed to adapt to the new risks of the credit market, *e.g.,* structured credit products (derivatives) and hedge funds. With the emergence of the crisis, therefore, the role of credit rating agencies which were involved in the process of designing the complex derivative products as well as providing credit rating for such products became questionable. Thus, an issue of conflict of interest was clearly discernible, which requires proper regulation and supervision, and a re-examination of the role of credit rating agencies. To begin with, the International Organisation of Securities Commission (IOSCO) issued its revised Code of Conduct for credit rating agencies in May 2009. In the most recent episode of Greek crisis, the assessment of credit rating agencies has once again become debatable. It is perceived that rating agencies took a longer time to ascertain the correct fiscal position of Greece.

7.77 Regulatory policy measures should be geared towards reducing conflicts of interest at the rating agencies and encouraging investor due diligence, especially of large institutions. This can be addressed by introducing prohibitions against structuring advice on products they rate and more transparent disclosure of rating methodologies. In addition, it is found that long-lasting relationships with the same rated entities may compromise the independence of analysts who are in charge of approving credit ratings. Thus, as envisaged under the new legislation for credit rating agencies in the European Union, analysts and persons approving credit ratings should be subject to a rotation mechanism. Furthermore, it is increasingly felt that rating agencies should be regulated and not just function as profit-making entities. A certain element of social responsibility needs to be introduced into the functioning of rating firms.

VIII. BALANCING THE SIZE OF FINANCIAL AND REAL SECTORS

7.78 The fact that a well-developed financial sector is necessary to act as the intermediary between entrepreneurs/investors and savers can hardly be overstated. An efficient financial sector reduces the cost and risk of producing and trading goods and services and, thus, makes an important contribution to raising standards of living. The recent crisis, however, showed that the financial sector had apparently taken a quasi-autonomous existence without close connection with the financing requirements of the real economy. The financial industry, indeed, grew oversized in the preceding years reflected in rapid credit creation, asset price bubbles and high levels of indebtedness, particularly in advanced financial systems. The disproportionate growth in the global financial sector was largely due to the aggressive search for yield, engendered by the easy liquidity in the global system that triggered a wave of financial innovation. Complex financial products were created by structuring and hedging, originating and distributing, all under the belief that real value could be created by sheer financial engineering. As mentioned earlier, there were hardly any signs of growing capital formation due to the growing and increasingly complex financial sector. In this context, Turner (2010) argued "[t]he crucial issue which we now need to address, after two terrible crashes in just 12 years, is whether this increasing scale of financial activity truly has been beneficial, which elements are beneficial and which harmful, and what trade-offs are required in public policy between any benefits of increased financial liberalisation and sophistication and the instability which seems at times to accompany it. And there does not appear to be any compelling proof that increased financial innovation over the last 30 years in the developed world has had a beneficial effect on output growth."

7.79 In short, as a result of the excess liquidity that permeated the global economy, particularly in the US but also in other countries, there was excessive 'financialisation'. The financial sector grew more rapidly than other goods and services. In a way, that made growth of finance an end in itself and not a means to meet human needs such as food, fuel, health and education. Given that the busting of the oversized financial sector has a devastating impact on the real sector, it becomes important to (i) examine the optimal size of the financial sector relative to growth and development needs and (ii) make financial sector innovations more meaningful to cater to the needs of the real sector.

IX. LESSONS FOR EMERGING MARKET ECONOMIES INCLUDING INDIA

7.80 The lessons for advanced economies are broadly clear. As mentioned above, they need to strengthen supervision and regulation and address agency problems in their financial markets. When growth momentum accelerates, they need to address their elevated levels of budget deficit and debt. Despite the fact that the impact on EMEs has been relatively muted, there appears to be some element of ambiguity about the policy lessons for them. For instance, should emerging markets modify their terms of engagement with global trade and finance? Similarly, should practices adopted in advanced economies, once considered as role models in international standard setting, continue to be always followed as broad guidelines for EMEs? In short, the issue is whether everything considered suitable for advanced markets is always suitable for EMEs as well. Moreover, recent developments have provided an opportunity to EMEs to influence the reform of the international financial architecture. Thus, it is important for EMEs to examine the specific changes they should push forward.

7.81 Even though the issues highlighted in the previous sections are most immediately applicable to the advanced economies, they also have a broader relevance for the EMEs. Undoubtedly, the regulatory and supervisory issues that came to light during the recent crisis provide a sound background to emerging market and developing economies which are still in the process of achieving a more sophisticated and advanced financial system. Thus, it is important that what has been learned about financial sector regulation and supervision during the recent crisis should guide the EMEs while designing their financial regulatory systems. In addition, a number of issues need to be reviewed in the context of EMEs although they were not the source of the recent crisis. Against this background, the following sections highlight the key lessons which can be broadly drawn from the crisis in the context of EMEs, including India.

Invalidation of Decoupling Hypothesis

7.82 Major EMEs have shown consistently remarkable growth performance in the post-2002 period compared to advanced industrial economies. This led to a new wisdom that emerging markets had become masters of their own destiny and "decoupled" from business cycles in industrial countries. In fact, the EMEs remained largely insulated from the first-round effects of the turbulence at the epicentre of global financial markets. However, as the crisis deepened in advanced economies, the complex and wide-ranging interaction between the financial and the real economy began to have an impact on emerging economies. As the crisis entered the second stage, the impact on the real sector also began to appear. Hence, the decoupling hypothesis proved to be a myth as even countries whose financial sector was not or hardly exposed to "toxic assets" have been impacted (also see Chapter 6).

7.83 The intensity and spread of the current global financial turmoil and consequent overall economic crisis was very extensive, affecting all, irrespective of advanced or emerging countries. The crisis which started with loan delinquencies in the housing mortgage market of the US – the country with the most sophisticated financial system – engulfed the entire world with startling rapidity through channels of finance, foreign trade and confidence. Thus, almost every country across the world was affected by the crisis through different channels, *albeit* to varying degrees. Despite the cautious approach in managing its external sector in the post-Asian crisis, export-led Asia witnessed plummeting economic growth through a sharp decline in the demand for exports. Similarly, large-scale capital importing Eastern Europe was hit by the reversal of capital flows through banking channels while African and South American economies suffered from the drop in commodity prices and deterioration in their terms of trade (Subbarao, 2009b). Thus, there was no distinction in terms of macroeconomic fundamentals and the health of the financial sector. Emerging economies which had strengthened domestic financial institutions and accumulated massive forex reserves guided by the experience of the financial crises of the 1990s were not spared. A country like India, notwithstanding its sound banking system and smoothly functioning financial system, also suffered from the spillover effects of the financial crisis through sudden capital flow reversals, as part of the global deleveraging process, and liquidity hiccups, mainly through the confidence channel. Gradually, the real sector was hit by the slowdown in exports, job losses in IT and BPO companies as also the lack of demand appetite in the real estate, automobile and consumer durables sectors with a squeeze in credit as the result of a cautious approach by several banks.

7.84 When the financial crisis first broke, it was perceived that developing countries in general would not be affected as (i) they had undertaken various reform measures to strengthen their domestic banking and financial system in recent years and (ii) their financial sector was not fully integrated in the global financial system. However, occasional bouts of shock on domestic equity markets became evident due to large capital withdrawals particularly in the post-Lehman scenario. This had implications for disruptions in the respective foreign exchange markets and increasing risk perceptions, causing credit squeezes. However, the second wave coming from the real economy, particularly depressing export demands with related job losses, gradually became a challenge. Although, build-up of forex reserves in the immediate past and the soundness of the domestic financial institutions juxtaposed with massive doses of fiscal stimulus and accommodative monetary policy put the emerging economies on a better footing to face the challenges emanating from global financial crisis, but it was difficult to avoid the contagion effects of the crisis.

7.85 In short, the broader lesson of this crisis for EMES including India is that with increasing globalisation of trade, finance and labour they are more strongly integrated with advanced economies than ever before. Consequently, any crisis that affects a major country or group of countries in the global economy or financial system will have implications for EMEs as well, sooner or later, depending on the nature and magnitude of the crisis. Thus, policymakers need to enhance their capacity to pre-empt the potential of such global shocks while formulating their policies.

Domestic Demand as a More Durable Source of Growth

7.86 The impact of the crisis on the external demand of EMEs has been clearly visible since the last quarter of 2008. In the first instance, the downturn in the US, Europe, and subsequently in Japan was manifested in a sharp contraction in exports from those emerging market countries that had become the largest exporters to the industrial world. Subsequently, exports declined from other emerging economies whose exports consisted of raw and intermediate goods that are shipped to those larger emerging market countries, particularly China, which have become key providers of final manufactured goods in the increasingly complex supply chains. The growth performance of emerging economies provides evidence that economies which are largely dependent on external demand, *i.e.,* exports, for their economic growth were severely affected. The synchronised fall in exports intensified in the first quarter of 2009, with a decline of around 25 per cent (y-o-y) in the case of larger EMEs. In some commodity-exporting countries, particularly Chile and Russia, exports fell by more than 40 per cent in the first quarter of 2009. Since prices fell sharply as world growth slowed, they led to declining incomes in EMEs which, in turn, tended to reduce demand and growth. In contrast, in economies where domestic demand dominated as a significant source of GDP, the impact was moderate. Thus, it is reasonable to conclude that a strategy of export-led growth entails greater risks than previously appreciated. It is not only because global demand is volatile but also because trade appears to be more elastic with respect to the cycle and more vulnerable in downturns. It is clear that domestic demand is a more durable source of growth. Realising the adverse impact of the crisis on domestic growth, EMEs may need to review their undue dependency on external demand and attempt to generate domestic demand within their economies. In short, there is a need to re-examine the growth strategies being pursued in some major emerging and developing countries. It is now increasingly felt that they should re-orient their growth strategies away from mercantilist trade surpluses towards production for domestic demand and greater expansion of balanced trade among other emerging economies rather than industrial countries.

7.87 In the Indian context, a reasonably balanced macroeconomic management appears to have made the country more resilient to external shocks. India did not have excessive current account surplus or deficit; no excessive dependence on exports or external demand; no excessive reliance on investment or consumption expenditure; and, no excessive leverage in most households or corporates or financial intermediaries. Thus, it is worth highlighting that despite the widespread impact of the crisis, India was able to grow by 6.7 per cent during 2008-09 and 7.4 per cent during 2009-10.

Financial Sector Reforms

7.88 The role of the development of different segments of the financial system in the growth and development of any country can hardly be disputed. In emerging market and developing economies, financial development is particularly important for effective mobilisation and deployment of savings. Emerging market economies, still in the process of developing their financial systems, can take this opportunity to learn the correct lessons from the crisis to develop a robust financial sector with a sound systemic oversight framework.

7.89 The experience of the recent crisis shows that the financial system in most emerging Asian countries was relatively resilient to global shocks as reforms that have been put in place after the East Asian crisis fostered transparency and governance and strengthened regulation and supervision. It led to the development of healthier financial institutions across the region in terms of solvency, liquidity, and profitability. In fact, some argue that a cautious and calibrated approach towards financial sector reforms in most of the emerging Asian economies including India may have turned out to be a blessing in disguise during recent global crisis. Nonetheless, EMEs need to carry out their own due diligence to ensure that systemic risks are monitored within their countries. However, the crisis also raised the issue of whether home countries would now be as permissive in encouraging banks' foreign operations given the difficulties of multinational supervision. In other words, it still needs to be seen whether countries would tend to be more protectionist in opening up their financial sectors.

7.90 Emphasising the need to ensure an optimum balance of liberalisation and regulation, Subbarao (2009c) argued that "[w]hile liberalisation is important for the growth process, it should be managed to avoid forces of destabilisation. One reason of the crisis was the excess liquidity in the system and the resultant search for yield, based on the notion that real value could be added through financial engineering. This had resulted in build-up of imbalances and excesses in the system which was ignored by lax regulation. However, the crisis lessons do not make any case for overregulation as it could suppress growth impulses and conservative policies could prove to be costly. It would, therefore, be desirable to balance the costs and benefits of regulation." In India, a judicious approach while formulating financial liberalisation measures turned out to be extremely effective as reflected in the strengthening of public sector banks by recapitalisation; preventing some of the financial ''innovations'' that allowed risk to be disguised rather than actually reduced; taming the overexposure of domestic banks to what are now seen as toxic assets globally; restraining the excessive bullishness of financial investors in real estate; regulating the activities of systemically important non-bank financial institutions; and speaking out against hasty and potentially risky attempts to liberalise the capital account of the balance of payments. All these measures stood India in good stead not only by preventing over-enthusiastic responses during the global boom, but also reducing the negative impact of the global slump. Thus, countries should self-insure against future crises by putting in place, as best as they can, robust economic and financial policy frameworks that help minimise their vulnerabilities. However, this does not mean that there should be over-regulation, as this can have significant costs. In short, EMEs need to ensure the right balance between regulation and liberalisation of the financial sector so that their long-term growth prospects do not suffer.

7.91 In the context of the Indian financial system, it is important to note that it avoided any major stress on account of contagion from the global financial crisis, even though the real economy later exhibited a slowdown in activity in tandem with the trend observed elsewhere. Macro variables such as aggregate credit growth, sectoral credit growth and the incremental credit-deposit ratio of banks have historically been integral components of macro policy framework. Much before the crisis, these variables were dovetailed into the prudential regulatory framework for banks. Both, macro-prudential and micro-prudential policies adopted by the RBI have ensured the financial stability and resilience of the banking system. The timely prudential measures instituted during the high growth period, especially in regard to securitisation, additional risk weights and provisioning for specific sectors, measures to curb dependence on borrowed funds, and leveraging by systemically important NBFCs have stood us in good stead. The reserve requirements through CRR and SLR acted as natural buffers, preventing excessive leverage. The important difference was that the Indian approach entailed sector-specific prescriptions, unlike others. The relatively low presence of foreign banks also minimised the impact on the domestic economy. Thus, the appropriate regulatory framework in place along with specific prudential measures taken from time to time played an important role in preventing instability in the Indian banking system during the global financial crisis.

Management of Capital Flows

7.92 Large capital inflows are considered to be a key contributing factor in many financial crises in EMEs in the past. It is clear that whether the crisis originates in emerging economies or advanced economies, capital flows generally reverse from EMEs. In the context of the recent crisis, it may be noted that in response to the strong capital inflows and abundant liquidity, banks tended to relax their underwriting standards, which gave rise to the formation of asset price bubbles. Although large volatility in capital flows to EMEs has also been witnessed since the early 1980s, it is increasingly becoming dependent on the stance of monetary policy in the advanced economies, a factor over which domestic authorities have no control. Periods of large capital inflows, well above the financing need, have been followed by a sudden drying up of capital flows. In fact, there is a firm view that during the recent crisis the 'sudden stops' were largely due to failures and shortcomings in international capital markets rather than lack of a sound policy framework in EMEs. Such large swings in capital flows over a very short period of time impose significant adjustment costs and large output and employment losses on EMEs. The recent crisis once again underscored the potential dangers of large capital inflows in EMEs. At the same time, it is, apparent that capital account management and prudent regulation of financial sector go hand in hand. It is evident that EMEs like India which followed a calibrated and well-sequenced approach could minimise the adverse impact of exogenous shocks unlike those (*e.g.*, eastern European economies) who did not use prudential regulatory measures to limit intermediation of foreign inflows through domestic banks and financial institutions. In view of the above, the issue of imposition of capital control is being discussed at several levels in international fora.

7.93 On the issue of management of capital flows, the Bretton Woods institutions also seem to have drifted somewhat from their earlier approach. The IMF Managing Director, Dominique Strauss-Kahn (2009b), remarked that "[a] related challenge to exit strategies is managing capital flows to emerging markets... Countries have a number of policy options in their toolkits. In many countries, appreciation should be the key policy response. Other tools include lower interest rates, reserves accumulation, tighter fiscal policy, and financial sector prudential measures. Capital controls can be part of the package of measures. We are completely open minded. But we should recognise that all tools have their limitations. Again, we should be pragmatic." In fact an IMF study by Ostry *et al.* (2010) argues that capital controls are a "legitimate" tool in some cases for governments facing surges in investment that threaten to destabilise their economies.

7.94 Recommending the use of both macro and structural policies to steer saving and investment, IMF (2009b) called for re-examining the timing and nature of pre-emptive policy responses to large imbalances and large capital flows. According to the World Bank (2009), "[c]apital restrictions might be unavoidable as a last resort to prevent or mitigate the crisis effects…Capital controls might need to be imposed as a last resort to help mitigate a financial crisis and stabilise macroeconomic developments." Nijathaworn (2009) recommended that, given the risk of formation of asset price bubbles associated with large capital flows, risk management of banks must continue to be strengthened and regulators must be prepared to use macro-prudential measures proactively as necessary to reduce such risk. This means credit standards and bank capital rules must remain vigilant, regardless of the abundance of liquidity. Emphasising greater caution in the liberalisation of debt flows. Mohan and Kapur (2010) argue for a calibrated and well-sequenced approach to opening up the capital account and its active management, along with complementary reforms in other sectors. Subramanian and Williamson (2009b) prescribe that institutions like the IMF must recognise that capital inflows can pose serious macroeconomic challenges that may require a different cyclical response. For emerging markets, the policy arsenal against future crises must cover measures to counter-cyclically restrict credit growth and leverage, particularly, capital flows.

7.95 The recent experience of EMEs with capital flows seems to point towards the potential role for prudential measures to reduce systemic risk associated with large capital inflows, *e.g.*, through constraints on the foreign exchange exposure of domestic institutions and other borrowers. In view of the volatility in capital flows seen recently, it is now widely perceived that the need to introduce a tax on international financial transactions can be explored. In fact, such eminent persons in finance as the former U.S. Fed Chief, Paul Volcker, and Lord Turner (Chief of the UK Financial Services Authority) suggested such a tax even for domestic financial transactions. In the Indian context, Reddy (2009) suggested that this idea could be examined for the forex market, and also suitably modify the securities transaction tax system and extend it to transactions in participatory notes, though they are traded abroad. Similarly, issues of tax arbitrage and residency are being revisited globally. In fact, on October 20, 2009, Brazil announced that it would impose a 2 per cent tax on capital flowing into the country to invest in equities and fixed income instruments, while direct investment in the productive economy would not be affected. In short, the issue of capital control is being revisited and debated as it has emerged as one of the important lessons from the crisis for EMEs.

7.96 Thus, it can be concluded that with the prior experience of crisis, emerging Asian and Latin American countries appear to have managed their current accounts and external financing requirements more carefully. In contrast, Central and Eastern Europe, with excessive dependence on foreign finance, were severely hit as foreign investors deleveraged and capital flows dried up. Thus, recent experience suggests a cautious approach to the pace and scope of capital account liberalisation as there is a strong linkage among capital account liberalisation, domestic financial sector reform, and the design of monetary and exchange rate policy.

Funding of Banking Sector in Emerging Market Economies

7.97 It is evident from the crisis that banks – whether foreign or local – played a major role in the origination or in the transmission of the crisis.

According to BIS (2009b), "[w]eakness in major foreign banks, and their need to retrench, was certainly a factor. The presence of local banks funded by domestic deposits, by contrast, generally seems to have helped the diversification of risk and made banking systems more resilient to a foreign shock." It has been found that banks that rely heavily on wholesale funding are naturally more vulnerable to any shock to market liquidity. Excessive dependence of entities on wholesale funding markets is an issue of systemic concern and needs a cautious approach. When loans are larger than deposits, banks may resort to funding from foreign parents or domestic and international wholesale markets to finance the gap. Thus, it is not a surprise that in the eastern European EMEs, *viz*., Hungary, Romania and the Ukraine, where the stress has been more acute, the loan-to-deposit ratios were all greater than one. Likewise, it has been observed that foreign bank presence was associated with currency mismatches. For instance, in central and eastern Europe foreign banks extended euro- and Swiss franc-denominated corporate, home, and car loans to firms and households with incomes in local currency, which eventually aggravated the corporate and household financial distress when local currencies depreciated. This indicates that emerging markets, while encouraging foreign bank entry, should simultaneously strictly regulate their local lending practices.

Need for Development of Local Bond Market in EMEs

7.98 The issues with regard to banking-sector intermediation during recent crisis highlight the need for further development of local bond markets in EMEs. As the financial crisis curtailed the ability of borrowers in emerging markets to find funds abroad, they had to turn to domestic markets in order to raise funds. Local-currency bond markets had already grown tremendously since the crisis of the 1990s. It is emphasised that deepening local-currency bond markets should now be a top priority for emerging economies. Bond markets provide an alternative to bank intermediation. According to Eichengreen (2009c), there is evidence that countries with better developed bond markets experienced less negative fallout from the crisis as large firms, in particular, retained access to non-bank sources of finance. These firms were able to finance their operations at longer term tenors, thus obviating the need to go back to the markets once conditions deteriorated. It is evident that local-currency bond markets are becoming an alternative funding source in several emerging economies. These markets have grown rapidly, doubling in size from US$ 2.2 trillion in 2003 to US $5.5 trillion at the end 2008. In fact, learning from the previous crises of the 1900s, emerging markets' governments have sought to develop local-currency bond markets to help prevent a re-run of the string of financial crises, particularly like the 1997 Asian financial crisis. East Asian countries have been at the forefront of bond market development (Dalla and Hesse, 2009). These markets are playing an important role in the provision of finance to emerging-market governments and corporations, which were largely shut out of international financial markets during the global financial crisis, and in reducing their dependence on the banking sector.

7.99 With reduced currency mismatches, most Latin American and Asian economies did indeed prove to be resilient during the crisis. According to Braasch (2009), local-currency bond markets served as a "spare tyre" in some EMEs and developing countries. In many emerging markets, by helping to correct currency and maturity mismatches, local-currency bond markets contributed to financial stability. Even though some progress has been made in EMEs in terms of developing corporate bond markets, there are still issues with regard to size, lack of market-based yield curve, difficulties with proper disclosure of accounting information and weakness in corporate governance. Thus countries which are still at an early stage of domestic bond market development should focus on building the market infrastructure of the primary market while those at an advanced stage of corporate bond market development need to undertake efficiency-based reforms. With deeper local markets, more borrowing and lending can take place within a country's borders, perhaps reducing the incentive to go abroad. It is, thus, argued that further deepening of local-currency bond markets would help reduce the probability that currency depreciation can transform into a full-blown financial crisis.

Need for a Counter-cyclical Fiscal Policy Framework

7.100 One of the consequences of the financial crisis has been the transfer of financial risks to fiscal authorities, combined with the financing burden of fiscal stimulus. However, it still remains to be seen as to what extent the fiscal stimulus packages undertaken by various advanced and emerging economies produce an impact beyond the short-term support to demand and generate a positive impact on long-term potential growth. In addition, expansionary fiscal policies have raised concerns over the crowding out of investment in the private sector and the sustainability of public sector finances in a number of countries. This, in turn, may have implications for the nascent recovery that seems to be taking place. Furthermore, the possibility cannot be ruled out that a vicious circle, with rising debt levels holding back growth and pushing interest rates up, will develop over the medium term. Thus, many countries could face the challenge of mitigating this risk by designing and articulating medium-term fiscal consolidation plans that take into account their financial sector stabilisation policies and contingent liabilities.

7.101 It has been observed that fiscal deficits have surged in most of the economies as policymakers have sought to counteract weakness in aggregate demand and revive their financial systems. For instance, in case of advanced economies, fiscal authorities have responded to the crisis by offering capital to support central bank programmes, purchasing illiquid assets (for instance, in the US) and providing guarantees to encourage securities origination (as in the UK). Such measures, along with aggressive monetary policy easing during the crisis, helped contain the rise in the cost of borrowing for the private and public sectors. In fact, most mature market economies running significant fiscal deficits have been able to limit the increases in domestic interest rates by tapping foreign savings from emerging market central banks, oil exporters, and sovereign wealth funds. As a result, it is widely expected that the major advanced as well as emerging economies will emerge from the crisis with heavy public deficits and rapidly mounting debt. According to an estimate by the IMF (2009e), the average fiscal deficit of the advanced G-20 countries is projected to be around 10 and 8.5 percent of GDP in 2009 and 2010, respectively. If foreign investors become concerned about long-term fiscal sustainability in these countries, interest rates on government securities would need to adjust higher and the exchange rate would depreciate. More recently, the belief that a country can borrow without any limits was questioned after the episode of Greece. This is a reminder that fiscal space cannot be overextended.

7.102 In order to attenuate the impact of the financial crisis, emerging economies have also been supported by large fiscal stimulus measures. EMEs that entered the crisis with more policy space and less binding financing constraints were able to react more aggressively with fiscal and monetary policy. Even the recovery process was faster in EMEs that gave a bigger fiscal stimulus, had stronger pre-crisis fundamentals, and had faster growing trading partners (IMF, 2010b). In fact, Asia's fiscal response (in terms of GDP) has been larger than in the average G-20 country (Kato, 2009). One of the major findings from the research on the crisis is that countries which were able to conduct counter-cyclical policies were also able to withstand the crisis better. However, many emerging and developing countries lacked the 'policy' and 'fiscal' space to deal with the global economic crisis. As a result, there are large asymmetries in global economic policies. According to Cavallo (2009), "the lucky ones that earned the chance of conducting countercyclical policies were those that had previously resisted the temptation of taking comfort in favourable tailwinds and had prepared for a rainy day." It has been observed that countries which could not create fiscal space for counter-cyclical policies during the upturn had little room for independent policy actions during the crisis. Thus, the crisis presents a case for further strengthening their fiscal correction and consolidation process during the boom period so as to create fiscal space for undertaking effective counter-cyclical fiscal measures during a downturn or recessionary phase. The re-creation of fiscal and policy space for emerging and developing countries on a sustainable basis needs to be a central feature of their reform agenda. This is now more clear after the recent events in some parts of Europe.

Need for Social Security System in EMEs

7.103 Although the major emerging market economies like China and India have been moderately affected, by the recent crisis, it is perceived that the pace of reduction in poverty alleviation programmes may suffer in many other developing countries. Undoubtedly, these countries affected first by rising food and oil prices and then by recent crisis, could have played a key role in boosting global demand and supporting global recovery, but they need access to finance for years to come. Taking cognisance of the potential demand that these countries have, policymakers in these countries need to initiate measures towards setting up and strengthening social safety nets. It may be noted that some of the best social protection programmes in the world have emerged during times of macroeconomic stress. For instance, countries like the UK, Canada and New Zealand developed large-scale unemployment benefit programmes for the first time after experiencing such crises, and the present US Social Security system owes its origins to the Great Depression. Had there been no such social security systems in place in these advanced countries, the impact of the recent crisis would have been definitely more pronounced. It is important to note that during past financial crises, poverty issues did not get sufficient attention. The World Bank Group also suggests that it is crucial to factor in the implications for social safety nets from the beginning of the crisis rather than later.

7.104 As mentioned above, EMEs like China and India might not have been affected much during the recent crisis due to a number of reasons, but in the period ahead their trade and financial integration with advanced markets is expected to grow further. Thus, such resilience to external shocks is unlikely to be guaranteed. In such a scenario, it becomes important, *albeit* challenging, for emerging and developing countries to gradually put in place an effective social security system. Not only will it help the automatic stabilisers to work better but it will also attenuate the need for undertaking sudden large-scale discretionary fiscal policy measures leading to long-term fiscal sustainability concerns. Besides these, pursuing such structural policies in countries that have excessive current account surpluses can help to hold global imbalances at a sustainable level. An improvement in the social security system and financial markets may decrease private savings in such countries in the long run.

Self-Insurance against Future Crisis

7.105 The recent crisis and its impact on EMEs has led to a debate on whether countries should seek to self-insure against future crises by building up their foreign exchange reserves in order to better prepare for future crises. According to IMF (2010b), higher international reserves holdings, by reducing external vulnerability, helped buffer the impact of the crisis. But reserves had diminishing returns: at very high levels of reserves there is little discernable evidence of their moderating impact on output collapse. In this context, there are two contrasting arguments. Blanchard *et al.* (2009) are of the view that it is difficult to conclude whether this self-insurance was indeed successful. Although most emerging markets survived the recent crisis better than in the past, it could be attributed to the fact that, first, the crisis originated in advanced economies, and second, to much better macroeconomic policies and frameworks in emerging economies than in the past. Highlighting this, they argue that even though Brazil has much higher reserves than Mexico, even in terms of GDP, there has been very little difference in the performance of credit default swap spreads. In short, markets did not see Mexico as more vulnerable than Brazil despite its huge reserves.

7.106 Truman (2009) is of the opinion that seeking self-insurance through reserve accumulation could be a wrong lesson to learn from the global crisis. In his view, countries should self-insure against future crises by putting in place, as best as they can, robust economic and financial policy frameworks. One element of that type of self-insurance should be adequate holdings of foreign exchange reserves, but that alone is insufficient. Large holdings of foreign exchange reserves provide an expensive buffer against a global financial crisis. Citing the case of South Korea which had foreign exchange reserves of US$ 264 billion in February 2008, he concludes that building up foreign exchange reserves does not guarantee self-insurance. During the crisis, it was the gross inflows together with gross outflows that mattered rather than the net surplus on the current account or the net accumulation of international reserves. Further, the sources of foreign exchange reserves are an important factor in determining their durability as an instrument of self-insurance. However, Truman agrees that Korea would have suffered more if it had large current account deficits in the period before the crisis, or if it had held negligible foreign exchange reserves when the crisis hit, but its huge reserve holdings alone were inadequate to self-insure Korea from the crisis. In short, building up of foreign exchange may not be the sole factor for self-insurance. It should accompanied by putting in place a sound economic and financial policy framework. The Global Financial Safety Net (GFSN) Expert Group is delibrating these issues under the G-20 forum.

7.107 India's comfortable foreign exchange reserves provided confidence in its ability to manage balance of payments notwithstanding lower export demand and dampened capital flows (Subbarao, 2009a). In the absence of a sufficient cushion of foreign exchange reserves, perhaps arresting the pressure on the exchange rate would have been very challenging. In this context, it may be noted that the tendency towards self-insurance by accumulating foreign currency reserves in EMEs has its roots in a less-than-adequate response from multilateral financial institutions like the IMF. Experiencing a lack of financial support during the East Asian crisis, EMEs tended to accumulate foreign exchange reserves in order to gain some insulation from future crises. During the recent crisis, the willingness of the Federal Reserve to extend swaps to central banks around the world, ensuring provision of liquidity directly to other central banks, perhaps indirectly, implies the need for large foreign exchange reserves built up by individual central banks as a buffer in times of crisis. The need for self-insurance can, however, be reduced with more effective mechanisms for liquidity provisioning and reserve management at the international level, both regionally and multilaterally. Another important lesson for EMEs from the crisis is that the corner hypothesis postulating that countries should be moving to one or another corner in the choice of exchange rate regimes, *viz*., fully flexible or fixed exchange rates, is out and intermediate regimes are the order of the day.

7.108 To conclude, recent developments clearly raise an issue whether EMEs can protect themselves against the transmission of a large financial shock in advanced economies. It appears that reducing individual country vulnerabilities by improving current account and fiscal balances may not have fully insulated them from the transmission of financial stress but improvement on these parameters along with strong policy frameworks definitely provides greater headroom for implementation of an appropriate domestic policy response in such situations and facilitates faster recovery. Similarly, the crisis has taught the important lesson that forex market intervention to contain sharp and disruptive depreciation is no longer a sin and reserves are a new virtue. Thus, it is felt that any framework of global financial safety net should have three principal pillars. One, domestic financial safety net comprising a robust international reserve position and prudential framework. Two, regional financial safety nets consisting of regional swap pools and bilateral swap pools. Finally, global safety net encompassing a wider role for multilateral institutions.

X. MAJOR CHALLENGES FOR POLICYMAKERS

7.109 The above lessons suggest a wide range of measures that need to be examined in the light of recent crisis. All policy lessons and measures suggested in that context aim towards reducing vulnerabilities and maintaining financial stability. However, by its very nature, the responsibility for financial stability has to be shared by the government, the central bank and other regulators. Thus, assessing the weaknesses unravelled by the crisis and putting suitable practices in place would be a challenging task for policymakers. In this context, some of the major challenges are highlighted below.

Future of Financial Regulation

7.110 Among the various causes of the recent crisis, a widely recognised cause is related to certain failures in financial regulation. Obviously, this called for launching an ambitious agenda to reform financial regulation so as to enable the regulatory framework to stem the recurrence of such crises. Eminent economists, central bankers, financial regulators and experts are pondering over key areas of the regulatory framework that need to be improved in the medium to long-term horizon. However, policymakers may face the following challenges while carrying forward the agenda of reforms.

7.111 One important challenge for policymakers is with regard to assessment of their regulatory models. For instance, the issue whether central banks should also be doing bank regulation and supervision is being widely debated. It is argued that a central bank can discharge its LOLR function more efficiently if its mandate extends beyond merely monitoring financial institutions to taking preventive action. This becomes possible if the central bank also has responsibility for bank supervision. Further, a natural synergy between monetary policy which is macro-prudential and bank supervision which is micro-prudential bodes well for ensuring financial stability of the financial system. On the other hand, some do not favour central bankers to be acting as banking regulators as it can lead to a moral hazard problem while conducting monetary policy. It is argued that the central bank would take a “softer” stance against inflation, since interest rate hikes may have a detrimental effect on banks’ balance sheets. Further, with more complex mandates, central banks may easily escape their accountability. Thus, it is important and may be a challenging task for authorities to examine the regulatory models in their financial system as a whole and go for changes if needed in light of their country-specific circumstances. Even if the present regulatory models are found to be more suitable, the importance of a smooth and efficient relationship between the central banking and supervisory functions cannot be undermined. In financial stress situations, supervisory information remains essential for the effectiveness of the central bank’s financial stability assessments. Conversely, supervisors should benefit from the systemic perspective of central banks when considering their actions *vis-à-vis* individual institutions.

7.112 The second challenge pertains to the resistance that policymakers and international standards-setting bodies may face while convincing financial market players about the desired future agenda of reforms. According to Claessens *et al.* (2010), “[v]ested interests in the financial services industry are large in most countries and political lobbying will therefore be a key determinant of the final outcome of this process.” The recent crisis underscored that prevailing micro-prudential supervision under the Basel framework is not adequate to prevent systemic risk. The need for incorporating macro-prudential measures into the supervisory framework cannot be overemphasised. Perhaps, the prescriptions being recommended are not entirely new and many central banks and financial regulators have been engaging in financial stability assessments and exercises with subtle reference to macro-prudential aspects. The need is to formalise and strengthen this process. Potential macro-prudential tools that could be explored further include contemplating risk-based capital measures with simpler indicators aimed at measuring the build up of leverage, with enhanced sensitivity of off-balance sheet exposures; capital requirements that adjust over the financial cycle; loan-loss provisioning standards that incorporate all available credit information; the use of longer historical samples to assess risk and margin requirements; and greater focus on loan-to-value ratios for mortgages. The real challenge in this context would be to convince the market participants about such an ambitious reform agenda. In fact, it is being perceived in various quarters that the urgency and momentum for reform of the financial system is gradually waning. The easing conditions have provided the comfort and space for dissenting voices. There are now much more vociferous voices from market participants, who have been bailed out either implicitly through system-wide guarantees and liquidity or specific bailouts against some of the crucial reform measures. As in the past, there are two key arguments being made: first, the risk of short-term economic growth being adversely impacted and second, the fear of a uniform level playing field among major financial centres, resulting in loss of business opportunities and competitiveness for the first movers. However, national and international policy-making bodies need to take a circumspect view on the future reform agenda taking cognisance of their implications in a short as well as long-term perspective.

7.113 The third challenge for regulators relates to dealing with existing information asymmetries. In the past, the reluctance of regulators to undertake counter-cyclical measures was based on the argument that regulators do not have superior information about the market on whether asset prices were unsustainable or a bubble, or whether the buoyancy was the result of cycles or underlying productivity growth. The current thinking has stressed the need for taking counter-cyclical measures to prevent excessive risk-taking and asset bubbles. This is popularly termed as ‘taking the punch bowl away’, an unpopular act but perhaps necessary in light of the experience of the recent crisis. Consensus is building around the view that regulators may not have exact knowledge of the ‘equilibrium’ asset prices or business cycles, but they could observe indicators signifying build-up in vulnerability in various parts of the economy and financial markets. If the body of evidence points to a momentum towards instability, it is imperative for policy authorities to act in a forward-looking manner to moderate and ward off such momentum. In this context, technical work needs to be undertaken to improve the understanding of business cycles and identify turning points. The triggers need to be defined for changes in capital buffers. However, policymakers, particularly in EMEs, may face an additional problem of lack of adequate data for business cycle identification.

7.114 Fourth, many central bankers and financial sector regulators/experts have stressed the need to strengthen the current micro-prudential framework in three broad areas, *viz.,* capital adequacy framework, liquidity risk management and infrastructure for OTC derivatives. Going forward, it is important for regulators to strive towards finding the right balance between regulation and market innovation. A key objective will be to close gaps in the oversight of financial institutions and markets and to update and modernise the regulatory system to keep pace with market realities and global integration. On the one hand, regulators need to improve the capacity of supervisors to identify risks while curbing excessive leverage and risk-taking; on the other hand, they may face challenge of co-ordinating home-host supervision. Resistance by national authorities to the transfer of significant responsibilities to supranational bodies may again result in incoherent and vulnerable regulatory frameworks. Hence, some of the lessons appear to very clear and simple but in fact are quite challenging to implement.

7.115 In sum, policymakers face the challenge of carrying forward the task of restructuring the financial systems in a manner that fosters financial stability and growth. There is a need to overhaul the financial regulatory framework. In light of the weaknesses highlighted by the recent crisis, policymakers may have to carefully examine the adequacy of regulatory models being pursued in their countries. Similarly, regulators have to carefully assess the need for degree of regulation as the implementation of any new framework has to be calibrated cautiously, guarding off any possibility of hurting the recovery from the crisis. A careful cost-benefit analysis of any regulatory measure becomes all the more important when most major economies are still in incipient stages towards economic recovery. Ensuring that financial regulation and supervision keeps up with financial innovations would be a challenging task for policy authorities. To determine the appropriate level of regulation and role of government in the financial sector is likely to be a daunting task for policymakers. Similarly, it is difficult to define different models of financial development for countries at varying levels of economic development. The issues mentioned above call for an ambitious agenda and will require the active engagement not only of national regulators and supervisors but also of the relevant regional and international bodies such as the Basel Committees, the international standards-setting agencies, the Financial Stability Board, and others. It will also require a broadened surveillance mandate for the IMF.

Challenges for Monetary Authorities

7.116 One of the most challenging tasks for central banks is how to manage the challenges from globalisation to their macroeconomic policies. Understanding globalisation is very important for central banks since globalisation may affect key elements of the monetary policy framework through a number of channels, such as the inflation formation process and the monetary transmission mechanism. Experience shows that external developments interact with domestic macro variables in complex, uncertain and unpredictable ways, and central banks need to deepen their understanding of these interactions. However, the challenges of weighing external factors in monetary policy formulation would vary depending on the degree of openness and the nature of the mandate given to central banks. Obviously, central banks with wider mandates need to factor external developments into their domestic policy calculations. At present, it is a matter of debate whether central banks need to review their mandates in view of greater financial globalisation, for instance, whether the mandate of central banks should be broadened beyond pure inflation targeting and how they should take cognisance of the possibility of build-up of financial bubbles in the form of rising asset prices.

7.117 Among the various causes leading to the recent crisis, the fundamental one is related to accommodative monetary policy and the corresponding existence of low interest rates for an extended period in the major advanced economies preceding the crisis. The persistently accommodative monetary policy did not result in inflationary pressures due to strong worldwide macroeconomic growth, and the episode of 'great moderation' led central bankers to perceive success in terms of price stability. However, many ignored the fact that excessive liquidity has been reflected in rising asset prices, like housing prices in the US. Now one of the challenges for central banks is to consider carefully whether controlling asset price inflation should be added to their mandate. At the same time, authorities need to ensure that adding the objective of financial stability to their mandate does not erode the independence of central banks. Similarly, it needs to be assessed whether central banks are equipped with appropriate tools to pursue the expanded mandate. In this context, Smaghi (2009) argues that unless central banks are explicitly equipped with the appropriate macro-prudential supervisory instruments, they cannot be considered responsible for financial stability. Although there is no consensus on the issue, central banks would necessarily have to strengthen their macroeconomic assessment exercises. It may be noted that financial stability is seen as an important prerequisite for better and efficient transmission mechanism of monetary policy. Thus, the issue boils down to how to incorporate financial factors in the standard models of the transmission mechanism used by central banks. Since there is no agency or regulator definitively mandated with financial stability, formulating a meaningful concept and measure of financial stability would be a challenging task for policy authorities like central banks.

7.118 Another issue that remains crucial while using unconventional monetary measures is its balance sheet implications for central banks and the moral hazard problem that it creates for market participants by increasing incentives to take on excessive risks. During the recent crisis, central banks' balance sheets in most advanced countries witnessed large expansion with a significant change in their composition with the inclusion of illiquid/ un-marketable assets. In particular, large excess reserves might result in rapid credit expansion fuelling inflationary pressures. They expose the central bank to interest rate risk and, at least in principle, credit risk. However, selling back assets may not be so simple. Substantial losses could be realised which could be politically awkward and might dent credibility. Furthermore, the lack of marketability of certain types of assets in the central bank balance sheet may not be useful in normal open market operations. This may hinder liquidity management operations and, thus, may dilute the ability of monetary policy as inflationary pressures re-emerge.

Challenge of Formulating Appropriate Exit Strategies

7.119 As in many past banking crises, the proposed solutions to the current financial solvency crisis have combined three main elements: guaranteeing liabilities; recapitalising the institutions; and separating out troubled assets. However, these policies are fraught with the challenges of trade-offs. On the one hand, restructuring mechanisms can help restart productive investment, while on the other hand, financial assistance is costly. Similarly, rescue packages can also generate costs through misallocations of capital or through the distortion of incentives and moral hazard risks. Measures entail distributional effects as they usually transfer resources from taxpayers to shareholders. According to an estimate by the IMF Staff, only one-fifth of the fiscal stimulus given by G-20 countries is permanent. Nevertheless, it becomes important for policymakers to contemplate an exit strategy which strikes a right balance between the potential cost and benefits of these policies by formulating appropriate reversal policies. Fiscal authorities, both in advanced and emerging economies, are likely to face challenges in designing fiscal adjustment strategies to bring government debt to prudent levels and strengthen fiscal institutions to support such adjustments while maintaining adequate social safety nets. Given the lower market tolerance for high debts in some emerging economies due to lower and more volatile revenue bases and greater reliance on short-term external debt, they may have to aim at lower debt ratios that are even below pre-crisis levels. Similarly, central banks which had to expand their operational framework for systemic liquidity provision by the sheer demand of market circumstances should not be left with the long-term consequences of credit problems that may arise from *ad hoc* measures. Otherwise, it may distort their policy choices in the immediate periods. Thus, policy makers have to take a circumspect view on the retention, timing and sequencing of withdrawal of measures.

7.120 Although the unprecedented dose of policy stimulus that was delivered by countries around the world in response to the global crisis was conditioned by the urgency of the situation and to a large extent helped avoid another Great Depression, the magnitude of the stimulus has been so large that while reverting to the 'new normal', the management of the exit will be critical to avoid a double-dip, market disruptions and future inflation. In this context, once the global economy starts gaining momentum, the timing and pace of reversing would assume crucial importance. The sequencing of exit from the stimulus measures entails issues such as: (i) whether to first unwind monetary policies or fiscal policies, (ii) whether to exit first from conventional or unconventional policies and (iii) whether to exit in a co-ordinated manner. On the pace of exit, policy authorities face the issue of whether to unwind aggressively or gradually. Despite the fact that the global economy seems to be recovering at a faster pace than anticipated, it is increasingly perceived that the post-crisis management of exit could not be less complicated and challenging than during the crisis when the stimulus had to be delivered. The recovery process is perceived to be still fragile and not uniform across countries due to different countries operating in different stages of the cycles, having varying level of global integration and also not having the same extent of dependence on stimulus to sustain the recovery. Moreover, recent developments in Europe suggest that some weak spots are still remaining in the global economy. Although the design of exit strategies is most likely to be a country-specific phenomenon, there is a pressing need for international co-ordination of policy exits of systemically important countries. Lack of policy co-ordination in this respect could create adverse spillovers from one country to others through interest rate differentials, again posing challenges for central banks. The potential for spillovers from exit policy choices underscores the importance of international consistency, *albeit* not necessarily synchronicity. In addition, there could be a challenge with regard to the communication of exit strategies of various policy measures. For instance, early communication on exit of fiscal policy measures could undermine confidence in the market and aggravate recovery concerns. Thus, it would be a challenging task for policymakers to decide what and when to communicate exit strategies. Untimely or early communication regarding the exit of certain policy measures may not be desirable and, thus, needs careful assessment by policymakers.

7.121 The above discussion suggests that one of the concerns at the moment is devising a calibrated exit from the unprecedented monetary accommodation provided worldwide as part of the stimulus package. While early withdrawal of monetary accommodation may derail the recovery process, delayed actions may build up inflationary expectations. Therefore, balancing growth and inflation remains as a major challenge for central challenging banks while formulating exit strategy. It may be noted that some central banks (*e.g.*, Reserve Bank of Australia, Peoples Bank of China, Reserve Bank of India and Banco Central do Brasil) have started undertaking monetary tightening measures.

7.122 In the Indian context, the importance of co-ordination in the fiscal and monetary exits was reiterated in the third Quarter Review of Monetary Policy 2009-10 (January 29, 2010). The reversal of monetary accommodation cannot be effective unless there is also a roll-back of government borrowing. It was indicated that even as government borrowing increased abruptly during 2008-09 and 2009-10, it could be managed through a host of measures that bolstered liquidity. Those liquidity infusion options will not be available to the same extent during 2010-11. On top of that, there will be additional constraints. Inflation pressures will remain and private credit demand will be stronger with the threat of crowding out becoming quite real. Similarly, highlighting the importance of returning to the path of fiscal consolidation for both short-term economic management and medium-term fiscal sustainability reasons, it emphasised the need to (i) indicate a roadmap for fiscal consolidation; and (ii) spell out the broad contours of tax policies and expenditure compression that will define this roadmap. The Reserve Bank announced the first phase of exit from the expansionary monetary policy by terminating some sector-specific facilities and restoring the statutory liquidity ratio (SLR) of scheduled commercial banks to a pre-crisis level in the Second Quarter Review of Monetary Policy in October 2009. Against the backdrop of the current global and domestic macroeconomic conditions, outlooks and risks, it was indicated that one of the factors that shapes current policy stance is that a consolidating recovery should encourage a clear and explicit shift in the monetary policy stance from ‘managing the crisis’ to ‘managing the recovery’, and it is necessary to carry the process of exit further. Accordingly, further monetary tightening measures were undertaken subsequently.

Challenges for International Monetary System

7.123 In the aftermath of the crisis, concerns about the role of the dollar as a reserve currency and potential alternative reserve currencies have been raised in various quarters. It is argued that economic and financial problems in the US, and in particular its large fiscal imbalances, present serious risks to the value of the dollar and, hence, of a disorderly adjustment in the international system. There have been a number of proposals for how to address concerns related to reserve currencies. At this juncture, the US dollar satisfies these conditions and continues to be the international reserve currency. The share of the US dollar in the official reserves of the countries has been very stable over the past 30 years despite large increases in the reserves of the EMEs. Globally, the bulk of foreign exchange transactions are denominated in US dollars. Similarly, a large proportion of trade of the EMEs is invoiced in US dollars. Thus, at present, there does not seem to be any alternative to the US dollar and it will continue to be the global reserve currency. Despite this, there seems to be increasing consensus about the shortcomings of the present system. The management of international liquidity is based on a fundamental asymmetry, *i.e.*, while the U.S. represents about 25 per cent of world GDP, the dollar represents 65-75 per cent of central bank international reserves. This implies that there is an undue reliance on national currencies to manage international liquidity. Thus, the recurrence of recent phases of instability does enhance uncertainties about sudden disruptive adjustments in the global monetary system. Global imbalances might have been reduced somewhat during this phase of the crisis but remain unresolved. A lot would depend on the monetary policies of the US and major emerging economies. According to Carney (2009), “(s)ince divergent growth and inflation prospects require different policy mixes, it is unlikely that monetary policy suitable for United States will be appropriate for most other countries... If this divergence in optimal monetary policy stance increases, the strains on the system will grow.” This will have implications for exchange rates and, in particular, the dollar and will pose challenges for emerging markets. Thus, international monetary reform should be seen as an integral element for achieving a sustainable resolution of the recent crisis. The emergence of an alternate currency as the reserve currency, however, will have to emerge by its strength.

Challenge to Resist Trade Protectionism

7.124 Experience of the Great Depression of 1930s showed that major advanced economies resorted to protectionist measures. They undertook substantial currency devaluations, imposed exchange restrictions, increased import tariffs and introduced import quotas. As a result, global trade declined by 25 per cent between 1929 and 1933. During the recent crisis, even though there was a substantial decline of 17 per cent in world trade volume between October 2009 and January 2009, it could be attributed to reasons other than protectionist measures. Despite the fact that most of the countries refrained from significant protectionist measures in the wake of recent crisis, it is perceived that they may re-emerge if job losses in major advanced economies continue to persist. As high unemployment persists in advanced economies, a major concern, as highlighted by IMF (2010a) is that temporary joblessness will turn into long-term unemployment. As new crisis in Greece poised to spread across the Eurozone, trade protectionism may once again become a policy instrument for policymakers. Further depreciation of Euro would erode competitiveness of major trader countries like US and China which may also compel them to undertake some protectionist measures.

7.125 In this context, importance of timing of exit strategies is reiterated. According to Henn and McDonald (2010), "[w]hen fiscal, monetary, and financial sector stimulus measures are withdrawn, affected firms and industries may begin to call for trade protection. Higher commodity prices bring a risk that some countries will impose taxes or restrictions on their commodity exports - a risk that was demonstrated during the 2007–08 food price crisis. Finally, in some emerging markets a surge in capital inflows has brought significant currency appreciation. Regardless of the appropriateness of the new exchange rate, this can strain the competitive position of exporters and of the import-competing domestic sector and generate pressure for import protection and export support." It is perceived that such protectionist measures could weaken world economic recovery process. Thus, it is challenge for policy makers to resist any direct and indirect protectionist measures to the extent possible in the period ahead when unemployment in most advanced economies is likely to remain high.

XI. CONCLUDING OBSERVATIONS

7.126 The above discussion underscores that the origins of the global financial turmoil and the consequent 'great recession' were quite broad and complex. The literature analysing various causes of the recent crisis since its onset is quite abundant. It can be concluded that the causes of the crisis help us draw lessons, the implementation of which, however, could be a challenging task for policy-making bodies at the national and international levels.

7.127 The underlying factors held responsible for the crisis range from excessive leverages and risk appetite fuelled by an extended period of unusually low interest rates and large global imbalances, deficient risk management practices, uncontrolled financial innovation, lack of investor due diligence and weaknesses in the regulatory and supervisory arrangements. According to Caruana (2009), if history is any guide, herding behaviour is common and people tend to be overly myopic and euphoric when things go well. He cautioned that, when the bust is over, it is likely to be followed by another boom that is characterised by increased risk appetite, outright optimism and excessive focus on short-term gains, not least in the financial industry. Thus, it is pertinent to start contemplating the necessary corrective actions so as to reduce the probability of future recurrences of such crises and mitigate their impact when they occur.

7.128 The foregoing discussion focused on key issues that policymakers have to deliberate on. There may not be complete consensus on certain issues arising out of the recent crisis, but certain aspects are obvious enough to be addressed. As stated above, the lessons to be learned are implicit in the causes. But a great deal of work needs to be done to translate the lessons into specific measures that help avoid and mitigate the occurrence of such a crisis in future. It is essential that the lessons that have been identified from this experience are actually learnt and public policy and market behaviour adapt accordingly. Learning and adapting the right lessons from the global financial crisis would, indeed, be a challenge not only for policymakers of advanced economies but also for emerging economies, whose policies, individually and collectively, are expected to have a greater influence on the evolution of the global economy and the financial system in the period ahead.

7.129 Past experience suggests that crises create space and acceptance for necessary reforms. Although crises are painful in the sense that they result in output loss with its consequent welfare implications, at the same time they provide an opportunity to restructure and build resilience to such stresses in future. Thus, it is imperative to determine the areas in which the policy framework needs to be redesigned from the regulators' point of view as also to revisit the areas of problems best resolved by players from banking and finance. Given the extreme nature of the problem, there could be a demand for extreme actions. Reforms and new regulations, however, have to be rationalised with careful deliberations. The caution is to avoid major costs in terms of efficiency loss, arising from extreme control, and conserve market structure from far-reaching and extensive regulations. Nevertheless, these issues need to be discussed carefully, both in India and at the international level, from the regulators' standpoint.

7.130 It is still a matter of debate whether the best response to the housing bubble would have been regulatory policy or monetary policy. The broad lesson, however, in the context of the new global policy environment is that policymakers should focus on an integrated approach targeted at reinforcing and possibly raising potential growth by better connecting macroeconomic, structural, and regulatory policies and enhancing international co-operation to prevent unsustainable imbalances. Unstable financial markets prompted central banks and governments to take a number of exceptional measures beyond their traditional role of LOLR. Central banks coming to the rescue of financial entities and going beyond their traditional concept of LOLR was warranted by deteriorating conditions in the financial markets. Although such extraordinary support by central banks undoubtedly proved to be a useful tool in crisis management, it also entails a moral hazard problem by increasing incentives for banks and market participants to take on excessive risk. With the broadened concept of LOLR, market participants may perceive that central banks would also stand ready to provide funding liquidity and assist their counterparties the next time they engage in even riskier operations aiming at higher yields. This poses a challenging task for central banks to ensure a balanced way to support the development and functioning of new, fast-growing financial markets.

7.131 Apart from the short and medium-term issues, the recent crisis has exposed substantial structural weaknesses in many areas of the financial system, both in the micro and the macro domains, which may be addressed in the medium term as the global economy evolves. Recent developments have clearly demonstrated how globalisation impacts financial stability, *i.e.*, the fall-out from the US sub-prime crisis spilled over rapidly to the EU market, channelled into the international capital markets through securitisation. Having realised how fast financial shocks can be transmitted in a globalised financial market, there is a greater need for better co-ordination of crisis prevention and management. Several developments played a role, including the proliferation of complex mortgage-backed securities and derivatives with highly opaque structures, high leverage, and inadequate risk management. The crisis has brought to the front the importance of macro-liquidity risk in the global financial system and underscored the need for regulating and supervising it on a continuous basis. Thus, both the private sector and financial regulators must improve their ability to monitor and control risk-taking. As noted by the Squam Lake Report (June 2010), the creation of information infrastructure, allowing governments to see crises building up, is important.

7.132 Central banks have to review their adequacy in respect of macroeconomic assessment exercises and their role in terms of policy response. A system-wide approach to regulation and supervision is warranted. In fact, many have argued that there is a need to examine whether all systemically important financial institutions must be subject to central bank regulation. Moreover, not only greater co-ordination among international standards-setting bodies at the global level but also among the regulators and supervisors at the national level is required. For instance, there is a need for a common set of accounting principles across borders. In global markets, it is no longer desirable to have global institutions that abide by the differing standards of accounting and disclosure of their host countries. As discussed in the previous sections, financial innovation has increased the opaqueness of the financial market. Thus, regulators and supervisors should focus on enhancing transparency in different segments of the financial system. In addition, there should be an increasing focus on strong institutional frameworks to ensure fiscal sustainability, both in advanced countries as well as in EMEs.

7.133 Even though there does not seem to be consensus regarding the exact contributions of easy monetary policy in building up the crisis, there is no denying the fact that monetary policy is assigned a bigger role in crisis resolution. It is now increasingly being realised that the relationship between monetary policy and asset prices needs to be revisited. Central banks may have to develop new measures of systemic risks so that the distinction between genuine and speculative booms is made more explicit. Other important challenges for the monetary policy authorities would be (i) ensuring financial stability, although price stability should continue as the primary objective of monetary policy; (ii) the size of the central bank balance sheet; (iii) co-ordination with fiscal policy; (iv) effective communication with different stakeholders; and (v) stabilising the financial sector and the real economy.

7.134 Looking ahead, devising a calibrated exit from the unprecedented monetary accommodation globally is now one of the most important challenges. Credible plans to wind down and reverse the stimulus and to restore long-term, sustainable fiscal positions should be elaborated. In this context, how fast the global economy recovers would be important. Otherwise, the risk of a continuing recession may aggravate vulnerability to sovereigns, particularly countries with high debt-to-GDP levels and significant contingent liabilities to the financial sector. In fact, sovereign debt problems are already evident in countries like Greece where debt-GDP ratio rose to 115 per cent caused by persistently growing fiscal deficit and declining GDP. There are concerns that such crisis may get spread to other vulnerable economies in EU. Such countries need to ensure that they make credible commitments towards debt sustainability. Therefore, other vulnerable countries need to ensure that their policy initiatives do not pose substantial solvency risks. It would be a challenging task for policymakers to develop at an early stage credible and coherent exit strategies to roll back crisis interventions when market conditions permit and the economic outlook is on a firm recovery path. In this context, there are two main challenges. First, it needs to be ensured that continued short-term support does not distort incentives and endanger public balance sheets, with damaging consequences in the medium term. Second, at the same time, fiscal authorities have to ensure that the timing and sequencing of their withdrawal measures do not hamper growth prospects. Towards this end, coherent sequencing and clear communications from monetary, regulatory, and fiscal authorities is warranted.

7.135 It seems that the lessons of earlier crises motivated some emerging economies to strengthen budgets, reduce public debts, limit current account deficits, and more carefully manage foreign currency exposures, resulting in reduced vulnerabilities and increased policy space. This proved to be profoundly advantageous during the recent crisis, Nonetheless, for the EMEs, the key message from the recent crisis is with regard to continuation of sound policy frameworks in the financial sector, generating adequate investment capacities to balance global demand, continued efforts towards fiscal consolidation to have better room for discretionary policy in future and reviewing their approach towards capital account liberalisation. Global developments in the recent period strengthened the argument that EMEs cannot immunise themselves from the repercussions of a crisis originating in advanced economies. However, the impact could be moderated by undertaking sound policy measures in the financial and fiscal sectors. In order to achieve better sustainability of their growth momentum, EMEs, *inter alia*, need to enhance the absorptive capacities of their economies. This is required not only for raising their growth potential but also for balancing global demand and better absorption of capital inflows. Furthermore, the crisis has drawn attention to the issue of capital account management by the EMEs.

7.136 The list of lessons from the crisis may not be exhaustive or fully conclusive. Nonetheless, they unravelled a number of issues that need to be debated by policymakers at the national and global level. Whilst the recent crisis may prompt fundamental changes to economic regulation given the interconnection between markets beyond national boundaries, national solutions may no longer suffice. By requiring international co-operation on macroeconomic policies, trade and financial regulations, the recent financial crisis may more importantly provide an opportunity for countries to take the first step towards the consensus required to address far deeper global problems. Recent crisis also provides an opportune time to gather the political will to put in place long-needed structural reforms, nationally as well globally. Lessons drawn from the crisis need to be prioritised and translated into action by policymakers in a harmonised manner so as to minimise the possibility of such crisis in future.