

R K TALWAR MEMORIAL LECTURE

**THE FUTURE OF FINANCIAL REGULATION:
SOME REFLECTIONS**

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The Future of Financial Regulation: Some Reflections¹

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The world experienced the most severe financial and economic crisis in 2008-09 since the Great Depression. Although the crisis originated in the sub-prime mortgage market in the United States, it then spread to Europe and later to the rest of the world. The speed of the contagion that spread across the world was perhaps unprecedented. What started off as a relatively limited crisis in the US housing mortgage sector turned successively into a widespread banking crisis in the United States and Europe, the breakdown of both domestic and international financial markets, and then later into a full blown global economic crisis. Interestingly, however, although the emerging market economies (EMEs) in Asia and Latin America also suffered severe economic impacts from the crisis, their financial sectors exhibited relative stability. No important financial institutions in these economies were affected in any significant fashion. So this crisis should really be dubbed as the North Atlantic financial crisis rather than as a global financial crisis.

In any case the fall out of this financial crisis could be an epoch changing one for central banks and financial regulatory systems. The crisis occurred after an extended period dubbed as “The Great Moderation”: a period characterised by high global growth, huge financial sector expansion and low product price inflation, but accompanied by steep growth in monetary aggregates and asset prices, along with volatility in exchange rates. The prevailing monetary policy orthodoxy was inflation targeting or variants thereof, and light touch financial regulation. The price that the world has paid for the

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practice of such narrowly focused monetary policy, inadequate macroeconomic policy coordination, and neglect of financial regulation and supervision has been huge.

Dimensions of the Crisis

I focus first on the severity of the crisis. From an average annual growth rate of 4.1 percent between 2001 and 2008, world GDP growth fell to -0.6 percent in 2009. The unprecedented globally coordinated monetary and fiscal efforts launched after the Lehman episode have largely succeeded in averting the threat of an economic depression. Led by the rapid recovery of emerging market economies (EMEs), world GDP growth is now projected by the IMF (in its July 2010 World Economic Outlook Update) to recover to 4.6 percent in 2010. That the world was taken by surprise by the developments in 2008 and 2009 is shown by the fact that as late as July 2008 the IMF expected world GDP to grow by 3.9 percent in 2009. The reversal in expectations was so sudden that exactly a year later the forecast had been reversed to -1.4 percent for 2009. Similarly, the growth forecast for 2010 was as low as 1.9 percent in April 2009; the speed of the recovery now taking place in 2010 was also unexpected. The world economy has been beset with extreme uncertainty during the recent crisis period.

Global credit write downs were estimated by the IMF at US \$2.8 trillion in the October 2009 Global Financial Stability Report (GFSR), but have now been revised to US \$ 2.3 trillion in the latest GFSR update (IMF, 2010c). Despite the ongoing recovery the overall costs of the crisis have still been massive. First, households have suffered a severe reduction in overall wealth due to the marked decline in property prices. Second, fiscal expansion of the G 20 countries, relative to their 2007 levels, is of the order of about 6 percent of their GDP in both 2009 and 2010; US fiscal expansion is much higher at just under 10 percent of its GDP. Third, In containing the emerging North Atlantic financial crash in 2008-2009, the total support given to the financial sector in advanced economies was of the order of US \$7 trillion, including capital injections into financial institutions by governments, purchase of assets by treasuries, central bank liquidity injections and other upfront government financing, though some of these expenditures will of course be recovered (IMF, 2009b; IMF, 2010a).

Fourth, despite this massive effort unemployment levels still continue to be in the region of 10 percent or higher across the developed world and are expected to remain

at such high levels for an extended period of time. As assessed by the IMF, output levels in advanced countries will *never* go back to the pre crisis trends so there is a very large permanent output loss. Fifth, the average debt to GDP ratio for advanced economies is expected to increase to around 120 percent by 2015, implying very large long term debt servicing costs and crowding out of private activity (IMF, 2010a). Of course, this expected increase in debt cannot all be attributed to the financial crisis; some of it is certainly due to ageing and the associated health and pension costs that are expected.

Sixth, we are also witnessing extended volatility in the exchange rates of major currencies and fragility in leading capital markets, leading to extended economic uncertainty and possible volatility in capital flows, with implications for financial stability.

So the cost of this crisis has been massive for the global economy, and its fiscal effects will be felt for some time to come.

. It is therefore very important that we identify the causes of the current crisis accurately so that we can think of and act on the longer term implications for monetary policy and financial regulatory mechanisms. Consequent to the financial crisis of 2008-2009, along with the coordinated fiscal and monetary policy actions that were taken to avert a major crash, a comprehensive re-examination of the financial regulatory and supervisory framework is underway around the world. While some degree of normality has returned to global financial markets in 2009-10, in view of the very heavy costs that the world has had to pay, it is essential that governments and regulatory authorities do not fall prey to the natural temptations of complacency that such return to normality could entail.

Against this backdrop, I first provide a brief interpretation of how the crisis arose in terms of shortcomings in the extant practice of monetary policy and financial regulation, and then attempt to analyse the emerging contours of regulation of financial institutions with an emphasis on the emerging challenges and dynamics.

What Went Wrong with Financial System

Accommodative Monetary Policies

It is generally agreed that a variety of factors led to the crisis -- developments in the subprime sector, excessive leverage in the financial system as a whole in recent years, lax financial regulation and supervision, and global macro imbalances. What I have been particularly interested in is the role of lax monetary policy in the advanced economies, and particularly that in the United States. In examining the waves of capital flows to emerging market economies that have occurred over the last 30 years, it is noteworthy that almost each wave has been preceded by loosening of monetary policy in the advanced economies, usually led by the U.S., followed by tightening leading to the reversal of capital flows. In the period after the dotcom crash lax monetary policy led to excess liquidity and low interest rates worldwide. In previous episodes of such excess liquidity over the last 30 years it was emerging market economies that suffered from crises (CGFS, 2009).

But this time it rebounded on the North Atlantic economies. When there is an extended period of lax monetary policy and low interest rates, there is a natural search for yields leading to outward capital flows in search of higher yield. What happened during this recent period of monetary expansion is that with monetary policies being accommodative for an extended period in the US and other advanced economies, in addition to capital flows going outward in search of yields, the volume of liquidity generated was such that there was also a burst in financial innovation within these countries, so that higher yields could be obtained within. This search for higher yields within led to many of the irregularities observed. The consequence is that it is the advanced countries of the North Atlantic which have suffered from this financial crisis.

The other issue of note is that, partly because of large expansion in the global supply of goods from China and other EMEs – in the last ten years really, not just the last five years -- the accommodative monetary policy and increased liquidity did not lead to higher inflation as measured by the Consumer Price Index (CPI), or even higher inflation expectations as conventionally measured. It did, of course, lead to huge

increases in asset prices of different varieties, particularly housing and real estate, not just in the U.S and Europe but in other parts of the world as well.

Being particularly focused on CPI or on core inflation, central banks felt no pressure to tighten until very late because they were not observing increases in CPI, or in inflation expectations. Being against the prevailing orthodoxy, they avoided reacting to asset price growth, and even to supply induced commodity price increases. To my mind, this is a major issue for central banks, financial regulators and academics to discuss. In the presence of low CPI inflation central banks typically come under significant public and market pressure not to raise rates. In what circumstances should monetary policy take cognizance of variations in asset prices and in commodity prices and how? What should also be the role of coordinated action through prudential regulation?²

Shortcomings in Financial Regulation and Supervision

There is actually much greater discussion going on internationally on the existing regulatory practices and the future of financial regulation and supervision than on monetary policy. The intensity of discussion is reflected in the plethora of reports that have been issued by authoritative sources, both official and non official, in all the affected jurisdictions (CGD, 2010; CCMR, 2009; de Larosiere Report, 2009; Geneva Report, 2009; G-20, 2009; Group of Thirty, 2009; IIF, 2009; Turner Review, 2009; United Nations, 2009; United Kingdom, 2009; United States, 2009; Warwick Commission, 2009). What is common among all these dozen or so reports is the acknowledgement that regulation and supervision in the advanced economies was too lax in recent times; and that there needs to be considerable rethinking leading to much strengthened, and perhaps, intrusive regulation and supervision in the financial sector. Apart from the laxity in the supervision of banks there was a serious conceptual flaw in the approach to financial regulation. It was assumed that micro prudential regulation and supervision of individual financial institutions would also ensure systemic stability of the financial system. This approach ignored the possibility of the fallacy of composition.

² See Blanchard and others (2010) for an excellent comprehensive discussion on possible new frameworks for monetary policy.

The increase in complexity of interaction of financial markets with even sound financial institutions could have negative systemic effects through cumulative negative externalities. Thus there is clear recognition now of the need for contra cyclical macro prudential regulation, and of the need to reduce moral hazard posed by systemically important financial institutions (SIFIs).

At the root of such re-thinking, though not always acknowledged as such, is really the questioning of the existing intellectual assumptions with respect to the functioning of markets, and the nature of financial risk. To quote the Turner Review (2009):

“At the core of these assumptions has been the theory of efficient and rational markets. Five propositions with implications for regulatory approach have followed:

- (i) Market prices are good indicators of rationally evaluated economic value.
- (ii) The development of securitized credit, since based on the creation of new and more liquid markets, has improved both allocative efficiency and financial stability.
- (iii) The risk characteristics of financial markets can be inferred from mathematical analysis, delivering robust quantitative measures of trading risk.
- (iv) Market discipline can be used as an effective tool in constraining harmful risk taking.
- (v) Financial innovation can be assumed to be beneficial since market competition would winnow out any innovations which did not deliver value added.

Each of these assumptions is now subject to extensive challenge on both theoretical and empirical grounds, with potential implications for the appropriate design of regulation and for the role of regulatory authorities”. (Turner Review, 2009, p.30)

What were the specific developments in the financial system that arose from these broadly accepted intellectual assumptions that led to the ongoing global financial crisis?

Recurring Financial Crises: Build up of Excessive Leverage

Financial and banking crises have a long history, which is as old as the existence of the financial sector itself (Kindleberger and Aliber, 2005; Reinhart and Rogoff, 2009). All liquid markets can be susceptible to swings in sentiment, which can produce significant divergence from rational equilibrium prices. However, boom and bust in equity prices have surprisingly small consequences relative to boom and bust in credit instruments, unless investment in equity instruments is itself from heavily leveraged borrowed resources. What is common among almost all crises is the buildup of excessive leverage in the system and the inevitable bursting of the financial bubble that results from such leverage. What is ironic about the current crisis is that this excess leverage occurred over a period when greater consensus had developed through the Basel process on the need for and level of adequate capital required in banking institutions across all major jurisdictions. Furthermore, sophisticated financial risk management capabilities were also believed to have been developed within large financial institutions during this period of unusually high rapid growth in both the magnitude and sophistication of the financial system. This had some perverse results.

First, because of the perceived increase in sophistication in the measurement of risk, high quality risk capital in large banks could be as low as 2 percent of assets, even while complying with the Basel capital adequacy requirements. Second, large financial institutions could maintain lower high quality capital because of the assumption that they had better risk management capacity than smaller less sophisticated institutions. The thinking now is moving in the opposite direction: to reduce moral hazard, and to reduce systemic risk, it is being argued that SIFIs should be subject to higher capital requirements and they should be discouraged from becoming too big to fail.

With financial deregulation in key jurisdictions like the United States and the U.K., along with most other countries, financial institutions also grew in complexity. Financial conglomerates began to include all financial functions under one roof: banking,

insurance, asset management, proprietary trading, investment banking, broking, and the like. The consequence has been inadequate appreciation and assessment of the emerging risks, both within institutions and system wide. What were the factors that led to this emergence of excessive system wide and institutional risk?

Growth in Securitised Credit and Derivatives

Among the notable developments of the last decade has been the unprecedented explosive growth of securitized credit intermediation and associated derivatives (Yellen, 2009). The issuance, for example, of RMBS (Residential Mortgage Backed Securities) doubled from US \$ 1.3 trillion to US \$ 2.7 trillion between 2001 and 2003. The assumption underlying this development was that this constituted a mechanism that took risk off the balance sheets of banks, placing it with a diversified set of investors, and thereby serving to reduce banking system risks. As late as April 2006, the IMF's Global Financial Stability Report noted that this dispersion would help "mitigate and absorb shocks to the financial system" with the result that "improved resilience may be seen in fewer bank failures and more consistent credit provision" The opposite actually transpired.

Although simple forms of securitization have existed for a long time, this assumption has already proved to be erroneous. Among the key functions of banks is maturity transformation: they intermediate shorter term liabilities to fund longer term assets in the non-financial sector. Banks are typically highly leveraged and hence trust and confidence is crucial to their functioning and stability. Traditionally, therefore, banks exercised sharp vigilance on the risk elements of their assets, which were typically illiquid, in order to ensure constant rollover of their shorter term funding liabilities. What securitization does is to turn illiquid assets into liquid ones, which in theory then disperses risks from the banks' balance sheets and also reduces their requirements of banking capital. The incentive to monitor credit risk in the underlying assets also disappears. With assets themselves seen as liquid short term instruments, they began to be funded by ultra-short term liabilities, including even overnight repos whose volume increased manifold in recent years. The majority of holdings of securitized credit ended up, however, in the books of highly leveraged banks and bank like institutions themselves, and hence risk got concentrated rather than being dispersed. Systemic risk

increased because traded instruments are inherently more susceptible to price swings depending on changes in market sentiment, and much of this trading was in opaque OTC markets. Moreover, at low levels small changes in interest rates and yields result in greater volatility in prices. What emerged was a “complex chain of multiple relationships between multiple institutions” (Turner Review, 2009) and hence the higher risk of contagion within the financial sector. Furthermore, liquidity risks in such markets were also not understood adequately. It was assumed that these liquid markets would always exist, and hence securitized assets were assumed to be inherently less risky than illiquid long term credit assets.

Financial innovation arising from the search for yields compounded this problem as second order derivatives proliferated. For example, CDO (collateralized debt obligations) issuance tripled between the first quarters of 2005 and 2007, reaching its peak of US \$179 billion in the second quarter of 2007, before collapsing to \$5 billion by the fourth quarter of 2008. With the lack of transparency in OTC markets, their valuation became increasingly dependent on model valuation and credit ratings, rather than observable and transparent market valuation, and hence inherently more opaque. Thus, when problems arose in these markets and prices were not visible, valuation of the assets of banks and the shadow banking system became unobservable. Consequently, trust and confidence evaporated and markets froze.

Emergence of the Shadow Banking System

These problems got further compounded by the emergence of the largely unregulated shadow banking system that took off assets from the banks' balance sheets; thereby reducing the latter's capital requirements. Ironically, the increased attention to capital adequacy in banks itself led to a poorly capitalized financial system overall. The complexity and magnitude of intra-financial sector transactions exploded over this past decade. For example, issuance of global credit derivatives increased from near zero in 2001 to over US \$60 trillion in 2007; OTC interest rate derivatives grew from around zero in 1987 to about US \$ 50 trillion in 1997 and US \$ 400 trillion by 2007; global issuance of asset backed securities (ABS) went up from about US \$ 500 billion in 1997 to over US \$ 2 trillion; forex trading activity rose tenfold from about US \$ 100 billion to US \$ 1 trillion in 20 years between 1987 and 2007, and doubling after 2002;

and trading in oil futures increased from an equivalent of about 300 million barrels in 2005 to 1000 million barrels in 2007, more than 10 times the volume of oil produced (Turner, 2010)! Thus the financial sector was increasingly serving itself rather than any perceived needs of the real economy.

Given such explosive increase in financial transactions unrelated to developments in the real economy, the financial sector exhibited high profits and growth, while doing relatively little for the non financial sectors of the economy, which the financial sector exists to serve in principle. Compensation levels in the financial sector also exploded correspondingly, and talent got sucked in from other sectors as well. The debt of financial companies increased to levels exceeding the GDP of leading economies; in the UK, for example, financial sector debt increased from 40 percent of GDP in 1987 to 200 percent in 2007; and in the US from a similar 40 percent in 1987 to over 100 percent in 2007 (FSA,2009). Thus, in the process of taking risks off balance sheets through securitization, these risks returned to the extended banking system itself and the original rationale for securitization got belied. Rather than reducing systemic risk the system of complex securitization and associated derivatives only served to increase it. Moreover, it became increasingly difficult to trace where the risk ultimately lay.

Why is there High Compensation in the Financial Sector?

There needs to further questioning of the widespread discussion around compensation in the financial sector: is the compensation issue really a red herring? Is it not the excess profitability of financial institutions that has led to the very high compensation levels of their employees along with the high returns to shareholders? If a firm has such high returns, they have to go somewhere: they are either distributed to shareholders or to the employees or a combination of both, which is what has been happening. It is then difficult to restrict compensation levels as is being argued currently. Much of the discussion has veered off into the minutiae of compensation practices related to the various forms in which compensation is given. To my mind the real question relates to the high profitability observed in recent years in segments of the financial sector.

Therefore, the question really is, is there a lack of competition in the financial sector? And if so, why? Are there some regulatory provisions that restrain competition or are there some entry barriers inherent in the structure of the financial industry? If there isn't a lack of competition why do these profits not get competed down? And again, if the answer is indeed that there is a lack of competition, what can be done? What kind of competition policy measures would be relevant and applicable to the financial sector? Addressing these questions is probably more useful for dealing with the compensation issue rather than dealing directly with compensation patterns and levels.

The regulatory system was clearly behind the curve in taking account of these developments. Regulatory focus was on banks and not on the emerging shadow banking system, which the market was supposed to discipline. The procedures for calculating risk-based capital requirements under-estimated the risks inherent in traded securitized instruments, thereby adding to the incentive for banks to securitize assets into traded instruments, which bore lower risks weights. The trading of these instruments has largely been in OTC markets that exhibit little transparency. As a result of this overall process, banks became effectively undercapitalized, and the leverage ratios of the unregulated shadow banking system and investment banks reached unsustainable levels. There was a clear failure of supervision. A good deal of the ongoing discussion on change in regulation is focused on this issue through mandating of increased capital requirements for higher risk activities.

With the existence of low interest rates, mispriced low risk perceptions, and inherent incentives to originate lending and distribute securitized instruments, household indebtedness increased to unprecedented levels, particularly for housing. In both the United States and the UK, the household debt to GDP ratio increased from an average of around 60 percent between the mid 1980s and 1990s to over 100 percent in the following decade (Turner Review, 2009). Demand for housing assets rose and hence housing prices. Thus micro behavior led to increased systemic risk that was not adequately appreciated or understood, and hence not monitored by the authorities.

The Challenges Ahead

The agenda that is being developed for the strengthening of financial sector regulation and supervision is ambitious. Contentious issues are arising both at domestic/national regulatory levels and at the international levels on regulatory cooperation. Whereas the principles that have been outlined for this regulatory overhaul are being increasingly well accepted, many challenges are emerging on their modes of implementation, and on their practicality.

Regulatory Structure and Macro Prudential Regulation

First, a great deal of discussion is taking place in a number of jurisdictions on the changes needed in regulatory structure so that the probability of such a financial crisis arising again is minimised. The regulatory regimes have to be more effective over the cycle. There is general agreement on the need for putting in place a regime of macro prudential regulation and financial stability oversight. The issue under discussion in different jurisdictions is: Who will do it? Would it be a council of regulators, the central bank or the treasury? The core concern behind such discussion relates to the location of responsibility for maintaining financial stability. Should central banks be made responsible, and also accountable, for maintaining financial stability? Macro prudential regulation is increasingly seen to be among the key means for maintaining financial stability. That requires the imposition of prudential regulations in the light of some macroeconomic or overall financial trends that need to be acted on. If the central bank is only a monetary authority and a separate agency, like the Financial Services Authority (FSA) of the UK, is responsible for financial regulation and supervision, how is coordination to be achieved so that such action can be implemented? The US has had a very fragmented regulatory structure, whereas the UK had placed all regulatory responsibilities for all segments of the financial sector in the unified FSA. In the rest of Europe monetary policy got centralised in the European Central Bank (ECB) but financial regulation has remained fragmented at national levels. The US Federal Reserve System has had significant regulatory responsibilities but regulatory failures were significant in all North Atlantic financial systems, with the exception of Canada.

The ongoing efforts to undertake significant regulatory reform in the United States, UK and in the Euro Zone illustrate the lack of consensus on what kind of regulatory structure constitutes best practice for promoting financial stability.

The UK is abandoning its experiment of completely separating financial regulation from the central bank and the FSA is now being folded back into the Bank of England. The Governor of the Bank of England will now be responsible for monetary policy, financial regulation and financial stability, an arrangement similar to that prevailing in India. Consequent to the crisis it is felt that the central bank can better exercise its responsibility for financial stability if financial regulation also comes within its purview.

The US Treasury had initially proposed that all banking regulation be unified in a single agency, while placing greater responsibility on the US Federal Reserve for maintaining financial stability. In the reform bill that has finally been passed systemic risk will be formally assessed by a new Financial Services Oversight Council which will be composed of the main regulators and chaired by the Treasury Secretary. It will focus specially on SIFIs in order to prevent institutions from getting too big to fail. Any emerging SIFIs, including non banks, will be put under the regulation of the Federal Reserve. Regulatory jurisdiction has been simplified and clarified, with the Fed handling systemic institutions; the Office of the Controller of the Currency (OCC), national banks; and Federal Deposit Insurance Corporation (FDIC), state banks. The only agency being eliminated is the Office of Thrift Supervision. It is yet to be seen how these new arrangements will function. What is clear, however, is that there is now much greater appreciation of the role of the central bank in maintaining financial stability and in regulating SIFIs of all varieties, not just banks.

Having worked in both the central bank and the treasury I really do not believe that effective macro prudential oversight or financial stability oversight can be done without the central bank being at the helm of this activity. Any kind of group can be set up depending on the country's overall regulatory set up: including the treasury and the heads of the other regulators. The central bank is the lender of last resort; it is also the only agency which has an overall view of the economy, along with exceptional stability in terms of staffing and continuity in thinking, relative to most treasuries. It also has its

ear to the ground with respect to evolving developments in all financial markets if it does its job well as a monetary authority.

Our own experience is that the Reserve Bank of India, as both the monetary authority and the lead financial sector regulator, has been able to supplement its monetary policy very effectively with prudential actions on a consistent basis. It regularly monitors credit aggregates, including movements in sectoral credit. Consequently it could take macro prudential action when it observed excess credit growth, both on an aggregate basis and in particular sectors like real estate and housing. So it increased the cash reserve ratio (CRR) to curb overall credit growth and imposed higher provisioning and risk weights for lending to the affected sectors. As part of its supervisory activities it also monitors the incremental credit deposit ratio carefully and cautions banks when such a ratio is found to exceed acceptable norms. It is also able to do forward looking countercyclical capital buffering through increases in loan loss provisioning when needed. Further, when it observed regulatory arbitrage being practised by the lightly regulated non bank finance companies (NBFCs) during 2005-2007 it took measures to tighten their regulation towards reducing their potential ability to do excess leverage. This experience is a valuable example for practicing the kind of proposals being put forward for implementing macro prudential polices as supplements to monetary policy as normally practised in a narrow fashion.

I do believe that given different countries with large variations in institutional legacies, traditions and systems, no one size can fit all. But at the same time, I think that the central bank does need to have a lead role as far as financial stability is concerned within any kind of arrangement that is deemed fit in a particular country. As a recent IMF paper notes: "If one accepts the notion that, together, monetary policy and regulation provide a large set of cyclical tools, this raises the issue of how coordination is achieved between the monetary and the regulatory authorities, or whether the central bank should be in charge of both. The increasing trend toward separation of the two may well have to be reversed. Central banks are obvious candidates as macro prudential regulators" (Blanchard, Dell'Ariccia, and Mauro, 2010). In any case there is a clear need for a comprehensive approach to regulatory risk in the financial sector, particularly as the perimeter of financial regulation is widened to encompass hitherto unregulated or

lightly regulated entities such as hedge funds, credit rating agencies, and other non bank financial companies (CCMR, 2009).

Need for Higher Capital Adequacy

Second, the various proposals that are under discussion with respect to enhanced capital requirements will lead to increased levels of regulatory capital over the economic cycle and extension of such capital requirements on bank like institutions that are currently unregulated or lightly regulated. This will inevitably lead to lower profitability for equity investors.

In addition to the increases in basic capital adequacy that are being considered, other proposals under discussion include:

- Higher quality Tier I capital to comprise of only common shares and reserves
- Higher quality liquidity standards
- Maintenance of countercyclical capital buffers
- Countercyclical provisioning
- Higher risk weights for trading and derivative activity
- Higher capital and liquidity requirements for systemically important financial institutions (e.g. institutions with assets above some threshold level)
- Prescription of a maximum leverage ratio

The bargaining power of banking institutions had become weak in the wake of the financial crisis: hence, there was little initial observable protest regarding such proposals. As the financial crisis has begun to be resolved, and some semblance of normalcy and profitability is returning to the financial sector, the financial industry is doing its utmost to resist the requirements for higher capital. Whatever the final result the phase in of these new requirements is certainly being delayed. It will be a challenge for regulators and governments to resist demands for further relaxation of the new capital requirements, both the enhanced minimum levels and the capital buffers proposed in good times. Just last week, the FDIC chief Sheila Bair was moved to complain that the lobbying efforts of the financial industry were in fact bearing fruit bearing fruit in the standard setters discussion in Basel.

Everyone seems to agree that there is need to have increased levels of regulatory capital. But there is need to analyse if that implies lower profitability in the financial sector, though that in itself may not be such a bad idea for the maintenance of financial stability. But there is still need for greater understanding of its implications for the financial sector as a whole. Would more stringent capital requirements imply a slower pace of credit intermediation and overall lower economic growth? Or does it just mean that there will be less intra financial sector activity with negligible implications for the real economy? There is clearly a great need for working out the overall economic effects of the current recommendations related to the proposed regulatory overhaul. I understand that such impact studies are now being conducted by the BCBS and FSB before the new capital standards are put in place. The influential private sector banking lobbying group, the Institute of International Finance, has, meanwhile, estimated that the combined loss in the US, Euro Zone and Japan will amount to about 3 percent of GDP over 5 years on full implementation of the Basel proposals. It is important that these calculations should be scrutinised very carefully: what may cause slower expansion of the financial sector may not necessarily have similar effects in the real sectors of the economy.

Contra Cyclical Capital Requirements

Third, the proposal for provision of contra-cyclical capital will face significant implementation issues. Regulators will need to do significant technical work in the understanding of business cycles so that turning points can be recognised. What would be the triggers for changes in these capital buffers in either direction? Would these changes kick-in in anticipation of business cycle turns or post facto? How formula or rule-based would these changes be so that regulated institutions know in advance themselves what they need to do? An additional issue in this sphere arises from the possibility of economic cycles occurring at different times in different jurisdictions. This would necessitate greater cross border cooperation between home and host regulators in terms of applicable capital requirements for different segments of the same international financial conglomerate. An additional problem for EMEs would be the lack of adequate data for business cycle identification.

Macro Prudential Regulation for Containing Systemic Risk

Fourth, there is general agreement on macro prudential regulations and the identification of systemic risks like the build up of asset bubbles. However, considerable technical work will need to be done at both national and international levels on identifying what such risks are, what is systemic and what is not, and what kind of regulatory actions would be effective. In the recent experience, for example, there was ample awareness of the build up of both global financial imbalances, and of the asset price bubble, but there was little agreement on what needed to be done. Even if adequate work is done on the identification of systemic risk, and on the regulatory measures necessary, what will be the enforcement methodology internationally? Within national regulatory systems, issues relating to inter-regulatory cooperation will also arise, who will be in-charge of issuing early warning systems and who will listen to them?

Extending the Perimeter of Regulation

Fifth, there is general agreement on the extension of regulation on all systemically important institutions, markets and instruments. Here again there is an issue of implementation. How do we decide what is systemically important? Certainly, all financial institutions that have access to the central bank liquidity window or to whom the central bank can act as lender of last resort should be subject to capital regulation. Considerable debate has ranged around the regulation of hedge funds, which come in all sizes, shapes and forms. Some are large, but not leveraged, others can be both large and leveraged, and yet others can be small and leveraged or otherwise. Whereas it may be that individual hedge funds or other equity pools are not systemically important, they may be so collectively. Furthermore, they could be collectively not important systemically in good times, but become so in times of extensive leveraging. Similar is the story for markets and instruments. Thus the work of national and international regulatory system is cut out in this regard. Excessive regulation could indeed snuff out entrepreneurship if not done carefully.

Securitisation and Derivatives

Sixth, as I have discussed, a great deal of debate has emerged around the issue of securitised credit and its offshoots. There is agreement on the need for attaching

greater risk weights on securitised instruments and derivatives and on restricting the trading of standardised instruments on transparent trading platforms in order to reduce systemic risk. However, the broader issue of the utility of financial innovations remains to be addressed. Are many of these innovations largely unproductive and dysfunctional and do they need to be discouraged, or otherwise? That the explosion in the magnitude of such derivative instruments provided little benefit to the financial system or the economy as a whole is now clear. However, securitisation is a time honoured methodology that has done much to lubricate the financial system and helped funding real economy needs at competitive costs. So how these instruments are regulated and how “good” financial innovations will be winnowed from the “bad” will be a challenge.

Systemically Important Financial Institutions

Seventh, as the current global crisis has shown, whereas many of the large complex financial institutions are global in nature, their regulation is national. Considerable discussion is now ongoing on how international regulatory cooperation can be enhanced. There appears to be a good degree of consensus that is emerging in the standard setting bodies on the contours of enhanced regulation (BCBS, 2009a; FSB, 2009; G20). But implementation of their recommendations will rest with national authorities and their respective legislatures. The US reform is clearly placing responsibility of their regulation on the US Federal Reserve. The domestic debates taking place so far in national jurisdictions are much more fractious than in the international standard setters; and the financial industry has much greater lobbying power within national borders and their respective legislatures and governments than in the largely technocratic standard setters. Apart from the regulatory problems associated with ongoing institutions, even more difficult are the problems associated with cross border resolution of failing institutions. The discussion on these issues has just begun.

There is increasing debate on institutions being too big to fail (Scott and others, 2009). This reflected in the renewed debate in the US on whether there should be some retreat to Glass Steagall type restrictions on the activities that are allowed to banking institutions. Should banking be boring? Whereas there would appear to be little support for bringing back the full separation between commercial and investment banks, broker dealers and insurance companies, the emerging consensus that banks’ activities in

proprietary trading should be curbed (Volcker, 2009; Brady, 2009; Schultz, 2009) appears to have succeeded in the US financial reform. Banks have deposit insurance protection and also have access to lender of last resort facilities from the central bank. In times of liquidity stress they can receive liquidity from the central bank, whereas in times of insolvency it is deposit insurance that comes to their rescue. Thus, if banks' risk taking activities result in stress their losses are effectively socialised, and some curb on their excessive risk taking activities is justified.

Volatility in Capital Flows

Eighth, from the point of view of Emerging Market Economies (EMEs), at the macro level, the volatility in capital flows has led to severe problems in both macro management and financial regulation (CGFS, 2009). These capital flows have been influenced significantly by the extant monetary policy regimes in developed countries and hence their volatility is not necessarily related to economic conditions in the receiving economies. Excess flows, sudden stops and reversals have significant effects on EME financial sectors, the working of their capital markets, and asset prices, and hence their economies as a whole. Management of this volatility involves action in monetary policy, fiscal management, capital account management, and also financial market regulation. This will remain a challenge since there is little international discussion on this issue. There is, however, increasing recognition that some degree of capital controls may be desirable in such circumstances (e.g. Commission on Growth and Development, 2010; Ostry and others, 2010).

In response to the crisis, monetary policy has been loosened substantially in major advanced economies since the second half of 2007. Policy rates have been cut to near zero levels, even lower than that in 2003-04, and the financial systems have been flooded with large liquidity. Abundant liquidity, is already getting reflected in return of capital flows to EMEs and this excess liquidity, if not withdrawn quickly, runs the risk of inducing the same excesses and imbalances that were witnessed during 2003-07. Excess liquidity could also take the form of large capital flows to the EMEs and their likely recycling back to the advanced economies. As the global economy starts recovery, a calibrated exit from this unprecedented accommodative monetary policy will

have to be ensured to avoid the recurrence of the financial crisis being experienced now.

Key Lessons from the Crisis

Let me now summarise. The emergence of the global financial crisis has led to a new wave of thinking on all issues related to both monetary policy and financial regulation.

The first lesson from the crisis is that the practice of both monetary policy and financial regulation had tended to become too formula bound and hence too predictable. The prevailing monetary policy frameworks, essentially based on inflation targeting, have been found wanting. What should be the basis of new frameworks that also look at other issues related to the maintenance of financial stability? Furthermore, will the new frameworks necessitate less separation between monetary policy and financial regulation?

The second lesson is that the intellectual basis of light touch regulation clearly does not hold. The financial world is highly susceptible to systemic risk, herd behaviour, and moral hazard, which require consistent regulatory intervention.

The third lesson is that within the new principles that are being debated, we should admit that in the face of unexpected developments that always arise in the financial sector, rules are not enough. There is an important role for the exercise of judgement by both monetary authorities and financial regulators.

The fourth lesson is that financial supervisors must supervise. Regulation by itself won't work. It must be enforced through active and intrusive supervision. Regulators must regulate and supervisors must supervise.

The final lesson is that the traditional virtues of prudent fiscal policy, stable monetary policy, along with the maintenance of sustainable external accounts, should not be lost sight of in the presence of highly flexible financial markets.

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