

NATIONAL INSTITUTE OF BANK MANAGEMENT

National Conference on Emerging Macro Environment, Regulatory Changes and Bank Competitiveness – March 3 - 4, 2012

Implications of Basel III for Capital, Liquidity and Profitability of Banks¹

- B. Mahapatra

It is heartening that the National Institute of Bank Management (NIBM), Pune is organizing a two-day National Conference on 'Emerging Macro Environment, Regulatory Changes and Bank Competitiveness', today and tomorrow. I am indeed grateful to the NIBM for giving me this privilege to talk to you today on a topic - *Implications of Basel III for Capital, Liquidity and Profitability of Banks* - which is contemporaneous, not only in the financial circles, but also in the larger space of public policy. My motivation for the talk on this subject is also due to my job as a bank regulator and my association with the process of policy formulation and implementation of Basel III for banks in India.

The Context

2. Let me first set the context for Basel III. Basel III is the regulatory response to the causes and consequences of the global financial crisis. So, what were the causes of the crisis and the consequence?

¹ Address of Shri B. Mahapatra, Executive Director, Reserve Bank of India on March 3, 2012 at the National Conference on Emerging Macro Environment, Regulatory Changes and Bank Competitiveness, organized by the National Institute of Bank Management, on March 3-4, 2012 at Pune. The contributions made by Shri Rajinder Kumar and Shri Rajnish Kumar are gratefully acknowledged.

Causes of global financial crisis

3. From the macroeconomic perspective, the crisis has been attributed to the persistence of global imbalances. It is often said that the solution to a previous crisis becomes the cause for the next crisis. You may recall that the previous crisis was the Asian crisis of 1997-98, and one of the important lessons learnt by the Asian countries was to build a war chest of foreign exchange reserves to fight against the attack on the country's currency. Therefore, Asia and in particular, China and some other emerging economies produced goods at a cheaper rate and pursued a policy of export-led growth and accumulated huge foreign exchange reserves. As a corollary, the USA and Europe consumed that produce and became net importers. The foreign exchange reserves accumulated by the Asian and other emerging economies were necessarily to be invested in advanced economies which have deep markets.

4. The huge amount of capital that flowed from the emerging economies to the advanced economies, depressed yields in the financial markets of advanced economies. In the "search for yield" to improve returns on investment, market players indulged in financial innovation and engineering. They developed structured financial products like securitization and re-securitization based on sub-prime mortgage backed securities (MBS), collateralized debt obligations (CDOs) and CDO squared etc. Credit default swaps (CDS) were also used to create synthetic structures which increased their illiquidity and complexity. Oblivious of the inherent risks created by these features, securitizations continued to grow by leaps and bounds leading to the spiraling of sub-prime lending with impending disastrous consequences.

5. Another cause of the crisis was attributed to the socio-economic and political factors in the USA. Dr. Raghuram Rajan in his book *Fault Lines* has highlighted that the income of average American was stagnant for quite some time and poverty and inequality were increasing. The politicians could not improve the income of the people but devised policies to encourage them to fulfill the dream of owning a house by taking loans from banks and financial institutions at the prevailing low interest rates. Thus, the birth of the toxic product “sub-prime mortgage” took place. It was said if the poor people cannot have income for consumption, “let them eat credit”.

6. At the micro level, the business models of banks and financial institutions also contributed to the fermentation of the crisis. The “originate-to-distribute” model of sub-prime mortgages did not create any incentive for banks for better appraisal and supervision of such mortgages. Their reliance on wholesale funding markets created gaps in liquidity risk management. Short term funds were used for creating long term assets. The availability of plenty and cheap funds encouraged banks to be highly leveraged, that too by borrowing short term funds.

7. The crisis has also been attributed to the inadequate corporate governance and inappropriate and perverse incentive system in the financial sector. There were several weaknesses in corporate governance in the run up to the crisis. Corporate governance arrangements failed to curb excessive risk taking in banks and financial institutions. Studies have shown that risk

management systems failed in many cases more due to poor corporate governance than due to the inadequacy of the mathematical models used. The Board and even senior management, in some cases, failed to establish an informative and responsive risk measurement and management reporting framework. The institutional arrangements in many instances conferred importance and status on the risk takers at the expense of independent risk managers and control personnel. Where strategy was in place, Boards did not establish suitable metrics to monitor implementation.

8. Out of the many issues that have arisen in the context of the global crisis, executive pay and compensation practices in the financial sector have perhaps invoked the maximum public outrage. There has been wide spread criticism that incentives and pay packages were set inappropriately, encouraged irresponsible risk taking, were inconsistent with the firm's capital bases and focused on short-term profit maximization. Compensation for senior executives has been perceived to be excessive with little correlation to the long term performance of the institutions concerned. Particularly glaring was the multi-million dollar payments and bonuses to the executives of failed firms which had received public funding. It is now widely acknowledged that the flawed incentives framework underlying banks' compensation structures in the advanced countries fuelled the crisis.

9. Banks entered the crisis with inadequate capital. The Basel requirement of common equity was as low as 2% of risk-weighted assets (RWAs). Banks did not calculate the risk-based capital properly. The Basel capital rules favoured lower capital for the trading book and higher capital for the banking book. Banks

exploited this loophole and parked banking book assets in the trading book, indulging in capital arbitrage. Similarly, capital requirement for mortgage loans was higher than capital requirement for mortgaged backed securities (MBS). This encouraged banks to securitize their mortgage loans through a Special Investment Vehicle (SIV) set up by them. Banks offered liquidity supports to their own SIVs which securitized the mortgage loans and enhanced the credit rating of such instruments. Enhanced ratings require less capital. Banks invested in such products requiring less capital. Thus, there was an "incestuous" relation in keeping banking book assets in trading book, for which liquidity support was given by the bank to enhance its rating and reduce capital requirement.

10. The growth of "shadow banking" system in the run up to the crisis was unprecedented. One estimate suggests that the size of shadow banking system was almost three times the formal banking system. This coupled with their dependence on the wholesale funding market compounded the crisis.

11. Supported by unprecedented innovation and engineering, the financial sector became too big in relation to the real economy, but the regulatory and supervisory system was found wanting. The regulators and supervisors did not look at system-wide build up of risk. They reposed faith in free markets and believed in self-correction of market excesses. But that did not happen. "Leaning against the wind" was considered inappropriate. The credit rating agencies also did not perform their role as envisaged and junked themselves.

12. Every banking crisis has some common elements. But every time, experts say, “this time is different”. Then what was different this time? Probably, the phenomenal growth of shadow banking system, most of which was outside the regulatory purview, and the excessive dependence of banks and financial institutions on the wholesale funding markets, are the “different” factors behind this crisis.

13. At a more philosophical level, what the crisis highlighted was the massive breakdown of trust - trust in banks, in financial system, in rating agencies, in investment advisers and in politicians. Trust, which takes time to build up is an important element in the functioning of financial markets as the very nature of financial contracts requires a high level of trust. Several questions come to mind in this context during the crisis. Was the behaviour of the players across the chain of the financial system fair and ethical or was it influenced by the greed to make quick profits and fat bonuses? Did the bankers and investment advisers explain the risks in the complex financial products they sold to their clients? And what about the credit rating agencies? Did they compromise on their standards?

14. The crisis has triggered an interesting, if also a soul searching debate on the role of leadership. Leaders at the helm of affairs probably let us down. They were lulled by the phenomenal success of modern financial engineering and the “great moderation” and got carried away by “irrational exuberance” and could not see the “black swan”.

Consequences of the global financial crisis

15. The consequences of the crisis are there for all of us to see. What started as a contamination of sub-prime mortgage loans and the securitized products based on that, led to an illiquidity spiral and soon became a solvency issue for the financial sector. The inter-connection between banks in the financial system propagated it into a systemic crisis. Banks, starved of liquidity, started to deleverage and stopped lending to the real sector. The financial crisis, thus, became a full-scale economic crisis. Since banks are essential to an economy and their failure affects the real sector, particularly when they are too big, the public authorities had no alternative but to rescue the banks by injecting capital, guaranteeing their liabilities and purchasing their toxic assets. This created the moral hazard issue of “privatization of profits but socialization of losses”.

16. However, one unintended but interesting aspect of the rescue programme was that non-equity capital providers to the banks escaped scot free as they were required to absorb losses only in the event of liquidation of banks and not otherwise.

17. There are several estimates of the cost of the crisis to the public exchequer. The amount of support to the systemically important financial institutions (SIFIs) during the crisis was about 25% of GDP. Capital injection and asset purchase for G20 countries was US \$ 653 billion or 2.1% of GDP. Fiscal cost of direct support for G20 countries averaged 2.8% of GDP, with UK at 6.1%, Germany at 4.8% and USA at 3.6%. The Government debt of these countries is

projected to rise by 40% of GDP during 2008-15. Cumulative output loss in these countries is estimated to about a quarter of their GDP.

Enhancement to Basel II or Introduction of Basel II.5

18. Post-crisis, the global initiatives to strengthen the financial regulatory system are driven by the political leadership of the G20 under the auspices of the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS). Immediately after the crisis, the Basel Committee, in July 2009, came out with certain measures, also called enhancement to Basel II or Basel II.5, to plug the loopholes in its capital rules which were exploited to arbitrage capital by parking certain banking book positions in the trading book which required less capital.

19. These measures, under Pillar 1, include introduction of an incremental risk charge (IRC) for specific risk or credit risk in trading book under the Internal Models Approach (IMA). Capital charge for securitization of commercial real estate was increased and that for re-securitization introduced. The Value-at-Risk (VaR)-based measure for capital charge for market risk under IMA has been substantially enhanced by including a stressed-VaR element. The overall capital requirement for the trading book is expected to rise by about 3 times. Pillar 2 has been strengthened by issuing guidance on firm-wide risk management; managing reputation risk and liquidity risk; improving valuation practices; and implementing sound stress testing practices. Appropriate additional disclosures complementing enhancements in Pillar 1 and 2 have also been introduced.

The Basel III

20. The Basel Committee published its Basel III rules in December 2010. I propose to discuss the major features of Basel III in a little more detail. Learning the lessons from the crisis, the objectives of Basel III are to minimise the probability of recurrence of a crisis of such magnitude. Towards this end, the Basel III has set its objectives to improve the shock absorbing capacity of each and every individual bank as the first order of defence and in the worst case scenario, if it is inevitable that one or a few banks have to fail, Basel III has measures to ensure that the banking system as a whole does not crumble and its spill-over impact on the real economy is minimized. Therefore, Basel III will have some micro-prudential elements so that risk is contained in each individual institution; and a macro-prudential overlay that will “lean against the wind” to take care of issues relating to the systemic risk.

Micro-prudential elements of Basel III

21. The micro-prudential elements of Basel III are (i) definition of capital; (ii) enhancing risk coverage of capital; (iii) leverage ratio; and (iv) international liquidity framework.

Definition of capital

22. The existing rules require a capital adequacy ratio of 8% to the RWAs. Rules allow Tier 1 capital at a minimum of 4% of RWAs and Tier 2 capital comprising of debt instruments of medium term maturity of at least 5 years at a maximum of 4% of RWAs. Tier 3 capital with short maturity of at least 2 years can also support Tier 2 capital to some extent. Common equity in Tier 1 capital

can be as low as 2% of RWAs. Innovative features such as step-up option are allowed in capital instruments. The regulatory adjustments to capital are effected both at Tier 1 and Tier 2 capital in equal measure.

23. The existing definition of capital is, thus, flawed. Capital is not only deficient in quality equity capital, but also contains elements of debt which do not support the bank as a going concern. As I have stated earlier, big banks entered the crisis with insufficient level and quality of capital. Under Basel III, Tier 1 capital will be the predominant form of regulatory capital. It will be minimum 75% of the total capital of 8%, i.e., 6%, as against 4% now, i.e., 50% of total capital. Within Tier 1 capital, common equity will be the predominant form of capital. It will be minimum 75% of the Tier 1 capital requirement of 6%, i.e., 4.5%, from the existing level of 2%. You may observe that the meaning of “predominant” portion of common equity in Tier 1 capital and Tier 1 capital portion in total capital (Tier 1 plus Tier 2) as 50% under Basel I and II has undergone a change to 75% under Basel III, improving the overall level of high quality capital in the banks.

24. To my mind the most revolutionary feature of Basel III in this regard is to ensure that public sector rescue of non-viable, but still functioning banks, does not entail absorption of losses by the tax-payers while leaving the non-common equity capital providers unscathed. Therefore, under Basel III, the terms and conditions of all non-common Tier 1 and Tier 2 instruments issued by banks will have a provision that requires such instruments, at the option of the relevant authority, to be either written off or converted into common equity upon the bank

being adjudged by the supervisory authority as having approached or approaching the point of non-viability.

25. Additionally, innovative features in non-equity capital instruments are no longer acceptable. Tier 3 capital has also been completely abolished. The regulatory adjustments or deductions from capital presently applied at 50% to Tier 1 capital and 50% to Tier 2 capital will now be 100% from the common equity Tier 1 capital. To improve market discipline, all elements of capital are required to be disclosed along with a detailed reconciliation to the reported accounts. These requirements will be implemented uniformly across all jurisdictions and the consistency in application will be ensured by the Basel Committee through a peer review process.

26. Thus, the definition of capital in terms of its quality, quantity, consistency and transparency will improve under Basel III.

Enhancing risk coverage of capital

27. In view of significant shortcomings noticed in the management and capitalization of counterparty credit risk, measures have been introduced under Basel III, to strengthen the capital requirements for counterparty credit exposures arising from banks' OTC derivatives, repo and securities financing activities. These reforms will raise the capital set against these exposures, reduce procyclicality and provide additional incentives to move OTC derivative contracts to central counterparties, thus helping to reduce systemic risk across the financial system. They also provide incentives to strengthen the risk management of counterparty credit exposures.

28. Going forward, banks must determine their capital requirement for counterparty credit risk using stressed inputs. This will address concerns about capital charges becoming too low during periods of compressed market volatility and help address procyclicality. Banks will be subject to a Credit Valuation Adjustment (CVA) capital charge to protect themselves against the potential mark to market losses associated with deterioration in the creditworthiness of the counterparty. The CVA is a measure of diminution in the fair value of a derivative position due to deterioration in the creditworthiness of the counterparty. Standards for collateral management and initial margining have been strengthened. Banks with large and illiquid derivative exposures to counterparties will have to apply longer margining periods as a basis for determining the regulatory capital requirement. Additional standards have been adopted to strengthen collateral risk management practices.

29. Thus, the Basel III framework will have enhanced risk coverage. This is necessitated due to the excessive exposures of banks to derivative products whose risks were not captured comprehensively under Basel I or Basel II framework.

Leverage ratio

30. Pre-crisis, the leverage of some of the internationally active banks was at a high level of about 50 times of the capital, even though such banks complied with capital adequacy requirement. The risk of leverage, particularly when built up with short term borrowings, and the consequential impact of deleveraging during

periods of stress by withdrawing credit to the real sector, accentuated the crisis. The Basel Committee has, therefore, introduced a simple, transparent, non-risk-based leverage ratio as a supplementary “backstop” measure to the risk-based capital requirements. The leverage ratio has both micro-prudential and macro-prudential elements. At the micro level, it serves the purpose of containing excessive risk, as a supplement to the risk-based capital ratio. The risk-based capital ratio does not capture the risk of excessive leverage on account of having low risk assets. The leverage ratio as a simple accounting measure will capture that. The Basel Committee has proposed testing a minimum Tier 1 leverage ratio of 3% (33.33 times) to start with as a Pillar 2 measure which will eventually be made a Pillar 1 requirement.

International liquidity framework

31. Despite liquidity being central to the functioning of financial markets in general and banks in particular, liquidity regulation did not receive adequate attention until recently. There were no internationally agreed and harmonized liquidity standards. The regulation of banking sector during the past two decades largely revolved around Basel I and Basel II capital regulations. Nor were there any international standards to limit excessive maturity mismatch resulting in increasing proportions of long-dated assets being financed by short-term borrowings. The financial crisis has highlighted the importance of robust liquidity risk management by banks. It was observed during the crisis that even those banks which had sufficient capital base had experienced difficulties due to imprudent liquidity management practices by excessive dependence on wholesale funding markets. The crisis demonstrated that liquidity and solvency

are quite deeply interrelated. Illiquid banks can become insolvent in no time and similarly an insolvent bank can become illiquid rapidly.

32. Basel III has introduced two new liquidity standards to improve the resilience of banks to liquidity shocks. In the short term, banks will be required to maintain a buffer of highly liquid securities measured by the Liquidity Coverage Ratio (LCR). This liquidity buffer is intended to promote resilience to potential liquidity disruptions over a 30-day horizon. It will help ensure that a global bank has sufficient unencumbered, high-quality liquid assets to offset the net cash outflows it could encounter under an acute short-term stress scenario of 30 days. The scenarios may include a significant downgrade of the institution's public credit rating, a partial loss of deposits, a loss of unsecured wholesale funding, a significant increase in secured funding haircuts and increases in derivative collateral calls and substantial calls on contractual and non-contractual off-balance sheet exposures, including committed credit and liquidity facilities.

33. Another liquidity risk measure, the Net Stable Funding Ratio (NSFR), requires a minimum amount of stable sources of funding at a bank relative to the liquidity profiles of the assets, as well as the potential for contingent liquidity needs arising from off-balance sheet commitments, over a one-year horizon. The NSFR aims to limit over-reliance on short-term wholesale funding during times of buoyant market liquidity and encourage better assessment of liquidity risk across all on- and off-balance sheet items. The objective of the NSFR is to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis.

Macro-prudential elements of Basel III

34. The changes in definition of capital and enhancements of capital requirement for trading book under Basel II.5 mentioned by me earlier would raise the collective resilience of banks and would in a way, contribute to reduction in systemic risk. However, in extreme situations this alone would be inadequate to ensure the financial stability. Therefore, ensuring financial stability would necessitate specific macro-prudential elements. Basel III seek to address issues relating to systemic risk through various measures including (i) leverage ratio; (ii) capital conservation buffer; (iii) countercyclical capital buffer; (iv) addressing procyclicality of provisioning requirements; (v) addressing interconnectedness; (vi) addressing the too-big-to-fail problem; and (vii) addressing reliance on external credit rating agencies.

Leverage ratio

35. The macro-prudential element of leverage ratio under Basel III has the objective of protecting against system-wide build up of leverage that result in destabilizing unwinding process during stress. It also protects against perverse incentive to pile on “low risk” assets, which may not remain as such under extreme situations producing systemic risk.

Capital conservation buffer

36. Drawing lessons from the crisis that banks were distributing earnings even during periods of stress, Basel III prescribes that a capital conservation buffer of 2.5% of RWAs, comprising common equity Tier 1 capital, over and above the

minimum common equity requirement of 4.5% and total capital requirement of 8%, needs to be built up outside periods of stress. This can be drawn down as losses are incurred during periods of stress. When buffers have been drawn down, banks can build them up either through a reduction in distribution of dividend, share buyback and staff bonus payments or raising capital from the private sector.

Countercyclical capital buffer

37. The countercyclical capital buffer is aimed at ensuring that banking sector capital requirements take account of the macro-financial environment in which banks operate. National authorities will monitor credit growth and other indicators which may signal a build-up of system-wide risk and, accordingly, they will put in place a countercyclical capital buffer requirement as and when circumstances warrant. This requirement will be released when system-wide risk crystallizes. The buffer will be implemented through an extension of the capital conservation buffer and vary between zero and 2.5% of RWAs, depending on the extent of the build-up of system-wide risks. Banks are required to meet this buffer with common equity Tier 1 capital or other fully loss-absorbing capital. Furthermore, banks will be subjected to the restrictions on distributions also if the capital level (capital conservation buffer plus countercyclical buffer) falls below the required levels during the periods when the countercyclical capital buffer is in force. Banks will have to ensure that their countercyclical buffer requirements are calculated and publicly disclosed at least with the same frequency as their minimum capital requirements.

Addressing procyclicality of provisioning requirements

38. Financial institutions are prone to business cycles. In good times, banks' borrowers do well and service the loans in time. In bad times, borrowers tend to default in servicing interest and principal payment. Banks' profits go down but at the same time they are required to make higher loan loss provisions for the non-performing loans. In order to address the procyclical issues, the Basel Committee is working closely with the International Accounting Standards Board (IASB) towards an *expected* loss approach to loan loss provisioning instead of the current practice of *incurred* loss approach.

Addressing interconnectedness

39. Interconnectedness among banks, especially the large ones, is sought to be addressed through various measures such as enhanced regulatory framework for global systemic important banks (G-SIBs), prescription of higher asset value correlation under the Internal Ratings Based (IRB) Approach for exposures to large financial institutions with assets of US \$ 100 billion and with unregulated institutions.

Addressing too-big-to-fail problem

40. The Basel Committee will group G-SIBs into different categories of systemic importance based on the score produced by the indicator-based measurement approach. G-SIBs will be initially allocated into four buckets based on their scores of systemic importance, with varying levels of additional loss absorbency requirements applied to the different buckets. Based on policy judgment derived from various empirical analysis, the Basel Committee has

determined that the magnitude of additional loss absorbency for the highest populated bucket should be 2.5% of risk-weighted assets at all times, with an initially empty top bucket (fifth bucket) of 3.5% of risk-weighted assets. The magnitude of additional loss absorbency for the lowest bucket should be 1.0% of risk-weighted assets. The magnitude of additional loss absorbency is to be met with common equity Tier 1 capital as defined by the Basel III framework. The G-SIBs will also be subject to tighter supervision. In addition, liquidity standards have been introduced to reduce excessive reliance on short term wholesale funding.

Addressing reliance on external credit ratings

41. To reduce the reliance on external ratings of the Basel II framework, measures have been proposed that include requirements for banks to perform their own internal assessments of externally rated securitization exposures, the elimination of certain “cliff effects” (sharp increase in applicable risk weights) associated with credit risk mitigation practices, and the incorporation of key elements of the IOSCO *Code of Conduct Fundamentals for Credit Rating Agencies* into the Committee’s eligibility criteria for the use of external ratings in the capital framework.

Transition and phase-in

42. In view of the large scale reforms and their impact, Basel III will be phased in and implemented over a long period of time, starting from January 1, 2013 to January 1, 2019. Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital, will be phased out over a ten-year period starting from

2013. The final calibration of liquidity ratios and leverage ratio will be made after further quantitative impact study and observation.

Macroeconomic impact of Basel III

43. Assuming that banks may be able to raise the increased capital requirement under Basel III from the market, questions have been raised as to its impact on economic growth and profitability of banks. In general, the increase in equity capital requirement is likely to increase the weighted average cost of capital. Banks would partly pass on the increase cost of capital to the borrowers as higher lending rates. Thus, the equilibrium lending rates are likely to be marginally higher and as a consequence, credit growth could be a little lower than in the last few years.

44. However, the important question is how much? Also, after the steady state has been reached on full implementation of Basel III, whether the cost would come down? I would try to provide some answers to these questions based on the research done by the official sector including the Basel Committee, and non-official or private sector institutions.

45. The Bank for International Settlements (BIS) and the FSB, with a view to phase-in the new regulations in a manner that is compatible with the global economic recovery, undertook studies to assess the macroeconomic impact of the transition to higher capital and liquidity requirements. The Macroeconomic Assessment Group (MAG) set up by the Basel Committee and FSB has estimated that bringing the global common equity capital ratio to a level that

would meet the agreed minimum and the capital conservation buffer, would result in a maximum decline in GDP, relative to baseline forecasts, of 0.22%, at the end of Basel III implementation period. The estimated maximum GDP impact per percentage point of higher capital was 0.17%.

46. In addition, the Basel Committee's study on the Long-term Economic Impact (LEI) of the stronger capital and liquidity requirements has suggested that the net benefits in terms of the gains from reduced probability of banking crises, and the consequential loss of growth, remain positive.

47. The estimates of the International Institute of Finance (IIF), a private sector body, is that level of GDP will be 3.2% lower than it would otherwise be (i.e., relative to the baseline scenario) after five years with an output loss of 0.7% per annum. This is several magnitudes higher than the MAG's estimate of an output loss of 0.03% per annum. The wide difference in estimates is attributed to different assumptions and samples.

Implications of Basel III on Indian banks

48. In general, higher capital and tighter liquidity requirements under Basel III will increase the capital requirements in Indian banks, as in other countries. However, the actual impact would vary in different countries depending upon the amount of exposures impacted under Basel III, existing capital structure of banks, i.e., extent of reliance on non-common equity capital elements, existing rules relating to regulatory adjustments, credit growth experienced by the economies and existing credit to GDP ratio. The impact of these requirements on the

profitability of banks would depend upon sensitivity of lending rates to capital structure of banks and sensitivity of the credit growth to the lending rates.

Capital

49. Under Basel III, the trading book exposures especially those having credit risk and re-securitizations exposures in both banking and trading book attract enhanced capital charges. The CVA for OTC derivatives will also attract additional capital. Since the trading book and OTC derivative portfolios of Indian banks are very small and they do not have any exposures to re-securitized instruments, impact of these changes in capital regulation on their balance sheets is insignificant.

50. The average Tier 1 capital ratio of Indian banks is around 10% with more than 85% of it comprising common equity. The regulatory adjustments will reduce the available equity capital only marginally for various reasons. *First*, items such as goodwill, Deferred Tax Assets (DTAs) etc. are already deducted from Tier 1 capital for Indian banks. *Secondly*, some other items which are subject to deduction such as mortgage servicing rights, treasury stocks, gains on account of fair valuation of liabilities which exist in other developed economies, do not exist in India. *Thirdly*, reciprocal cross-holdings of capital and other investments in the capital of banking, financial and insurance entities are insignificant because these investments are restricted due to existing regulatory limits. Thus, Indian banks will have high common equity capital ratio even under Basel III which will stand them in good stead. It is worth noting that more than 50% of Indian banks have

common equity ratio of higher than 8% at present and can implement Basel III even today without any phase-in.

51. Bank credit to GDP ratio of India is around 55% which is relatively lower as compared with that in many other countries. However, the past trend shows that it is likely to increase in future as the credit penetration in the economy has been steadily increasing. The Indian economy is also expected to grow at an annual growth rate of 8-9% for next 10 years or so. This would undoubtedly necessitate a considerable growth in bank capital. However, we also know that many Indian banks have actually been operating with equity capital ratio of 7-8% for last 5 years when the economy continued to grow at an average rate of about 8%. This provides us comfort in terms of both the ability of banks to operate at higher equity capital levels required under Basel III and also the capacity of the Indian capital market to provide the required equity capital to banks.

52. Government of India has progressively reduced its shareholding in public sector banks and in the case of many of these banks, the Government's shareholding is close to 51%. This means that in the future, the Government of India would provide the matching contribution to meet the additional equity requirements of banks, in contrast to the past when it had allowed a large part of additional equity requirements to be met from the market by letting its shareholding fall from 100% to 51%. Thus, the demand for equity from the capital market would be less to that extent but public sector banks' dependence on the Government for capital support will increase.

Liquidity - Issues relating to SLR and LCR

53. In India, banks are statutorily required to hold minimum reserves of high-quality liquid assets. Currently, such reserves (Statutory Liquidity Ratio – SLR) are required to be maintained at a minimum of 24% of net demand and time liabilities. Since these reserves are part of the minimum statutory requirement, RBI faces a dilemma whether and how much of these reserves can be allowed to be reckoned towards the LCR. If these reserves are not reckoned towards the LCR and banks are to meet the entire LCR with additional liquid assets, the proportion of liquid assets in total assets of banks will increase substantially, thereby lowering their income significantly. RBI is examining to what extent the SLR requirements could be reckoned towards the liquidity requirement under Basel III.

Profitability

54. Studies have suggested that internationally, Basel III requirements will have a substantial impact on profitability. One such study conducted by McKinsey & Company suggest that all other things being equal, Basel III would reduce return on equity (RoE) for the average bank by about 4 percentage points in Europe and about 3 percentage points in the United States. The retail, corporate, and investment banking segments will be affected in different ways. Retail banks will be affected least, though institutions with very low capital ratios may find themselves under significant pressure. Corporate banks will be affected primarily in specialized lending and trade finance. Investment banks will find several core businesses profoundly affected, particularly trading and securitization businesses. Banks are already seeking to manage RoE in the new environment

by balance-sheet restructuring and business model adjustments. The study suggests that the balance sheet restructuring and business-model adjustments could potentially mitigate up to 40 percent of Basel III's RoE impact, on an average.

55. I would like to give you a sense of likely impact on the lending rates of banks. Suppose, a typical Indian bank has RoE of 15% and interest paid on non-equity elements of capital is 10%. Further, suppose that the equity to RWAs ratio of the bank is 6%. Now if the bank is required to maintain an additional 1% equity, the weighted average cost of funds would rise by 5 basis points only. If the equity capital required rises by 2%, the increase in lending rate to pass on the full increase in cost of capital to borrowers would be 10 basis points. There is likely to be some increase in cost of non-equity capital as well. But, all this is unlikely to push the cost of lending significantly. And, Indian banks should keep in mind that their net interest margins (NIMs) are very high as compared with their counterparts in many other countries. This only indicates the need for improving efficiency and considerable scope for bringing down the cost of intermediation. I would also like you to appreciate the fact that while many large international banks are required to increase their equity capital by more than 100% over the existing levels, many Indian banks would certainly not be required to increase their equity levels by that order. Therefore, the impact on their RoE is likely to be much less than 3 to 4 percentage points as observed in the case of US and European banks.

Benefits of effective implementation of Basel III

56. Effective implementation of Basel III will demonstrate to regulators, customers, and shareholders that the banking system is recovering well from the global financial crisis of 2008 and has been developing the resilience to future shocks. A smooth implementation will also contribute to a bank's competitiveness by delivering better management insight into the business, allowing it to take advantage of future opportunities. At the same time, the challenges in implementation of Basel III should not be underestimated. For every bank, working out the most cost-effective model for implementing Basel III will be a critical issue. The comfortable capital adequacy levels at present for the Indian banking system do provide some comfort. However, as the economy grows, so will the credit demand requiring banks to expand their balance sheets, and in order to be able to do so, they will have to augment their capital; more specifically the equity capital.

57. While implementation of Basel III would undoubtedly imply some costs, this should not be the criterion to determine whether Basel III would add value to the financial system. The correct measure should be whether or not Basel III would deliver a much safer financial system with reduced probability of banking crises at affordable costs. I think Basel III passes that test. The impact of costs is minimized through long phase-in.

58. At times a question is asked whether it is appropriate for the countries which neither contributed to the crisis nor have exposure to the toxic assets need to implement Basel III. The answer is a clear 'Yes'. The reason is that in the

present-day globalised world it is difficult for any local financial and economic system to completely insulate itself from the global economic shocks. The indirect effects of events happening in any part of the world can very well be transmitted throughout the world through various channels. In addition, many provisions of Basel III address the weaknesses in the measurement of risk under Basel II framework revealed during the crisis. Thus, Basel III would strengthen the financial system of both developing and developed countries. It needs to be appreciated that if the implementation of Basel III is not consistent across jurisdictions there would be a race to the bottom to make use of arbitrage opportunities, which nobody wins!

59. I feel Indian banks should minimize costs by retaining maximum amount of earnings in the initial years of implementation, even though they might meet the capital requirements at that point in time with smaller retentions. This would avoid costs involved in fresh issuances. Indian banks are also comfortably placed in terms of liquidity requirements as they have a large reservoir of liquid Government securities to meet the SLR stipulation. RBI is considering how much of it can be allowed to be reckoned towards compliance with the LCR. It is also expected that as the proportion of equity in the capital structure of banks rises, it would reduce the incremental costs of raising further equity as well as non-common equity capital.

60. Banks will have to issue fresh capital particularly to replace the ineligible non-equity capital towards later years of implementation. Successful issuance of fresh capital would demand greater transparency and greater market discipline.

61. The Reserve Bank of India has issued the draft guidelines on capital and liquidity rules of Basel III on 30 December 2011 and 21 February 2012, respectively. The Reserve Bank's approach has been to adopt Basel III capital and liquidity guidelines with more conservatism and at a quicker pace. As I have discussed above, the impact of these rules is not going to be onerous and there will be considerable advantage in adopting Basel III by our banks. I will be interested in knowing your views.

Conclusion

62. Let me now sum up. I started with the context in which the Basel III was set up – the causes and consequences of the global financial, nay, economic crisis. I thereafter discussed the immediate response to the crisis in enhancing Basel II or introducing Basel II.5 capital requirement for the trading book, which was the epicenter of the crisis and capital arbitrage. Moving from there, I went in detail into the objectives of Basel III and the micro-prudential and macro-prudential elements of Basel III in relation to its objectives.

63. I went on to describe how the definition of capital, its quality and quantity, and consistency and transparency, and risk coverage will improve micro-prudential regulation under Basel III. I also underscored that the new leverage and liquidity framework will not only enhance the risk absorbency of individual banks but also aid in stabilizing financial system during periods of extreme stress. The other macro-prudential elements of Basel III, such as, capital conservation buffer, countercyclical capital buffer, and too-big-to-fail problem problem, were also discussed.

64. I analyzed the macroeconomic impact of Basel III and the various research that have observed that there could be some initial cost in implementation of Basel III, but the long term benefits will be immense as it would reduce the probability of banking crises. The implications of Basel III on capital, liquidity and profitability of banks, particularly Indian banks, were discussed.

65. I would also take this opportunity to apprise you that Basel III is just a part of the financial sector reforms agenda being pursued by G20. While the immediate challenge is to ensure consistent implementation of Basel II and Basel III across banks and jurisdictions, other important issues such as strengthening the corporate governance, compensation practices, and resolution regimes; enhancing the regulatory and supervisory framework for global and domestic Systemic Important Banks (SIBs); improving the OTC derivatives markets; and regulation of shadow banking system have also been addressed or are engaging the attention of FSB and Basel Committee. The macro-prudential framework under Basel III is still untested and would need continuous research, monitoring, and experience sharing among the regulators to ensure its effectiveness.

Thank you.
