

Basel III in International and Indian Contexts

Ten Questions We Should Know the Answers For¹

- Duvvuri Subbarao

For the fourth year on a trot, you have extended me the privilege of inaugurating this annual FICCI-IBA conference. Involving as it does leaders from the corporate and banking sectors, this conference has emerged as an important forum for discussing major policy issues. Naturally, I attach a lot of value to speaking from this platform. Thank you for this opportunity.

2. Later this month, we will be marking the fourth anniversary of the collapse of Lehman Brothers which, in popular perception, was the trigger for the biggest financial crisis of our generation. Four years on, the crisis is still with us - only the geography and the main actors have changed a bit. What has not changed is that virtually every country in the world remains affected, and the toll on global growth and welfare continues.

3. Banks and bankers have been at the heart of the crisis. Quite understandably, enhancing the banking sector's safety and stability has been the thrust of the post-crisis policy reforms. Even as much of this reform is still work in progress, one segment of reforms that has taken a final shape is the Basel III framework for bank capital regulation. The final package was approved by the

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G-20 and the roll out has begun. We in India issued the Basel III guidelines on capital regulations in May 2012 after extensive consultations with all stakeholders.

4. I recall that two years ago, in 2010, I spoke at this conference on the Basel III package from an Indian perspective. Basel III was then still in the making. Now that we are shortly going to get into the implementation mode, I thought the best way I could add value to this conference would be to revisit the issue, and speak about some of the conceptual and implementation issues underlying Basel III. In particular, I will raise ten questions and attempt to answer them.

1st Question: There is a view that it was actually the risk sensitive framework of Basel II that caused the crisis. Is that view valid?

5. This question does not admit of a binary answer. If I were to give a short answer, I would say that the view is valid, but only partly so. Let me explain.

6. What was the paradigm shift from Basel I to Basel II? The paradigm shift was that while Basel I had a ‘one-size-fits-all’ approach, Basel II introduced risk sensitive capital regulation. The main charge against Basel II is that it is precisely this risk sensitivity that made it blatantly procyclical. In good times, when banks are doing well, and the market is willing to invest capital in them, Basel II does not impose significant additional capital requirement on banks. On the other hand, in stressed times, when banks require additional capital and markets are wary of supplying that capital, Basel II requires banks to bring in more of it. As we saw during the crisis, it was the failure to bring in capital when under pressure that forced major international banks into a vicious cycle of deleveraging, thereby

hurtling global financial markets into seizure and economies around the world into recession.

7. The second charge against Basel II was that even as it made capital regulation more risk sensitive, it did not bring in corresponding changes in the definition and composition of regulatory capital to reflect the changing market dynamics. The market risk models failed, in particular, to factor in the risk from the complex derivative products that were coming on to the market in a big way. These models demanded less capital against trading book exposures on the premise that trading book exposures could be readily sold, and positions rapidly unwound. This gave a perverse incentive for banks to park banking book exposures in the trading book to optimize capital. And as we now know, much of the toxic assets and their securitized derivatives, which were the epicenter of the crisis were parked in the trading book.

8. So, the second charge against Basel II was that even as it was supposedly risk sensitive, it failed to promote modelling frameworks for accurate measurement of risk and to demand sufficient loss absorbing capital to mitigate that risk.

9. The third charge against Basel II concerns leverage. Note that Basel II did not have any explicit regulation governing leverage. It assumed that its risk based capital requirement would automatically mitigate the risk of excessive leverage. This assumption, as it turned out, was flawed as excessive leverage of banks was one of the prime causes of the crisis. Similarly, Basel II did not explicitly cover liquidity risk. Since liquidity risk, if left unaddressed, could cascade into a solvency

risk, this proved to be the undoing of virtually every bank that came under stress in the depth of the crisis.

10. Finally, Basel II was also seen to be guilty of focusing exclusively on individual financial institutions, ignoring the systemic risk arising from the interconnectedness across institutions which, as we now know with the benefit of hindsight, was the culprit for ferociously spreading the crisis across financial markets.

11. Is all this criticism against Basel II valid? As I said before, only partly valid. Note that Basel II, which became operational in June 2006, was still largely work in progress as the crisis began unfolding in August 2007. It is possible that the failure of the market risk framework underlying Basel II may have abetted the crisis, but to claim that the risk sensitivity of Basel II caused the crisis would be extreme.

2nd Question: How is Basel III an improvement over Basel II?

12. Basel III represents an effort to fix the gaps and lacunae in Basel II that came to light during the crisis as also to reflect other lessons of the crisis. What is important though is that Basel III does not jettison Basel II; on the contrary, it builds on the essence of Basel II - the link between the risk profiles and capital requirements of individual banks. In that sense, Basel III is not a negation, but an enhancement of Basel II.

13. The enhancements of Basel III over Basel II come primarily in four areas: (i) augmentation in the level and quality of capital; (ii) introduction of liquidity standards; (iii) modifications in provisioning norms; and (iv) better and more comprehensive disclosures. Let me discuss each of these briefly.

Higher Capital Requirement

Table 1: Capital Requirements Under Basel II and Basel III

		As a percentage of risk weighted assets	
		Basel II	Basel III (as on January 1, 2019)
A = (B+D)	Minimum Total Capital	8.0	8.0
B	Minimum Tier 1 Capital	4.0	6.0
C	of which: Minimum Common Equity Tier 1 Capital	2.0 ²	4.5
D	Maximum Tier 2 Capital (within Total Capital)	4.0	2.0
E	Capital Conservation Buffer (CCB)	-	2.5
F = C+E	Minimum Common Equity Tier 1 Capital + CCB	2.0	7.0
G = A+E	Minimum Total Capital + CCB	8.0	10.5

14. As can be seen from the comparative data in Table 1, Basel III requires higher and better quality capital. The minimum total capital remains unchanged at 8 per cent of risk weighted assets (RWA). However, Basel III introduces a capital

² Basel II does not explicitly prescribe a minimum common equity Tier 1 capital. It is generally accepted that common equity should be the predominant part of Tier 1 capital i.e. 50 per cent.

conservation buffer of 2.5 per cent of RWA over and above the minimum capital requirement, raising the total capital requirement to 10.5 per cent against 8.0 per cent under Basel II. This buffer is intended to ensure that banks are able to absorb losses without breaching the minimum capital requirement, and are able to carry on business even in a downturn without deleveraging. This buffer is not part of the regulatory minimum; however, the level of the buffer will determine the dividend distributed to shareholders and the bonus paid to staff.

15. There are also other prescriptions regarding the quality of capital within the minimum total so that capital is able to absorb losses, and calling upon taxpayers to bear the burden of bail out becomes absolutely the last resort.

16. In addition to the capital conservation buffer, Basel III introduces another capital buffer - the countercyclical capital buffer - in the range of 0 - 2.5 per cent of RWA which could be imposed on banks during periods of excess credit growth. Also, there is a provision for a higher capital surcharge on systemically important banks.

17. To mitigate the risk of banks building up excess leverage as happened under Basel II, Basel III institutes a leverage ratio as a backstop to the risk based capital requirement. The Basel Committee is contemplating a minimum Tier 1 leverage ratio of 3 per cent (33.3 times) which will eventually become a Pillar 1 requirement as of January 1, 2018.

18. As we noted earlier, Basel II failed to demand adequate loss absorbing capital to cover market risk. To remedy this, Basel III strengthens the counterparty credit risk framework in market risk instruments. This includes the use of stressed input parameters to determine the capital requirement for counterparty credit default risk. Besides, there is a new capital requirement known as CVA (credit valuation adjustment) risk capital charge for OTC derivatives to protect banks against the risk of decline in the credit quality of the counterparty.

19. To mitigate liquidity risk, Basel III addresses both potential short-term liquidity stress and longer-term structural liquidity mismatches in banks' balance sheets (Table - 2). To cover short-term liquidity stress, banks will be required to maintain sufficient high-quality unencumbered liquid assets to withstand any stressed funding scenario over a 30-day horizon as measured by the liquidity coverage ratio (LCR). To mitigate liquidity mismatches in the longer term, banks will be mandated to maintain a net stable funding ratio (NSFR). The NSFR mandates a minimum amount of stable sources of funding relative to the liquidity profile of the assets, as well as the potential for contingent liquidity needs arising from off-balance sheet commitments over a one-year horizon. In essence, the NSFR is aimed at encouraging banks to exploit stable sources of funding.

Liquidity Standards

Table 2: Liquidity Standards		
Ratio	Basel II	Basel III
Liquidity Coverage Ratio (LCR) <i>(to be introduced as on January 1, 2015)</i>	–	<u>Stock of high-quality liquid assets</u> \geq 100% Total net cash outflows over the next 30 calendar days
Net Stable Funding Ratio (NSFR) <i>(to be introduced as on January 1, 2018)</i>	–	<u>Available amount of stable funding</u> $>$ 100% Required amount of stable funding

Provisioning Norms

20. The Basel Committee is supporting the proposal for adoption of an “expected loss” based measure of provisioning which captures actual losses more transparently and is also less procyclical than the current “incurred loss” approach. The expected loss approach for provisioning will make financial reporting more useful for all stakeholders, including regulators and supervisors.

Disclosure Requirements

21. The disclosures made by banks are important for market participants to make informed decisions. One of the lessons of the crisis is that the disclosures made by banks on their risky exposures and on regulatory capital were neither appropriate nor sufficiently transparent to afford any comparative analysis. To remedy this, Basel III requires banks to disclose all relevant details, including any regulatory adjustments, as regards the composition of the regulatory capital of the bank.

3rd Question: What is the additional capital that Indian banks have to mobilize to conform to Basel III? What are the options for, and challenges in, raising this size of capital?

22. Admittedly, Indian banks already meet the minimum capital requirements of Basel III at an aggregate level, even though some individual banks may have to top up. But capital adequacy today does not mean capital adequacy going forward. Currently, the bank credit - GDP ratio in India is around 55 per cent. If we want growth to accelerate, this ratio will have to go up as a necessary pre-condition. Besides, as our economy goes through a structural transformation, as it should, the share of the industry sector will increase and the credit-GDP ratio will rise even further. What this means is that Indian banks would have been required to raise additional capital even in the absence of Basel III. In estimating the net additional burden on account of Basel III, we have to take this factor into account.

23. What is the size of the additional capital required to be raised by Indian banks? It depends on the assumption made, and there are various estimates floating around. The Reserve bank has made some quick estimates based on the following two conservative assumptions covering the period to March 31, 2018: (i) risk weighted assets of individual banks will increase by 20 per cent per annum; and (ii) internal accruals will be of the order of 1 per cent of risk weighted assets.

24. Reserve Bank's estimates project an additional capital requirement of ₹5 trillion, of which non-equity capital will be of the order of ₹3.25 trillion while equity capital will be of the order of ₹1.75 trillion (Table - 3).

Table 3: Additional³ Common Equity Requirements of Indian Banks under Basel III

(₹ billion)

		Public Sector Banks	Private Sector Banks	Total
A	Additional Equity Capital Requirements under Basel III	1400-1500	200-250	1600-1750
B	Additional Equity Capital Requirements under Basel II	650-700	20-25	670-725
C	Net Equity Capital Requirements under Basel III (A-B)	750-800	180-225	930-1025
D	Of Additional Equity Capital Requirements under Basel III for Public Sector Banks (A)			
	Government Share (if present shareholding pattern is maintained)	880-910	-	-
	Government Share (if shareholding is brought down to 51 per cent)	660-690	-	-
	Market Share (if the Government's shareholding pattern is maintained at present level)	520-590	-	-

25. The additional equity capital requirement of the order of ₹1.75 trillion raises two questions. First, can the market provide capital of this size? Second, what will

³ On top of internal accruals

be the burden on the Government in capitalizing public sector banks (PSBs) and what are its options?

26. Let us turn to the first question, whether the market will be able to provide equity capital of this size. The amount the market will have to provide will depend on how much of the recapitalization burden of PSBs the Government will meet. Data in Table - 3 indicate that the amount that the market will have to provide will be in the range of ₹700 billion - ₹1 trillion depending on how much the Government will provide. Over the last five years, banks have revised equity capital to the tune of ₹520 billion through the primary markets. Raising an additional ₹700 billion - ₹1 trillion over the next five years from the market should therefore not be an insurmountable problem. The extended period of full Basel III implementation spread over five years gives sufficient time to banks to plan the time-table of their capital rising over this period.

27. Moving on to the second question of the burden on the Government which owns 70 per cent of the banking system. If the Government opts to maintain its shareholding at the current level, the burden of recapitalization will be of the order of ₹900 billion; on the other hand, if it decides to reduce its shareholding in every bank to a minimum of 51 per cent, the burden reduces to under ₹700 billion.

28. Clearly, providing equity capital of this size in the face of fiscal constraints poses significant challenges. A tempting option for the Government would be to issue recapitalization bonds against common equity infusion. But this will militate against fiscal transparency. In the alternative, would the Government be open to

reducing its shareholding in PSBs to below 51 per cent? If the Government decides to pursue this option, an additional consideration is whether it will amend the statute to protect its majority voting rights.

4th Question: Will Basel III hurt growth?

29. One major criticism against Basel III has been that it will hurt growth. Even though we do not have a precise quantitative estimate of the impact on growth, the main concern is that the higher capital requirements under Basel III will kick in at a time when credit demand in the economy will be on the rise.

30. In a structurally transforming economy with rapid upward mobility, credit demand will expand faster than GDP for several reasons. First, India will shift increasingly from services to manufactures, and the credit intensity of manufacturing is higher per unit of GDP than that for services. Second, we need to at least double our investment in infrastructure which will place enormous demands on credit. Finally, financial inclusion, which both the Government and the Reserve Bank are driving, will bring millions of low income households into the formal financial system with almost all of them needing credit.

31. What all this means is that we are going to have to impose higher capital requirements on banks as per Basel III at a time when credit demand is going to expand rapidly. A crucial question is this. Will this raise the cost of credit and hence militate against growth? Put differently, how much growth are we willing to sacrifice in order to buy insurance against financial instability? At its core, this boils down to the tension between short-term compulsions and long term growth

prospects. Comfortingly, empirical research by BIS economists shows that even if Basel III may impose some costs in the short-term, it will secure medium to long term growth prospects.

5th Question: How will Basel III affect the profitability of banks? Will it alter their incentive structure?

32. Let me attempt an answer. As we noted, Basel III requires higher and better quality capital. Admittedly, the cost of equity capital is high. It is also likely that the loss absorbency requirements on the non-equity regulatory capital will increase its cost.

33. The average Return on Equity (RoE) of the Indian banking system for the last three years has been approximately 15 per cent. Implementation of Basel III is expected to result in a decline in Indian banks' RoE in the short-term. However, the expected benefits arising out of a more stable and stronger banking system will largely offset the negative impact of a lower RoE in the medium to long term. It is also fair to assume that investors will perceive the benefits of having less risky and more stable banks, and will therefore be willing to trade in higher returns for lower risks.

34. A related question is whether banks will bear the increased cost of capital themselves or pass it to their depositors and borrowers. This trade off has to be assessed in the context of the relatively higher level of net interest margins (NIMs) of Indian banks, of approximately 3 per cent. This higher NIM suggests that there is scope for banks to improve their efficiency, bring down the cost of

intermediation and ensure that returns are not overly compromised even as the cost of capital may increase.

35. Having dealt with capital requirements, let us now turn to the Liquidity Standards under Basel III. Will the mandate to maintain a higher quantum of liquid assets encourage banks to resort to the passive option of lending to the Government, thereby crowding out credit to the private sector? Hopefully, this question will resolve itself as the savings rate of the economy improves and the fiscal deficit comes down.

36. A related question is about the extent banks' holding of government securities that should be taken into account for assessing compliance with liquidity standards. One view is that since the Statutory Liquidity Ratio (SLR) securities are required to be held on an ongoing basis, they should not be reckoned for calculating liquidity requirements under Basel III. An alternate view is that since the Reserve Bank is expected to provide liquidity against these securities under stressed conditions as part of its lender of last resort (LoLR) obligation, at least a pre-specified portion of these securities should be taken into account for assessing compliance with Basel III's Liquidity Standards. The Reserve Bank will take a view on this in due course.

37. So, the answer to the question of whether Basel III will affect the profitability of banks and alter their incentive structure is that the competitive dimensions of our banking sector should ensure that banks are able to deliver

efficient financial intermediation without compromising the interests of depositors and borrowers.

6th Question: Does India really need Basel III? Don't the costs outweigh the benefits?

38. The last three questions, if you noticed, dealt with the putative negative consequence of Basel III - the burden of raising additional capital and the costs of complying with the new liquidity standards, their impact on banks' profitability, and on the overall growth prospects of the economy.

39. One view, although not explicitly spelt out in that form, is that India need not adopt Basel III, or should adopt only a diluted version of it, so as to balance the benefits against the putative costs. To buttress this view, it is argued that Basel III is designed as a corrective for advanced economy banks which had gone astray, oftentimes taking advantage of regulatory gaps and regulatory looseness, and that Indian banks which remained sound through the crisis should not be burdened with the 'onerous' obligations of Basel III.

40. The Reserve Bank does not agree with this view. Our position is that India should transit to Basel III because of several reasons. By far the most important reason is that as India integrates with the rest of the world, as increasingly Indian banks go abroad and foreign banks come on to our shores, we cannot afford to have a regulatory deviation from global standards. Any deviation will hurt us both by way of perception and also in actual practice.

41. The 'perception' of a lower standard regulatory regime will put Indian banks at a disadvantage in global competition, especially because the implementation of Basel III is subject to a 'peer group' review whose findings will be in the public domain.

42. Deviation from Basel III will also hurt us in actual practice. We have to recognize that Basel III provides for improved risk management systems in banks. It is important that Indian banks have the cushion afforded by these risk management systems to withstand shocks from external systems, especially as they deepen their links with the global financial system going forward.

43. I must also add, as I complete my answer to this question, that some of the prescriptions of Basel III have already been in existence in India, and the net additional burden will be lower than we tend to imagine.

7th Question: The Reserve Bank has already rolled out the implementation of Basel III even as many countries are yet to do so. Why did you have to frontrun and why are some of your regulations more onerous than required under Basel III?

44. The Reserve Bank issued final guidelines on Basel III capital regulation in May 2012 to be implemented from January 1, 2013 to March 31, 2018 even as many other jurisdictions have yet to do so. We have been criticized for being unduly proactive in this regard. Let me respond to this criticism.

45. First, on the start and end dates. We have not advanced the start date. It is the same as the internationally agreed date of January 1, 2013. However, we have advanced the end date from the internationally agreed date of December 31, 2018

by nine months to March 31, 2018. We did this to align our date with the close of the Indian fiscal year, which is March 31. We could have gone up to March 31, 2019, but that would have overshoot the Basel III prescription by three months and would have attracted adverse notice. Our assessment is that the cost of that adverse notice will far exceed the marginal burden of a slightly earlier close date. So, we settled for March 31, 2018.

46. Third, major global banks often engage themselves in the Basel Committee's consultative process which is not the case with Indian banks. We moved early since we had completed the consultative process, and thought that we must give our banks a head start in transiting to Basel III.

47. Let me then move to the more weighty question of why the Reserve Bank has prescribed higher capital and leverage norms for Indian banks than the Basel III minimum. Table-4 summarises the Basel III (international) prescriptions alongside the current requirements in India under Basel II, and as required under Basel III when fully implemented.

Table 4: Minimum Regulatory Capital Prescriptions (as percentage of risk weighted assets)				
		Basel III (as on January 1, 2019)	Reserve Bank's Prescriptions	
			Current (Basel II)	Basel III (as on March 31, 2018)
A = (B+D)	Minimum Total Capital	8.0	9.0	9.0
B	Minimum Tier 1 capital	6.0	6.0	7.0
C	of which: Minimum Common Equity Tier 1 capital	4.5	3.6 ⁴	5.5
D	Maximum Tier 2 capital (within Total Capital)	2.0	3.0	2.0
E	Capital Conservation Buffer (CCB)	2.5	-	2.5
F = C+E	Minimum Common Equity Tier 1 capital + CCB	7.0	3.6	8.0
G = A+E	Minimum Total Capital + CCB	10.5	-	11.5
H	Leverage Ratio (ratio to total assets)	3.0	-	4.5 ⁵

48. What is the rationale for our more 'onerous' capital standards? Note that banks in India follow the Standardised Approaches under Basel II. The higher prescription is intended to address any judgemental error in capital adequacy viz. wrong application of standardised risk weights, misclassification of asset quality etc. Also, while advanced approaches under Basel II have been strengthened, the

⁴There is no direct prescription for minimum common equity. However, non-common equity elements in Tier 1 are restricted to a maximum 40% of Tier 1 capital. Accordingly, indirectly minimum common equity is considered as 3.6% of Tier 1 capital.

⁵ During the period of parallel run for Tier 1 leverage ratio beginning from January 1, 2013 to January 1, 2017, banks should strive to maintain the existing level of leverage ratio but, in no case it should fall below 4.5%. Banks having leverage ratio below 4.5% strive to achieve the target as early as possible. Under Basel III, the minimum Tier 1 leverage should be 3% during the parallel run period.

calibration of standardised risk weights is yet to be comprehensively effected. And more importantly, Indian banks have not so far been subjected to Pillar 2 capital requirement under Basel II. Thus, the higher prescription addresses any potential concerns relating to undercapitalisation of risky exposures. It should also be noted in this context that even under the Basel I and Basel II regimes, the Reserve Bank’s prescriptions were a percentage point higher than the international norms. Experience shows that this prudence on our part had been helpful and was positive on the cost-benefit calculus.

49. Please note that India has not been an outlier in prescribing higher capital standards. Several other jurisdictions, particularly Asian countries, have proposed higher capital adequacy ratios under Basel III as may be seen from Table-5 below.

Table 5: Sample of Countries with Higher Capital Adequacy Norms Than India

Country	Minimum Common Equity Ratio (including capital conservation buffer) (percentage)	Minimum Total Capital Ratio (percentage)
Basel III	7.0	10.5
India	8.0	11.5
Philippines	8.5	12.5
Singapore	9.0	12.5
China	7.5	10.5
South Africa	9.0	12.5

50. Similarly, a question has been raised about why the Reserve Bank prescribed a higher leverage ratio, 4.5 per cent, against the Basel III norm of 3 per cent. It is a matter of supervisory comfort that the Indian banking system is only moderately leveraged on an aggregate basis (22 times of Tier 1 capital approximately). We thought it prudent not to dilute this ‘comfortable’ position during the parallel run period of the leverage ratio. The Basel Committee is monitoring and analysing the potential impact of the leverage ratio. As indicated in our Basel III framework, we will finalize the leverage ratio requirement taking into account the final proposal of the Basel Committee.

8th Question: What are the potential challenges in implementing the countercyclical capital buffer?

51. As we noted earlier, a critical component of the Basel III package is a countercyclical capital buffer which mandates banks to build up a higher level of capital in good times that could be run down in times of economic contraction, consistent with safety and soundness considerations. This is conceptually neat, but is challenging in operational terms, as indeed evidenced by Spain’s recent experience. The foremost challenge is identifying the inflexion point in an economic cycle which should trigger the release of the buffer. It is quite evident that both tightening too early or too late can be costly in macroeconomic terms. The identification of the inflexion point therefore needs to be based on objective and observable criteria. It also needs long series data on economic cycles. So, what we need is both a better database and more refined statistical skills in analyzing economic cycles.

52. The countercyclical capital buffer as prescribed in Basel III was initially based on the credit / GDP metric. Is this a good economic indicator from the Indian perspective? A study undertaken by the Reserve Bank shows that the credit to GDP ratio has not historically been a good indicator of buildup of systemic risk in our banking system.

53. Furthermore, some economic sectors such as real estate, housing, micro finance and consumer credit are relatively new in India, and banks have only recently begun financing them in a big way. The risk build up in such sectors cannot accurately be captured by the aggregate credit to GDP ratio. The Reserve Bank has so far calibrated countercyclical policies at the sectoral level, and I believe we need to continue to use that approach. The Basel Committee also has now recognized that no single variable can fully capture the dynamics of the economic cycle. Appropriate calibration of the buffer requires country specific judgement backed by a broad range of other simple indicators used in financial stability assessments.

9th Question: What are D-SIBs? Will any Indian bank be classified as a D-SIB?

54. The moral hazard relating to too-big-to-fail institutions which encourages risky behaviour by larger banks has been a huge issue on the post-crisis reform agenda. Basel III seeks to mitigate this externality by identifying global systemically important banks (G-SIBs) and mandating them to maintain a higher

level of capital dependent on their level of systemic importance. The list of G-SIBs is to be reviewed annually. Currently, no Indian bank appears in the list of G-SIBs.

55. Separately, the Basel Committee is working on establishing a minimum set of principles for domestic systemically important banks (D-SIBs), and also on the norms for prescribing higher loss absorbency (HLA) capital standards for them. Besides, it is also necessary to evolve a sound resolution mechanism for D-SIBs.

56. The moral hazard issue of too big to fail and the regulatory endeavour to address that raise a question about the optimal size of a G-SIB, and the optimal size of a D-SIB relative to the size of the economy. Admittedly, larger banks offer certain benefits such as economies of scale in operation and capacity to finance large infrastructure projects which are typically considered more risky. In India, we also need large banks with potential capacity to become significant global players. Nevertheless, we have to balance the benefits that large banks extend with the moral hazard costs they entail.

10th Question: What sort of capacity building is required in the implementation of Basel III, especially in the area of risk management? What should banks do and what should the Reserve Bank do in this regard?

57. There are no two views about the need for building capacity within the banks, and also in the Reserve Bank which is the regulator, to efficiently implement Basel III.

58. By far the most important reform is that there should be a radical change in banks' approach to risk management. Banks in India are currently operating on the

Standardized Approaches of Basel II. The larger banks need to migrate to the Advanced Approaches, especially as they expand their overseas presence. The adoption of advanced approaches to risk management will enable banks to manage their capital more efficiently and improve their profitability.

59. This graduation to Advanced Approaches requires three things. First and most importantly, a change in perception from looking upon the capital framework as a compliance function to seeing it as a necessary pre-requisite for keeping the bank sound, stable, and therefore profitable; second, deeper and more broad based capacity in risk management; and finally adequate and good quality data.

Conclusion

60. That brings me to the close of my list of ten questions and answers. Even as I have tried to be comprehensive, I am conscious that the list of questions I have raised is not exhaustive; neither are my answers complete. Under the circumstances, I believe I would have done a good job if this speech raises more questions in your minds, and sets you off on finding answers.

61. There may be many unanswered questions. What I am certain of though is that effective implementation of Basel III is going to make Indian banks more strong, stable and sound so that they can deliver value to the real sectors of the economy.

62. On that note, I wish this conference every success as it deliberates on the role of India's banks in furthering our national aspiration of double digit growth.