

CHAPTER - II

EVOLUTION OF BASEL ACCORDS

The regulatory framework or Norms for banks having strong international presence, emphasizing particularly on adequacy of capital, evolved and prescribed by the BCBS of BIS is popularly known as Basel Accord. This chapter presents the salient features of these largely adopted Norms over period known as Basel Accord I, II and the latest III for banks with international presence and also in India as per directives of RBI for implementation by all banks. The theoretical underpinning as provided under the BCBS Norms and its implementation by banks in India as provided under the guidelines of RBI is comprehensively presented as an approach to examine the implications under Basel-III Accord to be effective in India as mandated for the period March-end 2019.

2.1: The Basel- I Accord; Historical Perspective:

Bank failures in USA and Europe were particularly prominent during the '80s period which is usually referred to as the "savings and loan crisis¹". The deterioration of asset quality of banks had caused major turmoil across the world, renewing interest in bank regulation. Since 1980-81 over 130 countries had experienced 'significant' banking sector distress². This was particularly problematic as banks universally faced the dilemma of balancing profitability and stability. In order to prevent such risk, the BCBS, comprised of Central Banks and Supervisory Authorities of G-10 Countries, met in 1987 in Basel, Switzerland. The Committee drafted a first document to set up an international Norm of 'minimum' amount of capital that banks should hold. This minimum was a percentage of total capital of a bank, which is also called minimum risk based CAR. In July 1988, the Basel-I Capital Accord (agreement) was created as "the International Convergence of Capital Measurement and Capital Standards of BCBS". The Basel Capital Accord in 1988 proposed by BCBS of the BIS focused on reducing credit risk, prescribing a minimum Capital Risk Adjusted Ratio (CRAR) of 8 percent of the RWAs. Although it was originally meant for banks in Group of 10

¹Curry, T, and Shibut, L. (2000): The Cost of the Savings and Loan Crisis. FDIC Banking Review, 13(2), Pages 26-35. (The savings and loan crisis of the 1980s and 1990s (commonly dubbed the S&L crisis) was the failure of 1,043 out of the 3,234 savings and loan associations in the United States from 1986 to 1995: the Federal Savings and Loan Insurance Corporation (FSLIC) closed or otherwise resolved 296 institutions from 1986 to 1989 and the Resolution Trust Corporation (RTC) closed or otherwise resolved 747 institutions from 1989 to 1995

²"Tackling the Global Job Crisis: Recovery through decent work policies": Report of Director General, ILO, Geneva-(2009). (...130 Countries with sound macroeconomic and financial policies, which were not immediately affected by the financial crisis, are now hit by the adverse trade flows; bolstering distressed banking systems; unemployment problemand find difficult in keeping infrastructure projects on track".....)

Countries, subsequently more than hundred countries claimed to adhere to it and RBI also asked banks in India to implement the Basel-I provisions from April 01, 1998.

2.1.1: The main provisions of Basel-I:

In 1988, the Basel-I Capital Accord was signed. The general purpose was to strengthen the stability of international banking system and to set up a fair and a consistent international banking system in order to decrease competitive inequality among international banks. It is very interesting to understand that why Basel-I proposed special emphasis on capital and liquidity.

Capital is one of the most important items of banking company balance sheet. Capital represents the portion of a bank's sources of funds (liability) which has no associated contractual commitment for repayment. It is therefore, available as a cushion in case the value of the bank's assets declines or its liabilities rise. For example, if a bank has Rs.100 of loan outstanding, funded by Rs. 92 of deposits and Rs. 8 of common equity invested by the banks owners-then this capital of Rs. 8 is available to protect the depositors against losses. If Rs.7 worth of the loans were gone bad, there would still be more than enough money to pay back the depositors on demand. The shareholders would suffer a nearly complete loss, but this is considered as a private matter, whereas there are strong public policy reasons to protect the interests of depositors. "If bank balance sheets were always accurate and banks always made profits, there would be no need for capital adequacy frameworks"³. It's true we do not live in that utopia, so a cushion of capital is necessary. Banks attempt to hold the minimum level of capital and also all stake holders recognize alike the need for such a cushion even though they debate the right amount or form. It is in this context that Basel Norms prescribed higher capital to absorb the shocks of economy in general and bad bank loans in particular.

Liquidity, on the other hand refers to the ability to sell an asset, or otherwise to convert it into cash, quickly without incurring an excessive loss in doing so. Higher the liquidity when shorter is the timeframe to convert a bank asset into cash. A house, for example, may be a liquid asset if one may sell it within a week, but may be quite illiquid if one is given five years to manage the sale. More broadly in banking business, the liquidity of a bank often refers to the matching of its obligations with its funding sources. A bank with highly liquid assets would generally be considered fairly liquid even if its funding sources were of quite short maturities, since the assets could be liquidated as needed to cover any loss of funding. A bank with less liquid assets might be fine if its funding sources were locked in for long

³ **Douglas J. Walter (2010):**"Financial Reforms: Now It's Up to the Regulators", Hutchington Post blog: http://www.huffingtonpost.in/entry/financial-reform-now-its_b_643457

periods, but could be in serious trouble/in a panic if it relied on short-term debt or deposits that might flow away.

The core of Basel rules on capital reflects a belief that the necessary level of capital depends primarily on the riskiness of a bank's assets. Since capital exists to protect against risk, it stands to reason that more is needed when greater risks are being taken. The focus is on the asset side of the balance sheet, because liabilities are generally known with great precision, since total deposits mobilized from individual category (By type or by source) must be repaid based on specific contractual terms. (This is a major contrast with the insurance industry, where the future costs of promises to protect against various events, such as fires, are unknown.) Unlike bank liabilities, bank assets can go down, or occasionally up, in value. In particular, bank loans may not be repaid and securities may default or may need to be sold at a time when their market value has declined.

The Basel-I Accord, grouped all assets into a small number of categories and applied a risk-weight to each category. The total value of each asset is multiplied by its risk weight and this adjusted amount is added across all assets to produce a RWAs amount. The Basel-I Norms introduced concept of "capital charge" for credit risk apart from CRAR. Capital is divided into tiers according to the characteristics or qualities of each qualifying instrument. For supervisory purposes capital is split into two categories: Tier-I and Tier-II. These categories represent different instruments' quality as capital. Tier-I capital, also called as "core capital" consists mainly of stockholder equity capital and disclosed reserves. It is a bank's highest quality capital because it is fully available to cover losses, if any. Tier-II capital on the other hand consists of certain reserves and certain types of subordinated debts Instruments. The loss absorption capacity of Tier-II capital is lower than that of Tier-I capital (As subordinated term debt instruments have their original fixed time to maturity exceeding five years). The difference between Tier-I and Tier-II capital thus reflects the degree to which capital is explicit or permanent.

Under the Basel-I Accord, banks were required to hold a cushion for risky assets of no less than 8% of total capital and out of which at least 4% shall be of tier 1, or core capital. Core capital was defined as "issued and fully paid ordinary shares/common stock" plus non-cumulative perpetual preferred stock and disclosed reserves. Supplementary capital (tier 2) consisted simply of all other capital (i.e. undisclosed reserves, property where the value changes, bonds etc.). Under the Basel-I Norms⁴ bank assets were to be weighted according to following 5 risk categories which include;

Category 1: Cash, Central Bank and Government Debt –all carrying 0% risk weight

⁴BCBS: **Basel-I Accord**: "International Convergence of Capital Measurement and Capital Standards" (July 1988, Updated to April 1998)"- page-17.

Category 2: Public Sector Debt

A) Carrying 0% risk weight:(such as Cash, Claims on OECD Central Governments and claims on Central Governments in National Currency),

B)10% risk weight: such as Commercial loans partially guaranteed by Govt./Agency etc.

C) 20% risk weight such as Cash receivables, Claims on OECD banks and Regulated securities firms etc.

D) 50% risk weight depending upon the status of debtor such as Residential mortgage loans/home loans etc.

Category 3: Development bank debt, OECD bank debt, OECD securities firm debt, non-OECD bank debt (<1 year) and non-OECD public sector debt, cash in collection (all carrying 20% risk weight);

Category 4: Residential mortgages carrying 50% risk weight;

Category 5: Private sector debt, non-OECD bank debt (maturity over a year), real estate, plant and equipment, capital instruments issued at other banks (all carrying 100% risk weight)

Since Basel-I focused expressly on effective supervision of banks with international presence/banking operations it contained proposals specifically, a supervisory framework, resting on a common standard of risk assessment, which required all international banks to maintain a certain minimum fixed relation between their capital and assets. This fixed relation soon came to be known as Basel- capital ratio and was defined in the following way: Assets weighted by capital-charge for credit risk, called CRAR (Tier-I and Tier-II) divided by RWAs is defined as “Basel Capital Ratio” or CAR. Banks with an international presence were required to hold capital equal to 8% of their RWAs as CRAR. So, the Tier-I Capital Ratio = Tier-I capital / all RWAs.

The Total Capital Ratio = (Tier-I + Tier-II) / all RWAs. Leverage Ratio=Total Capital/Average Total Assets. Calculation of CAR under Basel-I:

An illustration: Let us assume that a bank with international presence with total Capital of Rs. 50 Crores, has following credit exposures:

Category 1: Rs.100 Crores carrying 0% risk weight. So RWAs = $100 \times 0\% = \text{Rs.}0.00$

Category 2: Rs. 100 Crores Public Sector debt in each of 4 sub-categories carrying 0%, 10%, 20% & 50% risk weight; So RWAs= $100 \times 0\% + 100 \times 10\% + 100 \times 20\% + 100 \times 50\% = \text{Rs.}80 \text{ Crores}$

Category 3: Rs. 100 Crores in each in 5 debts: Development bank debt, OECD bank debt, non-OECD bank debt (under one year maturity) and non-OECD public sector debt and cash in collection: all carrying 20% risk weight;

So RWAs = $100 \times 20\% + 100 \times 20\% + 100 \times 20\% + 100 \times 20\% + 100 \times 20\% = \text{Rs.}100 \text{ Crores}$

Category 4: Rs. 100 Crores in residential mortgages carrying 50% risk weight; So, RWAS = $100 \times 50\% = \text{Rs } 50 \text{ Crores.}$

Category 5: Rs. 100 Crores each in Private sector debt, plant and equipment, capital Instrument issued at other banks– all carrying 100% risk weight

So, RWAs = $100 \times 100\% + 100 \times 100\% + 100 \times 100\% = \text{Rs.} 300 \text{ Crores}$

So, Bank having total credit exposure of $\text{Rs.} 100 + 400 + 500 + 100 + 300 = \text{Rs.} 1400 \text{ Crores}$ under Basel-I under the assumed exposure to 5 categories of risk-weights, would have total RWAs = $A+B+C+D+E = 0+80+100+50+300 = \text{Rs.} 530 \text{ Crores}$,

So, as per Basel-I Accord, the CAR = $(\text{Capital}/\text{RWAs}) \times 100 = (50/530) \times 100 = 9.43\%$

Hence, Bank is very comfortable with CAR of 9.43% against prescribed CAR of 8%.

2.1.2: Critical Evaluation of Basel-I:

The Basel-I Capital Accord aimed to assess capital in relation to credit risk⁵ and market risk⁶ (market risk was introduced as an amendment to Basel-I Accord in 1996). It launched the trend toward increasing risk modeling research. However, its over-simplified calculations and classifications have simultaneously called for its replacement, paving the way for the Basel-II Capital Accord and further agreements as the symbol of the continuous refinement of risk in banking and bank capital adequacy.

Merits of Basel-I: Basel-I was the first international Norm emphasizing the importance of risk in relation to bank capital. It will remain a milestone in the finance and banking history. The strength of Basel-I lay in inducing relatively weakly capitalized banks to maintain higher capital ratios. Above all, its simplicity was the greatest strength of Basel-I.

Demerits of Basel-I: Basel-I Accord has been criticized on following grounds:

- Limited differentiation of credit risk: There are only five broad risk weightage (0%, 10%, 20%, 50% and 100%), based on an 8% minimum capital ratio. This was not broad-based and did not give weightage to the quality of assets. This has been also termed as “Broad-brush-Approach” or “One-size-fits-all” approach.
- Static measure of default risk: The assumption that a minimum 8% capital ratio is sufficient to protect banks from failure does not take into account the changing nature of default risk. And last but not the least,
- No recognition of term-structure of credit risk: The capital charges are set at the same level regardless of the maturity of a credit exposure.

These listed criticisms have led to the creation of a new Basel Accord, known as Basel-II, which enhanced capital-charge for Market Risks and also for Operational Risks. It also defined new calculations of credit risks. However, over passage of time, banks have learnt how to exploit the “broad-brush” nature of the requirements. It has been reported that the average ratio of capital to RWAs (CAR) of major banks in the G-10 Countries rose from 9.3

⁵ Explained in details in next chapter III

⁶ Explained in details in next chapter III

percent in 1988 to 11.2 percent in 1996 (Powell, 2002)⁷. This study also finds (Refer Table No- 2.1 below) that banks in India maintained a higher CAR than required 8 percent.

2.1.3: Introduction of Basel Norms in India:

The DBOD of RBI is entrusted with the responsibility of regulation of banks under the regulatory provisions of the Banking Regulation Act, 1949 and RBI Act, 1934. RBI has issued many guidelines from time to time for banks including those on Prudential Norms of Capital Adequacy etc. The GOI appointed Narasimham Committee in 1991 to suggest reforms in the financial sector. In the year 1992-93 the Narasimham Committee submitted its first report and recommended inter-alia that all banks are required to have a minimum capital of 8% to the RWAs. It's clear from Table No- 2.1 below that all 25 PSBs in India (except UCO Bank and Indian Bank) had achieved the Capital Adequacy Norm of 8% by March 1997. The Second Report of Narasimham Committee was submitted in the year 1998-99. It recommended that the CRAR to be raised to 10% in a phased manner: 9% to be achieved by the year 2000 and 10% by 2002. Narasimham Committee Report II was in tune with global best practices as enunciated by Basel-Norms. India was fortunate to be almost unaffected by GFC and as such there was not much criticism of Basel-I in regulating banks in India or its impact on the economy. It was only with a view to keep pace with the global best practices that India also migrated to more rigorous norms of Basel-II. RBI first asked banks in India to migrate to Basel-II Norms from April, 2007 and later on deferred the time-line for all internationally active banks to April 2008 and April 2009 for all other banks.

Table No.2.1:

CRAR of PSBs in India from 1995 to 2005(In Percentage)

Year	SBI & Associate Banks (8 banks)				Nationalized Banks (19 banks)			
	Below 4	4-9	9-10	Above 10	Below 4	4-9	9-10	Above 10
1995-96	0	0	6	2	5	3	7	4
1996-97	0	0	3	5	2	0	6	11
1997-98	0	0	1	7	1	0	6	12
1998-99	0	0	0	8	1	0	4	14
1999-00	0	0	0	8	1	0	4	14
2001-02	0	0	0	8	1	1	2	15
2002-03	0	0	0	8	1	1	2	15
2003-04	0	0	0	8	0	0	1	18
2004-05	0	0	0	8	0	0	1	18

(Source: Compiled from Reports of RBI.)

The Table No- 2.1 above, depicts that the State Bank Group have maintained CRAR above the minimum prescribed level of 8% since 1995-96 and have also reached above 10% from 1998-99. Similarly, amongst all the nationalized banks, except one (i.e. UCO Bank), all banks were above 8% of CRAR since 1997-98. UCO Bank was also Basel-I compliant in CRAR from 2003-04.

⁷Powell A. (2002): "Basel: A Capital Accord for Emerging Economies?" - SSRN id 63609

2.2: Migration to Basel-II Norms:

BCBS made amendments to its Basel-I capital Accord in 1996 to incorporate capital charge for market-risks as well. i.e. The Market risk measurement framework. However, it did not take account of Operational-Risks. Over a period of time many other enhancements were devised. All this led to formulation of Basel-II Accord. From 26th of June 2004 a new Basel-II Accord was implemented globally, which took into account credit risk, market risk and also the Operational risk. The Basel-II revisions made four major changes to the RWAs calculations:

- i) **Refinement of categories.** Basel-II broke the categories down in much greater detail than in Basel-I, with more variation in the risk weighting, since it was realized that the crudeness of the original simple categories was encouraging a great deal of “gaming” and misallocation of resources. In addition to the Tier 2 capital includes five broad categories. First, some countries (but not the U.S.) allow “undisclosed reserves” that are effectively the same as “retained earnings”, but are separately accounted for. Second, some countries allow certain assets to be held at historical values that can be well below current market values. Some or all of the difference between current and market values would be held as a “revaluation reserve.” Third, general loan loss provisions may be held which are not allocated to specific claims and are therefore available to absorb any unexpected losses. Fourth, certain “hybrid debt capital instruments” are considered to have enough of the aspects of common stock to be considered Tier 2 capital. Fifth, subordinated debt instruments with at least a five year maturity are allowed to count as Tier 2 capital to a limited extent. It may be noted here that weaknesses inherent in using a small number of categories, the risk-weightings had been fairly arbitrary and allegedly influenced by political considerations. For example, Germany particularly wanted mortgages to carry a lower risk weighting than other bank loans - so on and so forth.
- ii) **Ratings:** Ratings from the major credit rating agencies became a ‘significant’ factor in the risk weightings, which had not been true when only broad categories were used.
- iii) **Internal risk modeling:** It was agreed that the sophisticated global banks could use their own internal risk rating models to determine the risk weightings for their own particular assets, with some exceptions. The idea was to align regulatory risk calculations with the considerably more sophisticated risk models that were being used by major banks in their own decision-making. This concept counts on the self-interest of the banks to lead them to use the best possible estimates of risk in their own management of assets.
- iv) **Trading Assets:** Basel-II promulgated a different method for calculating the risk of assets that were held in trading accounts, based on the assumption that the risk level of trading assets was principally determined by how far the assets could realistically fall in value before a bank could dispose of the investments. Thus a “value at risk” (VaR)

approach was used, utilizing statistical techniques to estimate from historical data how large a loss might be taken in unusually unfavorable circumstances.

It may therefore be observed that under Basel-II, the capital requirements were more risk sensitive as these are directly related to the credit rating of each 'counter-party' rather than that of counter-party 'category' as it is under Basel-I. Further, it required for banks to hold capital not only for Credit and Market risk but also for Operational Risk and where warranted for interest rate risks, credit concentration risks, liquidity risks, etc. This makes Basel-II more comprehensive than Basel-I. Whereas the banks were required to hold a uniform level of 8 per cent as minimum capital under Basel-I, supervisors have the discretion to require banks to hold higher levels of minimum capital under Basel-II. Basel-II has other advantages such as providing a range of options for counter-party capital requirements and in the process reducing the gap between required capital and regulatory capital.

An interesting point to note here is that Basel-II recognizes the element of diversification of risk in the Small and Medium-sized Enterprises (SME) sector and has assigned a lower risk weight for retail SME exposure under standardized approach. The non-retail SME exposure would also attract a lower risk weight where they have better external ratings under the standardized approach.

2.2.1: Salient Features of Basel-II (2004-2006):

Introduction:

Basel-II Norms were designed to address all the shortcomings that had surfaced in the wake of the GFC. Many measures were proposed as part of Basel-II framework which also raised a lot of implementation issues. Basel-II Accords first published in 2004 and as amended in 2005 and finally in 2006, are recommendations on banking laws and regulations issued by the BCBS. The BCBS released the "International Convergence of Capital Measurement and Capital Standards: a Revised Framework–BCBS-128"⁸ in June 2004 with the fundamental objective being "To develop a framework that would further strengthen the soundness and stability of international banking system while maintaining sufficient consistency that capital adequacy regulation will not be a 'significant' source of competitive inequality among internationally active banks". This document of BCBS was further supplemented by the "amendment to Capital Accord to incorporate Market Risks" in November 2005. These documents together are popularly known as Basel-II framework which was set out to revising and setting right the in-adequacies of Basel-I.

2.2.2 Background of Basel-II Accords:

The last decade of bygone century marked paradigm shifts in the basics of banking business in the changing supervisory and regulatory climate. The features of this period are a spate of

⁸ The International Convergence of Capital Measurement and Capital Standards: a Revised Framework, 2004–Published by BIS, Known as Basel-II Accord -128".

banking and financial crisis all over the world, which alarmed the entire financial community to wake and guard against future shocks. The nature of the crisis was endemic in nature due to inter-dependency among economies. This situation was better known as the ‘contagion effect’⁹ and it warranted adequate preparedness for a strong and stable financial fabric with built-in resilience. The Basel-II, aimed at a high degree of risk-sensitivity in the regulatory capital framework. The focus was on lowering regulatory capital requirements for banks with lower risk and also vice-versa, which would in turn, encourage and reward superior risk management procedures. Thus, this framework was intended to create an international standard for banking regulators to control how much capital banks need to put aside to guard against the types of financial and operational risks banks face.

2.2.3: Three Pillars of Basel-II

As majority of features of Basel-II have been retained in Basel-III framework with a bit more sophistication and refinement, so it is worth-while to study the salient features of Basel-II in a bit more details as under:

The Basel-II Accord provided a **"three pillars" concept**:

Pillar-1: Minimum Capital Requirements (addressing to the 3 set of risks having 3 approaches in each risk category);

Pillar-2: Supervisory Review and Evaluation Process (SREP) and Internal Capital Adequacy Assessment Process (ICAAP); which also addresses to management of “other risks” such as “systemic-risk”; concentration risk”; “strategic risk”; “reputational-risk”; “liquidity Risk” etc.

Pillar-3: Market discipline: To inform the public about quality of banks risk-management efforts.

2.2.3 A: The Pillar-1: ‘Capital Charge’ for all 3 categories of risks:

The first Pillar is extension of capital adequacy concept of Basel-I but it takes into account the capital charge for Operational Risks as well i.e., it deals with maintenance of regulatory capital calculated for three major components of risk that a bank faces, viz, Credit risk, Market risk and Operational risk. It may be noted that “Other risks” were not considered fully quantifiable at this stage of Basel-II. Basel-II also defined and introduced the concept of “Regulatory Capital” for capital-adequacy purpose -which is the capital as defined by rules adopted by a regulatory agency, which may be different than Accounting Capital i.e., capital calculated under Generally Accepted Accounting Principles (GAAP). The Regulatory Capital may further be divided into two categories, viz., Tier 1 (Core) Capital being the most important one and consisting mainly of the shareholders’ equity, which includes the original contribution made by the shareholders (not the current market price) plus retained profits

⁹F. GulcinOzkan and D. FilizUnsal (2012): “Global Financial Crisis, Financial Contagion and Emerging Markets”, IMF publication-WP-12/293

minus accumulated losses; and Tier 2 (Supplementary) Capital including undisclosed reserves, general provisions, hybrid instruments and subordinated term debt among others.

2.2.3 B: The Pillar-2: SREP and ICAAP:

The second Pillar of Basel-II provides a framework for dealing with all “other risks” or “residual risks” a bank may face, such as systemic risk, concentration risk, strategic risk, reputational risk, liquidity risk and legal risk Accord combined under the title of residual risk. It gives guidelines to banks to review their risk management system periodically and comprehensively. The Basel-II Accord also addressed key principles of supervisory review, risk management guidance and Supervisory transparency and accountability with respect to banking risks, including guidance relating to, among other things, the treatment of interest rate risk in the banking book, credit risk (stress testing, definition of default, residual risk, and credit concentration risk), operational risk, enhanced cross-border communication and cooperation and securitization.

2.2.3C: The Third Pillar of Basel-II: Market Discipline:

The third pillar ‘Market Discipline’ aims to complement the minimum capital requirements and SREP by developing a set of disclosure requirements which will allow the market participants to gauge the capital adequacy of an institution. Market discipline supplements regulation as sharing of information facilitates assessment of the bank by others. Including investor’s analysts, customers, and other banks and rating agencies which lead to good corporate governance. The aim of pillar-3 is to allow market discipline to operate by requiring institutions to disclose details on the scope of application, capital, risk exposures, risk assessment processes and the capital adequacy of the institution. It must be consistent with how the senior management including the Board assesses and manage the risks of the bank. The disclosure requirements: The Basel-II has set out as many as 13-disclosure requirements under the prescribed formats known as DF1 to DF13 under Pillar- 3.

2.2.4: Critical Evaluation of Basel-II:

“Although Basel-II was quite a comprehensive capital regulation framework architected on sophisticated risk quantification models, it failed to address certain issues which emerged during the financial crisis 2007-09”¹⁰ First, Basel-II, a risk sensitive framework, proved to be pro-cyclical; in good times, when banks were doing well, and the market was willing to invest capital in them, Basel-II did not impose additional capital requirement on banks. On the other hand, in stressed times, when banks required additional capital and markets were wary of supplying that capital, Basel-II required banks to bring in more of it. During the crisis, it was the failure to bring in additional capital that forced major international banks into a vicious

¹⁰Fratianni Michele & Francesco Marchionne (2009): “The Role of Banks in the Subprime Financial Crisis,” Working Papers 2009-02, Department of Business Economics and Public Policy, Kelley School of Business, Indiana University Acharya et al., 2011 and Reddy, 2009.

cycle of deleveraging, thereby hurting global financial markets into seizure and economies around the world into recession.

2.2.5: India and Approach to Basel-II:

With the commencement of banking sector reforms during the last decade of bygone century, RBI has been consistently upgrading the Indian banking sector by adapting to the international best practices. With the successful implementation of banking sector reforms, the Indian banking system has shown substantial improvement on various parameters. It has become robust and displayed 'significant' resilience to shocks. Accordingly, in 2004, there was ample optimism and evidence of the capacity of the Indian banking system to migrate smoothly to Basel-II Norms.

Regulatory Initiatives by RBI

Some of the regulatory initiatives taken by RBI, relevant for Basel-II were as under: First, RBI tried to ensure that the banks have suitable risk management frameworks oriented towards their requirements dictated by the size and complexity of business, risk philosophy, market perceptions and the expected level of capital.

Second, RBS was proposed by RBI in Monetary and Credit Policy in April 2000 and same was launched in 23 banks in April 2001 on a pilot basis.

Third, RBI has been encouraging banks to formalize their ICAAP in alignment with their business plans and performance budgeting systems. This, together with the adoption of RBS enabled factoring in of Pillar II requirements under Basel- II.

Fourth, RBI has been expanding area of disclosures (Pillar III), so as to have greater transparency in the financial position and risk profile of banks. And last but not the least,

Fifth, RBI has been trying to build capacity for ensuring the regulator's ability for identifying and permitting eligible banks to adopt advanced approaches.

With a view to ensuring a smooth migration, a consultative and participative approach was adopted for both designing and implementing Basel-II. A Steering Committee comprising of senior officials from 14 banks (public, private and foreign) was constituted with representation from the Indian Banks' Association (IBA) and the RBI. The Steering Committee had formed sub-groups to address specific issues. On the basis of recommendations of the Steering Committee, in February 2005 RBI proposed draft guidelines to banks on implementation of New Capital Adequacy Framework. RBI had also specified that the migration to Basel-II would be effective March 31, 2007 and had suggested that banks should adopt these new guidelines and parallel run effective April 1, 2006.(later extended to April-1, 2009).

Banks in India were complying with full Basel-II disclosures up to March 2013. From April 1, 2013 banks have moved on to the latest Basel-III disclosures under Pillar-3.

Implementation of Basel-II in India

Basel-II Norms were introduced progressively from February 2009 in India. In the Basel-II, the definition of Capital Fund remained the same as that in Basel-I. However, the method of calculation of RWAs was modified to include market risk and operational risk, in addition to the credit risk that alone was reckoned in 1988 Capital Accord.

Capital charge for credit risk as per RBI guidelines under Basel-II is explained as under:

Study attempts to presents here in the following table No. 2.2 for the academic interest and for notional understanding of the concepts of risk weights given under RBI Circular on New Capital Adequacy Framework (NCAF) applicable across 11 asset classes under Standardized Approach of Credit Risk (TSA) as under:

1. Domestic Sovereign, 2. Foreign Sovereign, 3. Public Sector Entity, 4. MDBs, BIS and IMF
5. Banks 6. Corporate, AFC and NBF–IFCs 7.Regulatory Retail 8. Residential Property 9. Commercial Real Estate.10. Specified Category and 11. Other Assets.

1. Domestic Sovereign: This category Includes credit risk exposures for GOI, State Govt., RBI, ECGC, DICGCI and CGTMSE and applicable Risk Weights are:

Table No. 2.2:

Different risk weights under different loans as per Basel-II

Type of Exposure	Exposure on GOI/State Govt., RBI, DICGCI, CGTMSE	Claims on ECGC	Guarantee by State Govt.	Guarantee by GOI
Risk Weight	0%	20%	20%	0%

2. Foreign Sovereign, Foreign Banks and Non-resident Corporate:

A. **Foreign Sovereign:** Risk –weights were made dependent on Ratings as under:

S & P/Fitch	AAA to AA	A	BBB	BB to B	Below B	Unrated
Moody's	Aaa to Aa	A	Baa	Ba to B	Below B	Unrated
Risk Weight	0%	20%	50%	100%	150%	100%

B. **Foreign Banks:**Risk –weights were made dependent on Ratings as under:

S & P/Fitch	AAA to AA	A	BBB	BB to B	Below B	Unrated
Moody's	Aaa to Aa	A	Baa	Ba to B	Below B	Unrated
Risk Weight	20%	50%	50%	100%	150%	50%

C. **Non-Resident Corporate:** Risk weights were made dependent on Ratings as under:

S & P/Fitch	AAA to AA	A	BBB to BB	Below B	Unrated
Moody's	Aaa to Aa	A	Ba to B	Below B	Unrated
Risk Weight	20%	50%	100%	150%	1000%

Similarly, for Corporate, Asset Finance Companies (AFCs) and NBFC, Infrastructure Finance Companies, Public Sector Entity (PSE) and Primary Dealers (PD):

i) The Long Term Ratings and corresponding risk weights were as under:

Rating Grades	AAA	AA	A	BBB	BB and below	Unrated
Risk Weight (%)	20	30	50	100	150	100

ii) Short Term Ratings: The Short -Term Ratings and corresponding riskweights were as under:

CARE	CRISIL	Fitch	ICRA	Risk Weight (%)
PR+	P+	F1+ (ind)	A1+	20
PR1	P1	F1 (ind)	A1	30
PR2	P2	F2 (ind)	A2	50
PR3	P3	F3 (ind)	A3	100
PR4 & PR5	P4 & P5	F4/ F5 (ind)	A4 / A5	150
Unrated	Unrated	Unrated	Unrated	100

iii) **Claims on Banks Incorporated and Foreign Bank Branches in India:**
(Risk Weight in %)

Level of CRAR of the investee bank	Scheduled Banks	Other banks
CRAR 9% and above	20	100
CRAR 6 to < 9%	50	150
CRAR 3 to < 6 %	100	250
CRAR 0 to < 3%	150	350
Negative CRAR	625	625

iv) Risk weights on other Standard exposures:

Sr. No.	Type of Exposure	Risk Weight (in%)
1	Regulatory Retail Portfolio	75
2a	Exposures against Residential Property upto Rs. 30 lakhs where Loan to Value of property (LTV) ratio is not more than 75%.	50
2b	Exposures against Residential Property for Rs. 30 lakhs and above where LTV ratio is not more than 75^.	75
2c	Exposures against Residential Property, irrespective of amount, where LTV ratio is more than 75%	100
2d	Exposures against Residential Property, irrespective of LTV ratio where Exposure is more than Rs. 75%.	125
3	Exposures secured by Commercial Real Estate	100
4a	Loans and advances to bank's own staff which are fully covered by superannuation benefits and/or mortgage of flat/house.	20
4b	Other loans and advances to bank's own staff.	75
5	Exposures to Venture Capital Funds	150
6	Consumer credit including personal loans and credit card receivables.	125
7	Capital Market exposures	125
8	Exposures non-banking financial companies NBFCs (Excluding AFCs & Infrastructure Companies which are to be categorized as Corporate).	100

v) Risk Weights for Non-Performing Assets (NPAs):

- a) The risk weights of NPAs exposure (after netting the Financial Collateral) was to be done net of specific provision as under:

When Specific Provisions	Risk Weight Applicable
Are less than 20% of the outstanding amount of NPAs	150%
Are between 20% to < 50% of outstanding amount of NPA	100%
Are = or > 50% of the outstanding amount of NPAs	50%

Note: In addition to above where a NPAs is fully secured by the following forms of collateral either independently or along with other eligible collateral, a 100% risk weight may apply net of specific provisions, when provisions reach 15% of the outstanding amount:

- b) Unsecured portion of NPAs net of specific provision was to be risk-weighted as follows:

When Specific Provisions	Risk Weight Applicable
less than 20%	100%
between 20% to < 50% of outstanding amount of NPA	75%
= or > 50% of the outstanding amount of NPAs	50%

(Source: RBI Circular on NCAF: RBI/2009-2010/37 DBOD. No.BC. 6 / 21.01. 02 / 2009-10 dated. July 1, 2009) .BP

In sum, The Implementation of Basel-II and the strong regulatory oversight by RBI has certainly improved the risk management systems of banks as the banks aim for adequate capitalization to meet the underlying credit risks and thus have derived benefits from improved operational and credit risk management practices.

2.3: The Way Forward: Migration from Basel- II to Basel- III:

2.3.1: Lessons from Crisis and moving on from Basel-II to Basel-III:

The GFC which began in the United States and spread to other developed countries exposed substantial weakness in the Basel-II rules for regulating commercial banks. In particular, large bank holding companies suffered large declines in their ROE from losses on off-balance sheet activities despite maintaining the capital ratios required under Basel-II. As a result, the BIS (in 2010) developed a new set of regulations called Basel-III, designed to alleviate the shortcomings¹¹ of the previous regulations Basel-II which are summarized as under:

Higher capital ratios: Basel-III Norms prescribe a minimum capital ratio of 11.5% (together with CCB) which may go as high as 13.5 % to take care of CCCB.

¹¹ Douglas J. Elliott (2010): "Basel III, the Banks, and the Economy" The Brookings Institution July 23, 2010. https://www.brookings.edu/wp-content/uploads/2016/06/0726_basel_elliott.pdf

Use of a leverage ratio as a safety net: Broadly, the crisis pointed out problems with using RWAs calculations that are intrinsically based either directly on historical experience, in case of the internal ratings used by large banks, or indirectly, in the case of the risk-weightings that are set by the Basel- Committee. The value of many assets fell considerably more sharply and quickly than was suggested by historical experience, in some cases because good quality data did not exist for many years and therefore had only reflected the favorable market conditions of recent times. In response, there is broad agreement that a straight “leverage ratio” (LR) should be given more regulatory weight. In this context, a LR ratio is simply the ratio of capital to total Assets with no risk-weighting of the Assets. The Basel-III rules therefore propose to include a LR as an additional test of capital adequacy to serve as a “safety net” to protect against problems with risk weightings.

Tougher risk weightings for trading assets: Another major problem of the global crisis was that the risk weightings for trading assets were clearly set too low, again reflecting an excessive reliance on favorable recent history. This has already been dealt with in a major set of changes that took effect in what might be considered Basel-II through a substantial toughening in the methodology for determining risk weightings of trading Assets

Elimination of softer forms of capital: The GFC demonstrated that some securities that were considered capital instruments were unusable as a practical matter in a severe financial crisis. Capital is only useful if it can be made to absorb losses in order to protect other parties, but regulators were effectively blocked from forcing that loss absorption in the case of subordinated debt, which had counted in certain cases as Tier II capital. Since these were legally debt instruments, the holders could force a bankruptcy or insolvency proceeding if they were to suffer a loss. Putting a major financial institution into insolvency was viewed as a very risky move by policymakers, especially after the insolvency of Lehman Brothers caused severe market turmoil. As a result, subordinated debt will no longer count as capital even for Tier II purposes and other soft forms of capital are being eliminated or subjected to tighter conditions.

Exclusion of some balance sheet items from capital: Following a similar logic, the Basel-Committee decided that certain balance sheet items should be excluded from capital because they might not truly be available to absorb losses in a crisis. For example, a bank or bank holding company’s ownership stake in an insurance company would no longer count as capital, on the theory that it represented capital at the level of the insurer and should not be required to do double duty. Put another way, an insurer could easily be hit by the same financial crisis as the bank and its own loss of capital would cause problems both at the insurer and then at the bank which was counting on the value of its investment. “Minority interests”, which represent partial ownership of a part of the banking group by outside parties, would also cease to count. Yet another category is “deferred tax Assets” which

represents the value of previous losses which can be used to offset taxes on future profits. Since the value of these Assets is dependent on future profits, Basel-III moves to effectively exclude them.

Higher capital requirements for counterparty credit risks: The crisis also showed how much counterparty credit risk existed, causing the committee to tighten the rules for when capital must be set aside and how much must be earmarked for these risks. This includes making a distinction on the amount of capital needed to back exchange-traded derivatives, which carry low counterparty risk, and over the counter derivatives, which will now require more capital. Thus, Basel-III provided extra capital by way of capital charge for such credit risks.

New liquidity requirements: The Basel-I and Basel-II Norms had largely ignored liquidity in the past, leaving it as one of the many items on which national regulators had discretion to regulate as they pleased. Some countries, such as France, had explicit liquidity requirements, but most viewed it only as a subjective item to keep an eye on. However, the financial crisis highlighted the fundamental fact that financial institutions depend for their survival on managing liquidity in order to prevent a fatal run on the bank if confidence in their financial strength evaporated. As a result, Basel-III proposed two tough new liquidity tests that would be standardized globally. Accordingly, it prescribed Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR).

CCCB requirements: Basel-III also endorsed the idea that capital requirements should be higher in good times and somewhat lower in bad times. This would achieve the purpose of “leaning against the wind” and slowing banking activity when it overheats and encouraging lending when times are tough. Accordingly Basel-III prescribed CCCB over and above the CCB for economic down-turn. The objectives of Basel-III are to ensure that capital allocation is more risk sensitive; to enhance disclosure requirements which will allow market participants to assess the capital adequacy of an institution, to ensure that credit risk, operational risk and market risk are quantified based on data and formal techniques, to align economic and regulatory capital more closely to reduce the scope for regulatory arbitrage.

Another issue raised by the Basel-III reforms is of strengthening provisioning Norms: Currently there is a standardized approach to provisioning in the banking system. It is a typical accounting approach, wherein if a loss is incurred, banks have to make a provision to cover it. But Basel-III is talking about a move from “incurred loss approach” to “Expected Loss approach (EL) it also emphasized the need for Dynamic Provisioning.

A related issue is that capital requirements for trading Assets are now calculated with extensive reference to Value at Risk (VaR) calculations. Basel-III adds layers of conservatism that appear to roughly double the capital requirements on average. However,

the VaR concept appears to work better for evaluating daily or weekly risks than for somewhat longer holding periods.

2.4: Salient Features of Basel-III: Introduction:

Basel-III framework is one of the most comprehensive and most effective frameworks to strengthen global capital-standards and liquidity standards. The introduction of the Basel-III documents¹² titled “A Global Regulatory Framework for more Resilient Banks and Banking Systems” (Page 9, published in December 2010) summarizes the underlying concepts as under:”This document, together with the document Basel-III: International Framework for Liquidity Risk Measurement, Standards and Monitoring, presents the Basel-Committee’s reforms to strengthen global capital and liquidity rules with the goal of promoting a more resilient banking sector. The objective of the reforms is to improve the banking sector’s ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing the risk of spillover from the financial sector to the real economy. This document sets out the rules text and timelines to implement the Basel-III framework. The Committee’s comprehensive reform package addresses the lessons of the GFC. Through its reform package, the Committee also aims to improve risk management and governance as well as strengthen banks’ transparency and disclosures. Moreover, the reform package includes the Committee’s efforts to strengthen the resolution of systemically ‘significant’ cross-border banks. A strong and resilient banking system is the foundation for sustainable economic growth, as banks are at the center of the credit intermediation process between savers and investors. Moreover, banks provide critical services to consumers, SME, large corporate firms and Governments who rely on them to conduct their daily business, both at a domestic and international level”.

2.4.1: The unique features of Basel-III:

Basel-III Norms introduced one of the most revolutionary and more pragmatic set of Norms which are summarized and presented here from various reference studies and comprehended as under:

1. Strengthening the Global Capital Framework

The Basel-III Norms aim at raising the resilience of the banking sector by strengthening the regulatory capital framework, building upon the three pillars of Basel-II framework. The reforms seek to raise both the quality and quantity of the regulatory capital base and enhance the risk coverage of the capital framework. They are underpinned by a leverage ratio that serves as a backstop to the risk-based capital measures, is intended to constrain excess leverage in the banking system and provide an extra layer of protection against model risk and measurement error. Finally, the Norms introduced a number of macro-

¹²A Global Regulatory Framework for more Resilient Banks and Banking Systems”, Published by BIS, December 2010, known as Basel-III Accord.

prudential elements into the capital framework to help contain systemic risks arising from pro-cyclicality and from the inter-connectedness of financial institutions.

2. Raising the quality, consistency and transparency of the capital base

It is critical that banks' risk exposures are backed by a high quality capital base. The crisis demonstrated that credit losses and write-downs come out of retained earnings, which is part of banks' tangible common equity base. It also revealed the inconsistency in the definition of capital across jurisdictions and the lack of disclosure that would have enabled the market to fully assess and compare the quality of capital between institutions.

To this end, Basel-III prescribes that the predominant form of Tier-1 capital must be common shares and retained earnings. This standard is reinforced through a set of principles that also can be tailored to the context of non-joint stock companies to ensure they hold comparable levels of high quality Tier-1 capital. Deductions from capital and prudential filters have been harmonized internationally and generally applied at the level of common equity or its equivalent in the case of non-joint stock companies. The remainders of the Tier-1 capital base must be comprised of instruments that are subordinated, have fully discretionary noncumulative dividends or coupons and have neither maturity dates nor an incentive to redeem. Innovative hybrid capital instruments with an incentive to redeem through features such as step-up clauses, currently limited to 15% of the Tier-1 capital base, will be phased out. In addition, Tier-2 capital instruments will be harmonized and so-called Tier-3 capital instruments, which were only available to cover market risks, eliminated. Finally, to improve market discipline, the transparency of the capital base will be improved, with all elements of capital required to be disclosed along with a detailed reconciliation to the reported accounts.

3. Enhancing Risk Coverage

One of the key lessons of the crisis has been the need to strengthen the risk coverage of the capital framework. Failure to capture major on- and off-balance sheet risks, as well as derivative related exposures, was a key destabilizing factor during the crisis.

In response to these shortcomings, the Basel-III Norms prescribed raising of capital requirements for the trading book and complex securitization exposures, a major source of losses for many internationally active banks. The enhanced treatment introduces a stressed VaR capital requirement based on a continuous 12-month period of significant financial stress. In addition, the Committee has introduced higher capital requirements for so-called re-securitizations in both the banking and the trading book. The reforms also raise the standards of the Pillar 2 supervisory review process and strengthen Pillar 3 disclosures.

Basel-III Norms also introduced measures to strengthen the capital requirements for counterparty credit exposures arising from banks' derivatives, repo and securities financing activities. These reforms will raise the capital buffers backing these exposures, reduce pro-cyclicality and provide additional incentives to move OTC derivative contracts to central

counterparties, thus helping reduce systemic risk across the financial system. They also provide incentives to strengthen the risk management of counterparty credit exposures.

4. Banks will be subject to a capital charge for potential mark-to-market losses. This is The Credit Valuation Adjustment (CVA) risk associated with deterioration in the credit worthiness of counter-party. While the Basel-II standard covers the risk of a counterparty default, it does not address such CVA risk, which during the financial crisis was a greater source of losses than those arising from outright defaults.

5. The Norm is strengthening standards for collateral management and initial margining. Banks with large and illiquid derivative exposures to counterparty 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.

6. Basel-III raised counterparty credit risk management standards in number of areas, including for the treatment of so-called ‘wrong-way’ risk, i.e., cases where the exposure increases when the credit quality of the counterparty deteriorates. It also issued final additional guidance for the sound back testing of counterparty credit exposures.

7. Measures to mitigate the reliance on external ratings of the Basel-II framework. The measures include requirements for banks to perform their own internal assessments of externally rated securitization exposures, the elimination of certain “cliff effects” associated with credit risk mitigation practices, and the incorporation of key elements of the Code of Conduct Fundamentals for Credit Rating Agencies into the Committee’s eligibility criteria for the use of external ratings in the capital framework. The committee has also prescribed conducting a more fundamental review of the securitization framework, including its reliance on external ratings.

8. Supplementing the Risk-based capital requirement with a Leverage Ratio: One of the underlying features of the crisis was the buildup of excessive on-and-off balance sheet leverage in the banking system. The buildup of leverage also has been a feature of previous financial crises of September 1998. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and the contraction in credit availability. The Committee therefore, has introduced a leverage ratio requirement that is intended to achieve the following objectives:(i) To constrain the leverage in banking sector to mitigate the risk of destabilizing deleveraging processes which may damage the financial system and the economy. (ii)To introduce additional safeguards against model risk and measurement error by supplementing the risk-based measure with a simple, transparent, independent measure of risk. And,(iii) The leverage ratio is calculated in a comparable manner across jurisdictions, adjusting for any differences in accounting standards. The Committee has designed the

leverage ratio to be a credible supplementary measure to the risk-based requirement with a view to migrating to a Pillar 1 treatment based on appropriate review and calibration.

9. Reducing pro-cyclicality and promoting CCCBs.

One of the most destabilizing elements of the crisis has been the pro-cyclical amplification of financial shocks throughout the banking system, financial markets and the broader economy. The tendency of market participants to behave in a pro-cyclical manner has been amplified through a variety of channels, including through accounting standards for both mark-to-market assets and held-to-maturity loans, margining practices and through the buildup and release of leverage among financial institutions, firms, and consumers. Basel-III introduced a number of measures to make banks more resilient to such pro-cyclical dynamics. These measures may ensure that the banking sector serves as shock absorber, instead of a transmitter of risk to the financial system and broader economy. In addition to the leverage ratio, a series of measures to address pro-cyclicality and raise the resilience of the banking sector in good times is introduced. These measures have the following key objectives: to dampen any excess cyclicity of the minimum capital requirement, Promote more forward looking provisions, Conserve capital to build buffers at individual banks and the banking sector that can be used in stress and achieve the broader macro-prudential goal of protecting the banking sector from periods of excess credit growth.

10. Cyclicity of the minimum requirement The Basel-II framework increased the risk sensitivity and coverage of the regulatory capital requirement. Indeed, one of the most pro-cyclical dynamics has been the failure of risk management and capital frameworks to capture key exposures – such as complex trading activities, re-securitizations and exposures to off-balance sheet vehicles – in advance of the crisis. Basel-III Norms were framed keeping in view of this trade-off during the design of the Basel-II framework and introduced a number of safeguards to address excess cyclicity of the minimum requirement. They include the requirement to use long term data horizons to estimate ‘Probabilities of Default’ (PD); the introduction of so called downturn LGD estimates and the appropriate calibration of the risk functions, which convert loss estimates into regulatory capital requirements. The Committee also required that banks conduct ‘stress-tests’ that consider the downward migration of their credit portfolios in recession.

11. Forward looking provisioning and capital conservation

The Norms envisaged promoting stronger provisioning practices through three related initiatives. First, it advocated a change in the accounting standards towards an EL approach -a set of high level guiding principles that should govern the reforms to the replacement of International Accounting Standards. The Committee supported an EL approach that captures actual losses more transparently and is also less pro-cyclical than the current “incurred loss” approach. Second, it is updating its supervisory guidance to be consistent

with the move to such an EL approach. Such guidance will assist supervisors in promoting strong provisioning practices under the desired EL approach. Third, it is addressing incentives to stronger provisioning in the regulatory capital framework.

Capital Conservation: The Basel-III Norms introduced a framework to promote the conservation of Capital and the build-up of adequate buffers above the minimum that can be drawn down in periods of stress. At the onset of financial crisis, a number of banks continued to make large distributions in the form of dividends, share buy backs and generous compensation payments even though their individual financial condition and the outlook for the sector were deteriorating. Much of this activity was driven by a collective action problem, where reductions in distributions were perceived as sending a signal of weakness. However, these actions made individual banks and the sector as a whole less resilient. Many banks soon returned to profitability but did not do enough to rebuild their capital buffers to support new lending activity. Taken together, this dynamic has increased the pro-cyclicality of the system. To address this market failure, Basel-III has introduced a framework that will give supervisor's stronger tools to promote capital conservation in the banking sector. Implementation of the framework through internationally agreed capital conservation standards will help increase sector resilience going into a downturn and will provide the mechanism for rebuilding capital during the economic recovery. Moreover, the framework is sufficiently flexible to allow for a range of supervisory and bank responses consistent with the standard.

12. Curb on Excess Credit Growth

As witnessed during the financial crisis, losses incurred in the banking sector during downturn preceded by a period of excess credit growth can be extremely large. Such losses can destabilize the banking sector, which can bring about or exacerbate a downturn in the real economy. This in turn can further destabilize the banking sector. These inter-linkages highlight the particular importance of the banking sector building up its capital defenses in periods when credit has grown to excessive levels. The building up of these defenses should have the additional benefit of helping to moderate excess credit growth.

13. Basel-III Seeks to Address Systemic Risk and Interconnectedness and emphasizes that the systemically important banks should have loss absorbing capacity beyond the minimum standards. The Basel Norms also seeks to cover further measures to mitigate the risks or externalities associated with systemic banks, including liquidity surcharges, tighter large exposure restrictions and enhanced supervision. And last but not the least,

14. Introducing a Global Liquidity Standard

The Norms emphasizes that strong capital requirements are a necessary condition for banking sector stability but by themselves they are not sufficient. A strong liquidity base reinforced through robust supervisory standards is of equal importance. The Basel-III

therefore introduced internationally harmonized global liquidity standards. As with the global capital standards, the liquidity standards will establish minimum requirements and will promote an international level playing field to help prevent a competitive race to the bottom. The Document further highlights that during the early “liquidity phase” of the GFC, many banks – despite adequate capital levels – still experienced difficulties because they did not manage their liquidity in a prudent manner. The crisis again drove home the importance of liquidity to the proper functioning of financial markets and the banking sector. Prior to the crisis, asset markets were buoyant and funding was readily available at low cost. The rapid reversal in market conditions illustrated how quickly liquidity can evaporate and that illiquidity can last for an extended period of time. The banking system came under severe stress, which necessitated Central Bank action to support both the functioning of money markets and, in some cases, individual institutions. Further, it is stressed that the difficulties experienced by some banks were due to lapses in basic principles of liquidity risk management. In response, as the foundation of its liquidity framework, the Basel- Committee in 2008 published Principles for Sound Liquidity Risk Management and Supervision. The Sound Principles provide detailed guidance on the risk management and supervision of funding liquidity risk and should help promote better risk management in this critical area, but only if there is full implementation by banks. To complement these principles, Basel-III has further strengthened its liquidity framework by developing two minimum standards for funding liquidity. An additional component of the liquidity framework is a set of monitoring metrics to improve cross-border supervisory consistency. These standards have been developed to achieve two separate but complementary objectives. The first objective is to promote short-term resilience of a bank’s liquidity risk profile by ensuring that it has sufficient high quality liquid resources to survive an acute stress scenario lasting for one month. The Committee developed the LCR to achieve this objective.

The second objective is to promote resilience over a longer time horizon by creating additional incentives for a bank to fund its activities with more stable sources of funding on an ongoing structural basis. The Net Stable Funding Ratio (NSFR) has a time horizon of one year and has been developed to provide a sustainable maturity structure of Assets and liabilities.

These two standards are comprised mainly of specific parameters which are internationally “harmonized” with prescribed values. Certain parameters contain elements of national discretion to reflect jurisdiction-specific conditions. The Norm stipulates that the parameters should be transparent and clearly outlined in the regulations of each jurisdiction to provide clarity both within the jurisdiction and internationally.

2.4.2: Minimum Capital requirement Under Basel-III:

Learning the lessons from GFC, the objectives of Basel-III Norms is to minimize the probability of recurrence of any financial crisis. Towards this end, the Basel-III has set its objectives to improve the shock absorbing capacity of each and every individual bank in the system. Basel-III has measures to ensure that banking system as a whole does not crumble and its spill-over impact on real economy is minimized. Basel-III has micro-prudential elements (i.e. risk is contained in each individual bank) and also macro-prudential provisions to take care of issues relating to the systemic risk management of entire banking industry. In view of critical importance of avoiding the crises which had crippled the economy of many countries in the past, it is worthwhile to study the macro prudential elements which also incorporates the concept, necessary provisions, elements, and tools for systemic risk management under Basel-III and the same is presented in next Chapter III.

General guidelines about capital requirements;

Banks are required to maintain a minimum Pillar-1 CRAR of 9% on an on-going basis (other than CCB and CCCB). Further, in terms of the Pillar-2 requirements, banks are expected to operate at a level well above the minimum requirement. Under the Basel-III Norms the capital ratios of a bank is determined in the following manner:

Common Equity Tier-1 (CET-1) Capital Ratio = CET-1 Capital / Credit Risk RWA + Market Risk RWA + Operational Risk RWAs

Tier-1 Capital Ratio = Eligible Tier1 Capital (T-1) / Credit Risk RWA + Market Risk RWA + Operational Risk RWA

Total Capital Ratio = Eligible Total Capital / Credit Risk RWA + Market Risk RWA + Operational Risk RWAs.

Elements of 'Regulatory Capital'¹³ and the Criteria:

Basel-III has used the concepts of "Going- concern Capital" which means the capital which can absorb losses without triggering bankruptcy of bank so that the bank may go-on and on despite losses. Another concept has been coined as "Gone-concern Capital"- which refers to the capital which will absorb losses only in a situation of liquidation of the bank. Accordingly, the 'Total Regulatory Capital' of bank is the sum total of the following two categories: (i) Tier-1 Capital (going-concern capital): (a) CET-1 (b) Additional Tier 1 (AT-1) and (ii) Tier-2 Capital (gone-concern capital). Thus, T-1 of a bank is comprised of AT-1 capital as well as CET-1 which is the purest form of capital and includes common shares and retained earnings. The required ratio of CET-1 capital to RWAs will go up from 2% in Basel-II to 4.5% under Basel-III

¹³ RBI's Master Circular on "Basel III Capital Regulations" vide RBI/2015-16/58 DBR.No.BP.BC.1/21.06.201/2015-16 dated 01.07.2015

Limits and Minima

As a matter of prudence, RBI has mandated that banks under Basel-III Norms, (excluding LABs and RRBs) shall maintain a minimum total capital (MTC) of 9% of total RWAs i.e. CRAR and the same is presented in the following table No.2.3. This will be further divided into different components as under:

CET-1 capital must be at least 5.5% of RWAs i.e. for credit risk + market risk + operational risk on an ongoing basis.

Tier 1 capital must be at least 7% of RWAs on an ongoing basis. Thus, within the minimum Tier 1 capital, AT-1 capital can be admitted maximum at 1.5% of RWAs.

Total Capital (Tier 1 Capital plus Tier 2 Capital) must be at least 9% of RWAs on an ongoing basis. Thus, within the minimum CRAR of 9%, Tier 2 (T2) capital can be admitted maximum up to 2%.

If a bank has complied with the minimum CET-1 and Tier 1 capital ratios, then the excess AT-1 capital can be admitted for compliance with the minimum CRAR of 9% of RWAs. In addition to the minimum CET-1 capital of 5.5% of RWAs, banks are also required to maintain a CCB of 2.5% of RWAs in the form of CET-1 capital.

Table No. 2.3:
Minima & Maxima of Components of Regulatory Capital as % of RWAs

Sr. No.	Capital	% of RWAs
i	Minimum common equity tier-1 (CET-1) Ratio	5.5
ii	Capital Conservation Buffer (CCB)	2.5
iii	Minimum CET-1 + CCB = i + ii	8.0
iv	AT-1 Capital	1.5
v	Minimum tier 1 Capital Ratio = i + iv	7.0
vi	Tier 2 Capital (maximum)	2.0
vii	Minimum Total Capital Ratio 9MTC) = v + vi	9.0
viii	Minimum Total Capital Plus CCB = vii + ii	11.5

(Source: RBI's Master Circular on "Basel III Capital Regulations" vide RBI/2015-16/58 DBR.No.BP.BC.1/21.06.201/2015-16 dated 01.07.2015).

RBI has further clarified that for the purpose of reporting T-1 capital and CRAR, any excess AT-1 capital and T2 capital will be recognized in the same proportion as that applicable towards minimum capital requirements. This would mean that to admit any excess AT-1 and T2 capital, the bank should have excess CET-1 over and above 8% (5.5%+2.5%). It has also been clarified that if a bank does not have minimum CET-1 plus CCB of 2.5% of RWAs, then even it has excess AT-1 and/or T2 capital, such excess capital shall not be reckoned towards calculation and reporting as tier-1 capital. Further, during transition period, the excess will be determined with reference to minimum CET-1 capital and applicable CCB and the proportion with reference to the available CET-1. For instance, as on March 31, 2015 the excess AT-1 and Tier 2 will be determined with reference to total prescribed level of

Common Equity 6.125% (5.5%+0.625%) and the proportion with reference to 5.5% CET-1 capital.

Transitional Arrangements (RBI Master Circular -July 2015)

In order to ensure smooth migration to Basel III without aggravating any near term stress, appropriate transitional arrangements have been made. The transitional arrangements for capital ratios began as on April 1, 2013. The phase-in arrangements for banks operating in India are indicated in Table No. 2.4 below.

Table No. 2.4:

Transitional Arrangements in India for all Banks: (Excluding LABs and RRBs)

(As on March-end)

Minimum Capital Ratios (% of RWAs)	April 1, 2013	2014	2015	2016	2017	2018	2019
CET 1*	4.5	5	5.5	5.5	5.5	5.5	5.5
CCB	0	0	0	0.625	1.25	1.875	2.5
CET-1 + CCB	4.5	5	5.5	6.125	6.75	7.375	8
Minimum Tier 1 Capital	6	6.5	7	7	7	7	7
MTC	9	9	9	9	9	9	9
MTC = CCB	9	9	9	9.625	10.25	10.875	11.5
Phase-in of all deductions from CET-1	20	40	60	80	100	100	100

(Source: RBI Master Circular –July 2015).

*The RBI Guidelines under A, B and C is narrated as under:

- A) ***CET-1 (Guidelines for Banks - incorporated in India):** Elements of CET-1 will comprise the following: (i) Common shares (paid-up equity capital) issued by the bank which meet the criteria for classification as common shares for regulatory purposes;
- (ii) Stock surplus (share premium) resulting from the issue of common shares;
- (iii) Statutory reserves;
- (iv) Capital reserves representing surplus arising out of sale proceeds of Assets;
- (v) Other disclosed free reserves, if any;
- (vi) Balance in Profit & Loss Account at the end of the previous financial year;
- (vii) Banks may also reckon the profits in the current financial year for CRAR calculation on a quarterly basis provided the incremental provisions made for NPAs at end of any of the four quarters of the previous financial year have not deviated more than 25% from the average of four quarters. The amount which can be reckoned would be arrived at by using the following formula: $EP_t = \{NP_t - 0.25 \cdot D \cdot t\}$ Where; NP_t = Net profit up to the quarter 't', D = average annual dividend paid during last three years and EP_t = Eligible profit up to the quarter 't' of the current financial year; (t varies from 1 to 4).

(viii) While calculating capital adequacy at the consolidated level, common shares issued by consolidated subsidiaries of the bank and held by third parties (i.e. minority interest) also meet the criteria for inclusion in CET-1 capital.

(ix) Deductions: Regulatory adjustments / deductions applied in the calculation of CET-1 capital is to be deducted from the sum of items (i) to (viii).

***B. Criteria for Classification as Common Shares for Regulatory Purposes**

Common Equity is recognized as the highest quality component of capital and is the primary form of funding which ensures that a bank remains solvent. Therefore, under Basel-III, common shares to be included in CET-1 must meet the following prescribed criteria. Additional Tier-1 Capital (AT-1) Norms **(Guidelines for Banks - incorporated in India);**

Elements of AT-1 consist of the sum of the following:

(i) Perpetual Non-Cumulative Preference Shares (PNCPs), which comply with the regulatory requirements as given in RBI Master Circular –July 2015

(ii) Stock surplus (share premium) resulting from the issue of instruments included in AT-1 capital.

(iii) Debt capital instruments eligible for inclusion in AT-1, which comply with the regulatory requirements as given in RBI Master Circular –July 2015

(iv) Any other type of instrument generally notified by RBI from time to time for inclusion in AT-1.

(v) While calculating capital adequacy at the consolidated level, AT-1 instruments issued by consolidated subsidiaries of the bank and held by third parties which meet the criteria for inclusion in AT-1. (As prescribed in RBI Master Circular –July 2015) and

(vi) **Less:** Regulatory adjustments / deductions applied in the calculation of AT-1 [i.e. to be deducted from the sum of items (i) to (v)].

***C. Criteria for Classification as AT-1 Capital for “Regulatory Purposes”:**

(i) Under Basel-III, the criteria for instruments to be included in AT-1 capital have been modified to improve their loss absorbency. Criteria for inclusion of PNCPs in AT-1 Capital and Criteria for inclusion of Perpetual Debt Instruments (PDI) in AT-1 Capital are also furnished in the said RBI circular which also contains criteria for loss absorption through conversion / write-down / write-off of AT-1 instruments on breach of the pre-specified trigger and of all non-common equity regulatory capital instruments at the point of non-viability.

(ii) Banks should not issue AT-1 capital instruments to the retail investors.

Similarly the elements of Tier-2 Capital as per RBI Master Circular of July 2015 includes;

Under Basel-III, there will be a single set of criteria governing all T2 debt capital instruments for Banks incorporated in India. It consist of the following i) and ii) as under:

i) General Provisions and Loss Reserves: Provisions or loan-loss reserves held against future, presently un-identified losses, which are freely available to meet losses which subsequently materialize, will qualify for inclusion within T2 capital. Accordingly, General Provisions on Standard Assets, Floating Provisions, incremental provisions in respect of unhedged foreign currency exposures, Provisions held for Country Exposures, Investment Reserve Account, excess provisions which arise on account of sale of NPAs and 'countercyclical provisioning buffer' will qualify for inclusion in Tier 2 capital.

However, these items together will be admitted as T2 capital up to a maximum of 1.25% of the total credit RWAs under the standardized approach. Guidelines further states that the Provisions ascribed to identified deterioration of particular assets or loan liabilities (i.e., specific loss provisions), whether individual or grouped should be excluded. Accordingly, for instance, specific provisions on NPAs, both at individual account or at portfolio level, provisions in lieu of diminution in the fair value of assets in the case of restructured advances, provisions against depreciation in the value of investments will be excluded.

(ii) Debt Capital Instruments issued by the banks: T2 capital may consist of usual Debt-instruments.

2.4.3: Micro-Prudential elements of Basel-III: CCB¹⁴

The micro-prudential elements of Basel-III are (i) elaborate definition of different types of capital; (ii) enhancing risk coverage of capital; (iii) leverage ratio; and (iv) International liquidity -framework. Innovative features such as step-up option are allowed in capital instruments. Thus, the definition of capital in terms of its quality, quantity, consistency and transparency will improve under Basel-III.

Enhancing risk coverage of capital:

Basel-III Norms seek 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 pro-cyclicality and provide additional incentives to move OTC derivative contracts to central counterparties, thus helping to reduce systemic risk across the financial system. It further states that 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 pro-cyclicality. Banks will be subject to a CVA capital charge to protect themselves against the potential mark to market losses associated

¹⁴ Largely based on RBI's Master Circular on "Basel III Capital Regulations" vide RBI/2015-16/58, DBR.No.BP.BC.1/21.06.201/2015-16 dated 01.07.2015

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. 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. These additional standards have been adopted to strengthen collateral risk management practices. 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 and II frameworks.

CCB Requirement of Basel-III:

CCB is one of the most innovative concepts proposed by Basel-III which is designed to ensure that banks build up extra capital buffers when there is no periods of stress and such capital may be drawn down when losses are incurred. The requirement is based on simple capital conservation rules designed to avoid breaches of minimum capital requirements. Basel-III Norms prescribes that banks should build up over a period of time a cushion of minimum 2.5% of RWAs as CCB. Outside the period of stress, banks should hold buffers of capital above the regulatory minimum. When buffers have been drawn down, one way banks should look to rebuild them is through reducing discretionary distributions of earnings. This could include reducing dividend payments, share buybacks and staff bonus payments. Banks may also choose to raise new capital from the market as an alternative to conserving internally generated capital. However, if a bank decides to make payments in excess of the constraints imposed as explained above, the bank, with the prior approval of RBI, would have to use the option of raising capital from the market equal to the amount above the constraint which it wishes to distribute.

In the absence of raising capital from the market, the share of earnings retained by banks for the purpose of rebuilding their capital buffers should increase the nearer their actual capital levels are to the minimum capital requirement. It will not be appropriate for banks which have depleted their capital buffers to use future predictions of recovery as justification for maintaining generous distributions to shareholders, other capital providers and employees. It is also not acceptable for banks which have depleted their capital buffers to try and use the distribution of capital as a way to signal their financial strength. Not only is this irresponsible from the perspective of an individual bank, putting shareholders' interests above depositors, it may also encourage other banks to follow suit. As a consequence, banks in aggregate can end up increasing distributions at the exact point in time when they should be conserving earnings. The CCB can be drawn down only when a bank faces a systemic or idiosyncratic stress. A bank should not choose in normal times to operate in the buffer range simply to compete with other banks and win market share. This aspect would be specifically looked into by RBI during the SREP. Thus, if a bank is found to have allowed its CCB to fall in

normal times, particularly by increasing its RWAs without a commensurate increase in CET-1 Ratio (although adhering to the restrictions on distributions), this would be viewed seriously. In addition, such a bank will be required to bring the buffer to the desired level within a time limit prescribed by RBI. The banks which draw down their CCB during a stressed period should also have a definite plan to replenish the buffer as part of its ICAAP and strive to bring the buffer to the desired level within a time limit agreed to with RBI during the SREP. In sum, the framework of CCB will strengthen the ability of banks to withstand adverse economic environment conditions, will help increase banking sector resilience both going into a downturn, and provide the mechanism for rebuilding capital during the early stages of economic recovery. Thus, by retaining a greater proportion of earnings during a downturn, banks will be able to help ensure that capital remains available to support the ongoing business operations / lending activities during the period of stress. Therefore, this framework is expected to help reduce pro-cyclicality.

Capital conservation best practices

It is clear that greater efforts should be made to rebuild buffers the more they have been depleted. Therefore, in absence of raising capital from the markets, the share of earnings retained by banks for the purpose of rebuilding their capital buffers should increase to minimum capital requirement. The framework reduces the discretion of banks which have depleted their capital buffers to further reduce them through generous distributions of earnings. In doing so, the framework will strengthen their ability to withstand adverse environments. Implementation of the framework through internationally agreed capital conservation rules will help increase sector resilience both going into a downturn, and provide the mechanism for rebuilding. Banks are required to maintain a capital conservation buffer of 2.5%, comprised of CET-1, above the regulatory minimum capital requirement¹⁵ of 9%. Capital distribution constraints will be imposed on a bank when capital level falls within this range. However, they will be able to conduct business as normal when their capital levels fall into the conservation range as they experience losses. Therefore, the constraints imposed are related to the distributions only and are not related to the operations of banks. The distribution constraints imposed on banks when their capital levels fall into the range increase as the banks' capital levels approach the minimum requirements. The Table 2.5 below shows the minimum capital conservation ratios a bank must meet at various levels of the CET-1 capital ratios.

¹⁵CET-1 must first be used to meet the minimum capital requirements (including the 7% Tier 1 and 9% Total capital requirements, if necessary), before the remainder can contribute to the capital conservation buffer requirement: vide RBI/2015-16/58 DBR.No.BP.BC.1/21.06.201/2015-16 dated 01.07.2015.

Table No. 2.5:
Minimum Capital Conservation Standards for Individual bank for CCB

CET-1 ratio after including the current periods retained earnings	Minimum Capital Conservation Ratios
5.5% - 6.125%	100%
>6.125% - 6.75%	80%
>6.75% - 7.375%	60%
>7.375% - 8.0%	40%
>8.0%	0%

(Source - RBI Master Circular- July 2015).

For example, a bank with a CET-1 ratio in the range of 6.125% to 6.75% is required to conserve 80% of its earnings in the subsequent financial year (i.e. payout no more than 20% in terms of dividends, share buybacks and discretionary bonus payments is allowed). Basel III minimum capital conservation standards apply with reference to the applicable minimum CET-1 capital and applicable CCB. Therefore, during the Basel-III transition period, banks may refer to the Table 2.6 below for meeting the minimum capital conservation ratios at various levels of the CET-1 capital ratios:

Table No. 2. 6:
Minimum CET-1 during transition to 2018 with CCB (As on March- end)

CET-1 Ratio after including the current periods retained earning			MCCR* (expressed as % of earnings)
2016	2017	2018	
5.5% - 5.65625%	5.5% - 5.8125%	5.5% - 5.96875%	100%
>5.65625% - 5.8125%	>5.8125% - 6.125%	>5.96875% - 6.4375%	80%
>5.8125% - 5.96875%	>6.125% - 6.4375%	>6.4375% - 6.90625%	60%
>5.96875% - 6.125%	>6.4375% - 6.75%	>6.90625% - 7.375%	40%
>6.125%	>6.75%	>7.375%	0%

(Source: RBI Circular DBOD No. BP.BC. 102/21.06.201./2013-14 dated March 27, 2014).

*MCCR is Minimum Capital Conservation Ratios

The CET-1 ratio includes amounts used to meet the minimum CET-1 capital requirement of 5.5%, but excludes any additional CET-1 needed to meet the 7% Tier 1 and 9% Total Capital requirements. For example, a bank maintains CET-1 capital of 9% and has no AT-1 or Tier 2 capital. Therefore, the bank would meet all minimum capital requirements, but would have a zero conservation buffer and therefore, the bank would be subjected to 100% constraint on distributions of capital by way of dividends, share-buybacks and discretionary bonuses.

The following represents other key aspects of the CCB requirements:

(i) Elements subject to the restriction on distributions: Dividends and share buybacks, discretionary payments on other Tier 1 capital instruments and discretionary bonus payments to staff would constitute items considered to be distributions. Payments which do not result in depletion of CET-1 capital, (for example certain scrip dividends¹⁰⁹) are not considered distributions.

(ii) Definition of earnings: Earnings are defined as distributable profits before the deduction

of elements subject to the restriction on distributions mentioned at (i) above. Earnings are calculated after the tax which would have been reported had none of the distributable items been paid. As such, any tax impact of making such distributions are reversed out. If a bank does not have positive earnings and has a CET-1 ratio less than 8%, it should not make positive net distributions.

iii) Solo or consolidated application: Capital conservation buffer is applicable both at the solo level (global position) as well as at the consolidated level, i.e. restrictions would be imposed on distributions at the level of both the solo bank and the consolidated group. In all cases where the bank is the parent of the group, it would mean that distributions by the bank can be made only in accordance with the lower of its CET-1 Ratio at solo level or consolidated level¹⁶. For example, if a bank's CET-1 ratio at solo level is 6.8% and that at consolidated level is 7.4%. It will be subject to a capital conservation requirement of 60% consistent with the CET-1 range of >6.75% - 7.375% as per Table 24 in paragraph 15.2.1 above. Suppose, a bank's CET-1 ratio at solo level is 6.6% and that at consolidated level is 6%. It will be subject to a capital conservation requirement of 100% consistent with the CET-1 range of >5.5% - 6.125% as per Table 24 on minimum capital conservation standards for individual bank.

2.4.4: Counter-Cyclical Capital Buffer (CCCB)¹⁶ under Basel-III:

CCCB yet another new buffer prescribed under Basel-III aims at ensuring that capital requirements take account of macro-financial environment at industry level in which they operate. Accordingly, RBI is expected to monitor growth (covered in next Chapter 3.5.4) in credit and other indicators which may signal a build-up of system-wide risk and shall put in place CCCB 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 CCB and vary between zero and 2.5% of RWAs depending on extent of build-up of system-wide risks. Banks are required to meet this buffer with CET-1 capital. Furthermore, banks will be subjected to the restrictions on distributions also if the capital level (CCB and CCCB) falls below the required levels during the periods when the CCCB is in force. Banks will have to ensure that their CCCB requirements are calculated and disclosed along with CAR.

Capital Conservation Buffer (CCB) and Counter-Cyclical Capital Buffer (CCCB)

Under Basel-III Norms the CCCB is implemented as an extension of CCB as and when warranted by RBI. The table No. 2.7 below shows the minimum capital conservation ratios a bank must meet at various levels of CET-1 ratio. When CCB is zero in all the regions where

¹⁶ Largely based on RBI's Master Circular on "Basel III Capital Regulations" vide RBI/2015-16/58 DBR.No.BP.BC.1/21.06.201/2015-16 dated: 01.07.2015.

to which a bank has private sector credit exposures, the capital levels and restrictions would be the same as described for CCB in the following Table No.2.7 as under;

Table No.2.7:
Individual Bank's Minimum CET-1 during build-up of CCCB

CET-1 (including all other loss absorbing capital)	Minimum Capital Conservation ratio (% to earnings)
within 1st quartile of Buffer	100%
within 2 nd quartile of Buffer	80%
within 3 rd quartile of Buffer	60%
within 4 th quartile	40%
Above top of buffer	0%

(Source: RBI Master Circular –July 2015)

For illustrative purpose , the following table No. 2.8 sets out the conservation ratio that a bank must meet at various levels of CET-1 capital if the bank is subjected to a 2.5% CCCB, as under:

Table No. 2.8:
Individual Banks Minimum Capital conservation Standards

CET-1 (including all other loss absorbing capital)	Minimum Capital Conservation ratio (% to earnings)
4.5% to 5.75%	100%
5.75% to 7.0%	80%
7.0% to 8.25% b	60%
8.25% to 9.5%	40%

(Source: RBI Master Circular –July 2015)

Banks will be subject to restrictions on discretionary distributions (include dividend payments, share buybacks etc.) if they do not meet the requirement on CCCB which is an extension of the requirement for CCB. Assuming a concurrent requirement of CCB of 2.5% and CCCB of 2.5% of total RWAs, the required conservation ratio (restriction on discretionary distribution) of a bank, at various levels of CET-1 capital held is illustrated in Table No. 2.9 below.

Table No. 2.9:
Individual Bank's Minimum Capital Conservation Ratios assuming a requirement of 2.5% each of CCB and CCCB:

CET-1 Ratio band	Minimum Capital Conservation Ratios (as % of earnings)
>5.5% - 6.75 %	100%
>6.75 % - 8.0%	80%
>8.0% - 9.25%	60%
>9.25% - 10.50%	40%
>10.50 %	0%

(Source: RBI Master Circular –July 2015)

The CET 1 ratio bands are structured in increments of 25% of the required CCB and CCCB prescribed by the RBI at that point in time¹⁷. A separate illustrative Table No: 2.10 is given below with an assumption of CCCB requirement at 1%.

¹⁷First CET-1 ratio band= Minimum CET-1 ratio+25%of CCB+25% of applicable CCCB. For subsequent bands, starting point will be the upper limit of previous band. However, it may be mentioned thatCET-1 ratio band may change depending on

Table No: 2.10

Individual Bank's Minimum Capital Conservation Standards, when Bank is subjected to requirement of 2.5% CCB and 1 % CCCB

CET-1 Ratio band	Minimum Capital Conservation Ratios (as % of earnings)
>5.5% - 6.375 %***	100%
>6.375 % - 7.25%	80%
>7.25 % - 8.125%	60%
>8.125% - 9.0%	40%
>9.0 %	0%

***: $6.375 = 5.50 + 0.625 + 0.250$

(Source: RBI Master Circular –July 2015).

As the total requirement of CCB and CCCB is 2.5% and 1% respectively, at each band 1/4th i.e., 0.625% and 0.250% of RWAs are being added for CCB and CCCB respectively. Its mandated that banks must ensure their CCCB requirements are calculated and publicly disclosed with at least the same frequency as their minimum capital requirements as applicable in various jurisdictions. The buffer should be based on the latest relevant jurisdictional CCCB requirements that are applicable on the date that they calculate their minimum capital requirement. In addition, when disclosing their buffer requirement, banks must also disclose the geographic breakdown of their private sector credit exposures used in the calculation of the buffer requirement. The CCCB decisions may form a part of the first bi-monthly monetary policy statement of the RBI for the year. However, more frequent communications in this regard may be made by the RBI, if warranted by changes in economic conditions. The indicators and thresholds for CCCB decisions mentioned above shall be subject to continuous review and empirical testing for their usefulness and other indicators may also be used by the RBI to support CCCB decisions

2.4.5: CCCB as tool of SRM/Macro Prudential Measure and its requirements:

The CCCB is one of the most revolutionary measures under Basel-III for SRM which aims to ensure that banking sector capital requirements take account of the macro-financial environment in the country. Under latest Basel Norms RBI is entrusted with the responsibility to make decisions on the size of the CCCB and its starting as well as terminating date. The trigger date for maintenance of CCCB will be decided by built up of excess credit growth in relation to the predetermined percentage of GDP culminating to threatening to buildup of systemic-risk. Under Norms CCCB is put to vary between zero and 3% of RWAs, depending on the prudence of RBI. The document entitled "Guidance for National Authorities Operating CCCB, BIS publication" further sets out the principles that RBI in India has agreed to follow in making buffer decisions. Thus, RBI is also expected to give banks time to adjust to such

various capital /buffers requirement (e.g. D-SIB buffer) as prescribed by the RBI from time to time. Accordingly, the values of upper and lower bands as given in above table will undergo changes.

CCCB level over the next 4 Quarters. Further details have been deliberated in chapter III: 3.5.4 in context of SRM

2.4.6: Liquidity provisions under Basel-III:

Basel-III has introduced two unique new liquidity standards to improve the resilience of banks to withstand liquidity shocks. In the short term, banks will be required to maintain a buffer of highly liquid securities measured by the LCR. And over long term banks will have to buildup NSFR also. Basel-III presents a framework for higher and better-quality capital, better risk coverage, measures to promote the buildup of capital that can be drawn-down in periods of stress, and, most importantly, the introduction of two global liquidity standards. The objective of this liquidity measure is to improve the banking sector's ability to absorb shocks arising from financial or economic stress. Basel-III has further strengthened its liquidity framework by developing these two minimum standards for funding liquidity A) LCR and B) NSFR.

A) 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 bank's credit rating, a partial loss of deposits, a loss of unsecured wholesale funding, a 'significant' increase in secured advances and increases in derivative collateral calls and substantial calls on contractual and non-contractual off-balance sheet exposures, including committed credit and liquidity facilities etc. The LCR is intended to promote resilience to potential liquidity disruptions over 30 day horizon. It will help ensure that global banks have sufficient unencumbered, high quality liquid assets to offset the net cash outflows it could encounter under an acute short term stress Scenario. The specified Scenario is built upon circumstances experienced in the GFC that began in 2007 and entails both bank specific and systemic shocks.

Definition and Formula for Liquidity Coverage Ratio (LCR)

The LCR standard envisages that a bank should have an adequate stock of unencumbered high quality liquid Assets (HQLA) consisting of cash or assets that can be converted into cash at little or no loss of value in private markets to meet its liquidity requirements in 30 calendar day liquidity stress scenario. The two components of LCR are stock of HQLA and the total net cash flows over the next 30 calendar days.

For LCR a minimum stock of liquid assets should enable the bank to survive until 30 days of the stress scenario, by which time it is assumed that appropriate corrective actions has been taken by the bank management. The formula is:

LCR: High Quality Liquid Asset / Total net cash outflow amount.

Obviously, as per Basel-III stipulations LCR has to be equal or greater than 100%.

The RBI circulars providing guidelines on maintenance of LCR by banks in India are:

- i) RBI/2014-15/328/DBR.BP.BC No. 52/21.04.098/2014-15 dated 28/11/2014,
- ii) RBI/2015-16/320 DBR. BP. BC. No. 77/21.04.098/2015-16 dated Feb 11, 2016 and
- iii) Latest clarifications vide RBI/2015-16/344 DBR.BP.BC. No. 86/21.04.098/2015-16 dated 23/3/2016. Accordingly, now it has been decided that henceforth, banks will be permitted to reckon government securities held by them up to 5 per cent of their NDTL under Facility to Avail Liquidity for Liquidity Coverage Ratio (FALLCR) within the mandatory SLR requirement as level 1 High Quality Liquid Assets (HQLA) for the purpose of computing their LCR. Hence the total carve-out from SLR available to banks would be 10 per cent of their NDTL. For this purpose, banks should continue to value such reckoned government securities within the mandatory SLR requirement at an amount no greater than their current market value (irrespective of the category of holding the security, i.e., HTM, AFS or HFT)".

B) Net Stable Funding Ratio (NSFR)

The NSFR standard is structured to ensure that long term assets are funded with at least a minimum amount of stable liabilities in relation to their liquidity risk profiles. That means: $\geq 100\%$ funding stable of amount required for funding of stable assets. Beside these new standards supplemental Pillar 2 requirements regarding risk management were introduced. The NSFR is a longer term structural ratio designed to address liquidity mismatches. It covers the entire balance sheet and provides incentives for banks to use stable uses of funding. The 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. NSFR is designed to encourage and incentivize banks to use stable sources to fund their activities. It helps to reduce dependence on short term wholesale funding during times of buoyant market liquidity and encourages better assessment of liquidity risk across all on- and off-balance sheet items. At present, RBI use a wide range of quantitative measures to monitor the liquidity risk profiles of banking organizations as well as across the financial sector, for a macro prudential approach to supervision. A survey of Basel Committee members conducted in early 2009 identified that more than 25 different measures and concepts are used globally by Bank Regulators. To introduce more

consistency internationally, the Committee has developed set of common metrics that should be considered as the minimum types of information which supervisors should use. In addition, supervisors may use additional metrics in order to capture specific risks in their jurisdictions. The monitoring metrics include the following and may evolve further as the Committee conducts further work. One area in particular where more work on monitoring tools will be conducted relates to intraday liquidity risk.

(a) Contractual maturity mismatch: To gain an understanding of the basic aspects of bank's liquidity needs, banks should frequently conduct a contractual maturity mismatch assessment. This metric provides an initial, simple Basel-line of contractual commitments and is useful in comparing liquidity risk profiles across institutions, and to highlight to both banks and supervisors when potential liquidity needs could arise.

(b) Concentration of funding: This metric involves analyzing concentrations of wholesale funding provided by specific counterparties, instruments and currencies. A metric covering concentration of wholesale funding assists supervisors in assessing the extent to which funding liquidity risks could occur in the event that one or more of the funding sources are withdrawn.

(c) Available unencumbered Assets: This metric measures the amount of unencumbered assets a bank has which could potentially be used as collateral for secured funding either in the market or at standing central bank facilities. This should make banks (and supervisors) more aware of their potential capacity to raise additional secured funds, keeping in mind that in a stressed situation this ability may decrease.

(d) LCR by currency: In recognition that foreign exchange risk is a component of liquidity risk, the LCR should also be assessed in each 'significant' currency, in order to monitor and manage the overall level and trend of currency exposure at a bank.

(e) Market-related monitoring tools: In order to have a source of instantaneous data on potential liquidity difficulties, useful data to monitor includes market-wide data on asset prices and liquidity, institution-related information such as CDS spreads and equity prices, and additional institution-specific information related to the ability of the institution to fund itself in various wholesale funding markets and the price at which it can do so.

Transitional arrangements

The Committee is introducing transitional arrangements to implement the new standards that help ensure that the banking sector can meet the higher capital standards through reasonable earnings retention and capital rising, while still supporting lending to the economy. (The transitional arrangement is presented in this chapter, table no. 2.4 and 2.6 earlier). After an observation period beginning in 2011, the LCR has been globally introduced on 1 January 2015. The NSFR will move to a minimum standard by 1 January 2018. The Committee will put in place rigorous reporting processes to monitor the ratios

during the transition period and will continue to review the implications of these standards for financial markets, credit extension and economic growth, addressing unintended consequences as necessary. Both the LCR and the NSFR will be subject to an observation period and will include review clause to address any unintended consequences.

2.4.7: New Leverage Ratio (LR) requirement:

An underlying cause of the GFC was the build-up of excessive on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while apparently maintaining strong risk-based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices. This deleveraging process exacerbated the feedback loop between losses, falling bank capital and contraction in credit availability. Therefore, under Basel-III, a simple, transparent, non-risk based leverage ratio has been introduced. The leverage ratio is calibrated to act as a credible supplementary measure to the risk based capital requirements and is intended to achieve the following **twin objectives**: Firstly, constrain the build-up of leverage in the banking sector to avoid destabilizing deleveraging processes which can damage the broader financial system and the economy; and Secondly, reinforce the risk-based requirements with a simple, non-risk based “backstop” measure.

Leverage Ratio:

One of the underlying features of the GFC was the build-up of excessive on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while still showing strong risk based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and contraction in credit availability. 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 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. At the macro level, it also serves the purpose of containing excessive risk at industry level.

Definition: The Basel-III LR is defined as the capital measure divided by exposure measure, with this ratio expressed as a percentage. $LR = \text{Capital Measure} / \text{Exposure Measure}$.

The capital measure for the LR is the Tier 1 capital of the risk-based capital framework, taking into account various regulatory adjustments / deductions and the transitional

arrangements. In other words, the capital measure used for leverage ratio at any particular point in time is Tier 1 capital measure applying at that time under the risk-based framework. The exposure measure for LR generally follows the accounting value, subject to following: On-balance sheet, non-derivative exposures are included in the exposure measure net of specific provisions or accounting valuation adjustments (e.g. accounting credit valuation adjustments, e.g. prudent valuation adjustments for AFS and HFT positions); netting of loans and deposits is not allowed. Unless specified differently below, banks must not take account of physical or financial collateral, guarantees or other credit risk mitigation techniques to reduce the exposure measure.

It may be noted that a bank's total exposure measure is the sum of the following exposures: (a) on-balance sheet exposures; (b) Derivative exposures; (c) Securities financing transaction (SFT) exposures; and (d) Off- balance sheet (OBS) items.

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. (This means a Bank should not lend more than 33.33 times its Tier-1 capital. The Basel Committee will use the revised framework for testing a minimum Tier 1 leverage ratio of 3% during the parallel run period up to January 2017. The Basel- Committee will continue to track the impact of using either CET-1 or total regulatory capital as the capital measure for the leverage ratio. The final calibration, and any further adjustments to the definition, will be completed by 2017, with a view to migrating to a Pillar 1 treatment on January 1, 2018). The macro-prudential element of leverage ratio under Basel-III has the objective of protecting against system-wide buildup of leverage those results 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.

2.4.7.1: Latest Guidelines¹⁸ by RBI on LR:

Currently, Indian banking system is operating at a LR of more than 4.5%. i.e., a Bank should not lend more than $=100/4.5 = 22.22$ times its tier-1 capital. The final minimum LR will be stipulated taking into consideration the final rules prescribed by the Basel- Committee by end-2017. In the meantime, these guidelines will serve as the basis for parallel run by banks and also for the purpose of disclosures as outlined below. During this period, RBI will monitor individual banks against an indicative leverage ratio of 4.5%.

Transitional arrangements

The Basel Committee is monitoring banks' leverage data on a semi-annual basis in order to assess the design and calibration of the leverage ratio over a full credit cycle and for

¹⁸RBI/2014-15/396 DBR.No.BP.BC.58/21.06.201/2014-15 dated January 08,2015 (effective from 1.4.2015)

different types of business models. The Committee will also closely monitor accounting standards and practices to address any differences in national accounting frameworks that are material to the definition and calculation of the leverage ratio. The public disclosure requirements of leverage ratio will begin from January 1, 2015 and the Basel Committee will monitor the impact of these disclosure requirements. Accordingly, banks operating in India are required to make disclosure of the leverage ratio and its components from April 1, 2015 on a quarterly basis and according to the disclosure templates as prescribed by the said RBI circular along with Pillar 3 disclosures. Banks should also report their LR to the RBI (Department of Banking Regulation and Department of Banking Supervision) along with detailed calculations of capital and exposure measures on a quarterly basis, until further advice. Banks are required to publicly disclose their Basel-III leverage ratio on a consolidated basis from April 1, 2015. i.e. The first disclosure should be published along with quarterly results as of June 30, 2015.

RBI has also prescribed uniform DF: The RBI has prescribed uniform DF for calculation and disclosure of LR. Banks operating in India are required to make disclosure of LR and its components (as per prescribed template) from the date of publication of their first set of financial statements / results on or after April 1, 2015. Accordingly, first such disclosure made for the quarter ending June 30, 2015. However few banks in India do not maintain the prescribed LR. A recent study suggests that “PSBs’ LR falls below RBI comfort level, but bankers unfazed”¹⁹. Several PSBs have fallen short of the RBI’s indicative LR of 4.5% in 2014-15, but bankers believe this is unlikely to be a big challenge when maintaining LR becomes mandatory by the end of 2017 under Basel-III Norms.

2.4.7.2: The Rationale behind LR:

Basel-III is a regulation standard for global banking system in response to the GFC. Indeed, the subprime crisis in 2007 and the sovereign crisis in 2009 have revealed the lack of capital quality and liquidity in global banking system. The banking system was not able to absorb the resulting systemic trading and credit losses nor could it cope with the re-intermediation of large off-balance sheet exposures that had built up in the shadow banking system. Accordingly, “the vulnerability of the banking sector to the build-up of risk in the system was primarily due to excess leverage, too little capital of insufficient quality, and inadequate liquidity buffers.”²⁰. LR seeks to address by improving upon the banking sector’s ability to absorb shocks arising from financial and economic stress, thus reducing the risk of spillover from the financial sector to real economy. It also helps to address the lessons of the financial crisis and improve risk management and governance as well as strengthen banks’ transparency and disclosure.

¹⁹Financial Express : 21.07.2015

²⁰Stefan Water, General Secretary of the BASEL- Committee on Banking Supervision,

2.4.8: Systemic Risk Management (SRM) including for ‘Pro-Cyclicality’:

The GFC of 2007 demonstrated the need for the prudential framework to address systemic risk. This has two principal sources. First, there is a strong collective tendency for financial institutions to take on excessive risk in the upswing of a credit cycle, and to become overly risk-averse in the subsequent downswing. This is referred to as pro-cyclicality. Second, banks typically fail to take account of the spillover effects that their distress might have on the stability of the rest of the financial network and the wider economy. The distress or failure of the world's largest banks, in particular, has large spillover effects. Systemic risk may be defined as "a risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy."²¹ If a bank loses money from a risky investment, that is not systemic. But institutional failure, market seizure, infrastructure breakdown or even a sharp rise in the cost of financial services can have serious adverse implications for many other market participants. In these cases, there is a systemic dimension. It is such negative externalities and the significant spillovers to the real economy that are the essence of systemic risk and which make a case for policy intervention.

In guarding against the Systemic risk aggravated by pro-cyclicality and inter-connectedness etc., Basel III represents a fundamental turning point in the design of financial regulation, with an explicit macro-prudential dimension supplementing the micro-prudential elements of the regulatory framework. The macro-prudential features of the post-crisis reforms can be grouped into three broad categories:

- First, Basel III introduces the concept of the CCB. This additional layer of capital, set above the minimum requirement, can be drawn down in times of stress to absorb losses and maintain lending to the real economy. Banks operating at levels below the buffers are subject to restrictions on capital distributions, such as dividends and bonuses.
- Second, it explicitly recognizes the systemic risk arising from inter-linkages across financial institutions. In particular, systemically important banks ²²(at a global or domestic level) are subject to an additional capital buffer to help internalize the externalities associated with their size, complexity and interconnectedness. In addition, Basel III increases the minimum capital requirement for banks' exposures to large financial institutions, and the large-exposures regime. It also applies a more restrictive limit for exposures between G-SIBs.

²¹ "Systemic-risk: how to deal with it" : by **Jamie Caruana** (BIS Publication-Feb 2010)

²² SIB: Systemically Important Banks: some banks due to their exceptionally large size; jurisdiction; activities; lack of substitutability etc. may become 'systemically important' or SIB. The failure of such banks has the potential to cause significant disruption to the entire banking system and in turn, to overall economic activity.

SIBs are therefore, also perceived as "Too Big to Fail (TBTF)". BIS has issued suitable guidelines on criteria to reckon to designate a bank as "SIB" and also as G-SIB = Global Systemically Important bank. And D-SIB = Domestic Systemically Important bank.

- Third, it promotes the build-up of additional capital cushions in good times to further enhance resilience and limit pro-cyclicality through the CCCB. To help mitigate the risk of regulatory spillovers and thereby to increase the effectiveness of the buffer, a key feature of this buffer regime is the mandatory reciprocity mechanism, whereby Basel Committee member jurisdictions are expected to match the CCCB rate set by other committee member countries for their banks' exposures in their countries.

Addressing liquidity risk:

In addition to the build-up of unsustainable leverage, a major driver of financial crises is excessive liquidity risk. Banks offer short-term liquidity to depositors and longer-term lending to borrowers; this fundamental role makes them inherently vulnerable to liquidity risk. But there was no international framework for limiting liquidity risks before the crisis. The Committee has now adopted two minimum liquidity standards with complementary objectives: Firstly, LCR, which requires banks to hold a stock of high-quality liquid assets that, can be used to cover their net cash outflow over a 30-day stress period. Secondly, NSFR, which require banks to support their business activities with appropriate sources of stable funds.

Incentives and Governance:

Effective corporate governance is critical to the proper functioning of the banking sector and the economy as a whole. To reflect key lessons regarding deficiencies in bank corporate governance that became apparent during the financial crisis, the Basel-Committee has revised its principles for sound corporate governance practices at banking organizations. The Committee's guidance assists banking supervisors and provides a reference point for promoting the adoption of sound corporate governance practices by banking organizations. The principles also serve as a reference point for banks' own corporate governance efforts. Ensuring that remuneration is effectively aligned with risk and performance is an essential element in reducing incentives for excessive risk-taking. The Committee's report on the range of methodologies for risk and performance alignment of remuneration also analyses the methods used by banks for incorporating risk into bonus pools and individual compensation schemes. In sum, Basel-III provides a strong macro-prudential framework that takes account of sources of systemic risk. It also introduces innovative features, including the use of capital buffers, the differentiation of regulatory standards by the systemic importance of banks, and an automatic reciprocity mechanism.

2.4.9: Status of Implementation of Basel III in India; More Stringent than BCBS?

RBI has released the final guidelines for Basel-III in 2012. Earlier RBI had already released the draft guidelines based on BCBS roadmap in December 2011, and based on suggestions of various market participants it has released the final guideline. The key highlights are summarized as under:

Higher emphasis on CET-1 capital - Requirement of minimum 10.5% (8% without CCB) by end of FY18 (draft guideline mentioned till FY17) v/s current minimum requirement of 3.6%. Introduction of CCB (2.5% of CRAR) and CCCB (up to 2.5% of CRAR) to be fulfilled by CET-1: RBI has extended the creation of the CCB to FY18 against FY17 earlier.

Introduction of LR (3% proposed globally) at 4.5% (earlier proposed at 5%) for Indian banks. LR will include all assets on and off balance sheet items at credit conversion factors. Overall guidelines place more emphasis on CET-1.

It may be noted that RBI has prescribed Implementation of more stringent Capital Standards for Basel-III in India, as depicted in following Table No-2.11 below:

Table No. 2.11:
Implementation of more stringent Capital Standards of Basel-III in India by RBI

Minimum Capital Ratios	As per Basel – III	As per RBI	Remarks
Minimum Common Equity Tier I(CET 1)	4.5%	5.5%	RBI stricter by 1%
Capital Conservation Buffer (CCB)	2.5%	2.5%	Same
Minimum CET-1 + CCB	7%	8%	RBI stricter by 1%
Minimum Tier I capital	7%	7%	Same
Minimum Total capital (including Buffer)	8%	9%	RBI stricter by 1%
Minimum Total capital +CCB	10.5%	11.5%	RBI stricter by 1%
Additional CCB as CET-1	0% to 2.5%	0% to 2.5%	Same

(Source: Based on BCBS Norms and RBI Norms)

Further, RBI has also imposed certain restriction on banks in paying dividend whenever CET-1 falls in CCB range as depicted in Table No.: 2.12, below:

Table No. 2.12:
Restrictions imposed by RBI on Banks to pay dividend when CET-1 falls

CET 1 Ratio	Retained Earning	Dividend Pay out
5.5% to 6.125 %	100%	0%
6.125% to 6.75%	80%	20%
6.75% to 7.735 %	60%	40%
7.735% to 8.0 %	40%	60%
Greater than 8 %**	0%	100%

** i.e.: No restriction when > 8.0%

(Source: RBI Master Circular – July 2015)

Instruments eligible for AT-1 and T2 also linked to CET-1: Current AT-1 instruments like IPDI, PNCPS etc. will continue to be qualified as AT-1; however such instruments with step up options will have to be phased out. RBI has specifically mentioned that AT-1 should not be issued to retail investors. Current T2 instruments will continue except for no separate category of upper Tier II and subordinate debt instrument. Under Basel-II, banks are not allowed to issue more than 50% of Tier I capital as subordinate debt instrument. Provisions for standard Assets, Floating (if not included in PCR), Counter cyclical, Country exposures etc. will be included in T2 subject to overall limit of 1.25% of RWAs under standardized

approach. Banks which will follow IRB approach will be allowed to recognize (to the extent of 0.6% RWAs) provisions over and above expected losses as Tier-II capital

It may thus be concluded that RBI (true to its reputation of as conservative regulator) has prescribed a more stringent Basel-III Norms than what is prescribed by BCBS. The Risk-Management Tools prescribed under the Basel-Accords I, II & III and The RBI guidelines to banks in India are provided in the table no. 3.1 in the following chapter III. As a prelude, in the next Chapter III, we study the Systemic Risk Management (SRM) tools as prescribed under the Basel Accords to empirically evaluate the preparedness of banks in India for the implementation of Basel-III Norms by March-end 2019.