Journal of Advances and Scholarly Researches in Allied Education
Vol. 16, Issue No. 8, (Special Issue) June-2019, ISSN 2230-7540

Implementation of Basel Accords in India

Dr. Dilip K. Chellani[1]* Dr. R. K. Sinha[2]

[1] Department of Banking and Insurance, Faculty of Commerce, MSU Baroda

[2] Retired Corporate General Manager, Bank of Baroda

Abstract – The banking industry which was facing turmoil due to spate of bank failures prior to and after independence, with the nationalization of Reserve Bank of India (RBI) on 1-1-1949 got an opportunity to breath in a changed environment. After independence, all changes in the composition of banking system (from single agency to multi-agency system) and matters concerning policies, programs & procedures so as to strengthen infrastructure (primary delivery outlets) with a view to cater to the banking needs of common man have been largely mandated by RBI based on specific recommendations of Expert Committee Reports. The Bank advances, deposits and other utility service products are brought onto the integrated technology platform and customers are encouraged to take transactions on alternate channels such as internet, mobile, through ATMs etc.

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INTRODUCTION

The financial results of banks reveal that reforms have changed the objective of banks from social banking (profit for accounting purpose) to more of commercial banking (hunt for profit). Banks have entered capital market and are permitted by RBI under the deregulatory framework to determine price of products and services on both side of balance sheet on their own. Particularly since last decade of bygone century, successful introduction of reforms in banking as well as implementation of Basel[1] Committee on Banking Supervision (BCBS) of Bank for International Settlement (BIS) led Basel I & II Accord is a well-documented in its significance as India could withstand the Asian Currency Crisis 1997-1998 (ACC) and even the Global Financial Crisis 2007-2009 (GFC) which brought about many bank failures even in many developed economies in world. Thus, development of need based banking and financial system in India has been revolutionary and now perhaps has no parallel in any other country in world. We have political consensus to make strong banks and financial institutions with ability to meet, sustain and compete in global markets.

The regulatory framework for banks, emphasizing on adequacy of capital and liquidity standards, evolved and prescribed by BCBS of BIS is popularly known as Basel Accord. Having tasted success in implementation of earlier Norms I and II, India readily agreed to implement new set of Basel-III Norms. Recently, RBI relaxed time line for banks by one year i.e., now by March-end 2020 all banks in India have to be Basel-III compliant and become financial super market to qualify in due course to be reckoned as Domestic-Systemically Important Banks (D-SIBs) as envisioned under Basel-III. This paper presents evolution of Basel Accord I, II and the latest III for banks with international presence and also in India under the directives of RBI for implementation by all banks.

EVOLUTION OF BASEL ACCORDS:

Basel-III document titled "A Global Regulatory Framework For More Resilient Banks and Banking System"[2] (was introduced on 16-12-2010 and revised in June 2011) is the latest regulatory framework stipulated by BCBS of BIS comprising of Central Banks and Supervisory Authorities of G-10[3] countries, Head-quartered in Basel, Switzerland. The BIS developed a new set of regulations as Basel-III to alleviate shortcomings of previous regulations I and II. The new Norms strive to make banks financially strong and resilient to withstand shocks of crisis if arises any, by prescribing to maintain higher quality and quantity of capital and other prudent provisions like Systemic Risk Management (SRM) Tools, Capital Buffers, Liquidity and Leverage Standards etc.

The Basel- I Accord; Historical Perspective: 87 bank failures in USA and Europe were particularly prominent during the 1980s period which is usually referred to as "Savings and loan crisis".[4] 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 distress.[5] This was particularly problematic as banks universally faced dilemma of balancing

profitability and stability. In order to prevent such risk, the BCBS met in 1987 in Basel, Switzerland. The BCBS drafted a document to set up for first time an international Norm of minimum amount of capital (in % of total capital) that banks should hold, which is also called minimum risk based Capital Adequacy Ratio (CAR). In July 1988, the Basel-I Capital Accord (agreement) was created as "the International Convergence of Capital Measurement and Capital Standards of BCBS". This Basel-I Capital Accord focused on reducing credit risk, prescribing a minimum Capital to Risk-weighted Assets Ratio (CRAR) of 8 percent of Risk Weighted Assets (RWAs). Although it was originally meant for banks in G-10, subsequently more than hundred countries claimed to adhere to it and in India RBI also asked banks to implement Basel-I provisions from 1-4-1998.

The main provisions of Basel-I: In 1988, the Basel-I Capital Accord was signed to set up a fair and consistent international banking system in order to decrease competitive inequality among banks with international presence. It is very interesting to understand that why Basel-I proposed special emphasis on capital.Capital is one of most important items of banking company balance sheet. Capital represents the portion of a bank's sources of funds (liability) which has no associated or contractual commitment for repayment. It is therefore, available as a cushion in case 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 bank owners, then this capital of Rs. 8 is available to protect the depositors against losses. If Rs.7 worth of loans were gone bad, there would still be more than enough money (ie.Rs. 100- Rs. 7=Rs. 93) to pay back depositors (Rs. 92) on demand. On other hand, if bank loses Rs.8 then the shareholders would suffer a total loss (Rs. 100 – 92 – 8=Rs.0 against shareholders money of Rs. 8), 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"[6]. 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. Thus core of Basel rules on capital reflects a belief that the necessary level of capital depends primarily on 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 asset side of bank's balance sheetas liabilities are generally known with great precision. (Since deposits mobilized are repaid on demand on contractual terms).

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 weigh 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. For supervisory purposes capital is split into two tiers called Tier-I and Tier-II,according to characteristics or qualities of each qualifying instrument. Tier-I capital, also called core capital consists mainly of stockholder equity capital and disclosed reserves (i.e. issued and fully paid ordinary shares/common stock" plus non-cumulative perpetual preferred stock and disclosed reserves). It is bank's highest quality capital because it is fully available to cover losses, if any. Tier-II capital consists of certain reserves and certain types of subordinated debts Instruments (i.e.undisclosed reserves, property where value changes like bonds etc. Supplementary capital or tier-IIconsists of all other capital). 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). The difference between Tier-I and II capital thus reflects degree to which capital is explicit or permanent. Under 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.Under the Accord[7] bank assets were to be weighted according to following five risk categories;

Category 1: Cash, Central Bank &Government Debt– all carrying 0% Risk Weight (RW)

Category 2: Public Sector Debt; A) Carrying 0% RW: such as Cash, Claims on OECD Central Governments and claims on Central Governments in National Currency, B)10% RW: such as Commercial loans partially guaranteed by Govt./Agency etc.C) 20% RW: such as Cash receivables, Claims on OECD banks and Regulated securities firms etc.D) 50% RW: 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% RW);

Category 4: Residential mortgages carrying 50% RW.

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% RW)

Basel-I focused expressly on effective supervision of banks andit 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 or CAR and was defined as Assets weighted by capitalcharge for credit risk, called CRAR (Tier-I and Tier-II) divided by RWAs. Banks with 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 or CAR = (Tier-I + Tier-II) / all RWAs.

Leverage Ratio=Total Capital/Average Total Assets.

An illustration of CAR under Basel-I: 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 =100x0%= Rs.0.00

Category 2:Rs.100 Crores public sector debt in each of 4 sub-categories carrying0%, 10%, 20% &50% risk weight;

Thus RWAs=100x0%+100x10%+100x20%+100x 50%=Rs.80 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% RW;

So RWAs =100x20%+100x20%+100x 20%+ 100x20%+100x20%= Rs.100 Crores

Category 4: Rs. 100 Crores in residential mortgages carrying 50% risk weight;

So, RWAS =100x50%= Rs 50 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 =100x100% +100x100% +100x 100%=Rs.300 Crores

Thus, Bank having total credit exposure of Rs.100+400+500+100+300=Rs1400 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 = Rs.530 Crores,

So, as per Basel-I Accord, CAR= (Capital/RWAs) x100= (50/530) x100 = 9.43%

Thus, Bank is very comfortable with CAR of 9.43% against prescribed CAR of 8%.**Critical Evaluation of Basel-I:**The Basel-I Capital Accord aimed to assess capital in relation to credit risk and market risk (market risk was introduced as an amendment to Basel-I Accord in 1996). It launched trend toward increasing risk modeling research. However, its over-simplified calculations and classifications have simultaneously called for its replacement, paving the way for Basel-II Capital Accord and further agreements as symbol of the continuous refinement of risk in banking and bank capital adequacy. **Merits of Basel-I:** It will remain a milestone in finance and banking history as it was first International Norm emphasizing the importance of risk in relation to bank capital. The strength of Basel-I lay in inducing relatively weak capitalized banks to maintain higher capital ratios. Above all, its simplicity was the greatest strength.

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

These listed criticisms have led to 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. Over the passage of time banks also learnt how to exploit the broad–brush nature of the requirements. Studies have found that average ratio of capital to RWAs (CAR) of major banks in the G-10 Countries rose from 9.3 percent in 1988 to 11.2 percent in 1996[8]**.** Our study also found and is presented below that PSBs in India maintained a higher CAR than required 8 percent.

Table: CRAR of PSBs in India from 1995 to 2005 (In %)

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)

Introduction of Basel Norms in India: The DBOD of RBI is entrusted with the responsibility of regulation of banks under the regulatory provisions of Banking Regulation Act, 1949 and RBI Act, 1934. RBI has issued 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 financial sector. In 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 RWAs. It's clear from our above study table that all PSBs except two viz. UCO Bank and Indian Bank had achieved CAR Norm of 8% by March 1997 and have also reached above 10% from 1998-99. Similarly, amongst 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. The Narasimham Committee Report II was submitted in the year 1998-99. It recommended CRAR to be raised to 10% in a phased manner; 9% to be achieved by year 2000 and 10% by 2002. This 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 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 for all other banks to April 2009.

Migration to Basel-II Norms: BCBS made amendments to its Accord-I in 1996 to incorporate capital charge for market–risks called 'The Market risk measurement framework'. Over a period of time many other enhancements like Operational-Risks 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 risk weighting, since it was realized that crudeness of original simple categories was encouraging a great deal of "gaming" and misallocation of resources. In addition to Tier 2 capital includes five broad categories. First, some countries (but not the U.S.) allow "undisclosed reserves" that are effectively 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 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 sophisticated global banks could use their own internal risk rating models to determine risk weightings for their own particular assets, with some exceptions. The idea was to align regulatory risk calculations with 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 best possible estimates of risk in their own management of assets.

iv) **Trading Assets:** Basel-II promulgated a different method for calculating risk of assets that were held in trading accounts, based on assumption that risk level of trading assets was principally determined by how far 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 capital requirements were more risk sensitive as these are directly related to 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 risks but also for Operational Risk and were 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.

Salient Features of Basel-II (2004-2006): As said earlier, Basel-II Norms were largely designed to address all the shortcomings that had surfaced in the wake of GFC. Basel-II Accord first published in 2004 and amended in 2005 and finally in 2006, is recommendations on banking laws and regulations issued by the BCBS. The BCBS released "International Convergence of Capital Measurement and Capital Standards: a Revised Framework–128"[9] in June 2004 with fundamental objective "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 setting right inadequacies of Basel-I

Background of Basel-II Accord: The last decade of bygone century marked paradigm shifts in the basics of banking business in changing supervisory and regulatory climate. The features of this period are a spate of banking and financial crisis all over the world, which alarmed the entire financial community to awake and guard against future shocks. The nature of crisis was endemic in nature due to inter-dependency among economies. This situation was better known as the `contagion effect[10]` 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 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 types of financial and operational risks banks face.

Three Pillars of Basel-II: The 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 pillar" concept:

The Pillar-1: Capital Charge:The first Pillar is extension of capital adequacy concept of Basel-I but it takes into account capital charge for operational risk 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 as under Basel-I noted above is divided into two categories, viz., Tier 1 (Core) Capital and Tier 2 (Supplementary) Capital.

The Pillar-2: Supervisory Review and Evaluation Process (SREP) and Internal Capital Adequacy Assessment Process (ICAAP); The Pillar-2 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. 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 treatment of interest rate risk in bank book, credit risk, operational risk, enhanced cross-border communication and cooperation and securitization.

Pillar-3: 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 market participants to gauge the capital adequacy of bank. 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 capital adequacy of the institution. It must be consistent with how senior management including the Board assesses and

manage risks of the bank. The Basel-II set out as many as13 disclosure requirements under prescribed formats known as DF1 to DF13 under Pillar3.

India and Approach to Basel-II:

With commencement of banking sector reforms during last decade of bygone century, RBI has been consistently upgrading the banking sector by adapting to international best practices. Banking system under reforms 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 capacity and confidence in Indian banking system to migrate smoothly to Basel-II Norms. Some of the regulatory initiatives taken by RBI, relevant for Basel-II were: First, RBI tried to ensure banks have suitable risk management frameworks (proposed under Monetary and Credit Policy in April 2000 and was launched in 23 banks in April 2001 on a pilot basis) oriented towards their requirements dictated by the size and complexity of business, risk philosophy, market perceptions and the expected level of capital. Second, RBI encouraged banks to formalize their ICAAP in alignment with their business plans and performance budgeting systems. This, together with the adoption of Risk Based Supervision (RBS) enabled factoring in of Pillar II requirements under Basel- II. Third, RBI has been expanding area of disclosures (Pillar III), so as to have greater transparency in the financial position and risk profile of banks. Fourth, RBI has been trying to build capacity for ensuring the regulator's ability for identifying and permitting eligible banks to adopt advanced approaches. And last but not the least, fifth, 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. Further, 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 (SC) comprising of senior officials from 14 banks (public, private and foreign) was constituted with representation from Indian Banks' Association (IBA) and RBI. The SC had formed sub-groups to address specific issues. On the basis of recommendations of the SC, 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.Finally, as said earlier on need based Basel-II Norms were introduced progressively from February 2009 up to March 2013. From April 1, 2013 banks have moved on to the latest Basel-III disclosures under Pillar-3.

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

SALIENT AND UNIQUE FEATURES OF BASEL-III: Basel- III is by far one of the most revolutionary regulations in banking industry globally. The reforms seek to raise both quality and quantity of regulatory capital base and enhance risk coverage by the core capital. Risk management measures are further underpinned by a leverage ratio that serves as a backstop to risk-based capital measures, and is intended to constrain excess leverage in banking system and provides an extra layer of protection against model risk and measurement error. Thus, Basel-III framework focuses on enhancing banking sector's safety as well as liquidity and stability / solvency by strengthening capital framework and bringing transparency through enhanced disclosures. It enforces risk management at micro (individual bank's operations) level as well as systemic risk management at macro (banking industry) level. The Norms introduced a number of macro-prudential elements into the capital framework to help contain systemic risks arising from pro-cyclicality and from the inter-connectedness of financial institutions.

The unique features of Basel-III: Basel-III Norms introduced more pragmatic set of Norms which are

summarized and presented here from various reference studies and comprehended as under:

1. Strengthening the Global Capital standard: Norms seek to raise both quality and quantity of the regulatory capital base and enhance risk coverage of capital framework.

2. Raising the quality, consistency and transparency of the capital framework: 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 inconsistency in the definition of capital across jurisdictions and lack of disclosure that would have enabled market to fully assess and compare 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. The remainders of 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 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, 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 key lessons of GFC is need to strengthen 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 GFC

In response to these shortcomings, the Basel-III Norms prescribed rising 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 (**Value at Risk**) capital requirement based on a continuous 12month period of significant financial stress. In addition, 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 capital requirements for counter-party 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 counter-parties, thus helping reduce systemic risk across the financial system. They also provide incentives to strengthen risk management of counter-party credit exposures.

4. Banks will be subject to 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 Basel-II standard covers risk of a counter-party default, it does not address such CVA risk, which during the GFC was a greater source of losses than those arising from outright defaults.

5. The Norms seek to strengthen standards for collateral management and initial margining. Banks with large and illiquid derivative exposures to counter-party will have to apply longer margin periods as a basis for determining regulatory capital requirement. Additional standards have been adopted to strengthen collateral risk management practices.

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

7. Measures to mitigate reliance on external ratings of Basel-II framework: The measure include requirements for banks to perform their own internal assessments of externally rated securitization exposures, and incorporation of key elements of Code of Conduct Fundamentals for Credit Rating Agencies into the Committee's eligibility criteria for use of external ratings in the capital framework etc.

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 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 de-leveraging 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.

9. Reducing Pro-cyclicality and promoting capital buffers: 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 have the following key objectives: to dampen any excess cyclicality of the minimum capital requirement; To Promote more forward looking provisions; to 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. Measures to address risk of Cyclicality: Basel-II framework un-intentionally led to risk in-sensitivity in coverage of regulatory capital requirement. Indeed, one of 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 incorporates this trade-off and introduced a number of safeguards to address risks of excess cyclicality. They include the requirement to use long term data horizons to estimate Probabilities of Default. The introduction of so called downturn Loss Given Default estimates and appropriate calibration of risk functions, which converts loss estimates into regulatory capital requirements. The Committee also required that banks conduct stress-tests that consider downward migration of 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 Expected Loss (EL) approach (instead of "incurred Loss") -a set of high level guiding principles that should govern the reforms to the replacement of International Accounting Standards. Second, it is updating its supervisory guidance to be consistent with the move to such an EL approach such as promoting strong provisioning practices under EL approach. Third, it is addressing incentives to stronger provisioning in regulatory capital framework. Capital Conservation: Basel-III Norms introduced a framework to promote conservation of Capital and build-up of adequate buffers (Viz; Capital Conservation Buffer (CCB)**,** Counter-Cyclical Capital Buffer (CCCB))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 form of dividends, share buy backs and generous compensation payments even though their individual financial condition and outlook for sector were deteriorating. To address this market failure, Basel-III has introduced a framework that will give supervisor's stronger tools to promote capital conservation in banking sector. Implementation of the framework through internationally agreed capital conservation standards will help increase sector resilience going into a downturn and will provide mechanism for rebuilding capital during the economic recovery. Moreover, 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 GFC, 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 real economy. This in turn can further destabilize banking sector. These inter-linkages highlight importance of banking sector building up its capital defenses in periods when credit has grown to excessive levels. The building up of these defenses should have additional benefit of helping to moderate excess credit growth.

13. Basel-III Seeks to Address Systemic Risk and Inter-connectedness 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 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 Basel-III framework 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. 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 Liquidity Coverage Ratio 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 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.

BASEL III- IMPLEMENTATION IN INDIA: Having tasted success in implementation of earlier Basel-Norms, India readily agreed to implement the new set of Basel-III Norms. RBI issued draft guidelines to implement Basel-III Norms on December 30, 2012 and final guidelines on May 2, 2013. The progressive implementation of Basel-III Norms mandated by RBI[11] (true to its reputation as conservative regulator RBI has prescribed a more stringent Basel-III Norms than what is prescribed by BCBS and our study has comprehended in tabular form at end of our paper) with effect from April 1, 2013 and all banks are required to be fully compliant by March-end 2018.[12] With NDA led new Government at the centre, the time line for banks was relaxed by one year i.e., now by March-end 2019 and again recently by one more year to now March end 2020 all banks have to be Basel-III compliant and become financial super market to qualify in due course to be reckoned as D-SIBs as envisioned under Basel-III.

Higher Capital Ratio Requirement: It may be emphasized that the Basel-III Capital Norms prescribed higher capital Ratio of minimum 11.5% (including CCB and excluding CCCB - which if applied would hike the requirement to 13-14% !)- against 8% by Basel-I and 9% by Basel-III, as per details depicted below :

Table No. 2: Components of Regulatory Capital as % of RWAs

Sr. No.	Minima and Maxima of 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.

Further, during transition period, the excess will be determined with reference to minimum CET-1capital 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-1capital.

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 guided by RBI in its circular to banks. 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.3 below.

Table No.3: 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).

In sum, the RBI has proposed a very smooth and gradual transition for banks to attain the capital adequacy to be BASEL-III compliant.

HIGH CAPITAL DEFICIENCY IN PSBs : However, it has been confirmed by various reports and studies that all PSBs including SBI and other big banks like BOB, PNB, CANARA and BOI etc. are short of requisite capital to become Basel-III compliant by 2019 (ie. all PSBs in India are Capital deficient !) Different Studies and Reports (during 2012 to'14) estimated the capital deficiency of

PSBs ranging between Rs 5 Lakhs Crores to 3 Lakhs crores as tabulated below:

Table No. 4: Estimates by different studies (during 2012-14) on Bank Capital Deficiency by 2018-19:

Research Agency	Summarized Estimates
RBI	Rs.5.47 Lakh Crores: of which 23% for SBI group& 67% for nationalized banks together. Also 88% for CET only.
CRISIL	Rs.2.40lakhs Crores. By March-2018
Ernst & young's Research	Rs. 4.31 Lakh Crores (out of which 70% as CET) by 2019
Fitch's Study	Rs. 2.50 to 2.75 Lakhs Crores.
Macquire	Rs.1.70 Lakhs Crores
PWC's study & ICRA (same estimate)	Rs.6.00 Lakh Crores: 70-75% of which for other PSBs group only
(Source: Compiled from various published studies & newspaper/ periodicals Report)	

Our study also finds deficit capital for all PSBs at around Rs.2.70 Lakh crores as on 31-3-2019 taking the published actual balance sheet data (provided under mandatory disclosures in Basel Disclosure Formats DF-1 TO DF-13)of all PSBs as of 31-3-2015. It's very interesting to find that all 6 Private sector banks[13] in our study are found to be capital surplus for the same study period.

CAPITAL INFUSION BY GOI & NEED FOR RESTRUCTURING: The annual published balance sheet of many PSBs are in bad shape; many had posted loss in 2014, 2015 & 2016 (including BOB which posted loss for the first time in Marh-2016 in its glorious history of 107 years of consistent profit making!!). Even today, all PSBs are bogged-down with alarming contamination is their assets (NPAs are over Rs 7 lakh crores !!), all PSBs are not in a position to raise the requisite capital from capital-market. As such, there is no option but GOI has to step in and to infuse capital in all PSBs so as to make them Basel-III compliant or sufficient by 2020. GOI had already announced (under INDRADHANUDH Program) to infuse Core Equity Capital of Rs 70,000 crores during the four years 2013-14 to 2016-17. However, as the deficit capital has gone further higher (due to higher NPAs and higher losses etc.), on 24/10/2017 GOI has further announced to infuse another Rs. 2.11 lakh crore capital for the NPA-hit PSBs over a period of next two years. Out of this, Rs. 1.35 lakh crore will be through the "Recapitalization bonds", while remaining Rs. 76,000 crore from the budgetary support, to shore up the capital of all PSBs.

It may be relevant to point out in this context that since Basel-III norms require/envision strong banks with big size and stronger capital base, the merger of SBI with its associate banks and Bharatiya Mahila Bank has taken place (with effect from 1/4/2017). Further, the Finance Ministry has already sounded the remaining PSBs to find their suitable merging partners so as to have big sized banks which in due course may become D-SIBs and "TOO BIG TO FALL" !!. (Dena Bank and Vijaya banks merger into Bank of Baroda is slated from 1-4-2019) So apart from merger & restructuring of SBI & its associate banks, the restructuring of remaining PSBs is very much need-based measure from Basel-III consideration and as such it would take place shortly but gradually.

BIS's ASSESSMENT OF IMPLEMENTATION OF BASEL-III IN INDIA: BIS Regulatory Consistency Assessment Programme (RCAP) of June-2015 and further self-reporting monitoring template for RCAP follow-up actions for the Jurisdiction of India Status as of: 31-12-2016 expresses general satisfaction over the implementation of Basel-III Norms in India.

CONCLUSION:

Basel-III Norms are revolutionary norms which seek to make all banks strong and resilient to withstand the shocks in economy. Particularly all PSBs in India at present are highly capital deficient, which is required for them to become Basel-III compliant. However, with GOI's further promised infusion of Rs.2.11 Lakhs crores all PSBs would be Basel-III compliant by prescribed timeline. This augurs very well for Indian economy as well as for reputation of Indian banks. The BIS is also satisfied with the implementation of Basel-III in India.

Annexure-I

Various risk management tools and concepts prescribed under Basel-Accords I, II and III and RBI guidelines for implementation by banks in India.

Tools	BASEL-I	BASEL-II				BASEL-III
Risk Coverage	• Credit Risk • Market Risk	• Credit Risk • Market Risk • Operational Risk				• Credit Risk • Market Risk • Operational Risk • Liquidity Risk • Counter Cycle Risk
Calculation of RWAs and CRAR	4 major categories of RWAs	Risk	Method 1	Method 2	Method 3	CRAR + Additional CCB + CCCB
		Credit Risk	Standardized approach	Foundation Internal Rating Based	Advanced Internal Rating Based	
		Market Risk	Standardized Approach	Internal Model Approach		
		Operation Risk	Basic Indicator Approach	Standardized Approach	Advanced Measurement Approach	
Significance	1st International measure to cover banking risk	• Covered Operational risk apart from credit and market risk. • Recognized differentiation & brought flexibility • Better asset quality helped banks to reduce capital requirements.				Liquidity Risk Management Introduction of CCB.
Minimum CRAR per BCBS (RBI guidelines)	CRAR:8% (8% from 1999)	CRAR: 8% (9%) Tier1: 4% (6%) (Common Equity: 3.6%) (RBI recommendation of CRAR for PSBs at 12%)				CRAR 10.5% to 13% (11.5%) Tier1: 6% (7%) CET1: 4.5% (5.5 %).
Implementation in India	1998	2009				2013-2020.

(Source: Based on BCBS and RBI Guidelines as shown in brackets)

It's evident from above that Basel-I Accord of 1988 (introduced in India in April 1998) and Basel-II

proposals of 1999 which was effective worldwide in 2004 (implemented in India in 2009) covered only the risks (Credit risk, Market risk and Operational risk) at individual bank's level. But GFC proved that these were inadequate to contain the system in big crisis which is due to inter-connectedness of banks and financial institutions as well as pro-cyclicity of the various risks due to economic down-turn etc.

About the Author:

*Dr. Dilip K. Chellani was Head, Department of Banking and Insurance, Faculty of Commerce, at MSU Baroda, for 10 years till April 2017. His academic qualifications are: MA (Econometrics), M.Com and PhD in Banking and Business Finance. He worked as a consultant to sick district central cooperative banks in Gujarat, worked as a research guide and published two books and many articles and research papers. Delivered lectures at various bank training Centers in Gujarat and CAIIB Baroda Centre. Conceptualized, Designed as well as Introduced for the first time self-finance course in the Department. He was also made in-charge of RBI Endowment unit for 5 years ending March 2014 at the Department of Banking and Insurance. Also, Served on the advisory Board of LIC-Western Region, for 4 years period ending 2017. He can be reached at **dkchellani@gmail.com**.

**Dr. R K Sinha is presently empanelled as a Senior Consultant with Verifone. He is also a freelance consultant on Basel-III compliance and risk management matters. He retired in 2013 as Corporate General Manager of Bank of Baroda after 36 years of banking career. Post-retirement, he worked as Internal Banking Ombudsman of Corporation Bank for three years. A BSc Hon in Physics and Masters in Business Management, Sinha earned his doctorate in 2017 at MSU, Vadodara on 'BASEL-III: A study of Implication on Banks in India'. He has a special flair for research and teaching and has been a guest faculty at NIBM, Pune and MSU, Vadodara. He can be reached at bobrksinha@yahoo.co.in

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12. Basel -III Norms were announced on December 16, 2010 and sufficient timeline was given by BIS to all banks with international operations to gradually migrate to the Norms by January 1, 2018.

13. The new generation private sector banks included in our study are 1, HDFC Bank Ltd., 2. ICICI Bank Ltd., 3. Kotak Mahindra Bank Ltd., 4. Axis Bank Ltd, 5. IndusInd Bank Ltd and 6. Yes Bank Ltd.

Corresponding Author

Dr. Dilip K. Chellani*

Department of Banking and Insurance, Faculty of Commerce, MSU Baroda

dkchellani@gmail.com