

Chapter - III

SYSTEMIC RISK MANAGEMENT UNDER BASEL-III

3.1. Introduction:

Risk and risk taking is an inherent part of any business activity. Banking business due to its nature is exposed to various types of risks. The business of banking is accepting deposits largely from the public for the purpose of lending. Banks are therefore inherently exposed to various types of risks such as Liquidity risks (in which case banks are unable to repay the withdrawal demand of deposit at counter or in bank clearing centers), Credit risks (which arises when money lent may not be recovered from the borrower customers as per schedule of repayments) and, last but not the least, Market risks (which essentially arises due to changes in exogenous factors such as changes in monetary policy, exchange rates, market competitions etc.) The significance of risk management in banks is further heightened as India adopts and adapts to International best practices and norms amidst rising complexities and size, global competition and increasing deregulation. Particularly, since the last decade of bygone century, banks in India have introduced innovative banking products, processes and delivery channels and are thereby exposed to various operational risks including cyber-crime etc. "Ability to gauge the risks and take appropriate position will be the key to success of any enterprise"¹.

In the fast changing economic, political, technological, fiercely competitive scenarios while India integrates to the world class prudent norms and practices, banking industry is also upgrading in quality of customer services, expansion and diversification in banking products on both assets & liability side, para-banking products and delivery channels etc. are other factors which further exposes banks to risks associated with it . Thus, banks not only have to keep abreast with digital technology but also weigh in their ability, stability and thrust as a financial system in face of 'Digital-Disruption'². A strong and effective Risk Management System (RMS) with dedicated focus and concerns for various types of risks becomes critical. Globalization, Liberalization, Privatization and now the Digital-Disruption have opened up a new methods of financial transactions where risk level is very high. In banks and financial institutions, risk is considered to be the most crucial determinant of earnings. Therefore,

¹Dr. Krishn A. Goyal (2010): "RISK MANAGEMENT IN INDIAN BANKS: SOME EMERGING ISSUES"- International Economic Journal. Res., 2010 1(1) 102-109- www.ijeronline.com/documents/volumes/vol1issue1/ijer2010010109.pdf

²**Digital Disruption**- Digital transformation has created a rapidly changing business environment. Digitalization is disrupting the value chains and compelling companies to rethink nearly everything they do. "Whether your company is among the early adopters disrupting the market or among those forced to follow is dictated by how you understand and respond to opportunities and risks that digital presents" by **Samiron Ghoshal** Partner, Advisory Services & Member Global Emerging Markets Advisory Core Group, Ernst Young.

banks have to strike a balance between risk and return. Thus, management of a financial institution such as a bank is nothing but management of risks.

As noted earlier, The Basel-III framework is one of the most innovative framework to strengthen global capital and liquidity standards and RBI has also released the final guidelines for Basel-III implementation in 2012 and true to its reputation of as conservative regulator has prescribed a more stringent Basel-III Norms than what is prescribed by BCBS. 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. In this chapter we present theoretical underpinning to the preparedness of banks in India for risk management and unique macro prudential measures as enunciated in latest Basel-III Norms to counter and manage systemic risk. We also examine the RBI's guidelines to banks so as to be Basel-III compliant among others by means of RBS and Supervisory Programme for Assessment of Risk and Capital (SPARC) on regular basis to take care of operational risks, credit risks, market risks etc.

3.1. Risk Management in Banks:

According to John Kwaku Mensah Mawutor³ “over the years, banks and other financial institutions have acted as conduits for their respective clients to invest their surplus funds and also lend funds whenever needed. This fiduciary relationship between banks and their clients have over the years and in recent times experienced challenges due to number of reasons in the mode of transacting businesses” To mitigate these challenges, number of legislations has been passed globally to ensure sanity between banks and their respective associates⁴. The United States passed the Glass-Steagall Act,⁵ 1933 to separate commercial banks from investment banks. The motive behind this Act was to protect the interest of clients and the government by dissuading banks from simultaneously engaging in insurance business, banking and trading business to avoid any conflict of interests and other unethical practices in the banking industry. Later on this Act was repealed and replaced by

³ “Analysis of Basel-III and Risk Management in Banking” by **John Kwaku Mensah Mawutor** - European Journal of Business Management – ISSN 222-1905 (paper) ISSN-222-2839 (online) - Vol 6, No. 4, 2014.

⁴ **Amediku S.** (2011). Was BASEL-III necessary to bring about prudent risk management in banking? http://www.bog.gov.gh/index.php?option=com_content&view=article&id=936:was-BASEL-III-necessary-and-will-it-bring-about-prudent-risk-management-in-banking&catid=121:staff.

⁵ Glass-Steagall Act :In 1933, in the wake of the 1929 stock market crash and during a nationwide commercial bank failure and the Great Depression, two members of Congress put their names on what is known today as the Glass-Steagall Act (GSA) 1933. This act separated investment and commercial banking activities. At the time, "improper banking activity," or what was considered overzealous commercial bank involvement in stock market investment, was deemed the main culprit of the financial crash. <http://www.investopedia.com/articles/03/071603.asp#ixzz4In78ljMV>.

Gramm–Leach–Bliley Act (GLBA)⁶ in 1999 which reverted back almost to the old system. Accordingly, in view of the services rendered by banks to organizations globally, it had become expedient to formulate uniform legislation to supervise and to regulate their activities.⁷ To achieve this feat, the Basel- II, 2009 had formulated various regulations to supervise the operations of global banks⁸. In contemporary global banking, the emergence of competition has exposed banks and their clients to a number of risks culminating into global recession or recently recorded GFC. In view of these developments and practices, financial analyst asserts that “management of financial institutions ought to manage their risk to mitigate any adverse exposure”⁹. The nature of banking business generally exposes banks to Credit risk, Market risk and Operational risk¹⁰ and are explained here as under. However, it must be noted that these risks are asymmetric to banks. ‘The financial risk of a banking organization is the probability of a transaction culminating into a favorable or adverse outcome’¹¹. To achieve a favorable outcome of events, banks are expected to manage their risk factors effectively to minimize losses in order to maximize returns.

Credit Risk: Credit risk is one of the symmetric risks exposed to all banks. It is the probability that a borrower customer may not be able to settle its short and long term financial obligation. Interestingly, when banks lend money to customers, there is always a possibility on the part of the borrowing customer defaulting in payment. Hence, the objective of credit risk management is to minimize the risk associated with loans and maximize the bank’s Risk Adjusted Rate of Return by projecting and maintaining credit exposures within an acceptable benchmark. According to Raghavan, credit risks consist of quantity risk and quality risk. The quantity risk is simply the outstanding balance on the loan facility as at default date while the quality of risk defines the rate of probable loss in the event of default. Thus, credit risk is basically a combination of default risk and exposure risk. Exposure ceiling, review of renewals, risk rating models and risk based pricing are some of the tools employed in present day credit risk management.

Market Risk: Apart from credit risk, another possible risk injurious to the operation of banks is market risk. Market risk is a probable loss that may accrue to a bank as a result of

⁶The Gramm–Leach–Bliley Act (GLBA), also known as the Financial Services Modernization Act of 1999, (Pub.L. 106–102, 113 Stat. 1338, enacted November 12, 1999) is an act of the 106th United States Congress (1999–2001). It repealed part of the Glass–Steagall Act of 1933, removing barriers in the market among banking companies, securities companies and insurance companies that prohibited any one institution from acting as any combination of an investment bank, a commercial bank, and an insurance company. With the bipartisan passage of the Gramm–Leach–Bliley Act, commercial banks, investment banks, securities firms, and insurance companies were allowed to consolidate. (Wikipedia)-https://en.wikipedia.org/wiki/Gramm%E2%80%93Leach%E2%80%93Bliley_Act

⁷ Kupper E.F. (2008): “Risk management in banking”. Retrieved from: www.financialstabilityboard.org/publications/r_0910a.pdf

⁸BASEL- Committee on Banking Supervision, BCBS (2009): “BASEL-III and financial stability” by BIS.

⁹Filipiak, E. (2009). Creation of regulatory framework. The Enactment of the Glass-Steagall. Working Paper. Cornell University. Retrieved from: <http://ssrn.com/abstract=1450028>.

¹⁰Paul-Choudhury (1998). Credit risk special report. Risk Management. November 1998. Wilson, 1997.

¹¹Raghavan, R.S. (2003). Risk management in Banking. Retrieved: www.icaai.org/resource_file/11490p841-851.pdf

changes in variables in the market variables. These risks culminate into losses or gains in earnings as a result of variations in interest rates, exchange rates, bond rates, and equity/commodity prices¹². Consequentially, market risks impacts on on/off balance sheet positions as a result of movement in interest rates, equity, foreign exchange rates and commodity prices. To successfully measure, monitor and manage banks' market risk, the existence of an effective market risk management system will provide comprehensive information to measure liquidity, interest rates, exchange rates and commodity prices. And, another potential risk associated with financial institutions is operational risk.

Operational Risk: is the potential loss arising from failure or inadequate system such as internal controls, people or external events other than market and credit risk¹³. The real cause of most financial scams and some form of credit and market risks are caused by operational risks. According to Tett¹⁴, the inability of management to access banks operational processes has a tendency of breaking down the internal controls of governance. It is normally characterized with human errors. To safeguard banks from potential operational losses, management of banks ought to strengthen the internal controls and internal audit. These tools are some of the primary tools employed in a system to mitigate operational risks.

3.2: Elements of Risk Management as propounded in Basel- I:

The Basel-I categorized assets into five risk categories (as discussed with illustration in Chapter II, 2.1.1) based on the parameters of counter-party, collateral & maturity and applied risk-weights ranging from zero, ten, twenty, fifty, and one hundred percent to each. The total value of each asset is multiplied by its risk weights and this adjusted amount is added across all assets to arrive at the value of total RWAs amount.

Under the Basel-I Norms, adequacy of capital was of prime importance and banks were required to maintain a minimum CAR of 8% which meant that a bank has 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. While Basel- I in 1988 focused primarily on credit risk, in the 1996 amendment the CAR also included capital charge for market risk as well as operational risks. So, to maintain at 8% CAR more capital would be pumped in. The Basel- I, 1996 amendment also gave importance to categorize capital into Tier-I (consisting of Core equity and disclosed Capital Reserves) and Tier-II capital (consisting of mainly supplementary capital such as subordinated debts, un-disclosed reserves, loan loss reserves and hybrid

¹²Raghavan, R.S (2015): "Risk, the Business Driver in Banks"– January 29, 2015. ISBN 9789384391461.

¹³Thomas C. Wilson (1997): "Portfolio Credit risk" Risk Magazine- Sept.-1977 <https://www.newyorkfed.org/medialibrary/media/research/epr/98v04n3/9810wils.pdf>.

¹⁴Tett, G. (2012). "Fools' gold. How unrestrained greed corrupted a dream, shattered global market and unleashed a catastrophe". London, UK: Little brown. N.B.: G Tett's this book (*Fool's Gold...*) was widely reviewed throughout the English-speaking world and won the Spear's Book Award for the financial book of 2009.

capital instruments. So Basel-I Norms basically aimed at strengthening the capital structure of bank. So from risk management perspective, Basel-I (after amendment of 1996) took care of the three prominent risks viz. Credit risk, Market risk and Operational risks, but it lacked risk sensitivity and credit risk mitigants.

3.3: Risk Management Provisions Propounded In Basel-II:

The Basel-II was expected to provide an improved and more comparable way to look at risk-taking across banks. Accordingly, it provided banks themselves to be more effective in detecting changes in risk levels, and to better assess the appropriateness of particular capital levels supporting such risks. Another major contribution to the risk management philosophy consisted in the fact that preparation for and the final implementation of Accord, resulted in increased resources applied to improving bank risk management practices. This also resulted in pricing becoming more reflective of risk and in better bank capital allocation and therefore undoubtedly, led financial institutions to deepen and accelerate their efforts to improve the evaluation, disclosure and management of risks. Thus, Basel-II gave impetus to improvements in bank risk management practices. It has always had this objective in mind in addition to creating a stronger, and a more resilient bank¹⁵

Basel-II introduced a more scientific and systematic approaches for calculation of the capital charges for all types of risks. Basel-II also sets rigorous standards for the recognition of credit risk mitigation, ensuring that banks have sound internal procedures for assessing the legal certainty of such mitigation, that they include the effects of netting and collateral and that they factor into their calculations mismatches in maturity between hedging and hedged instruments, as well as other forms of risks. Additionally, Pillar-II ICAAP and Pillar-III market disclosures give added impetus to comprehensive improvements in a bank's risk management practices. Under Pillar II, by regulators under SREP do also assess the integrity of banks' internal economic capital models - focusing on aspects that are not well-captured in the Pillar I framework, such as the firm's correlation assumptions within and across portfolios and the rigor of its stress testing programs. Finally, under Pillar III, supervisors /regulators will ensure that accurate information about risks is disclosed. Thus, it may be reiterated that Basel-II Norms formalized the strong foundations of strong risk management principles, practices and structure to manage credit risk, Market risk and operational risks.

3.4: Risk Management Tools Recommended by Basel-III:

Basel-III aims to address the causes and remedies of the GFC that befell banks and other financial institutions due to inadequate regulatory provisions in earlier Norms. It's well-known

¹⁵Excerpts from remarks by **Mr. William L Rutledge**, Executive Vice President, the Federal Reserve Bank of New York, at the Central Bank of the Republic of Turkey's "International Conference on Financial Stability and Implications of BASEL- II", Istanbul, 17 May 2005.

that GFC caused the massive losses to the USA housing market as a result of the high risk associated with subprime loans which was only financed through assets supported by securitization¹⁶. The underlying principle behind the formulation of Basel-III as given in introductory lines of Basel-III: “Basel III: A global Regulatory Framework For More Resilient Banks and Banking Systems by BCBS, 2009” is to achieve twin objectives; one to make the banking more resilient by strengthening capital and liquidity regulations among the players in global banking and two to minimize systemic revolving risk to improve banks’ ability to withstand any financial turmoil.

The specific Macro-Prudential provision to mitigate liquidity crisis under Basel-III is pegged at 30-days Liquidity Coverage Ratio (LCR). The LCR seeks to strengthen and promote the short-term liquidity/stability of banks¹⁷. Under LCR, latest Basel Norms expect banks to hold adequate liquid low-yielding assets to meet this target. Basel-III also envisages measures to ensure long term liquidity for banks by proposing NSFR. To mitigate credit risk, the framework further increased the minimum capital requirement from 8% to 11.5%. Considering the capital inadequacy of banks that culminated into series of financial crisis, the Basel-III framework proposed a LR which provides that banks total assets should not exceed its capital by 33 times. This measure could reduce lending by banks to strengthen their capital base and also enable banks to have sufficient liquid assets to overcome any funding challenges. Basel–III also proposed additional capital buffers like CCCB and CCB to take care of risks known as systemic risks which assumes crisis-like dimensions fuelled by heavy losses suffered by many banks simultaneously during economic down-turn which at times is further aggravated by inter-connectivity and system wide volatility etc.

The following table 3.1 summarizes the various risk management tools and concepts prescribed under Basel-Accords I, II and III and RBI guidelines for implementation by banks in India as referred in chapter-II earlier.

Table No.3.1:

¹⁶Lange, H. (2004) –“Mortgaged backed securities: When does it work?” Journal of commercial Banking and Finance.

¹⁷ . Janson, N. (2009), “The ongoing banking crisis: another proof of the Basel II Accord inefficiency”, Gestion, Vol. 26 No. 6,

Risk-Management Tools Prescribed under the Basel Accords

| Tools | BASEL-I | BASEL-II | | | | BASEL-III |
|--|--|--|--------------------------|----------------------------------|--------------------------------|--|
| Risk Coverage | <ul style="list-style-type: none"> • Credit Risk • Market Risk | <ul style="list-style-type: none"> • Credit Risk • Market Risk • Operational Risk | | | | <ul style="list-style-type: none"> • 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 | 1 st International measure to cover banking risk | <ul style="list-style-type: none"> • Covered Operational risk apart from credit & market risk. • Recognized differentiation & brought flexibility • Better asset quality helped banks to reduce Capital Requirements. | | | | <ul style="list-style-type: none"> • 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 | 1994 | 2009 | | | | 2013-2019. |

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

It's evident from the above table that the 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 wide big crisis which is due to inter-connectedness of banks and financial institutions as well as pro-cyclicality of the various risks due to economic down-turn etc. Basel-III signed in December 2010 and proposed to be implemented globally from December 2018 (RBI has mandated banks in India to implement from March-end 2019) contains the innovative and revolutionary concept of SRM which is also known as 'Macro –Prudential' Risk Management Provisions. The essential elements of these provisions are described here as under.

3.5: Macro-Prudential tools in Basel-III to counter systemic risk:

Borio¹⁸ (2012) focuses particularly on the interaction between credit and property prices which are associated with cycles of wide amplitude and long duration compared to GDP, and they are inextricably linked with financial crises. Borio suggests modeling this with new approaches to the cycle in risk attitudes which are only loosely linked to underlying values and fundamentals (as opposed to model-consistent expectations in models). This fits nicely with the idea of macro-prudential policy and the need to build buffers in good times and to run them down in bad times.

The main causes of systemic risk are interconnectedness of financial institutions that engage in three broad activities: i) credit intermediation; ii) maturity transformation; and iii) leverage. These activities extend well beyond banks, to what has been referred to as the Para-banking system, hedge funds, insurance, exchange traded funds, OTC derivatives etc. Further, according to Lim et al¹⁹ the effectiveness of macro-prudential policies largely addresses four different types of systemic risks, viz:

- i) Risks generated by strong credit growth.
- ii) Risks arising from excessive leverage and the consequent deleveraging.
- iii) Systemic liquidity risk.
- iv) Risks related to large and volatile capital flows, including foreign currency lending.

3.5.1: Systemic Risk Management/ Macro-Prudential Measures of Basel-III:

The last decade of 20th century marked the advent of economic policies of liberalization and globalization adopted by emerging as well as developed economies of the world. As the integration of financial markets progresses rapidly, regulators become increasingly worried about the threat of systemic risk in the banking sector which may cause the simultaneous failure of several banks culminating into the severe economic crisis which was exactly witnessed during the GFC resulting into the failure of big banks in developed economy like USA. The risk of the financial system as a whole is called systemic risk. Macro-Prudential policies or SRM pay special attention to systemic risk, that is, problems that threaten the health of the financial system as a whole. The Financial Stability Board of BIS (FSB)²⁰ also defines macro-prudential policy as “one that uses prudential tools to limit systemic or system-wide financial risk”. The term ‘macro-prudential regulation’ characterizes the approach to financial regulation aimed to mitigate the risk of the financial system as a whole i.e., the systemic risk. A clearer definition of the macro-prudential term appears in Crockett

¹⁸Borio (2012): “towards a macro-prudential framework for financial supervision” <https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwif8pr77ujMAhXBO48KHbbsC9gQFggiMAE&url=http%3A%2F%2Fwww.bis.org%2Fpubl%2Fwork128.pdf&usg=AFQjCNGNHI2mt7UWEfCnX8jPSKVJdngM7Q&sig2=UOpD-nJIBcpXXOnv2u0FSQ&bvm=bv.122448493,d.dGo>.

¹⁹Lim et al¹⁹ (2011, p 9): Lim, C, F Columba, A Costa, P Kongsamut, A Otani, M Saiyid, T Wezel and X Wu (2011): “Macro-prudential policy: what instruments and how to use them? Lessons from country experiences”, *IMF Working Paper*, WP/11/238, International Monetary Fund, Oct. 2011.

²⁰“macro-prudential policy tools and frameworks” Financial Stability Board of BIS (FSB-2011).

(2000)²¹, who saw two strands to it: i) the pro-cyclicality of the financial cycle, which called for a build-up of cushions in good times that could be run down in bad times (stabilizers); and ii) institutions having similar exposures being inter-connected with each other, which calls for the calibration of prudential tools with respect to the systemic importance of individual institutions". According to Jaime Caruana²² systemic risk can 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." Hence, if a bank loses money from a risky investment, that is not systemic risk. But institutional failure due to their interconnectedness, market seizure, pro-cyclicality, infrastructure breakdown etc. can have serious adverse implications for many other market participants or banks. In these cases, there is a systemic risk dimension resulting into failure of banking industry.

Basel-III addresses issues relating to systemic risk²³ through various measures including (i) CCB, (ii) CCCB, (iii) LCR & NSFR, (iv) LR (these measures have been explained in earlier chapter-2.4.3 to 6) and other provisions like; (v) addressing to threats of pro-cyclicality by provisioning requirements etc., (vi) addressing to risks of inter-connectedness; (vii) addressing the too-big-to-fail problem; and last but not the least, (viii) addressing reliance on external credit rating agencies. These risk-mitigating tools of SRM are described here under as the macro-prudential provisions of Basel-III.

Banks are inter-connected in a variety of ways. They do participate in an interbank market, which exposes them to the risks of counterparty default and resultant illiquidity issues which are addressed under Basel-III Norms as SRM. Liquidity in financial markets and the soundness of each bank depends on the stability and confidence of the financial sector as a whole. Liquidity problems in a single (D-SIBs) bank will may therefore spill over to other banks. Such problems may ultimately require the monetary and fiscal authorities to re-

²¹Crockett (2000)²¹: Crockett, A. (2000), "Marrying the Micro- and Macro-prudential Dimensions of Financial Stability", *BIS Speeches*, 21 September; available at www.bis.org/review/rr000921b.pdf.

²²Jaime Caruana; The Role of Central Banks in Macro Economic and Financial Stability, (BIS Paper no. 76A dated February 2014)

²³**Systemic risk** is the risk of collapse of an entire financial system or entire market, as opposed to risk associated with any one individual entity, group or component of a system that can be contained therein without harming the entire system. It can be defined as "financial system instability, potentially catastrophic, caused or exacerbated by idiosyncratic events or conditions in financial intermediaries". IT refers to the risks imposed by *inter-linkages* and *interdependencies* in a system or market, where the failure of a single entity or cluster of entities can cause a cascading failure, which could potentially bankrupt or bring down the entire system or market. It is also sometimes erroneously referred to as "systematic risk". (WIKIPEDIA)

²³FSB setup by BIS, observed in 2010 that each country has certain big banks with huge client base and high assets size, run cross-border and cross-sector (insurance, investment and pension etc.) investment through their subsidiaries. If the parent bank fails, Government is forced to rescue them with bailout package etc. to ensure that national economy doesn't collapse and bank customers do not suffer as it happened in GFC. Consequently, these banks are reckoned as "too big to fail" so they will always be rescued by market-forces or the government. These banks are identified by BIS as 'G-SIB' at global level and

capitalize such “too big to fail²⁴ banks”. Banks provide essential services by operating the payments system and ensuring the flows of credit needed to keep the real economy going. But, the financial sector can exhibit cycles that are self-amplifying. This can lead to excessive booms and busts that could be avoided by early treatment with appropriate policies. One symptom of this pro-cyclicality can be large fluctuations in the overall level of credit growth²⁵ (Wide experience in advanced and emerging market economies has shown that a credit boom – for instance triggered by capital inflows, speculation in housing markets, or high world prices for a country’s commodity exports – can sow the seeds of a subsequent bust, with widespread damage to the overall economy.

3.5.2: RBI’s Guidelines on Triggering of CCCB Requirements²⁶:

According to RBI, the aim of the triggering of CCCB requirements is twofold. Firstly, it requires banks to build up a buffer of capital in good times which may be used to maintain flow of credit to the real sector in difficult times. Secondly, it achieves the broader macro-prudential goal of restricting the banking sector from indiscriminate lending in the periods of excess credit growth that have often been associated with the building up of system-wide risk.

The Framework: The CCCB may be maintained in the form of CET-1 capital only, and the amount of the CCCB may vary from 0 to 2.5% of total RWA of the banks and the same may be disclosed in DF-11 of Annex 18 as indicated in Basel III Master Circular. The CCCB decision as noted earlier would normally be pre-announced with a lead time of 4 quarters. However, depending on the CCCB indicators, the banks may be advised to build up requisite buffer in a shorter span of time. The credit-to-GDP gap shall be the main indicator in the CCCB framework in India. However, it shall not be the only reference point and shall be used in conjunction with GNPA’s growth. The RBI shall also look at other supplementary indicators for CCCB decision such as incremental CD ratio for a moving period of three years (along with its correlation with credit-to-GDP gap and GNPA’s growth), Industry Outlook assessment index (along with its correlation with GNPA’s growth) and interest coverage ratio (along with its correlation with credit-to-GDP gap). While taking the final decision on CCCB, the RBI may use its discretion to use all or some of the indicators along with the credit-to-GDP gap.

The CCCB framework shall have two thresholds, viz., lower threshold and upper threshold,

by Individual country as D-SIB at national level. The RBI has issued the framework for dealing with D-SIBs on July 22, 2014 and further has declared SBI and ICICI Bank Limited as D-SIBs in India.

²⁵**Borio, C (2003):** “Towards a macro-prudential framework for financial supervision and regulation”, *BIS Working Papers*, no 128, February, www.bis.org/publ/work128.htm.

²⁶ 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 respect to credit-to-GDP gap.

The lower threshold (L) of the credit-to-GDP gap where the CCCB is activated shall be set at 3 percentage points, provided its relationship with GNPA's remains 'significant'. The upper threshold (H) where the CCCB reaches its maximum shall be kept at 15 percentage points of credit-to-GDP gap. Once upper threshold of credit-to-GDP gap is reached, the CCCB shall remain at its maximum value of 2.5% of RWAs, till the time a withdrawal is signaled by the RBI. In between 3 and 15 percentage points of credit-to-GDP gap, the CCCB shall increase gradually from 0 to 2.5 per cent of the RWAs of the bank but the rate of increase would be different based on the level/position²⁷ of credit-to-GDP gap between 3 and 15 percentage points. If the credit-to-GDP gap is below 3 percentage points then there will not be any CCCB requirement. However, if the credit-to-GDP gap exceeds 15 percentage points, the buffer shall remain at 2.5 per cent of the RWAs.

The same set of indicators that are used for activating CCCB may be used to arrive at the decision for the release phase of the CCCB. However, discretion shall be with the RBI for operating the release phase of CCCB. Further, the entire CCCB accumulated may be released at a single point in time but the use of the same by banks will not be unfettered and will need to be decided only after discussion with the RBI. For all banks operating in India, CCCB shall be maintained on a solo basis as well as on consolidated basis.

All banks (both foreign & domestic) operating in India should maintain capital for Indian operations under CCCB framework. Banks incorporated in India having international presence have to maintain adequate capital under CCCB as prescribed by the host supervisors in respective jurisdictions. The banks, based on the geographic location of their private sector credit exposures (including non-bank financial sector exposures), shall calculate their bank specific CCCB requirement as a weighted²⁸ average of the requirements that are being applied in respective jurisdictions. RBI may also ask Indian banks to keep excess capital under CCCB framework for exposures in any of the host countries they are operating if it feels the CCCB requirement in host country is not adequate.

3.5.3: Addressing to Pro-Cyclicality through CCCB:

Financial institutions are prone to business cycles. In good times, banks' borrowers do well and service the loans in time. In bad times, borrowers tend to default in servicing interest and principal payment. Banks' profits go down but at the same time they are required to

²⁷The CCCB requirement shall increase linearly from 0 to 20 basis points when credit-to-GDP gap moves from 3 to 7 percentage points. Similarly, for above 7 and up to 11 percentage point range of credit-to-GDP gap, CCCB requirement shall increase linearly from above 20 to 90 basis points. Finally, for above 11 and up to 15 percentage point range of credit-to-GDP gap, the CCCB requirement shall increase linearly.

²⁸Weight = (bank's total credit risk charge that relates to private sector credit exposures in that jurisdiction/ bank's total credit risk charge that relates to private sector credit exposures across all jurisdictions), where credit includes all private sector credit exposures that attract a credit risk capital charge or the risk weighted equivalent trading book capital charges for specific risk, IRC and securitization.

make higher loan loss provisions for the non-performing loans. In order to address the pro-cyclical issues, the Basel- Committee worked closely with the International Accounting Standards Board (IASB) towards an EL approach to loan loss provisioning instead of the current practice of incurred loss approach. Losses incurred in the banking sector can be extremely large when a downturn is preceded by a period of excess credit growth. These losses can destabilize the banking sector and spark a vicious circle, whereby problems in the financial system can contribute to downturn in the real economy that then feeds back on to the banking sector. These interactions highlight the particular importance of the banking sector building up additional capital defenses in periods where the risks of system-wide stress are growing markedly. The buffer for internationally-active banks will be a weighted average of the buffers deployed across all the jurisdictions to which it has credit exposures. This means that they will likely find themselves subject to a small buffer on a more frequent basis, since credit cycles are not always highly correlated across jurisdictions.

In sum the CCCB consists of the following features:

- (a) National authorities will monitor credit growth and other indicators that may signal buildup of system-wide risk and make assessments of whether credit growth is excessive and is leading to the buildup of system-wide risk. Based on this assessment they will put in place a CCCB requirement when circumstances warrant. This requirement will be released when system-wide risk crystallizes or dissipates.
- (b) Internationally active banks will look at the geographic location of their private sector credit exposures and calculate their bank specific CCCB requirement as a weighted average of the requirements that are being applied in jurisdictions to which they have credit exposures.
- (c) The CCCB requirement to which a bank is subject will extend the size of the capital conservation buffer. Banks will be subject to restrictions on distributions if they do not meet the requirement.

Bank specific CCCB: Under Basel III Norms every bank will be subject to a CCCB that varies between zero and 2.5% to total RWAs. The buffer that will apply to each bank will reflect the geographic composition of its portfolio of credit exposures. Banks must meet this buffer –including a buffer in excess of 2.5% for banks in their jurisdiction, if this is deemed appropriate in their national context. However, the international reciprocity provisions set out in this regime treat the maximum counter-cyclical buffer as 2.5%. Banks outside of this jurisdiction with credit exposures to counterparties in this jurisdiction will also be subject to the increased buffer level after the pre-announcement period in respect of these exposures. However, in cases where the pre-announcement period of a jurisdiction is shorter than 12 months, the home authority of such banks should seek to match the preannouncement

period where practical, or as soon as possible (subject to a maximum preannouncement period of 12 months), before the new buffer level comes into effect.

Trigger: How to decide when to “trigger” and when to “deactivate” macro-prudential measures is entirely left to the prudence of the RBI (regulators). However, in evaluating the effects of period of economic booms, each of the following main indicator types²⁹ can help identify problems in the financial system. In particular, spillover effects to the whole economy will likely operate through rapid credit growth, which may show up later in indicators of banking sector vulnerability, excessive valuations in equity and property markets, and lax credit conditions and poor asset quality.

Key Indicators of financial stress:

Macroeconomic indicators Broad credit aggregates;

Measures of debt sustainability (debt to income, debt service ratio);

Banking sector indicators Stress tests, bank risk metrics;

Maturity and currency mismatch;

Leverage ratios;

Indicators of funding vulnerabilities;

Profits and losses;

Market-based indicators Asset valuations in equity and property markets;

Corporate bond and CDS spreads;

Margins and haircuts;

Lending spreads;

Qualitative information Under-writing standards;

Asset quality;

Credit conditions etc.

In deciding about macro-prudential measures, former RBI Governor Shri P. Subbarao underlined that a major difficulty for regulators is steering a course between Type I errors (imposing buffers too early out of excessive caution) and Type II errors (waiting until it is too late to avert an implosion)³⁰. Many crises have demonstrated the dangers of waiting too long. But it may be inappropriate for the regulator to act without convincing evidence that problems have already surfaced. And there have been instances of mistimed policies actually accentuating the cycle.

3.5.4: Prudential measures, monetary policy and the Central-Bank:

Basel-III Norms make it mandatory that macro-prudential measures need to be coordinated with monetary and fiscal policies. A corollary is that macro-prudential policies should not be

²⁹ Source: CGFS (2012); Committee on the Global Financial System; [HTTPS://www.bis.org/cgfs](https://www.bis.org/cgfs)

³⁰Subbarao, D (2011): Former Governor of the RBI: “India and the global financial crisis: what have we learnt?”.

used to offset inappropriately tight or loose monetary policy. For instance, if loose monetary policy is fuelling a credit boom, then monetary policy should be tightened in preference to imposing credit restrictions on lenders. In most circumstances, the desired change in macro-prudential policy and monetary policy would be in the same direction. It may be noted that “Regulation is not enough: monetary, Fiscal and Taxation policies must also synergize”³¹.

3.5.5: Four Steps Involved in Implementation of Macro-Prudential (trigger) measures to manage Systemic risk:

Following 4 steps are suggested for regulators to identify the trigger point for managing SRM:

Step-I: The ability to identify imbalances before they become a problem.

Basel-III Norms have given liberty to Regulators and/or supervisors to set up their own parameters. But in most of countries the credit-growth as % GDP growth has been found to be most acceptable parameter to identify the imbalance, if any.

Step-II: Select the appropriate prudential tool, or tools.

- counter-cyclical capital buffers;
- time varying systemic surcharges;
- systemic capital surcharges;
- systemic liquidity surcharges and supporting measures such as caps on CD ratio, LCR, NSFR
- capital surcharges on OTC derivatives not cleared centrally;
- a capital surcharge for global systemically important financial institutions (G-SIBs);
- Varying the capital plans of individual banks after stress testing exercises; and dynamic provisioning.
- Where non-bank borrowers and financial institution lenders are judged to be taking excessive risks the available tools include: variations in loan-to-value ratio requirements for mortgages, imposing caps on the ratio of debt-service-to-disposable-income ratios; setting rules to avoid currency mismatches for borrowers and lenders; economies and quantitative easing policies by major central banks,

Step-III: Decide how to calibrate (data and modeling) and time the intervention. And,

Step-IV: Co-ordinate with the responsible regulators and supervisors in foreign countries to make SRM effective.

3.6: Risk management system and structure in Banks in India:

Introduction

Banks in the process of financial intermediation are confronted with various kinds of financial and non-financial risks (credit, interest rate, foreign exchange rate, liquidity, equity price,

³¹ White W. (2012) –“Ultra Easy monetary policy and the law of unintended Consequences” –Federal Reserve Bank of Dallas –Globalization and Monetary Policy Institute –Working Paper No. 128 (sept-2012)

commodity price, legal, regulatory, reputational, operational risks etc.). These risks are highly interdependent and events that affect one area of risk can have ramifications for a range of other risk categories. Thus, RBI expects that the top management of banks should attach considerable importance to improve the ability to identify, to measure, to monitor and to control the overall level of risks undertaken.

According to Ravi Mohan³² the relatively lower presence of foreign banks helped minimize the crisis direct impact on India's domestic economy. Foreign Banks tends to be susceptible to capital flows reversal consequent to problems at host country, the parent bank or country of origin. Further, Bhattacharya³³ also concluded that the expected coverage of banking assets and the approach adopted for operational risk capital computation is compared broadly with the position of the banking system in India, Asia, Africa and Middle East. Risk management in commercial banks in India as it is practiced now is mainly an offshoot of recommendations of BCBS modified suitably by RBI. RBI has stipulated³⁴ that the broad parameters of risk management function in banks in India should encompass the following:

- Organizational structure
- Comprehensive risk measurement approach
- Risk management policies approved by the Board which should be consistent with the broader business strategies, capital strength, management expertise and overall willingness to assume risk
- Guidelines and other parameters used to govern risk taking including detailed structure of prudential limits
- Strong MIS for reporting, monitoring and controlling risks
- Well laid out procedures, effective control and comprehensive risk reporting framework
- Separate risk management frame work independent of operational Departments and with clear delineation of levels of responsibility for management of risk
- Periodical review and evaluation.

3.6.1. Risk management structure in Banks in India as prescribed by RBI:

A major issue in establishing an appropriate risk management organization structure is choosing between a centralized and decentralized structure. The global trend is towards centralizing risk management with integrated treasury management function to benefit from information on aggregate exposure, natural netting of exposures, economies of scale and easier reporting to top management. The primary responsibility of understanding the risks run by the bank and ensuring that the risks are appropriately managed should clearly be

³² (from 44 of chapter 1)

³³ (from 46 of chapter 1)

³⁴Refer RBI circular on risk Management vide [RBI docs.rbi.org.in/notification/pdf/9492.pdf](http://RBI.docs.rbi.org.in/notification/pdf/9492.pdf).

vested with the Board of Directors. The Board shall decide about whole gamut of RMS including its structure, approach; policies; MIS and supervision including setting up of various risk limits by assessing the bank's risk and risk-bearing capacity.

At organizational level, overall risk management is assigned to an independent Risk Management Committee (RMC) or Executive Committee of the top Executives that reports directly to the Board of Directors. The purpose of this top level committee is to empower one group with full responsibility of evaluating overall risks faced by the bank and determining the level of risks which will be in the best interest of the bank. At the same time, the Committee should hold the line management more accountable for the risks under their control, and the performance of the bank in that area. The functions of RMC should essentially be to identify, monitor and measure the risk profile of the bank. The Committee should also develop policies and procedures, verify the models that are used for pricing complex products, review the risk models as development takes place in the markets and also identify new risks.

The risk policies should clearly spell out the quantitative prudential limits on various segments of banks' operations. Internationally, the trend is towards assigning risk limits in terms of portfolio standards or Credit at Risk (credit risk) and Earnings at Risk and Value at Risk (market risk). The Committee should design stress Scenarios to measure the impact of unusual market conditions and monitor variance between the actual volatility of portfolio value and that predicted by the risk measures. The Committee should also monitor compliance of various risk parameters by operating Departments. Management Information System (MIS) is a pre-requisite. The most vital pre-requisite for effective Risk Management is the existence of a robust MIS, consistent in quality. The existing MIS, however, requires substantial up-gradation and strengthening of the data collection machinery to ensure the integrity and reliability of data.

Specialized skills and Expertise The risk management is a complex function and it requires specialized skills and expertise. Banks have been moving towards the use of sophisticated models for measuring and managing risks. Large banks and those operating in international markets should develop internal risk management models to be able to compete effectively with their competitors. As the domestic market integrates with the international markets, the banks should have necessary expertise and skill in managing various types of risks in a scientific manner. At a more sophisticated level, the core staff at Head Offices should be trained in risk modeling and analytical tools. It should, therefore, be the endeavor of all banks to upgrade the skills of staff. Given the diversity of balance sheet profile, it is difficult to adopt a uniform framework for management of risks in India. *The design of risk management functions should be bank specific,*³⁵ dictated by the size,

³⁵Refer RBI circular on Risk Management vide rbidocs.rbi.org.in/notification/pdf/9492.pdf.

complexity of functions, the level of technical expertise and the quality of MIS. The proposed guidelines only provide broad parameters and each bank may evolve their own systems compatible to their risk management architecture and expertise. Internationally, a committee approach to risk management is being adopted. While the Asset - Liability Management Committee (ALCO) deals with different types of market risk, the Credit Policy Committee (CPC) oversees the credit /counterparty risk and country risk. Thus, market and credit risks are managed in a parallel two-track approach in banks. Banks could also set-up a single Committee for integrated management of credit and market risks. Generally, the policies and procedures for market risk are articulated in the ALM policies and credit risk is addressed in Loan Policies and Procedures. Currently, while market variables are held constant for quantifying credit risk, credit variables are held constant in estimating market risk. The economic crises in some of the countries have revealed a strong correlation between un-hedged market risk and credit risk. Foreign-exchange exposures, assumed by corporate who have no natural hedges, will increase the credit risk which banks run vis-à-vis their counterparties. The volatility in the prices of collateral also 'significantly' affects the quality of the loan book. Thus, there is a need for integration of the activities of both the ALCO and the CPC and consultation process should be established to evaluate the impact of market and credit risks on the financial strength of banks. Banks may also consider integrating market risk elements into their credit risk assessment process. To safeguard banks from potential operational losses, management of banks ought to strengthen the internal controls and internal audit. These tools are some of the primary tools employed in a system to mitigate operational risks.

3.6.2: Evolution of Risk Management system, procedure & practices in PSBS in India:

Banks in India are perceived as 'commanding heights of economy' - the term coined at the time of Bank Nationalization in 1969. However, they are inherently exposed to special risks and challenges. Financial risks are more dynamic than static and assume more intrepid forms with the evolution of the banking functions, products and financial innovation, increased functional integration and decentralization. Contagion and systemic risk, moral hazard, 'too big to fail' phenomenon, public bailouts of banks are some of the issues that came under sharp scrutiny post GFC. As such banking regulation assumes critical significance to retain the resilience and soundness of the banking entities on the one hand and the macro-prudential stability of the financial system as a whole on the other and thereby also prevents volatility and disruptions in the real sector and the overall economy. As a prudent risk management tool commercial banks in India are by and large are subjected to interest rate controls and regulations such as the pre-emption in forms of Cash Reserves Ratio (CRR) and Statutory Liquidity Ratio (SLR), directed lending, prescription of norms governing credit dispensation etc. The CRR and SLR that together imposed a marginal pre-

emption of around 28% of bank deposits in 1951, increased to 63.5% in 1991 and it is 24.5% on February 6, 2017. RBI In addition, credit allocation at concessional rates for the designated priority sectors constituted a major portion of bank credit and over time, this rose up to 40%. In race for priority sector lending as highlighted by “Loan melas”³⁶ of 1980-90, however, the established Principles for Sound Liquidity Risk Management and Supervision (“Sound Principles”), which provide detailed guidance on the risk management and supervision of Banks were at threats. Profitability of the banking system was severely challenged (1980-90). Banks became saddled with a large volume of NPAs. The acceleration in economic growth witnessed in the eighties was also associated with macro - economic imbalances and persistence of structural rigidities. By 1990, against the background of the weak macro-economic situation with rising inflation, high fiscal deficit, low economic growth and unsustainable current account deficit, the Gulf war precipitated the balance of payments crisis.

An overhaul of the Indian financial system was initiated as part of the structural reforms. In August 1991, the GOI set up a high-powered Committee on the Financial System (CFS) under the Chairmanship of Shri M. Narasimham, to examine all aspects relating to the structure, organization, functions and procedures of the financial system and made wide-ranging recommendations which formed the basis of financial sector reforms relating to banks. The CFS aimed at improving the allocation and functional efficiency of the banking sector while putting in place a vibrant, diversified, competitive and efficient system.

During the first phase (1991-92 to 1997-98) of banking sector reforms, several mutually reinforcing measures were initiated with focus on strengthening the commercial banking sector by applying prudential norms, providing operational flexibility and functional autonomy as also strengthening of the supervisory practices. The important measures undertaken during this period covered adoption of capital adequacy norms to strengthen the capital base of the banks, strengthening the Income Recognition and Asset Classification (IRAC) norms to enable realistic assessment of the asset quality of banks; phased reduction in the SLR and CRR to augment the lendable resources of banks; rationalization and gradual deregulation of interest rates for inducing competitiveness; permitting new players in the banking sector to enhance competition and granting greater flexibility in branch expansion etc. Several other channels of NPAs management were also instituted including Lok-

³⁶**Loan Melas:** Loan Mela was the term used by the press and media about large scale mass loaning camps that were organized in 1980's at the behest of the then Union minister Mr. Janadan Poojary. The massive loan camps had so much fan-fare and political over tone that often the beneficiaries (people below poverty line and small borrowers) perceived it to be a free bonanza from the government rather than loan (with repayment obligations). it was ,therefore, subsequently criticized and stopped

Adalats³⁷, Debt Recovery Tribunals (DRTs), Corporate Debt Restructuring Mechanism (CDRM) and Asset Reconstruction Companies (ARCs) for strengthening credit appraisal and recovery framework.

The focus in the second phase of reforms (1998-99 and beyond) was on further strengthening of the prudential norms in line with the international best practices: Basel-I was adopted by RBI in India. The experience of banks facing asset-liability mismatches in the South East Asian countries during 1997, underlined the need for putting in place sound ALM practices. The ALM framework was, therefore, complemented with guidelines on risk management.

The revised guidelines issued by the RBI in April 2007 (vide DBOD No BPBC. 90/20.06.001/2006-07 dated April 27, 2007) for the implementation of a NCAF (under Basel-II) prescribed commercial banks to allocate capital in relation to the credit risk embedded in their exposures. Credit risk in this case would be measured by the rating assigned to such exposures by external credit rating agencies like ICRA etc.

3.6.3: Study on Risk Management Structure of Public-sector Banks:

Referring the study by Prof Popli & Sima Singh³⁸ based on annual reports of public and private sector banks operating in India has indicated that Indian commercial banks have taken 'significant' and structural initiatives with regard to risk management to implement the Basel Norms in their organizational structure. The study also highlighted that almost all the banks under the study have entered in Memorandum of Understanding (MOU) with credit rating agencies for the purpose of rating their domestic and overseas exposures.

From the analysis of working of various committees under Risk Management Structure duly documented by Banks Policies and under-oversight of the respective Bank's Board, the study finds that almost all the banks have put in place adequate risk management architecture in response to Basel-II guidelines. In compliance with RBI guidelines for appropriate risk management structure, most of the banks have taken several initiatives to manage the risks. Commercial banks in India are acting proactively in identifying, managing and controlling risk by building a sound risk management architecture keeping in mind guidelines issued by RBI and Basel Norms. Several measures and initiatives taken by nationalized and private sector banks in India to identify and manage risks are summarized here as under Table No.-3.4:

³⁷**LokAdalat** is a system of alternative dispute resolution developed in India vide Legal Services Authorities Act, 1987. It roughly means "People's court". India has had a long history of resolving disputes through the mediation of village elders (Wikipedia). It is powerful and cost effective tool for banks to settle loan-recovery disputes.

³⁸**Prof (Dr) G.S. Popli & Prof (Dr) Sima Singh** : "Basel- Norms Compliance: Initiatives by Commercial Banks in India"
Electronic copy available at: <http://ssrn.com/abstract=2103530>

Table No.3.2:

Various Risk Management structure introduced in India

| Name | Description |
|--|--|
| Risk Management Committee (RMC) | All nationalized banks, State Bank Group and select Private Sector Banks have set up separate RMC or Integrated Risk Management Department (IRMD)- entrusted with the primary responsibility of laying down risk parameters and establishing an integrated risk management framework and control system. Every bank is exposed to credit risk in its lending operations. It is the risk of loss that may occur from the failure or unwillingness of any counterparty to meet commitments in relation to lending, trading, settlement and other financial transactions as per terms and conditions of the contract .To maintain bank's overall credit risk exposures within the parameters (ie in accordance with the bank's size, complexity and diversification of its activities) set by the Board of Directors the importance of a sound risk management structure is reaffirmed. |
| Credit Risk Management Committee (CRMC) | Banks have constituted a separate CRMC to monitor credit risk and ensure compliance with limits approved by the Board. |
| Market Risk Management Committee (MRMC) | Banks have constituted a separate MRMC to monitor market risk and ensure compliance with limits approved by the Board. |
| Operational Risk Management Committee (ORMC) | Banks have constituted a separate ORMC to monitor Operational risk and ensure compliance with limits approved by the Board. |
| Asset Liability Committee (ALCO) | For management of various risks ALM structure is constituted in which banks endeavors to match their Assets and liabilities in various time buckets. Whenever, mismatches are noticed, remedial actions are taken. Further, banks have framed ALCO consisting of members from senior management level responsible for management of market risk that keep an eye on the structure of bank's assets and liabilities and decide about product pricing for deposits and advances and monitors and controls the strategic position, interest rate risk position and is endowed with the responsibility of management of balance sheet of bank with a view to manage the market risk exposure assumed by banks. |
| Risk Based Internal Audit (RBIA) | RBI had issued broad guidelines to banks in December 2002 on RBIA to undertake an evaluation of the risk management systems and control procedures prevailing in branches as well as in other functional areas. Risk-based auditing extends and improves the risk assessment model by shifting the audit vision. Instead of looking at the business process in a framework of internal control, the internal auditor views the business process in an environment of risk. It is that part of internal audit that focuses on risk thus, adds more value to the organization than an audit focusing only on controls. Task Force for RBIA has been developed by banks for the purpose of identification, measurement, monitoring and management of risks to mitigate their adverse impact on their financials. The RBI has introduced a RBS model for supervision and regulation of the banking and financial sector. |

| | |
|--|--|
| Risk Based Supervision (RBS) | RBS is a system based inspection by RBI. The RBS process involves continuous monitoring and evaluation of the risk profiles of banks' in relation to their business strategy and exposures based on a risk matrix. |
| Credit Risk Management (CRM) | All banks have framed comprehensive CRM structure. It involves proper appraisal of loan applications, monitoring of borrowable accounts and appropriate recovery measures. Banks have also setup CRMC at various managerial levels with delegated authority to sanctions loans based on CRM. |
| Operational Risk Management (ORM) | For the purpose of robust quality of ORM, separate Operational Risk Management Committee (ORMC) has been put in place by banks as an integral part of RMS. One of the important tools for assessing the Operational Risk i.e. Risk Control and Self-Assessment (RCSA) has been undertaken by banks to counter the risks faced. |
| Market Risk Management (MRM) | For envisaged MRM, banks have set up Market Risk Management Committee (MRMC) responsible for setting policies and guidelines for market risk measurement, management, reporting and responsible for reviewing and approving market risk limits, including stop losses for traded and accrual portfolios. |
| Internal Capital Adequacy Assessment Programme (ICAAP) | RBI has asked all the banks in India to prepare a self-analytical framework called ICAAP document duly approved by the Board of Directors. The ICAAP is a self-revelatory exercise that augments quality of management and covers identification and measurement of risks other than Pillar 1 risks (i.e. Credit Risk, Market Risk & Operational Risk), to meet the requirements of Pillar 2 of BASEL- II Norms. All banks have evolved and put in place a Board approved ICAAP framework. With a view to enhance risk assessment, banks are using stress testing which provide a better understanding of the likely impact in extreme circumstances. Stress testing defines a Scenario and uses a specific algorithm to determine the expected impact on a portfolio's return when such a Scenario occurs |
| Integrated Risk Management Department (IRMD) | IRMD under the Board approved policies manages all types of risks at the Bank's level |
| Investment Credit Risk Management Committee (ICRMC) | A High-Powered Committee at the Apex level of Bank to take care of various investment activities at the corporate level. |
| Disaster Recovery Management (DRM) | The Board approved DRM Policies help the top management to periodically review their preparedness to face the disaster recovery situation. Accordingly most banks have set up alternate data center etc. |

(Source: Based RBI circular on Risk- Management vide rbidocs.rbi.org.in/notification/pdf/9492.pdf)

From the above table it is clear that both public and private sector banks in India have taken significant and structural initiatives to develop risk management infrastructure to manage various risks associated with the prudent banking business. It is therefore heartening to note that commercial banks in India have developed requisite risk management framework to tackle the risk issues with a view to adopt Basel-Norms in line with RBI guidelines.

3.7: Adoption of Risk Based Supervision (RBS) in India: SPARC:

Based on the Recommendations of High Level Steering Committee (HLSC) under the Chairmanship of the then Dy. Governor, RBI Dr. K. C.Chakrabarty, RBI finalized a supervisory framework named as Supervisory Program for Assessment of Risk and Capital (SPARC)³⁹, under RBS. As part of RBS, phase 1 roll out 29 banks were covered in the year 2013-14 and remaining banks were brought under the framework in 2015-16.

As per recent Regulatory Consistency Assessment Program (RCAP) by BIS for India in June -2015, BCBS has observed that: “SPARC has been designed to take into account a bank’s unexpected losses from all material risks it faces, i.e. Pillar I and Pillar II. Under the SPARC, every bank’s capital is assessed to determine its adequacy as of the date of risk assessment. The risk assessment and the capital available are quantified by way of a proprietary model (the integrated risk and impact scoring model (IRISC). The model processes the assessed level of risk in conjunction with the assessed level of capital available on the assessment date. In the case of banks where the assessed capital available is determined to be insufficient for the assessed level of risk, a capital add-on requirement is given as an output of the IRISC model. However, the supervisory capital prescription takes into account the model output (of the capital add-on requirement) and also the assessments of ICAAP, capital planning, the bank’s ability to infuse capital, and other qualitative assessments of capital. As in the case of Annual Final Inspection (AFI) under the CAMELS approach, an additional capital requirement has so far not been imposed on any bank”.

The RCAP⁴⁰ study of BIS for banks in India (June-2015) expresses satisfaction over the progress of RBS in India as part of Basel-III compliance. RBI has not imposed any capital requirement as the deadline has been extended to January 2019 and all nationalized banks group are in process of capital infusion.

Conclusion: Thus, it may be concluded that under pro-active regulatory supervision and guidance of RBI, banks have successfully brought about safe and sound Risk Management structure, vigilant system and procedure and efficient monitoring practices to face the challenges posed by the macro-prudential provisions of Basel-III. However, the management of ‘Systemic-risk’ is relatively new concept as India never faced banking crisis. So it remains to be seen as to how the RBI and GOI tackles the dangers of high-leverage; pro-cyclicality; contagion-risk and all culminating into systemic risk-as and when it arises. But cautious and conservative approach of RBI and their strict regulatory oversight; pro-active risk management tools employed by bank’s top management, it is expected that well prepared banks in India would be able to sail through smoothly, as ever in the past.

³⁹ SPARC: Reserve Bank Of India’s Guidelines on Risk Based Supervision (RBS) :

⁴⁰BIS-Regulatory Consistency Assessment Programme (RCAP) – June2015 : <http://www.bis.org/bcbs/publ/d320.pdf>