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A CONTEMPORARY STUDY OF CAPITAL ADEQUACY OF PUBLIC SECTOR BANKS IN INDIA

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ABSTRACT:

The Capital Adequacy guidelines as stipulated by the Reserve Bank of India basis global capital adequacy norms as specified by BIS. The objective is to improve the ability of banks to withstand periods of economic and financial stress by prescribing more strong capital requirements. These are the stricter capital adequacy regime as compared to some of the international counterparts since the regulatory norms on Capital Adequacy in India are already more stringent, and also because most Indian banks have historically maintained their core and overall capital well in excess of the mandatory level. Risks starts from customer default, funding a gap of assets and liabilities or adverse movements of markets in terms of interest or foreign exchange rates. Regulators have made some sincere attempts to bring prudential and supervisory norms conforming to international bank practices with an intention to strengthen the stability of the banking system. This paper attempts to have a study of capital adequacy pertaining to Public Sector Banks in India.

KEY WORDS: BCBS, Capital Adequacy, Tier I, Tier II, Tier III, Risk Capital.

INTRODUCTION:

Financial intermediation is the primary functionality executed by the banks in India. During the ancient times banking was not that much organized as it is in these times. Pre-independence period was the era when banks took birth in India, after independence specially post 1991, banks have become the backbone of the entire economic activities. To regulate the banks, various regulators including central bank of the nation performs the critical role. The banking industry in India exhibits a different structure when compared to other economies and thus caters to our social, economic, political and geographic characteristic. Indian economy is agriculture driven with a large population and wide diversity. Further the high level of financial illiteracy prevalent in India necessitates the need for emphasis of financial inclusion at all strata of the society. Banks accepts the large number of deposits which is technically the liability of the banks. on the other way banks grant this deposits in the format of loans to various types of borrowers.

LITERATURE REVIEW:

Alfriend (1988) opined that a weakness of the minimum capital standards was that they failed to acknowledge the heterogeneity of bank assets and, as a result of it, banks had a benefit or say incentive to shift its portfolios to high-risk from low-risk assets.

According to **Jackson (1999),** one of the reasons Basel Committee adopted for internationally active banks, a single standard so that the framework would eventually strengthen the soundness and stability of the international banking system through encouraging the organizations to boost their capital positions. Further, the framework established a structure that was intended to: (1) make regulatory capital more sensitive to differences in risk profiles among banking organizations; (2) take off-balance sheet exposures explicitly into account in assessing capital adequacy; and (3) lower the disincentives to holding liquid, low risk assets.

Nag and Das (2002) observed that in the post reform period, public sector banks did shift their portfolio in a way that reduced their capital requirements. Authors examined the impact of capital requirement norms on flow of credit to the business sector by public sector banks in India.

Nachane et al (2000) concluded that capital remains a useful tool in the hands of policy makers to influence the banks' behavior and there is no further conclusive evidence to support a shift from high risk to low risk assets by banks. Authors studied the impact of capital adequacy norms on public sector banks in India for the period 1997 to 1999.

Rowe (2004) studied the Basel II developments in through bank capital management in the light, balance sheet, opined that the pillar one defines minimum regulatory capital for three different risk categories i.e. credit, market and operational risks. Further, in addition to the credit risk and market risk, it prescribes a capital requirement for operational risk as well.

Hall (2004) emphasized on Basel II from its inception till contemporary period from cost benefit standpoint. Author concluded that the disclosure of risk-based capital ratios calculated are in accordance with the prescribed methodology and qualitative disclosure about the internal processes are used to evaluate capital adequacy.

Mishra (2004) studied the Basel II pillar two supervisory process and concluded that the new regulatory framework seeks to ensure that a bank's capital position is consistent with its overall risk profile and strategy. Since the new norms stress the need for the bank management to evolve an internal capital assessment process and earmark specified capital to commensurate with the bank's specific risk profile and control environment, a supervisory review to validate such assessment is recommended as a corollary requisite.

Vyas et al (2007) studied the impact of capital regulation norms like Basel II on the credit growth of Indian banks and concluded that capital regulations do not seem to affect credit growth in spite of the growing concerns about banks' stability.

Murali and Subbakrishna (2008) emphasized on the new capital framework in India and

they of the view that the dual objectives of the accord were primarily to ensure the adequate level of capital in the international banking system and create a "more level playing field" in competitive terms so that banks could no longer build business volumes without adequate capital backing.

Radhakrishnan and Ravi (2009) state that capital requirements not only protect investors but also safeguard them against the possibility of failure of big banks. They also improve market discipline.

Gupta and Meera (2011) have studied the readiness of the Indian banks to adopt Basel II norms and they concluded that Basel II regulations have led to a significant improvement in the risk structure of banks because their capital adequacy has been improved. Further, there exists an inverse relation between CAR and Non-Performing Assets (NPAs), which clearly indicates that due to capital regulation, banks have to increase their CAR which leads to decrease in NPAs.

NEED/IMPORTANCE OF THE STUDY:

Basel guidelines' primary objective is that banks need to ensure adequate capital commensurating with its risky assets. The regulators have expressly prescribed the capital requirement for banks in India. The guidelines specify the capital requirements for various specific and general risks, for both quantifiable and non-quantifiable manner. The regulators have specified minimum capital requirements under pillar I, specifying capital for credit risk, market risk, and operations risks. Since even though the Basel committee have mentioned these guidelines and in India we have adopted the guidelines with suitable changes as per our banking practices. This entails multiple challenges and opportunities for the Banking industry as a whole and individual banks too. Therefore, it becomes pertinent to study the present capital adequacy position and trends thereto.

OBJECTIVES:

Banks is a special form of financial institution. Most of it fund coming from depositors. Owner's contribution is infinitesimal. Banking business depends on trust of the depositors on a bank. The measure of this trust is the strength and soundness of a bank. Specific objectives of the study are as follows.

1. To study the capital adequacy regime in India
2. To analyse capital adequacy of public sector bank in India
3. To determine the trends of risk capital over the period of time

HYPOTHESIS:

H0 - All the public sector banks in India are complying with latest applicable capital adequacy norms as per BASEL III

HO2 – The average CAR is showing as the increasing trend across the last 3 years.

RESEARCH METHODOLOGY:

We have obtained the capital adequacy ratios of the public sector banks in India for the study period from 2007 to 2016. Since, the capital adequacy regulations in India have been implemented as a phased exercise, for Basel I, Basel II and Basel III. There are parallel runs specified by the regulators for intermediate periods and hence the data for each of the Basel guidelines is considered. The data pertaining to public sector banks was obtained from the secondary resources. There were 20 Public sector banks and SBI and its associates (6 Banks) which were considered for the purpose of this study.

Limitations:

1. Since Basel guidelines were implemented in a phased manner hence data available was pertaining to Basel I, Basel II and Basel III across periods.
2. The data contained various spikes in terms of numbers which were removed so that the same should not impact averages e.g. Bharatiya Mahila bank
3. The study covers public sector banks only.

CAPITAL ADEQUACY REGIME IN INDIA:

Banking industry in India is undoubtedly the most regulated domain. Banks in India have always remained as the most important financial intermediaries supported by various NBFCs and other non-banking financial corporations. In order to keep the economic status intact regulators tries to keep the banking in India strengthened. This has resulted in the robust bank capital adequacy regulation in India adopted by the central bank in India. In India, the bank capital regulation is based on the international standards of capital adequacy specified by the Basel committee on banking supervision. Present Basel III capital adequacy regime has its roots in erstwhile Basel II and I regime prescribed by the Basel Committee. At the G-20 summit held in November 2010 at Seoul, Basel Accords refer to the banking supervision accords, these norms are the series of recommendations on banking and financial regulations, promulgated by the Basel Committee on Banking Supervision. The Basel Accords are staged as Basel I, Basel II and Basel III. These norms called the Basel Accords or Basel Norms as the BCBS maintains its secretariat at the Bank for International Settlements in Basel (Basel is a City in), and the Committee usually meets there at Basel City.

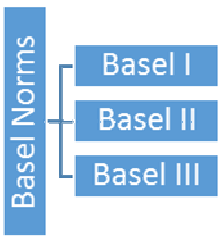

Figure 1 The Basel Norms (Versions)

The initial Basel Capital Accord 1988 was came from the concern of the Governors of the G10 central banks that the capital of the world's major banks had become dangerously low after persistent erosion due to the interbank competition. Capital is necessary for banks as a cushion against future losses which may or may not arise

The BASEL I:

The Basel I capital adequacy norm primarily requires that specified internationally active banks in the G10 countries should hold capital equal to at least minimum 8% of a basket of assets measured in different ways according to their riskiness coupled with those assets. This was known as risk weighted assets i.e. RWA. It also emphasized on the importance of adequate capital by categorizing it into two layers i.e. known as two Tiers: Tier 1, or core capital (the sum of shareholders' equity, retained earnings, capital surplus and capital reserves); Tier 2 or supplementary Capital (consisted of loan loss allowances, preferred stock with maturity greater than 20 years, subordinated debt, unclosed capital reserves and hybrid capital instruments.).

The bank has to hold at least half of its capital measured according to these principles in Tier 1 form. Basically a portfolio approach is taken to the measure of risk, with assets classified into the four predefined buckets i.e. (0%, 20%, 50% and 100%) according to the debtor category. This means that some assets (essentially bank holdings of government assets such as Treasury Bills and bonds) have no capital requirement, while claims on banks have a 20% weight, which eventually translates into a capital charge of 1.6% of the value of the claim. However, virtually all the claims on a non-bank private sector receive the standard 8% capital requirement.

We can draw the two basic purposes of initial Basel I guideline,

1. To ensure the adequate level of capital in banking system and
2. To create the level playing field in terms of competition in banking so that the banks should not in a position to generate business without adequate capital supporting to the same.

Though this Basel I Accord was extremely generic but was recognized and during the years of 1990s Basel I became an accepted world standard for capital in banks, with well over approx. 100 countries applying the Basel framework to their respective banking system.

Criticism on Basel I

Blanket Approach of credit risk

There are only four broad risk weightings buckets (0%, 20%, 50% and 100%), based on an 8% minimum capital ratio.

Assumed the Static nature of default risk.

The assumption that a minimum 8% capital ratio is sufficient to protect banks from failure does not take into account the changing nature of default risk.

Term structure in the credit risk was not recognized.

The maturities of credit portfolios were not considered. The capital charges are set at the same level regardless of the maturity profile of a credit exposure.

Simplified calculation of potential future counter party risk.

The different level of risks associated with different currencies and macro-economic risk of various counterparties were not considered under these capital requirements. This means that it assumes a common market to all actors, which is not true in reality.

Lack of recognition of portfolio diversification effects.

The sum of all individual risk exposures cannot be the same as the risk reduction achieved through portfolio diversification process. Therefore, summing all risks might provide incorrect judgment of risk.

The BASEL II:

When we go to Basel II, it is the second generation or say version of the Basel accords recommended for banking laws and regulations issued by the BCBS and BIS. The purpose of revision in these Basel norms is to create an international standard that banking regulators can use when framing regulations about how much capital banks need to put aside to guard against risks. CAR (capital adequacy ratio) indicates a bank's perceived risk-taking ability while RBI uses CRAR to infer whether a bank meets its statutory capital requirements and is capable of absorbing a reasonable amount of loss. The proposed capital framework consists of three pillars as shown below.

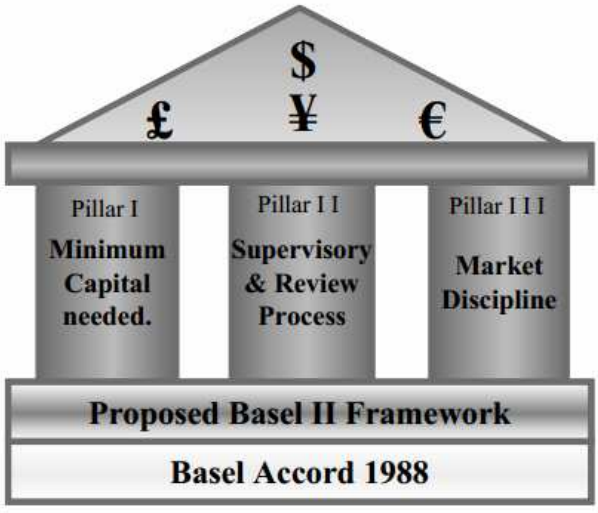

Figure 2 The Basel II Framework

Basel II was signed in June 2004 at the Bank for International Settlement which is located at Basel city, Switzerland. It is an upgrade over Basel one which had certain limitation across various areas. It is basically concerned with the financial health of the banks located across worldwide

geographies. The focus of Basel II was on risk determination and quantification of credit, market and operational risks came across by banks.

The RBI has accepted the accord and issued consequential guidelines to ensure compliance with the same. It is a comprehensive framework of banking supervision. It insisted on setting up rigorous risk and capital management requirements designed to ensure that a bank holds capital reserves appropriate to the risk. The underlying assumption here is that greater the risk to which a bank is exposed, greater the amount of capital it needs to hold to safeguard its solvency and overall economic stability. It also obliges banks to enhance disclosures.

The primary objective of Basel II was to improve up the way in which RBI prescribed capital reflects the underlying risk actually carried by the specific assets. It basically consists of three 'pillars' which enshrine the key principles of this new regime. Collectively, they go well beyond the mechanistic calculation of minimum capital levels set by Basel I, allowing lenders to use their own models to calculate regulatory capital while seeking to ensure that they establish a culture, with risk management at the heart of the organization up to the highest managerial level.

Risk based capital ratio is defined as the ratio of capital to risk weighted assets. Here assets mean both on balance sheet items (Loans, advances and investments etc.) as well as off balance sheet exposures (e.g. Guarantees and Letters of credit etc.). As per the accord Banks had to hold a minimum capital of 8% over the risk weighted assets, however as per RBI norms it is 9%. Out of the minimum capital to be held, at least 4% of it should be in the form of Tier I capital. The asset to capital multiple was set at 12.5. Tier II capital is limited to 100% of Tier I capital.

Therefore, Capital Adequacy Ratio (CAR) = Capital /Risk Capital = Tier I Capital + Tier II Capital Here, Risk Capital is the sum of capital for Credit Risk + capital for Market Risk and capital for Operational Risk

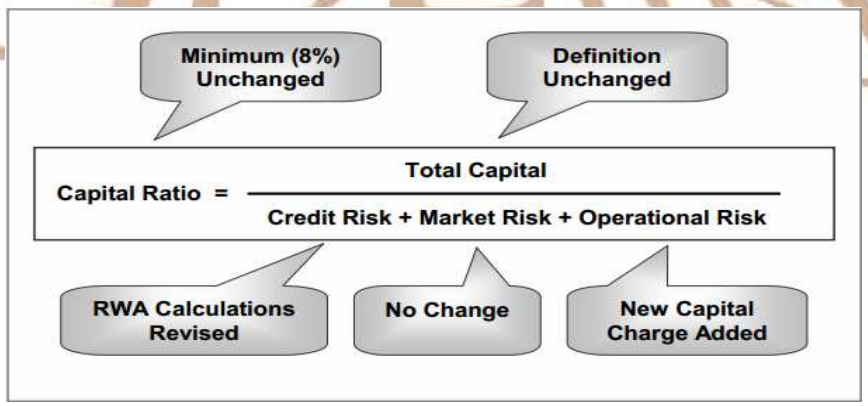

Figure 3 Capital Adequacy Calculations as per Basel II

The BASEL III:

Basel III or Basel 3 released in December, 2010 is the generation as we can say in the series of Basel Accords issued by Bank for International Settlements. These version accord deal with risk

management aspects for the banking sector in more advanced and focused manner. In a nut shell we can say that Basel iii is the global regulatory standard (agreed upon by the members of the Basel Committee on Banking Supervision) on bank capital adequacy, stress testing and market liquidity risk. (Basel I and Basel II are the earlier versions of the same, and were less stringent).

Basel III proposes many new capital, leverage and liquidity standards to strengthen the regulation, supervision and risk management of the banking sector. The Basel III capital standards and the latest capital buffers will make banks to hold more quantitative capital and higher quality of it than under present Basel II regime. The new leverage ratio introduces a non-risk based measure to supplement the risk-based minimum capital requirements. The new liquidity ratios ensure that adequate funding is maintained in case of crisis.

Basel 3 measures aim to:

- Improve the Bank's ability to absorb shocks which may arise from various financial and economic stress
- Improve risk management architecture and governance structure
- Strengthen banks' transparency and disclosures process

Thus we can conclude that Basel III guidelines are aimed at to improve the ability of banks to withstand periods of economic and financial stress as the new guidelines are more stringent than the earlier requirements for capital and liquidity in the banking sector.

Major features of Basel III in brief:

- Better Capital Quality
- Capital Conservation Buffer
- Countercyclical Buffer
- Minimum Common Equity and Tier 1 Capital Requirements
- Leverage Ratio
- Liquidity Ratios
- Systemically Important Financial Institutions (SIFI)

RESULTS DISCUSSION, FINDINGS & CONCLUSION:

The banks considered for research here are subject to the capital adequacy guidelines stipulated by RBI, these norms are based on the framework of the Basel Committee on Banking Supervision.

As per Basel III guidelines specified by the Reserve bank of India, the Bank is required to maintain a minimum Capital to Risk Weighted Assets Ratio (CRAR) of 9% {11.5% including Capital Conservation Buffer (CCB)}, with minimum Common Equity Tier I (CET1) of 5.5% (8%

including CCB) as on 31st March 2019. These guidelines on Basel III have been implemented on 1st April 2013 in a phased manner across banks in India. The minimum capital as stipulated and required to be maintained by the Bank for the year ended 31st March 2016 is 9.625% with minimum Common Equity Tier 1 (CET1) of 6.125% (including CCB of 0.625%).

With reference to first hypothesis, the 26 Banks considered for research, the minimum tier 1 capital adequacy ratio for the Year ended on March 2016 was 7.63%, further additional analysis incorporated in the undermentioned table.

Particulars	Tier – 1 (%)	Tier – 2 (%)	Total – Basel III (%)
Minimum Capital Adequacy Ratio	7.63	1.12	9.63
Minimum Capital Adequacy Ratio	12.08	3.41	13.20
Average Capital Adequacy Ratio	8.83	2.50	11.33

Table 1 Capital Adequacy Ratios as on March 2016 (Basel 3)

With reference to the second hypothesis, on analysis of the average capital adequacy ratios of public sector banks in India as on March 2016, the trend observed was mentioned in the table below:

Years	Average – Basel III (%)
March - 2016	11.33
March - 2015	11.29
March - 2014	11.12

Table 2 Analysis of the average capital adequacy ratios (Basel 3)

Considering the average capital adequacy ratios if we plot the average capital adequacy ratios for the previous three years from 2014 to 2006, we can conclude that there is increasing trend of average capital of public sector banks in India.

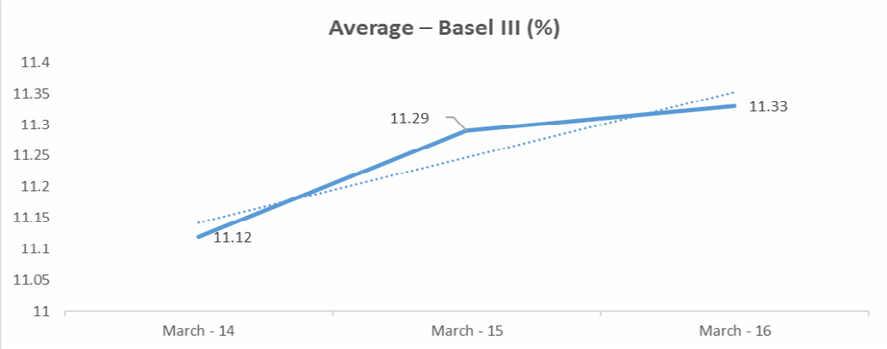

Figure 4 Plotting of the average capital adequacy ratios (Basel 3)

This graph clearly shows that the average capital adequacy ratio under Basel 3 for public sector banks is showing the increasing trend across the past 3 years.

Therefore, in terms of the study performed here we can conclude that, All the public sector banks in India are complying with latest applicable capital adequacy norms as per BASEL III and the average CAR is showing as the increasing trend across the last 3 years.

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