

Comprehensive Capital Regulation Framework for Capital Requirements Basel Norms – An Examination

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Abstract

This paper outlines the growth of Indian commercial banking sector and examines impact of Basel norms on the same. The Basel III framework, whose main thrust has been enhancing the banking sector's safety and stability, emphasises the need to improve the quality and quantity of capital components, leverage ratio, liquidity standards, and enhanced disclosures. In a banking entity assets are created as a process of intermediation by accepting deposits; the basic function of intermediation itself is a source of credit and liquidity risks for any banking institution. Further, banks are exposed to various market and non-market risks in performing their functions. These risks expose banks to events, both expected and unexpected, with the potential to cause losses, putting depositors' money at risk. Expected losses may be mitigated by a combination of product pricing and accounting loss provisions, while capital funds are expected to meet unexpected losses. Thus the primary role of capital in a banking institution is to meet the unexpected losses arising out of portfolio choice of banks and to protect the depositor's money. Banks and the regulators all over the world have been concerned about these risks, and the formal framework for banks' capital structure was evolved in 1988 with the introduction of the "International Convergence of Capital Measurement and Capital Standards", popularly known as Basel I, issued by the Basel Committee on Banking Supervision (BCBS). Following Basel I banks were required to maintain a minimum capital adequacy of 8% against risk weighted assets (RWA). Here Basel suggested a portfolio approach to credit risk by assigning appropriate risk weights against each asset (for example, housing loans carry 50% risk weight and corporate loans carry 100% risk weight). The capital components include long term debt funds also by categorising qualitative equity capital as Tier I and others as Tier II. Although the Basel Accord was signed only by the G-10 countries plus two more nations, more than 100 countries across the globe have made these norms mandatory in their domestic banking systems. In India, the Reserve Bank of India (RBI) implemented Basel I norms from 1992 onwards.

Basel II was built up on three mutually reinforcing pillars – minimum capital requirements, supervisory review process, and market discipline. Under Basel II, banks were required to maintain the minimum capital requirement of 8% against the risk weighted assets, while RWA was computed by considering the three major generic risks – credit, market, and operational risks.

Key words: Bank for International Settlements (BIS), Basel Committee on Banking, SBI.

Introduction

The post 1990 scenario world over saw banks increasing their trading activity by investing in securities which exposed banks to price risks, and responding to this, in 1996, the Basel Committee suggested that banks maintain capital funds against market risk by following either the standardised measurement approach (SMA) or internal measurement approach

(IMA) to meet the unforeseen losses arising out of market risks. To estimate the capital requirements for credit risk and operational risk, Basel-II proposed a menu of approaches – standardised, foundation internal ratings, and advanced internal ratings approach. However, for market risk Basel II continued with the 1996 framework which suggested both standardised and internal measurement models.

Basel I was criticised for its rigidity of “one-size fits” approach and absence of risk sensitivity in estimating capital requirements. After several discussions and revising multiple drafts, in 2004 the BCBS came out with a comprehensive framework of capital regulation popularly known as Basel II. As banks go on increasing the risk weighted asset portfolio to meet the growing economy's credit requirements, they would need additional capital funds under Basel III. Different estimates of additional capital infusion have been announced by various agencies. The international credit ratings agency, Fitch, estimates this figure to be at around USD 50 billion, while ICRA projects a figure of around USD 80 billion. Macquarie Capital Securities predicts that there will be a USD 35 billion dilution in the existing capital of public sector undertaking (PSU) banks subsequent to adoption of the stringent Basel III capital accord.⁵ However, the RBI Governor had recently stated that PSU banks presently have a capital adequacy ratio of 13.4%, wherein Tier 1 capital stood at 9.3%. This is a statement on the existing scenario, and does not take into account the imminent capital dilution. Moreover, additional capital will be required to address the enhanced counter party default, especially in OTC derivatives. Growth and financial stability seem to be two conflicting goals for an economy. The Indian economy is transforming structurally and moving towards rapid growth although some seasonal down trends are seen. The main goal of the 12th Plan is “faster, sustainable and more inclusive growth”. The Planning Commission is aiming at a total outlay of Rs. 51.46 lakh crore in the infrastructure sector during the 12th Plan (2012–17). Infrastructure sector investment as percentage of the Gross Domestic Product (GDP) is expected to rise steadily to 10.40% in the terminal year (2016–17) of the 12th Plan. The average investment in infrastructure sector for the 12th Plan as a whole is likely to be about 9.14% of the GDP. The outstanding credit gap for the micro and small and medium enterprises (MSME) sector is estimated at 62%, which is estimated to reduce to 43% in March 2017 with the assumption of minimum 20% year on year (Y-o-Y) credit growth to MSME sector and 10% Y-o-Y credit growth to medium enterprises by scheduled commercial banks (SCBs).⁸ The economists' projections are that the Indian economy will see higher growth in the manufacturing sector which enhances demand for credit. The financial inclusion project aims to bring several millions of the population under the ambit of the organised financial system which will also enhance their credit requirements.

Objective:

This paper intends to explore cash management issues in public sector Banks and the Basel norms. Also the preparedness of banks and related issues are examined through a survey of bank personnel. The recent trends in CAR and NPA of the banks are also pointed out.

comprehensive capital regulation framework for capital requirements

The European Parliament approved all the three Basel II approaches for all European Union (EU) banks in 2005 and formally adopted the agreement in 2006. The EU implemented the standardised and foundation approaches as early as 2007 and the advanced approaches by 2008. In the US, the rules apply only to the 19 largest, internationally active

“core” US Banks. (Core banks are those with consolidated total assets of \$ 250 billion or more or with consolidated total on-balance sheet foreign exposure of \$ 10 billion or more.) However, some banks voluntarily adopted the rules (“opt in” banks). In India, from 2007 to 08 onwards, banks have followed estimation of capital requirements by following the standardised approach for all the three risks – credit, market and operational risks.

Although Basel II was a very comprehensive capital regulation framework architected on sophisticated risk quantification models, it failed to address certain issues which emerged during the financial crisis of 2007–08 (Fратиanni and Marchionne, 2009, Acharya et al., 2011, Reddy, 2009). First, Basel II, a risk sensitive framework, proved to be pro-cyclical; in good times, when banks were doing well, and the market was willing to invest capital in them, Basel II did not impose additional capital requirement on banks. On the other hand, in stressed times, when banks required additional capital and markets were wary of supplying that capital, Basel II required banks to bring in more of it. During the crisis, it was the failure to bring in additional capital that forced major international banks into a vicious cycle of deleveraging, thereby hurtling global financial markets into seizure and economies around the world into recession. Second, by following value at risk (VaR) models banks maintained capital requirements against trading book exposures assuming that these could be liquidated, and substantial banking book assets were parked in trading book, which helped banks to optimise the capital requirements. These trading book exposures include the securitised bonds, derivative products, and other toxic assets. The third issue was the absence of any explicit regulation governing leverage. Basel II assumed that its risk based capital requirement would implicitly mitigate the risk of excessive leverage. Unfortunately, excessive leverage of banks was one of the prime causes of the crisis. The fourth issue was that Basel II did not consider liquidity risk as part of capital regulation. During the financial crisis unaddressed liquidity risk cascaded into solvency risk; the data shows that the Federal Reserve, the European Central Bank (ECB), the Bank of England, the Bank of Japan, and the Swiss National Bank have together injected USD 2.74 trillion to meet liquidity requirements.¹ Finally, Basel II focussed more on individual financial institutions and ignored the systemic risk arising from the interconnectedness across institutions and markets, which led the crisis to spread to several financial markets (Acharya and Richardson 2009). Since the beginning of the financial turbulence in 2007, the total reported write downs and losses of banks globally have exceeded 888 billion dollars. Some estimates of the overall expected losses by banks and other financial institutions are in the range of 2.2 trillion dollars.²

In response to the 2007–09 global financial crisis BCBS issued Basel II.5, which was designed to estimate capital requirements for credit risk in the trading book of a bank. Basel II.5 was intended to prevent inappropriate placement of securities in the book that would provide the most favourable accounting treatment of securities at a particular point in time. In that order, the Basel Committee issued a series of documents to address specifically counterparty risk in derivative transactions, strengthening of liquidity standards, and market risk framework. Consolidating all these, the BCBS released the Basel III framework entitled “Basel III: A Global Regulatory Framework for more Resilient Banks and Banking systems” in December 2010 (revised in June 2011).

According to the BCBS, the Basel III proposals have two main objectives:

- To strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector.
- To improve the banking sector's ability to absorb shocks arising from financial and economic stress.

Enhancements of Basel III over Basel II

The enhancements of Basel III over Basel II come primarily in four areas: (i) augmentation in the level and quality of capital; (ii) introduction of liquidity standards; (iii) modifications in provisioning norms; and (iv) introduction of leverage ratio. These are elaborated as follows

Increased quantity and quality of capital

Basel III contains various measures aimed at improving the quantity and quality of capital, with the ultimate aim of improving the loss-absorption capacity in both going concerns and liquidation scenarios. Retaining the minimum capital adequacy ratio of 8%, the Tier I capital ratio increased to 6% with the equity component stipulated at 4.5%³ (Table 1). The new concepts introduced by Basel III are of capital conversion buffer and countercyclical capital buffer (CCB). The capital conversion buffer ensures that banks are able to absorb losses without breaching the minimum capital requirement, and are able to carry on business even in a downturn without deleveraging. This is not part of the regulatory minimum. So while the 8% minimum capital requirement remains unchanged under Basel III, there is an added 2.5% as capital cushion buffer. The implications of having a buffer are low dividend payout and low bonus to employees. So if the banks go for this buffer, the fundamental question before them is how they are going to reward their shareholders and incentivise their employees as the profits are likely to decrease. Banks are already constrained in payment of dividends because there is a statutory minimum ratio where the profits have to be transferred. In such a case, how will banks attract more capital? There is a trade-off for banks between being prudent and increasing profit.

Minimum regulatory capital prescriptions (as % risk weighted assets).

	Basel III (as on January 2019)	Current (Basel II)	Basel III (as on March 31, 2018)
A = (B + D) Minimum total capital	8.00	9.00	9.00
B Minimum tier 1 capital	6.00	6.00	7.00
C of which:			
Minimum common equity tier 1 capital	4.50	3.64	5.5
D Maximum tier 2 capital (within total capital)	2.00	3.00	2.00
E Capital conservation buffer (CCB)	2.50		2.5

		Basel III	Current	Basel III
		(as on January 2019)	(Basel II)	(as on March 31, 2018)
F = C + E	Minimum common equity tier 1 capital + CCB	7.00	3.60	8.00
G = A + E	Minimum total capital + CCB	10.5		11.5
H	Leverage ratio (ratio to total assets)	3.00		4.55

(Source: Address by Dr. Duvvuri Subbarao, September 4, 2012).

The countercyclical capital buffer is a pre-emptive measure that requires banks to build up capital gradually as imbalances in the credit market develop. It may be in the range of 0–2.5% of risk weighted assets which could be imposed on banks during periods of excess credit growth. There is also a provision for a higher capital surcharge on systemically important banks.

Basel III strengthens the counterparty credit risk framework in market risk instruments. This includes the use of stressed input parameters to determine the capital requirement for counterparty credit default risk. A new capital requirement known as credit valuation adjustment (CVA) risk capital charge for over-the-counter (OTC) derivatives has been introduced to protect banks against the risk of decline in the credit quality of the counterparty.

Increased short term liquidity coverage

The Basel Committee has further strengthened the liquidity framework by developing two minimum standards for quantifying funding liquidity; Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSRF). The LCR standard aims at a bank having an adequate stock of unencumbered high quality liquid assets (HQLA) which consist of cash or assets that can be converted into cash at little or no loss of value in private markets to meet its liquidity requirements in a 30 calendar day liquidity stress scenario. The two components of LCR are stock of HQLA and the total net cash flows over the next 30 calendar days. The NSRF is designed to encourage and incentivise banks to use stable sources to fund their activities. It helps to reduce dependence on short term wholesale funding during times of buoyant market liquidity and encourages better assessment of liquidity risk across all on- and off-balance sheet items. Net Stable Funding Ratio requires a minimum amount of stable sources of funding at a bank relative to the liquidity profiles of the assets, as well as the potential for contingent liquidity needs arising from off-balance sheet commitments, over a one-year horizon.

The implications here would pertain to the type of current short term markets available for banks to provide liquidity, the type of long term markets needed, the cost of deposit, and the impact on the profitability of banks. One issue with reference to liquidity is how the regulator would consider the statutory liquidity ratio (SLR) securities. Banks are already investing around 25% of their deposits in the SLR securities which is a substantial amount. A question has also been raised about the relevance of cash reserve ratio (CRR). All these have implementation implications for deposit pricing, cost of funds, and profitability.

Reduced leverage through introduction of backstop leverage ratio

The newly introduced leverage ratio acts as a non risk sensitive backstop measure to reduce the risk of a buildup of excessive leverage in the institution and in the financial system as a whole. The leverage ratio requirement would hence set an all-encompassing floor to minimum capital requirements which would limit the potential erosive effects of gaming and model risk on capital against true risks. A 3% minimum Tier I leverage is recommended by Basel III. In India, banks are required to meet this norm from January 1, 2018.

Strengthening of provisioning norms

Another issue raised by the Basel III reforms is of provisioning norms; currently there is a standardised approach to provisioning in the banking system. It is a typical accounting approach, wherein if a loss is incurred, banks have to make a provision to cover it. But Basel III is talking about a move from “incurred loss approach” to “expected loss approach”. For an expected loss approach what should be the measure? Spain ([Saurina, 2009](#)) introduced Dynamic Provisioning which involves computing some portion of the fixed element, and some portion of the dynamic moving element. The Turner Report ([FSA, 2009](#)) also emphasised the need for Dynamic Provisioning. The information required is credit cost data, credit migration, and probability of default. The question is, what method should be used? The RBI has already released an approach paper⁴ on this and is working on the introduction of a suitable framework. The preliminary research shows that the largest banks in the world would raise their lending rates on an average by 16 basis points (bps) in order to increase their equity to asset ratio by 1.3 percentage points needed to achieve the new Basel regulation of 7% equity to new risk weighted asset ratio. Increase in lending rate is estimated to cause loan growth to decline by 1.3% in the long run ([Cosimano & Haura 2011](#)). When the leverage requirement interacts with the risk based internal ratings-based (IRB) capital requirements it might lead to less lending to low risk customers and to increased lending to high risk customers. Such allocation effects may be counterproductive to the financial stability effects of the leverage ratio requirement

Profitability of banks

Return on equity (ROE) is defined as the product of return on assets (ROA) and the leverage multiplier. As the upper limit for the leverage ratio by Basel III has been set at 3%, the value of the leverage multiplier will come down, resulting in a reduction in the ROE. That the higher ROE for the SBI group and nationalised banks was associated with a higher leverage ratio, while for new private sector banks, the higher ROE was attributable to higher profitability of assets and lower leverage (RBI 2012). On an average, Indian banks' ROE is around 15% for the last three years. The enhanced capital requirements under Basel III regime are likely to affect the ROE of the banks and the shareholders' expectations on the minimum required rate of return.

The questions that arise here are as follows: Do shareholders prefer less stable and more risky banks with higher ROE or more stable and less risky banks? What is the cost of meeting higher capital requirements for banks? Do banks pass on these costs to depositors and borrowers? In order to meet the mandate of higher quantum of liquid funds, under liquidity standards of Basel III, do banks have to go for the passive option of lending to the Government by increasing investment portfolio, by crowding out credit to the private sector? To meet the challenges of declined profitability can the banks alter their incentive structure?

Implementing the countercyclical capital buffer

A critical component of the Basel III package is implementation of countercyclical capital buffer which mandates that banks build up a higher level of capital in good times (that could be run down in times of economic contraction), consistent with safety and soundness considerations. Here the foremost challenge to the RBI is identifying the inflexion point in an economic cycle which should trigger the release of the buffers. The identification of the inflexion point needs to be based on objective and observable criteria; it also requires long series data on economic cycles. In an emerging market like India, what macroeconomic data is needed? What are the options before the Ministry of Finance and the RBI?

Risk management

In recent years many banks have strengthened their risk management systems which are adequate to meet the standardised approaches of Basel II. A few banks are making efforts in the direction of moving towards implementation of advanced approaches. The larger banks need to migrate to the advanced approaches, especially as they expand their overseas presence. The adoption of advanced approaches to risk management will enable banks to manage their capital more efficiently and improve their profitability. This graduation to advanced approaches requires three things. First and most important, a change in perception from looking upon the capital framework as a compliance function to seeing it as a necessary prerequisite for keeping the bank sound, stable, and therefore profitable. Second, the graduation to advanced approaches requires deeper and broader based capacity in risk management; and finally, it requires adequate and good quality data.¹⁰ Other banks also need to strengthen their risk management and control system so as to allocate risk capital efficiently and improve profitability and shareholder's return. The important issues here are: On what aspects of risk management should the banks focus? How do they improve the risk architecture? How can banks strengthen risk management capacities so as to generate adequate and qualitative data?.

The financial crisis highlighted the importance of interconnectedness of financial institutions and the significance of systemic risk. With the dichotomous presence of specialised financial institutions like HDFC and several other commercial banks, understanding the concept of systemic risk is critical in the Indian context. At the macro level, how does one measure systemic risk in the Indian context? In some countries, buildup of credit to deposit ratio is considered for measuring systematic risk, but is it relevant in the Indian context? The consolidation phase in Indian banking is in progress. The State Bank of India (SBI) is acquiring its associate banks and a few private banks have been merged with other public and private sector banks. The presence of large size banks encourages risky behaviour in banks. Basel III seeks to mitigate this externality by identifying both Domestic Systemically Important Banks (D-SIBs) and Global Systemically Important Banks (G-SIBs) and mandating them to maintain a higher level of capital depending on their level of systemic importance. Are there any Indian banks that can be classified as D-SIB's? What should be the criteria for such classification?

Conclusion

Even if the State Bank of India (SBI), with highest market capitalisation among PSBs, were to dilute its equity capital by 20%, the amount raised by it would be equivalent to less than 2% of the assets. So the question of infusion of equity by government versus raising from the market will arise. In that situation, what are the options available? Should banks raise capital from the market at low prices, which still may not be sufficient to meet capital needs, or should banks approach

promoters? The option available with the government is to fund the banks for capital requirement continuously. Though it is difficult for the Government of India (GOI) to infuse capital continuously in view of fiscal concerns, yet it makes business sense for the government to infuse capital to the public sector banks for two reasons. Presently all PSB stocks are undervalued, and large value can be unlocked by GOI in future when market capitalisation improves, given the predictions of India's bright future. No economy can grow unless the banks become credit worthy. Our credit to GDP ratio presently is 55% and credit demand will expand faster than GDP for several reasons. First, the changing thrust of the economy is from service to manufacturing, and the credit intensity of manufacturing is higher than that of service. The second driver will be infrastructure, and the third, financial inclusion which has not been assessed so far but as more and more banks reach the rural area, the credit demand will pick up. These three factors will lead to credit growth. Hence, GOI needs to infuse capital to meet increasing credit demand and to achieve desirable level of GDP growth.

A valid question has been raised on growth versus cost or growth versus stability. If stability is important, then a little sacrifice on growth in the short term is to be accepted. Indian banks are well placed for Basel III capital requirement and GOI has to support PSBs. It is expected that the cost of capital may go up (on account of hybrid instruments and loss absorbency features in the hybrid instrument) and plough back of internal accruals will be higher resulting in low dividend and payout ratio.

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