
Basel Accords and their Implications on Banking Business

S V Kuvalekar

The Basel Accords primarily focuses on prudential norms for bank capital under the aegis of which banks are required to ensure adequate capital to cover losses on account of significant risks in their business. Banks use deposits and borrowings for commercial and investment banking business. These two liabilities together form more than 90% of the total liabilities of a bank. Due to this, banks are considered as highly leveraged lending institutions. Further, on account of deregulation of the markets, banks are exposed to market risk in their commercial and investment banking business. Therefore they need to have adequate capital proportionate to risk. In the past banks maintained capital as per the provisions contained in the Banking Regulation Act of 1949. At present the Reserve Bank of India (RBI) has prescribed a capital adequacy ratio i.e. capital risk asset ratio (CRAR) under the Basel Accords. The capital of a bank must have a relationship with the risk it takes. This article is an effort to review the Basel Accords with regards to bank capital and liquidity ratios and its implications on the banking business.

Overview of Basel Accord I

Basel Accord I is termed the 1988 Basel Accord. It is primarily concerned with provision of capital to absorb losses arising from credit risk. This means under that Basel Accord I capital is provided in relation to the degree of credit risk in the banking business. The various assets of a bank are classified and grouped into the following risk weight categories based on perceived credit risk by a regulator, in this case the RBI:

Note: There are three pillars of Basel Accords. Pillar I consists of minimum capital requirements. Pillar II consists of supervisory review of capital adequacy that aims to ensure that a bank's capital level is sufficient to cover its overall risk in the business. Pillar III relates to market discipline and public disclosure.

Dr S V Kuvalekar is Associate Professor and Associate Dean-Training, National Institute of Bank Management, Pune.

- ❑ 0% risk weight (e.g. home country sovereign debt).
- ❑ 10%, 20%, 50% risk weight.
- ❑ 100% risk weight (e.g. investment in corporate bonds, loans, etc.).

Initially, capital adequacy ratio was 4%. Subsequently it was increased to 8%. Under Basel Accord I capital comprises two components *viz.* Tier I and Tier II. Tier I capital comprises (a) paid up capital, (b) reserves and surplus and (c) capital reserves. It is also called core capital.

Tier II capital consists of (a) undisclosed reserves, (b) revaluation reserves, (c) general provision and loss reserves, (d) hybrid debt instrument and (e) subordinate term debt instrument. It is also called supplementary capital.

The above capital comprising Tier I and Tier II is considered for computing capital adequacy ratio under Basel Accord I subject to the following conditions:

- ❑ Tier II capital components should be limited to a maximum of 100% of total Tier I capital components.
- ❑ Revaluation reserves can be taken at a discount of 55% while determining their value for inclusion in Tier II capital.
- ❑ General provisions and loss reserves should be up to a maximum of 1.25% of total risk weight assets.
- ❑ The quantum of subordinated debt instruments eligible to be reckoned as Tier II capital will be limited up to 50% of Tier I capital.

Capital adequacy ratio under Basel I is calculated as under:

$$\text{Capital Adequacy Ratio} = \frac{\text{Tier I Capital} + \text{Tier II Capital}}{\text{Risk weighted assets for credit risk}} \times 100$$

Overview of Basel Accord II

Basel accord II was introduced with a view to overcome limitations of Basel Accord I. The following are the limitations of Basel Accord I:

1. It considers only credit risk. In view of this, capital is provided in proportion to credit risk in the banking business. Due to changes in the securities' markets and regulator's policy on banking business, most banks have investment banking business. Because of this, it is essential to provide capital for market risk also. Further, banks have registered tremendous growth in their business due to diversification and extensive use of technology. This has exposed them to operational risk. Under Basel I operational risk was considered as a part of credit risk. However, under Basel II operational risk is segregated from credit risk and recognised as a distinct major risk in the

banking business. Accordingly, banks are required to provide capital charge for losses from operations.

2. Basel Accord I creates a wider gap between regulatory capital and economic capital. This means that under Basel Accord I banks are permitted to undertake more risky business with smaller amount of capital.
3. It ignores the quality of loan assets irrespective of credit rating of borrowers like AAA, AA and A. It presumes the same credit quality and accordingly the same risk weight i.e. 100% is considered in respect of loan assets irrespective of credit rating.

The purpose of Basel Accord II is to ensure that banks have adequate capital to guard against financial and operational risks in their business. The introduction of Basel Accord II as an international standard is expected to protect the international financial system from the types of problems that might arise should major banks or the banking system collapse. This capital accord supports rigorous risk management system so as to ensure that banks hold capital funds sufficient to cover risk in their commercial and investment banking business. Under Basel II the norm focus is on total risk analysis comprising credit risk, market risk and operational risk. It aims to (a) ensure that capital allocation is more risk-sensitive, (b) separate operational risk from credit risk, (c) align economic and regulatory capital more closely so as to reduce the scope for regulatory arbitrage, (d) provide incentives for implementing better risk management system and (e) make banking system more efficient and vibrant.

Under Basel Accord II banks have to maintain capital as prescribed by the regulator keeping in view provision of capital for three major components of risk that a bank faces, *viz.* credit risk, market risk and operational risk. The risk weight assets covering credit risk are calculated by using any one of the three methods *viz.* (a) standardized approach, (b) foundation internal rating-based approach and (c) advanced internal rating-based approach. The risk weight assets for market risk are calculated by using either modified duration method under the standardized approach or value at risk (VaR) method. The risk weight assets covering operational risk are calculated by using any one of the three methods *viz.* (a) basic indicator approach, (b) standardized approach and (c) advanced measurement approach.

Capital Risk Asset Ratio

Under Basel Accord II, capital risk asset ratio (CRAR) or capital adequacy ratio is calculated as under:

$$\text{Capital to Risk Asset Ratio (CRAR)} = \frac{\text{Tier I Capital} + \text{Tier II Capital}}{\text{Risk Weighted Assets for Credit Risk} + \text{Risk Weighted Assets for Market Risk} + \text{Risk Weighted Assets for Operational Risk}} \times 100$$

Under Basel Accord II, the RBI has prescribed capital risk asset ratio of 9%. This is considered both regulatory capital ratio as well as economic capital ratio. It has been observed that capital risk asset ratio at the industry level has been above the stipulated 9% for scheduled commercial banks. However, it has declined to 12.7% from 13% between March and September 2015. Despite this, it indicates that banks belonging to various groups have CRAR above 9% and thus adequate capital. The Tier I capital (i.e. core capital) of scheduled commercial banks has been more than 70% of the total capital funds. This means commercial banks primarily use core capital for their business which makes them financially strong and viable. However, with further rise in gross non-performing assets, CRAR of scheduled commercial banks is likely to decline at the system level.

Overview of Basel Accord III

Keeping in view the limitations of Basel Accord II, Basel III Accord has proposed to improve the quality of bank capital, ensure adequate capital to absorb losses in the trading book, and build up a capital conservation buffer. This new accord is intended to ensure that the banking system is placed better to absorb losses in its business. The Basel Accord III norm is already introduced and banks are expected to achieve CRAR of 11.5% by March 31, 2019 in a phased manner. This can be seen from the data given in Table 1. Under this norm banks have to provide a capital conservation buffer of 2.5% of risk-weighted assets over and above the minimum capital requirement of 9%. In view of this, CRAR under Basel III Accord is increased from 9% to 11.5% of all risk-weighted assets. Banks have to maintain 5.5% of RWAs in the form of equity (i.e. net owned funds). Additional Tier I capital must be of 1.5% of RWAs. With effect from March 31, 2019, banks will have to maintain capital conservation buffer not less than 2.5% of risk-weighted assets. Tier II capital is not recognised as permanent capital and hence it is restricted up to 2% of risk-weighted assets. All this can be seen from details given in Table 2.

Table 1
Time Framework for Achieving CRAR under Basel Accord III by Scheduled Commercial Banks

	(% of RWA)						
<i>Minimum Capital Ratio</i>	<i>April 01, 2013</i>	<i>March 31, 2014</i>	<i>March 31, 2015</i>	<i>March 31, 2016</i>	<i>March 31, 2017</i>	<i>March 31, 2018</i>	<i>March 31, 2019</i>
1. Minimum Common Equity Tier I (CET-1)	4.5	5	5.5	5.5	5.5	5.5	5.5
2. Capital Conservation Buffer (CCB)	–	–	–	0.625	1.25	1.875	2.5
3. Minimum (ET-1+CCB)	4.5	5	5.5	6.125	6.75	7.375	8
4. Minimum Tier I Capital	6	6.5	7	7	7	7	7
5. Minimum Total Capital	9	9	9	9	9	9	9
6. Minimum Total Capital + CCB	9	9	9	9.625	10.25	10.875	11.5

Table 2
Details of Tier I and Tier II as a Percentage of Regularity Capital

	(% of RWA)
1. Minimum common equity Tier I ratio	5.5
2. Additional Tier-I capital	1.5
3. Minimum Tier I capital ratio i.e. (1)+(2)	7.0
4. Capital conversion buffer (comprising equity capital)	2.5
5. Minimum common equity Tier I + capital conversion buffer i.e. (1)+(4)	8.0
6. Tier II capital	2.0
7. Minimum capital risk asset ratio i.e. (3)+(6)	9.0
8. Overall capital risk asset ratio (including capital conversion buffer) (CCB) i.e. (4)+(7)	11.5

The CRAR under Basel Accord III is calculated as under:

$$\text{CRAR} = \frac{\text{Tier I} + \text{Tier II}}{\text{Risk Weight Assets for Credit Risk} + \text{Risk Weight Assets for Market Risk} + \text{Risk Weight Assets for Operational Risk}} \times 100$$

Like Basel Accord I and II capital under Basel Accord III comprises Tier I and Tier II. The components of Tier I capital are as follows:

- Paid-up equity capital.
- Share premium, resulting from the issue of common shares.
- Statutory reserves.
- Capital reserves representing surplus arising from sale of fixed assets.
- Other disclosed free reserves.
- Balance in Profit and Loss Account.

The additional Tier I capital comprises the following:

- Perpetual non-cumulative preference shares (PNCPs).
- Innovative perpetual debt instrument (IPDI).
- Share premium resulting from issue of debt instruments included in additional Tier I capital.

The components of Tier II capital are as follows:

- ❑ General provision and loss reserves.
- ❑ Debt instruments like Tier II bonds and subordinate debt, etc.
- ❑ Preference share capital instruments like perpetual cumulative preference shares, redeemable non-cumulative preference shares and redeemable cumulative preference shares, etc.

Liquidity Ratios

The Basel Committee which advocated the Basel III norms realised the necessity to have an appropriate framework for managing liquidity risk along with prudential norms for capital risk asset ratio (CRAR). The Basel Committee on Banking Supervision published its report on Basel III rules titled 'Liquidity- Basel III International Framework for Liquidity Risk Measurement, Standards and Monitoring in 2010'. This committee suggested two standards viz. liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) to ensure adequate liquidity with banks and to take care of funding risk. The said committee published its report titled 'Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools' in January 2013. The committee expects that along with capital adequacy standards, regulatory authorities in their jurisdiction, mainly central banks of various countries, should introduce standards on LCR and NSFR.

The Basel Committee has observed that the liquidity coverage ratio and net stable funding ratio are important components of Basel III Accord. Implementation of these norms will help to make the existing banking system more robust and vibrant. LCR is introduced with a view to ensure that a bank has an adequate stock of unencumbered high-quality liquid assets that consist of cash and near cash assets to meet its liquidity needs in the next 30 calendar days. This will help a bank to survive until the 30th day of the stress scenario. The standard norm of net stable funding ratio is also expected to bring discipline through use of more stable sources of funds to fund long-term assets.

Liquidity Coverage Ratio (LCR)

LCR is calculated based on following formula:

Stock of High-Quality Liquid Assets (HQLA) i.e.

$$\text{LCR} = \frac{\text{Level 1+Level 2 (After adjusting for haircut)}}{\text{Total net cash outflows in the next 30 calendar days}} \times 100$$

Initially banks were directed to maintain at least 60% LCR with effect from January 1, 2015. This will be increased in a phased manner and banks will be required to maintain minimum LCR at 100% by January 1, 2019. In order to ensure effective liquidity risk management, banks are expected to achieve or maintain a higher ratio than the minimum stipulated. This ratio must be maintained on a continuous

basis. Only after January 1, 2019 will banks be allowed to have LCR below 100% during a period of financial stress or crisis. If this happens then banks should report this fact along with reasons and action plan to the RBI.

High-quality liquid assets comprise Level 1 and Level 2 assets.

Level 1 assets consist of:

- Cash including cash reserves in excess of required cash reserve ratio (CRR).
- Government securities in excess of the statutory liquidity ratio (SLR) requirement.
- SLR securities within the mandatory requirement to the extent allowed by the RBI under the marginal standing facility (MSF).
- Marketable securities issued or guaranteed by foreign sovereigns.

Level 2 assets consist of:

- Marketable securities representing claims on or claims guaranteed by sovereigns, public sector entities (PSEs) or multilateral development banks that are assigned a 20% risk weight under the Basel II standardized approach for credit risk and provided that they are not issued by a bank/financial institution/NBFC or any of its affiliated entities.
- Corporate bonds (not issued by a bank/financial institution/NBFC or any of its affiliated entities) which have been rated AA- or above by a recognised credit rating agency. Similarly, commercial papers which are issued by institutions other than PD/financial institution which have a short-term rating equivalent to the long-term rating of AA-1 or above by a recognised credit rating agency.
- Marketable securities representing claims on or claims guaranteed by sovereigns having risk weights higher than 20% by up to 50% provided they should have a credit rating not lower than BBB.
- Common equity shares which are included in NSE CNX Nifty Index and/or S&P BSE Sensex Index.

Net Stable Funding Ratio (NSFR)

The standard of NSFR is designed with a view to ensure long-term assets are funded from stable liabilities keeping in view their liquidity risk profits. It aims to reduce over-dependence on short-term wholesale funding during times of buoyant market liquidity. The NSFR is calculated as under:

$$\text{Net Stable Funding Ratio} = \frac{\text{Available Stable Funding (ASF) over One Year (365 Calendar Days)}}{\text{Required Stable Funding (RSF) over One Year (365 Calendar Days)}} \times 100$$

It must be more than 100%.

The available stable funding sources include:

- (a) Capital (Tier 1 and Tier 2 after deductions).
- (b) Preference share capital (not included in Tier 1 and Tier 2) with remaining maturity of one year or greater.
- (c) Liabilities with effective maturities of one year or greater.
- (d) The portion of demand deposits/term deposits and wholesale funding with maturities less than one year which is expected to remain with a bank for an extended period in a bank-specific stress event.

The required amount of stable funding is calculated as the sum of the value of the assets held and funded by a bank multiplied by a specific required stable funding (RSF) factor assigned to each particular asset type, added to the amount of off balance-sheet (OBS) activity (or potential liquidity exposure) multiplied by its associated RSF factor.

Implications on Banking Business

Once Basel Accord III is fully implemented, banks will experience its impact on their business. At present the provisions of Basel Accord III are being implemented partially. Despite this, it is necessary to analyze the implications of Basel Accord III on the banking business. In this regard, it is worthwhile to make the following observations:

1. Under Basel Accord III banks have to provide more Tier 1 capital in the form of common equity. In addition, banks will be required to provide capital conversion buffer in the form of equity. This will put tremendous pressure on banks to raise funds through equity. At present banks do not offer attractive returns to the shareholders. Because of this, banks, both in the public and private sector, will struggle to raise additional equity capital from the market. This will affect growth in the lending business.
2. With growing competition in the market banks may not like to pass on increased cost of capital and cost of maintaining liquidity standards under Basel III to their borrowers. This will bring down the net interest margin (NIM) of banks. In view of this, banks will be required to focus more on income from treasury operations, forex business and off the balance-sheet business.
3. With introduction of LCR norm, banks will be forced to invest more funds in liquid assets like government securities, corporate bonds with AAA credit rating and listed equity shares. This will affect credit growth. At present banks consider excess government securities as a part of high-quality liquid

assets. However, barring few securities, most of the government securities are illiquid. Therefore banks will experience difficulties in selling such securities in the market for liquidity. It is unrealistic to assume that government securities are high-quality liquid assets. If this is so, the liquidity coverage ratio norm, even if it is maintained, will not help banks to improve their liquidity position during a financial crisis.

4. Introduction of net stable funding ratio will force banks to fund their long-term assets from stable sources of finance. This will discourage banks to fund their long-term assets from short-term funds. This will help banks to avoid mismatch between assets and liabilities.

Conclusion

The Basel III Accord has proposed to improve the quality of capital in the form of higher equity capital. With a provision of capital conversion buffer in the form of equity capital, banks will be able to recover losses during a financial crisis. The implementation of the standards on liquidity ratios will help banks to overcome liquidity crisis. Once these standards under Basel III are fully implemented along with standard on capital risk asset ratio (CRAR) it will help banks to become financially strong and viable commercial enterprises in the long run.

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