CAPITAL ADEQUACY AND MARKET DISCIPLINE-NEW CAPITAL ADEQUACY FRAMEWORK (NCAF)

BASEL II

The Basel Capital Accord is an Agreement concluded among country representatives in 1988 to develop standardised risk-based capital requirements for banks across countries. The Accord was replaced with a new capital adequacy framework (Basel II), published in June 2004. The Revised Framework was updated in November 2005 followed by a comprehensive version of the framework was issued in June 2006.

Basel II is based on three mutually reinforcing Pillars that allow banks and supervisors to evaluate properly the various risks that banks face. The Pillars are:

i) Minimum capital requirements, which seek to refine the present measurement framework
ii) Supervisory review of an institution's capital adequacy and internal assessment process;
iii) Market discipline through effective disclosure to encourage safe and sound banking practices

i) Minimum Capital Requirement (Pillar I)

The New Capital Adequacy Framework (NCAF) provides three distinct options each for computing capital requirement for credit risk and operational risk as under:-

Credit Risk
a) Standardised Approach
b) Foundation Internal Rating Based Approach
c) Advanced Internal Rating Based Approach

Operational Risk
a) Basic Indicator Approach
b) Standardised Approach
c) Advanced Measurement Approach

All commercial banks (excluding Local Area Banks and Regional Rural Banks) are required to adopt Standardised Approach (SA) for Credit Risk and Basic Indicator Approach (BIA) for Operational Risk for computing capital to Risk Weighted Assets (CRAR) so as to fall in line with the International standards and reporting to their Boards on quarterly intervals.

With the upgradation of the risk management framework and likely accrual of capital efficiency thereto envisaged under Basel II as also the emerging international trend in this regard, it was considered desirable to lay down a timeframe for migration to the advanced approaches for credit risk and operational risk and accordingly a time frame has been drawn factoring the likely lead time for creating requisite technological and the risk management infrastructure etc. Banks were also advised to migrate to the approach, of course, with suitable approval from RBI.

Capital Funds

- Tier I CRAR is computed as under:-

$$\text{Tier I CRAR} = \frac{\text{Eligible Tier I capital funds}}{\text{Credit Risk RWA* + Market Risk RWA + Operational Risk RWA}}$$

  * RWA = Risk weighted Assets

- Banks are required to maintain a minimum Total CRAR of 9% on an ongoing basis. The RBI will take into account the relevant risk factors and the internal capital adequacy assessments of each bank to ensure that the capital held by a bank is commensurate with the bank's overall risk profile. Total CRAR is worked out as under:-

- $$\text{Total CRAR} = \frac{\text{Eligible total capital funds}}{\text{Credit Risk RWA + Market Risk RWA + Operational Risk RWA}}$$

- Capital funds are classified into Tier I and Tier II capital. Tier II capital will be reckoned to the extent of 100% of Tier I capital for the purpose of capital funds.

Tier I capital

It includes:-

a. Paid-up equity capital, statutory reserves, and other disclosed free reserves, if any;
b. Capital reserves representing surplus arising out of sale proceeds of assets;
c. Innovative perpetual debt instruments (IPDI) eligible for inclusion in Tier I capital,
d. Perpetual Non-Cumulative Preference Shares (PNCPS),
e. Any other type of instrument generally notified by RBI from time to time for inclusion in Tier I capital.

Limits on eligible Tier I Capital

a. IPDIs upto 15% of Tier I capital as on March 31of previous financial year;
b. The outstanding amount of Tier I preference shares i.e. Perpetual Non-Cumulative Preference Shares (PNCPS) along with Innovative Tier I instruments shall not exceed 40 per cent of total Tier I capital at any point of time.
c. Innovative instruments/PNCPS, in excess of the limit shall be eligible for inclusion under Tier II, subject to limits prescribed for Tier II capital.

Tier II Capital

a. Revaluation Reserve;
b. General Provisions and Loss Reserves;

c. Hybrid debt capital instruments;
d. Subordinated debts;
e. IPDI in excess of 15% of Tier I capital and PNCPS in excess of overall ceiling of 40% of Tier I capital;
f. Any other type of instrument generally notified by the Reserve Bank from time to time for inclusion in Tier II capital.

Limits on eligible Tier II capital

a) It shall not exceed 100% of Tier I capital net of goodwill, Deferred Tax Assets (DTA), and other intangible assets but before deduction of investments;
b) Subordinated debt instruments are limited to 50% of Tier I capital after all deductions.

1. Capital charge for Credit Risk

Claims on Domestic Sovereigns (standard Assets)

a. Both fund based and non fund based claims on the Central Government including Central Govt. guaranteed claims carry zero risk weight.
b. Direct Loans/credit/overdraft exposure, if any, of banks to State Govt. and investment in State Govt. securities carry zero risk weight. State Government guaranteed claims will attract 20 per cent risk weight'.
c. Risk weight applicable to Central Govt. exposure would also apply to claims on RBI, DI&CGC and Credit Guarantee Fund Trust for Small Industries (CGTSI) and claim on ECGC would attract 20% risk weight.
d. 'Amount Receivable from GOI' under Agricultural Debt Waiver Scheme 2008 is to be treated as claim on GOI and attract zero risk weight whereas the amount outstanding in the accounts covered by the Debt Relief Scheme shall be treated as a claim on the borrower and risk weighted as per the extant norms.

Claims on Foreign Sovereigns
Claims on Foreign Sovereigns in foreign currency would be as per the rating assigned as detailed in the RBI circular. In case of claims dominated in domestic currency of Foreign Sovereign met out of the resources in the same currency, the zero risk weight would be applicable.

Claims on Public Sector Entities (PSE)
Claims on domestic PSEs and Primary Dealers (PD) would be risk weighted in the same manner that of corporate and foreign PSEs as per the rating assigned by foreign rating agencies as detailed in the Circular.

Other claims
- Claims on IMF, Bank for International Settlements (BIS), Multilateral Development Banks (MDBs) evaluated by the BCBS will be treated similar to claims on scheduled banks at a uniform 20% risk weight.
- Claims on Banks incorporated in India and Foreign Banks' branches in India, the applicable risk weight is detailed in the RBI Master Circular.

- Claims on corporate Asset Finance Companies (AFCs) and Non-Banking Finance Companies-Infrastructure Finance Companies (NBFC-IFC), shall be risk weighted as per the ratings assigned by the rating agencies registered with the SEBI and accredited by the RBI (Detailed in the Circular).
- The claims on non-resident corporate will be risk weighted as per the ratings assigned by international rating agencies.
- Regulatory Retail claims (both fund and non-fund based) which meet the Qualifying criteria, viz.

a) **Orientation Criterion**: Exposure to individual person/s or to a small business (Average annual turnover less than Rs. 50 crore for last 3 years or projected turnover in case of new units);
b) **Product Criterion**: Exposure (both fund-based and non fund-based) in form of revolving credits and lines of credit (incl. overdrafts), term loans & leases (e.g. instalment loans and leases, student and educational loans) and small business facilities and commitments
c) **Granularity Criterion** – Sufficient diversification to reduce the risk portfolio; and
d) **Low value of individual exposures** - The maximum aggregated retail exposure to one counterpart should not exceed the absolute threshold limit of Rs. 5 crore.

Would attract risk weight of 75% except NPAs.

e) Home loans to individuals upto Rs. 30 Lakh backed by mortgage on residential property, the risk weight would be 50%; and above Rs. 30 Lakh but below Rs. 75 Lakh 75% provided the Loan to Value ratio (LTV) should not be more than 75% based on bank's approved valuation policy. LTV beyond 75% will attract a risk weight of 100%.
f) The risk weight for residential housing loans of Rs. 75 Lakh and above irrespective of the LTV ratio will be 125% and restructured accounts at 25%.
g) Commercial real estate exposure, the risk weight is to be taken at 100%.

Non-performing Assets (NPAs)

- The risk weight in respect of the unsecured portion of NPA (other than a qualifying residential mortgage loan), net of specific provisions (including partial write-offs), shall be:-

Specific Provisions	Risk Weight %
Less than 20% of outstanding	150
At least 20% of outstanding	100
At least 50% of outstanding	50

- The risk weight applicable for secured NPA is 100%, net of provisions when provisions reach 15% of the outstanding amount.
- NPA Home Loan claims secured by residential property, the risk weight shall be 100% net of specific provisions. In case the specific provisions are at least 20% but less than 50% of the outstanding, the risk weight shall be 75% (net of specific provisions) and specific provisions are 50% or more the applicable risk weight is 50%.

Other specified categories

	Category	Risk Weight (%)
01.	Venture capital	150 or higher
02.	Consumer credit including personal loans, credit card receivables, but excl. educational loan	125
03.	Capital market exposure	125
04.	Investment in paid up capital of Non-financial entities	125
05.	*Investment in paid up capital of financial entities (other than banks) where investment is upto 30% of equity of investee entity. *Investment exempted from 'capital market exposure'	125 100
06.	Staff loans backed fully by superannuation benefits and/or mortgage of flat/house	20
07.	Other loans and advances to staff eligible for inclusion under retail portfolio	75
08.	All other assets	100
09.	Off balance sheet items (Market related and non-market related items)	As detailed in the RBI Circular.
10.	Securitization Exposure	As per Cir. Based on rating by external credit agency
11.	Commercial real estate (MBS backed)	-do-

External Credit Assessment

- RBI has identified various credit agencies whose ratings may be used by banks for the purposes of risk weighting their claims for capital adequacy purposes as under:-

a. Credit Analysis and Research Limited;
b. CRISIL Limited;
c. India Ratings & Research Pvt. Ltd. (India Rating)
d. ICRA Limited.

e. Brickwork Ratings India Pvt. Ltd.

International Agencies (where specified)

a. Fitch
b. Moodys; and
c. Standard & Poor's

- Banks are required to use the chosen credit rating agencies and their ratings consistently for each type of claim, for both risk weighting and risk management purposes. The NCAF recommends development of a mapping process to assign the ratings issued by eligible credit rating agencies to the risk weights available under the Standardised risk weighting framework
- Under the Framework, ratings have been mapped for appropriate risk weights applicable as per Standardised approach. The risk weight mapping for Long Term and Short Term Ratings are given in the Circular.

Credit Risk Mitigation Techniques

a) **Collateralized transactions** –

- The credit exposure is hedged in whole or part by collaterals by a counterparty (party to whom a bank has an on-or off balance sheet credit exposure) or by a third party on behalf of the counterparty and banks have specific lien over the collaterals
- Under the Framework, banks are allowed to adopt either Simple Approach or Comprehensive Approach. The former approach substitutes the risk weighting of the collateral for the risk weighting of the counterparty for the collateraised portion of the exposure and under the latter approach which allows fuller offset of collaterals against exposures. Comprehensive approach is being adopted by banks in India.
- Cash, Gold, securities, KVP, NSC (no lock in period), LIC policies, Debt securities, Units of Mutual Funds, etc. are eligible financial instruments for recognition in the Comprehensive Approach.

b) **On Balance Sheet Netting** –

Under this technique, banks have legally enforceable netting arrangements involving specific lien with proof of documentation. Capital requirement is reckoned on the basis of net credit exposure.

c) **Guarantees** –

Explicit, irrevocable, and unconditional guarantees may be taken as credit protection in calculating capital requirements. Guarantees issued by entities with lower risk weight as compared to the counterparty will lead to reduced capital charges.

2. Capital charge for Market Risk

Market Risk relates to risk of losses in on-balance sheet and off-balance sheet positions arising on account of movement in market prices. The market risk positions subject to

capital charge requirement are risks pertaining to **interest rate** related instruments in trading books and equities and **Foreign Exchange risk** (including gold and other precious metals) in both trading and banking books.
Trading book for the purpose of capital adequacy will include:

a. Securities included under the Held for Trading (HFT) category
b. Securities included under the Available for Sale (AFS) category
c. Open gold position limits
d. Open foreign exchange position limits
e. Trading positions in derivatives, and
f. Derivatives entered into for hedging trading book exposures.

- Banks are required to manage the market risks in their books on an ongoing basis and ensure that the capital requirements for market risks are being maintained on a continuous basis, i.e. at the close of each business day. Banks are also required to maintain strict risk management systems to monitor and control intra-day exposures to market risks.
- Capital for market risk would not be relevant for securities which have already matured and remain unpaid. These securities will attract capital only for credit risk. On completion of 90 days delinquency, these will be treated on par with NPAs for deciding the appropriate risk weights for credit risk.

Measurement of capital charge for Interest Rate Risk

- The capital charge for interest rate related instruments would apply to current market value of the instruments in bank's trading book and banks are required to maintain capital for market risks on an ongoing basis by mark to market their trading positions on a daily basis.
- The minimum capital requirement is measured/ expressed in two ways viz. (i) Specific Risk charge and (ii) General Market Risk (dealt separately hereunder).
- In view of possible longer holding period and higher risk thereto in respect of debt securities held under AFS category, banks are required to hold capital charge for market risk equal to or greater of the Specific Risk Capital charge or Alternative Total Capital Charge.

(i) Specific Market Risk

The capital charge for specific risk is designed to protect against an adverse movement in the price of an individual security owing to factors related to the individual issuer both short (short position is not allowed in India except in derivatives) and long positions. The specific risk charges and Alternative Total Capital Charge for various kinds of exposures are detailed in Tabular Form in the RBI Circular.

(ii) General Market Risk

It relates to charge towards interest rate risk in the portfolio, where long and short position (which is not allowed in India except in derivatives) in different securities or instruments can be offset. The capital requirements for general market risk are designed to capture the risk of loss arising from changes in market interest rates.

General Market Risk is the sum of the following four components:-

a. The net short (short position is not allowed in India except in derivatives) or long position in the whole trading book;
b. a small proportion of the matched positions in each time-band (the "vertical disallowance");
c. a larger proportion of the matched positions across different time-bands (the "horizontal disallowance"), and
d. a net charge for positions in options, where appropriate.

- Two broad methodologies for computation of capital charge for market risks are suggested by the Basle Committee viz. Standardised Method and Internal Risk Management models method of which banks have been advised to adopt Standardised Method as banks have not yet developed their Internal Risk Management system.
- Under the standardised method there are two principal methods of measuring market risk viz. a "maturity" method and a "duration" method. It has been decided to adopt standardised "duration" method as the same is more accurate method to arrive the capital charge.
- The mechanics under the method, Time band and assumed changes in yield are detailed in the Circular for reference.

Measurement for capital charge for Equity Risk

- The capital charge for equities would apply on their current market value in bank's trading book. The Minimum capital requirement, to cover the risk of holding or taking positions in equities in the trading book is detailed in the Circular. The instruments covered include equity shares, whether voting or non-voting, convertible securities that behave like equities, for example: units of mutual funds, and commitments to buy or sell equity.

- The capital charge for Specific Risk and General Market Risk, calculated on bank's gross equity position, would be 9% each and the Specific Risk capital charge on the banks investment in Security Receipts would be 13.5% (equivalent to 150% risk weight).

Measurement of capital charge for Foreign Exchange Risk

The bank's net open position in each currency shall be calculated by summing:

a) The net spot position (i.e. all asset items less all liability items, including accrued interest, denominated in the currency in question);

b) The net forward position (i.e. all amounts to be received less all amounts to be paid under forward foreign exchange transactions, including currency futures and the principal on currency swaps not included in the spot position);
c) Guarantees (and similar instruments) that are certain to be called and are likely to be irrecoverable;
d) Net future income/expenses not yet accrued but already fully hedged (at the discretion of the reporting bank);
e) Depending on particular accounting conventions in different countries, any other item representing a profit or loss in foreign currencies;
f) The net delta-based equivalent of the total book of foreign currency options.

The open positions both Foreign exchange and gold are at present risk-weighted at 100% and the capital charge for market risks in foreign exchange and gold open position is 9%. These open positions, limits or actual whichever is higher, would continue to attract capital charge at 9%. This capital charge is in addition to the capital charge for credit risk on the on-balance sheet and off-balance sheet items pertaining to foreign exchange and gold transactions.

For calculation of eligible capital for market risk, it will be necessary to ascertain the bank's minimum capital requirement for credit and operational risks so as to arrive the available Tier I and Tier II capital to support the market risk (Illustrated in the Circular).

3. Capital charge for Operational Risk

Operational risk is termed as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This includes legal risk, but excludes strategic and reputational risk. Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements.

Measurement Methodologies

Three methods for calculating operational risk capital charges in continuum of increasing sophistication and risk sensitivity are provided under NCAF viz.

i) The Basic Indicator Approach (BIA)
ii) The Standardised Approach (TSA), and
iii) Advanced Measurement Approach (AMA).

- Banks are advised, to begin with, to adopt the Basic Indicator Approach (BIA) and RBI would review the capital requirement under BIA for general credibility and in case it is found any laxity, appropriate Supervisory action under Pillar 2 will be considered.

- Under BIA, banks are required to hold capital for operational risk equal to the average positive annual gross income over the previous 3 years. In case the gross income for any year is negative or zero, the same should be excluded while calculating the average. RBI will initiate necessary supervisory action under Pillar 2 in case the negative gross income distorts banks Pillar I capital charge.

ii) **<u>Supervisory Review and Evaluation Process (SREP)</u> – (Pillar 2)**

The objective of Supervisory Review Process (SRP) is to:-

a. Ensure that banks have adequate capital to support all the risks in their business; and

b. Encourage them to develop and use better risk management techniques for monitoring and managing their risks.

Key principles envisaged under the SRP are:-

a) Banks are required to have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

b) Evaluation of banks' internal capital adequacy assessments and strategies as well as their ability to monitor and ensure their compliance with the regulatory capital ratios by Supervisors.

c) Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.

d) Supervisors should intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

- Principles a & c relates to the supervisory expectations while others i.e. b & d deals with the role of the supervisors under Pillar 2. This necessitates evolvement of an effective **Internal Capital Adequacy Assessment Process (ICAAP)** for assessing their capital adequacy based on the risk profiles as well as strategies for maintaining their capital levels.

- Pillar 2 also requires the Supervisory authorities to put in place an evaluation process known as **Supervisory Review and Evaluation Process (SREP)** and to initiate supervisory measures as may be necessary. This would also facilitate RBI to take suitable steps either to reduce exposure of the bank or augment/restore its capital. ICAAP is an important component of the SRP.

- Based on the principles, responsibilities have been casted on Banks and Supervisors under SREP and based on which banks are expected to operate above the minimum regulatory capital ratios commensurate with their individual risk profiles, etc. Under SREP, the RBI will assess the overall capital adequacy through comprehensive evaluation along with Annual Financial Inspection (AFI) based relevant data and ICAAP document being received from banks and available information. ICAAP and SREP are 2 important components of Pillar 2.

- Every bank (except LABs & RRBs) should have an ICAAP both at solo and consolidated levels and the responsibility of designing and implementation of the ICAAP rests with the Board. Before embarking on new activities or introducing new products the senior management should identify and review the related risks arising from these potential new products or activities and ensure that the infrastructure and internal controls necessary to manage the related risks are in place.

- Banks are required to put in place a effective MIS which should provide the board and senior management a clear and concise manner with timely and relevant information concerning their institutions' risk profile including risk exposure. MIS should be capable of capturing limit breaches (concentrations) and same should be promptly reported to senior management, as well as to ensure that appropriate follow-up actions are taken. Risk management process should be frequently monitored and tested by independent control areas and internal and external auditors.

- The ICAAP should form an integral part of the management and decision-making culture of a bank. The implementation of ICAAP should be guided by the principle of proportionality and RBI expects degree of sophistication in the ICAAP in regard to risk measurement which should commensurate with the nature, scope, scale and the degree of complexity in the bank's business operations.

Operational aspects of ICAAP

- The ICAAP of banks is expected normally to capture the risk universe, viz .Credit Risk, Market Risk, Operational Risk, interest rate risk in the banking book, credit concentration risk and liquidity risk. Other risks include reputational risk and or business or strategic risk, Off-balance sheet Exposure and Securitisation Risk etc. (Various risks are briefly outlined in the RBI Circular).

- Bank's risk management process including the ICAAP should be consistent with the existing RBI guidelines on these risks. If banks adopt risk mitigation techniques, they should understand the risk to be mitigated and reckoning its enforceability and effectiveness on the risk profile of the bank.

Sound Stress Testing Practices

- Stress testing that alerts bank management to adverse unexpected outcomes related to a broad variety of risks and provides an indication to banks of how much capital might be needed to absorb losses should large shocks occur. It is an important tool that is used by banks as part of their internal risk management. Moreover, stress testing supplements other risk management approaches and measures.

iii) Market Discipline - (Pillar – 3)

- Market Discipline is termed as development of a set of disclosure requirements so that the market participants would be able to access key pieces of information on the scope of application, capital, risk exposures, risk assessment processes, and in turn the capital adequacy of the institution. It is considered as an effective means of informing the market about a bank's exposure to those risks and provides comparability. Non-compliance of the prescribed disclosure requirement attracts penalty including financial penalty.

- Banks are required provide as at the end of March each year all Pillar 3 disclosures both quantitative and qualitative along with annual financial statements. Banks with capital funds of Rs. 100 crore or more are further required to make interim disclosures on the quantitative aspects on a standalone basis on their websites as at end of September each year.

- All banks with capital funds of Rs. 500 crore or more are required to disclose their Tier I capital, total capital, total required capital and Tier I ratio and total capital adequacy ratio, on a quarterly basis on their respective websites.

- The disclosure on the websites should be made in a web page titled "Basel II Disclosures" and the link to this page should be prominently provided on the home page of the bank's website. Each of these disclosures pertaining to a financial year should be available on the websites until disclosure of the third subsequent annual (March end) disclosure is made.

- Banks should evolve a formal disclosure policy duly approved by their respective Boards that addresses the bank's approach for determining what disclosures it will make and the internal controls over the disclosure process. Under the NCAF, the disclosure was required to effective from March 2008 or 2009 (extended to 31st March 2010).

- Banks operating in India are required to make additional disclosures in respect of:-

a. Securitisation exposures in the trading book;
b. Sponsorship of off-balance sheet vehicles;
c. Valuation with regard to securitisation exposures; and
d. Pipeline and warehousing risks with regard to securitisation exposures

- The disclosure requirements under Pillar 3 section wise along with narrations are outlined in Tabular Form in the RBI Master Circular on NCAF.

Detailed guidelines on issuance of various Debt Instruments viz. Innovative Perpetual Debt Instrument (IPDI), Perpetual Non-cumulative Preference Shares (PNCPS), Debt Capital Instruments, Perpetual Cumulative Preference Shares (PCPS), Redeemable Non-cumulative Preference Shares (RNPS), Redeemable Cumulative Preference Shares (RCPS), Subordinated Debts, Guidelines on Securitisation of Standard Assets, Credit Risk Mitigation – Illustrations, Illustrative Approach on Measurement of Capital Charge for Market Risks in respect of Interest Rate Risk and Derivatives, Illustrative Approach on

Measurement Interest Rate Risk in Banking Books (IRRBB), etc. are given in the Master Circular RBI.

(Source: RBI M. Circular- updated up to 31.10.12)