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

Pillar 1 - Minimum Capital Requirement

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 (BIA)
b) The Standardised Approach (TSA)
c) Advanced Measurement Approach (AMA)

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 and Standardised Duration Approach (SDA) 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. All other commercial banks (except Local Area Banks and Regional Rural Banks) migrated to these approaches under the Revised Framework by March 31, 2009.

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.

Deductions from capital

a) Intangible assets and losses in the current period and those brought forward from previous periods should be deducted from Tier I capital.
b) The DTA computed should be deducted from Tier I capital.
c) Any gain-on-sale arising at the time of securitisation of standard assets, if recognised, should be deducted entirely from Tier I capital.
d) Securitisation exposures shall be deducted from regulatory capital and the deduction must be made 50% from Tier I and 50% from Tier II except where expressly provided otherwise.
e) A bank's/FI's aggregate investment in all types of instruments, eligible for capital status of investee banks / FIs / NBFCs / PDs excluding those deducted should not exceed 10% of the investing bank's capital funds (Tier I plus Tier II, after adjustments), etc.

1. **Capital charge for Credit Risk**

Under the Standardised Approach, the rating assigned by the eligible external credit rating agencies will largely support the measure of credit risk. Banks may rely upon the ratings assigned by the external credit rating agencies chosen by RBI for assigning risk weights for capital adequacy purposes as per the mapping furnished in these guidelines.

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 Micro & Small Enterprises (CGTMSE) and Credit Risk Guarantee Fund Trust for Low Income Housing (CRGFTLIH). The 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.

The following claims, both fund based and non-fund based, shall be excluded from the regulatory retail portfolio:

a) Exposures by way of investments in securities (such as bonds and equities), whether listed or not;
b) Mortgage Loans to the extent that they qualify for treatment as claims secured by residential property or claims secured by commercial real estate;
c) Loans and Advances to bank's own staff which are fully covered by superannuation benefits and / or mortgage of flat/ house;
d) Consumer Credit, including Personal Loans and credit card receivables;
e) Capital Market Exposures;

f) Venture Capital Funds.

Claims secured by residential property

Lending to individuals meant for acquiring residential property which are fully secured by mortgages on the property that is or will be occupied by the borrower, or that is rented, shall be risk weighted as under:-

Category of Loan	LTV Ratio (%)	Risk Weight (%)
(a) Individual Housing Loans		
(i) Up to Rs. 20 Lakh	90	50
(ii) Above Rs. 20 Lakh and up to Rs. 75 Lakh	80	50
(iii) Above Rs.75 Lakh	75	75
b) Commercial Real Estate - Residential Housing (CRE-RH)	N/A	100
(c) Commercial Real Estate (CRE)	N/A	100

LTV ratio can be computed as a percentage with total outstanding in the account (viz. "principal +accrued interest + other charges pertaining to the loan" without any netting) in the numerator and the realisable value of the residential property mortgaged to the bank in the denominator.

Claims classified as Commercial Real Estate (CRE) exposure

As loans to residential housing projects under CRE sector exhibits lesser risk and volatility than the CRE Sector taken as a whole, a separate sub-sector called Commercial Real Estate - Residential Housing (CRE-RH) has been carved out from the CRE Sector. CRE-RH would consist of loans to builders/developers for residential housing projects (except for captive consumption) under CRE segment. Such projects should ordinarily not include non-residential commercial real estate.

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.
f. SME Rating Agency of India Ltd. (SMERA)

International Agencies (where specified)

a. Fitch
b. Moody's; 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

General Principles

Banks use a number of techniques to mitigate the credit risks to which they are exposed. For example, exposures may be collateralised in whole or in part by cash or securities, deposits from the same counterparty, guarantee of a third party, etc. The revised approach to credit risk mitigation allows a wider range of credit risk mitigants to be recognized for regulatory capital purposes than is permitted under the 1988 Framework. The general principles include:-

a) No transaction in which Credit Risk Mitigation (CRM) techniques are used should receive a higher capital requirement than an otherwise identical transaction where such techniques **are not** used.

b) The effects of CRM will not be double counted.
c) Principal-only ratings will not be allowed within the CRM framework.
d) While the use of CRM techniques reduces or transfers credit risk, it simultaneously may increase other risks (residual risks). Residual risks include legal, operational, liquidity and market risks, etc.

Collateralized transactions –

A collateralized transaction is one in which the banks have credit exposure and that 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**.

A capital requirement will be applied to a bank on either side of the collateralised transaction. For example, both repos and reverse repos will be subject to capital requirements. Likewise, both sides of securities lending and borrowing transactions will be subject to explicit capital charges.

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.

Hair Cut

In the comprehensive approach, Banks are required to adjust both the amount of the exposure to the counterparty and the value of any collateral received in support of that counterparty to take account of possible future fluctuations in the value of either, occasioned by market movements. **These adjustments are referred to as 'haircuts'**. The application of haircuts will produce volatility adjusted amounts for both exposure and collateral. The volatility adjusted amount for the exposure will be higher than the exposure and the volatility adjusted amount for the collateral will be lower than the collateral, unless either side of the transaction is cash. In other words, the 'haircut' for the exposure will be a premium factor and the 'haircut' for the collateral will be a discount factor.

It may be noted that the purpose underlying the application of haircut is to capture the market-related volatility inherent in the value of exposures as well as of the eligible financial collaterals. Where the volatility-adjusted exposure amount is greater than the volatility-adjusted collateral amount (including any further adjustment for foreign exchange risk), banks shall calculate their risk-weighted assets as the difference between the two multiplied by the risk weight of the counterparty.

Banks have two ways of calculating the haircuts viz. (i) Standard supervisory haircuts; using parameters set by the Basel Committee, and (ii) Own estimate haircuts, using banks' own internal estimates of market price volatility. Banks in India shall **use only the standard supervisory haircuts** for both the exposure as well as the collateral. The Standard Supervisory Haircuts (assuming daily mark-to-market, daily re-margining and a 10 business-day holding period), expressed as percentages, are given in detail in the RBI Circular.

Calculation of Capital Requirement

For a collateralized transaction, the exposure amount after risk mitigation is calculated as Follows:-

$$E^* = \max \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\}$$

Where

E^* = the exposure value after risk mitigation

E = current value of the exposure for which the collateral qualifies as a risk mitigant

H_e= haircut appropriate to the exposure

C = the current value of the collateral received

H_c= haircut appropriate to the collateral

H_{fx}= haircut appropriate for currency mismatch between the collateral and exposure

The exposure amount after risk mitigation (i.e., E*) will be multiplied by the risk weight of the counterparty to obtain the risk-weighted asset amount for the collateralised transaction.

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.

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.

Banks are required to measure the general market risk charge by calculating the price sensitivity (modified duration) of each position separately.

The mechanics under the method include:-

a) First calculate the price sensitivity (modified duration) of each instrument.
b) Next apply the assumed change in yield to the modified duration of each instrument between 0.6 and 1.0 percentage points depending on the maturity of the instrument.
c) Slot the resulting capital charge measures into a maturity ladder with the fifteen time bands as shown in the Circular.
d) Subject long and short positions (short position is not allowed in India except in derivatives) in each time band to a 5% vertical disallowance designed to capture basis risk, and
e) Carry forward the net positions in each time-band for horizontal offsetting subject to the disallowances set out in the circular.

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 as illustrated below:-

Computation of capital for Market Risk

(Rs. in crore)

1.	Capital Funds • Tier 1 Capital • Tier 2 Capital	 55 50	105
2.	Total Risk Weighted Assets (RWA) • RWA for credit and operational risk • RWA for market risk	 1000 140	1140
3.	Total CRAR		9.21

4.	Minimum capital required to support credit and operational risk (1000*9%) Tier 1 (@ 4.5% of 1000) Tier 2 (@ 4.5% of 1000)	45 45	90
5.	Capital available to support market risk (105-90) • Tier 1- (55-45) • Tier 2- (50-45)	10 5	15

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.

a) The Basic Indicator Approach (BIA)
b) The Standardised Approach (TSA), and
c) 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.

The capital charge for operational risk is calculated under BIA is as under:-

KBIA = [™ (GI$_{1\ldots n}$ x [)]/n

Where:
KBIA = the capital charge under the Basic Indicator Approach

GI = annual gross income, where positive, over the previous three years

n = number of the previous three years for which gross income is positive

I = 15%, which is set by the BCBS , relating the industry wide level of required capital to the industry wide level of the indicator.

(Gross income is defined as “Net interest income” plus “net non-interest income” with adjustments as detailed in the circular).

Banks are advised to compute capital charge for operational risk under the BIA as follows:

a) Average of [Gross Income * alpha] for each of the last three financial years, excluding years of negative or zero gross income
b) Gross income = Net Profit (+) Provisions & Contingencies (+) Operating Expenses
c) Alpha = 15 per cent

Pillar 2 - <u>Supervisory Review and Evaluation Process (SREP)</u>

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.

This entails well-defined internal assessment process within banks through which they can assure the RBI that adequate capital is indeed held towards the various risks to which they are exposed. RBI, in case of necessity, can initiate appropriate intervention either to reduce the risk exposure of the bank or augment / restore its capital. Thus, ICAAP is an important component of the SRP.

The main aspects to be addressed under the SRP, and therefore, under the ICAAP, would include:

a) risks that are **not** fully captured by the minimum capital ratio prescribed under Pillar 1;
b) risks that are **not** at all taken into account by the Pillar 1; and
c) factors external to the bank.

The capital adequacy ratio prescribed by the RBI under the Pillar 1 of the Framework is only the regulatory <u>minimum</u> level and addressing only the three specified risks (viz., credit, market and operational risks). Hence, holding additional capital might be necessary for banks, on account of both - the possibility of some under-estimation of risks under the Pillar 1 and the actual risk exposure of a bank vis-à-vis the quality of its risk management architecture. Some of the risks that the banks are generally exposed to but which are not captured or not fully captured in the regulatory CRAR would include viz. Interest rate risk in the banking book, Credit concentration risk, Liquidity risk, Settlement risk, Reputational risk, Strategic risk, Risk of under-estimation of credit risk under the Standardised approach, “Model risk” i.e., the risk of under-estimation of credit risk under the IRB approaches, Risk of weakness in the credit-risk mitigants, Residual risk of securitisation, etc.

It is, therefore, appropriate that the banks make their own assessment of their various risk exposures, through a well-defined internal process, and maintain an adequate capital cushion for such risks. Banks are required to develop and put in place, with the approval of their Boards, an ICAAP commensurate with their size, level of complexity, risk profile and scope of operations. The ICAAP document should, inter alia, include the capital adequacy

assessment and projections of capital requirement for the ensuing year, along with the plans and strategies for meeting the capital requirement.

Key principles envisaged under the SRP are:-

1. 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.
2. 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.
3. 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.
4. 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 **1** & **3** relates to the supervisory expectations while others i.e. **2** & **4** 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 an 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.

Internal Capital Adequacy Assessment Process (ICAAP)

ICAAP is a comprehensive paper which would provide:-

a) detailed information on the ongoing assessment of bank's entire spectrum of risks;
b) how the bank intends to mitigate those risks; and
c) Current and future capital necessary thereof reckoning their mitigating factors.

ICAAP, duly approved by the BOD, is to be submitted to RBI. It should contain all the relevant

information necessary for the bank and RBI to make an informed judgement as to the appropriate capital level of the bank and its risk management approach.

Contents

ICAAP document should normally contain various sections as under:-

a) Executive Summary
b) Background
c) Summary of current and projected financial and capital positions
d) Capital adequacy
e) Key sensitivities and future scenarios
f) Aggregation and diversification
g) Testing and adoption of the ICAAP
h) Use of ICAAP with the bank.

- **Executive Summary**

Executive Summary would include:

a) Purpose of the report
b) Main findings
c) Summary of financial position of the bank, etc.

- **Background**

Background should include the relevant organizational and historical financial data for the bank viz. group structure, operating profit, profit before tax, etc. and conclusions from the trends in the data which may have implications for the bank's future.

- **Summary of current and projected financial and capital positions**

This section would explain the present financial position of the bank and expected changes to the current business profile, the environment in which it expects to operate, its projected business plans (by appropriate lines of business), projected financial position, and future planned sources of capital, etc.

- **Capital adequacy**

This would provide description of the bank's risk appetite, in quantitative terms, amount of capital required to meet minimum **regulatory needs or** whether it suffice to **meet its business plans**, etc. The information provided should include the effective date of the ICAAP calculations together with the rationale for capital requirement has been assessed, etc.

The section would also discuss the major risks faced by the bank in each categories, viz. credit risk, market risk, operational risk, liquidity risk, concentration risk, interest rate risk in the banking book, residual risk of securitization, strategic risk, business risk, reputation risk, pension obligation risk, other residual risk; and any other risks that might have been identified.

The section would further contain the methodology and assumptions on how assessments for each of the major risks have been arrived and the main assumptions made, etc.

- **Risk oversight and specific aspects of risk management**

This section discusses the risk management system in the bank, Off-balance sheet exposures with a focus on securitization, Assessment of reputational risk and implicit support, Assessment of valuation and liquidity risk, Stress Testing practices, & Sound compensation practices, etc.

- **Key sensitivities and future scenarios**

The section would include how an economic downturn would affect the bank's capital funds and future earnings and the banks CRAR taking into account the future changes in the projected balance sheet, etc.

The section would further explain on the management actions assumed in deriving the ICAAP in particular the quantitative impact of management actions and the evidence of management actions implemented in the past during similar periods of economic stress, etc.

- **Aggregation and Diversification**

This section would describe how the results of the various separate risk assessments are brought together and an overall view taken on capital adequacy taking into account the various related factors.

- **Testing and Adoption of the ICAAP**

This section describes the extent of testing that the ICAAP has been subjected to and would include the testing and control process applied, models and calculations, test results, etc.

- **Use of ICAAP with the bank**

This section would explain the concept of capital management implemented in the bank. This would further include the extent and use of capital modeling or scenario analysis and stress testing within the bank's capital management policy, etc.

Structural Aspects of ICAAP

While designing the ICAAP, banks are required comply with certain broad parameters such as:-

a) Every bank must have an ICAAP
b) The ICAAP should encompass firm-wide risk profile including risk management principles
c) Board and Senior Management Oversight
d) Policies, procedures, limits and controls
e) Identifying, measuring, monitoring and reporting of risk
f) Internal controls; and

g) Submission of the outcome of the ICAAP to the BOD and RBI. ICAAP should reach the RBI latest by end of the first quarter (i.e. April-June) of the relevant financial year.

Other features/requirements

a) Review of ICAAP by BOD should be carried annually to assess the success of implementation and achievement of objectives as envisaged thereunder.
b) ICAAP should be an Integral part of the Management and Decision-making Culture
c) The implementation of ICAAP should be guided by the principle of proportionality
d) ICAAP should be subject to regular and independent review through an internal or external audit process, separately from the SREP conducted by the RBI
e) ICAAP should be forward looking in nature and banks should have an explicit Board approved capital plan to achieve its objectives, etc. The adequacy of a bank's capital is a function of its risk profile.
f) Being part of ICAAP, the management of the bank should carry out stress tests to evaluate the vulnerability of the bank to some unlikely events or market movements / conditions which could have an adverse impact of the bank
g) Banks to develop suitable methodologies for estimating and maintaining economic capital.

Operational aspects of ICAAP

a) The first and foremost objective of ICAAP is to identify, measure, and quantify the various material risks associated with the bank.
b) The risks to which banks are exposed include credit risk, market risk, operational risk, interest rate risk in the banking book, credit concentration risk and liquidity risk.
c) Banks should not solely rely on the external credit ratings instead conduct analysis of underlying risks while investing in the structured products as permitted by RBI.
d) Bank's risk management process including the ICAAP should be consistent with the existing RBI guidelines on these risks.
e) 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.
f) 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.
g) Sound Compensation Practices: Risk management must be embedded in the culture of a bank and should be under the critical focus of the Senior Management of the bank. For developing and maintaining a broad and deep risk management culture over time, compensation policies may be drawn which should be linked to longer-term capital preservation and the financial strength of the firm, and should consider risk-adjusted performance measures.
h) Banks should provide adequate disclosure regarding its compensation policies to stakeholders.

<u>Pillar – 3 Market Discipline</u>

- 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 dt. 01.07.14)