



RESERVE BANK OF INDIA

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DBOD.No.BP.1163 /21.04.118/2004-05

February 15, 2005

To
The Chairmen of
all Scheduled Commercial Banks

Dear Sir,

Prudential Guidelines on Capital Adequacy- Implementation of the New Capital Adequacy Framework

The Basel Committee on Banking Supervision (BCBS) has released the document, "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" on June 26, 2004. The revised Framework has been designed to provide options for banks and banking systems, for determining the capital requirements for credit risk and operational risk and enables banks / supervisors to select approaches that are most appropriate for their operations and financial markets. The Framework is expected to promote adoption of stronger risk management practices in banks.

2. The Revised Framework, popularly known as Basel II, builds on the current framework to align regulatory capital requirements more closely with underlying risks and to provide banks and their supervisors with several options for assessment of capital adequacy. Basel II is based on three mutually reinforcing pillars - minimum capital requirements, supervisory review, and market discipline. The three pillars attempt to achieve comprehensive coverage of risks, enhance risk sensitivity of capital requirements and provide a menu of options to choose for achieving a refined measurement of capital requirements.

3. The Revised Framework consists of three-mutually reinforcing Pillars, viz. minimum capital requirements, supervisory review of capital adequacy, and market discipline.

पुस्तक संख्या: 1163/21.04.118/2004-05, दिनांक: 15.02.2005, पृष्ठ संख्या: 400005



Under Pillar 1, the Framework offers three distinct options for computing capital requirement for credit risk and three other options for computing capital requirement for operational risk. These approaches for credit and operational risks are based on increasing risk sensitivity and allows banks to select an approach that is most appropriate to the stage of development of bank's operations. The approaches available for computing capital for credit risk are Standardised Approach, Foundation Internal Rating Based Approach and Advanced Internal Rating Based Approach. The approaches available for computing capital for operational risk are Basic Indicator Approach, Standardised Approach and Advanced Measurement Approach.

4. With a view to ensuring migration to Basel II in a non-disruptive manner, the Reserve Bank has adopted a consultative approach. A Steering Committee comprising of senior officials from 14 banks (private, public and foreign) has been constituted where Indian Banks' Association is also represented. Keeping in view the Reserve Bank's goal to have consistency and harmony with international standards it has been decided that at a minimum, all banks in India will adopt Standardized Approach for credit risk and Basic Indicator Approach for operational risk with effect from March 31, 2007. After adequate skills are developed, both in banks and at supervisory levels, some banks may be allowed to migrate to IRB Approach after obtaining the specific approval of Reserve Bank.

5. On the basis of the inputs received from the Steering Committee 'draft' guidelines for implementation of Basel II in India have been prepared and are enclosed. Banks are requested to study these guidelines and furnish their feedback to us within three weeks from the date of this letter. These draft guidelines are also placed on the web-site for wider access and feedback.

6. Please acknowledge receipt

Yours faithfully,

(C. R. Muralidharan)
Chief General Manager-in-Charge

**Draft Guidelines for
Implementation of the New Capital Adequacy Framework**



Reserve Bank of India

Mumbai

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PRUDENTIAL NORMS ON CAPITAL ADEQUACY

1. General

- 1.1 With a view to adopting the Basle Committee on Banking Supervision (BCBS) framework on capital adequacy which takes into account the elements of credit risk in various types of assets in the balance sheet as well as off-balance sheet business and also to strengthen the capital base of banks, Reserve Bank of India decided in April 1992 to introduce a risk asset ratio system for banks (including foreign banks) in India as a capital adequacy measure. Essentially, under the above system the balance sheet assets, non-funded items and other off-balance sheet exposures are assigned prescribed risk weights and banks have to maintain unimpaired minimum capital funds equivalent to the prescribed ratio on the aggregate of the risk weighted assets and other exposures on an ongoing basis. Reserve Bank has issued guidelines to banks in June 2004 on maintenance of capital charge for market risks on the lines of 'Amendment to the Capital Accord to incorporate market risks' issued by the BCBS in 1996.
- 1.2 The BCBS has released the "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" on 26 June 2004. The revised Framework seeks to arrive at significantly more risk-sensitive approach to capital requirements. The revised Framework provides a range of options for determining the capital requirements for credit risk and operational risk to allow banks and supervisors to select approaches that are most appropriate for their operations and financial markets. The revised Framework has kept unchanged the options provided for determining capital requirements for market risks.

2 Approach to implementation

- 2.1 The Revised Framework consists of three-mutually reinforcing Pillars, viz. minimum capital requirements, supervisory review of capital adequacy, and market discipline. Under Pillar 1, the

Framework offers three distinct options for computing capital requirement for credit risk and three other options for computing capital requirement for operational risk. These approaches for credit and operational risks are based on increasing risk sensitivity and allows banks to select an approach that is most appropriate to the stage of development of bank's operations. The approaches available for computing capital for credit risk are Standardised Approach, Foundation Internal Rating Based Approach and Advanced Internal Rating Based Approach. The approaches available for computing capital for operational risk are Basic Indicator Approach, Standardised Approach and Advanced Measurement Approach.

- 2.2 Banks will be required to implement the revised capital adequacy Framework with effect from March 31, 2007. While implementing the revised framework, banks in India shall, at a minimum, adopt Standardised Approach (SA) for credit risk and Basic Indicator Approach (BIA) for operational risk. With a view to ensuring smooth transition to the revised Framework and with a view to providing opportunity to banks to streamline their systems and strategies, banks in India are required to commence a parallel run of the revised Framework with effect from April 1, 2006.
- 2.3 Banks which expect to meet the minimum requirements for entry and on-going use of the Internal Rating Based Approaches (IRBA) for credit risk or the Standardised/ Advanced Measurement Approach (AMA) for operational risk under the revised framework, may evaluate the necessary processes. Banks that meet the minimum requirements for adopting the above advanced approaches may approach the Reserve Bank with a roadmap that has the approval of their Board of Directors for migration to these approaches. The roadmap should clearly indicate specific milestones and plans for migration to the advanced approaches. Banks will be allowed to adopt the advanced approaches only after

obtaining the specific approval of the Reserve Bank.

3 Scope of Application

3.1 The revised capital adequacy norms shall be applicable uniformly to all Scheduled Commercial Banks (except Regional Rural Banks), both at the solo level (global position) as well as at the consolidated level. A Consolidated bank - defined as a group of entities which include a licensed bank - should maintain a minimum Capital to Risk-weighted Assets Ratio (CRAR) as applicable to a bank on an ongoing basis.

4 Capital funds

4.1 Banks are required to maintain a minimum Capital to Risk-weighted Assets Ratio (CRAR) of 9 percent on an ongoing basis.

4.2 Capital funds are broadly classified as Tier 1 and Tier 2 capital. Elements of Tier 2 capital will be reckoned as capital funds up to a maximum of 100 per cent of Tier 1 capital, after making the deductions/ adjustments referred to in paragraphs [4.5](#) to [4.7](#).

4.3 Elements of Tier 1 capital

4.3.1 For Indian banks, Tier 1 capital would include the following elements:

- i) Paid-up capital, statutory reserves, and other disclosed free reserves, if any.
- ii) Capital reserves representing surplus arising out of sale proceeds of assets.

4.3.2 For foreign banks in India, Tier 1 capital would include the following elements:

- (i) Interest-free funds from Head Office kept in a separate account in Indian books specifically for the purpose of meeting the capital adequacy norms.
- (ii) Statutory reserves kept in Indian books.

- (iii) Remittable surplus retained in Indian books which is not repatriable so long as the bank functions in India.
- (iv) Capital reserve representing surplus arising out of sale of assets in India held in a separate account and which is not eligible for repatriation so long as the bank functions in India.
- (v) Interest-free funds remitted from abroad for the purpose of acquisition of property and held in a separate account in Indian books.
- (vi) The net credit balance, if any, in the inter-office account with Head Office/overseas branches will not be reckoned as capital funds. However, any debit balance in Head Office account will have to be set-off against the capital.

4.3.3 Notes:

- (i) The foreign banks are required to furnish to Reserve Bank, (if not already done), an undertaking to the effect that the banks will not remit abroad the remittable surplus retained in India and included in Tier I capital as long as the banks function in India.
- (ii) These funds may be retained in a separate account titled as 'Amount Retained in India for Meeting Capital to Risk-weighted Asset Ratio (CRAR) Requirements' under 'Capital Funds'.
- (iii) An auditor's certificate to the effect that these funds represent surplus remittable to Head Office once tax assessments are completed or tax appeals are decided and do not include funds in the nature of provisions towards tax or for any other contingency may also be furnished to Reserve Bank.

4.4 Elements of Tier 2 capital

4.4.1 Undisclosed reserves and cumulative perpetual preference

shares

These often have characteristics similar to equity and disclosed reserves. These elements have the capacity to absorb unexpected losses and can be included in capital, if they represent accumulations of post-tax profits and not encumbered by any known liability and should not be routinely used for absorbing normal loss or operating losses. Cumulative perpetual preference shares should be fully paid-up and should not contain clauses, which permit redemption by the holder.

4.4.2 Revaluation reserves

These reserves often serve as a cushion against unexpected losses, but they are less permanent in nature and cannot be considered as 'Core Capital'. Revaluation reserves arise from revaluation of assets that are undervalued on the bank's books, typically bank premises and marketable securities. The extent to which the revaluation reserves can be relied upon as a cushion for unexpected losses depends mainly upon the level of certainty that can be placed on estimates of the market values of the relevant assets, the subsequent deterioration in values under difficult market conditions or in a forced sale, potential for actual liquidation at those values, tax consequences of revaluation, etc. Therefore, it would be prudent to consider revaluation reserves at a discount of 55 percent while determining their value for inclusion in Tier II capital. Such reserves will have to be reflected on the face of the Balance Sheet as revaluation reserves.

4.4.3 General provisions and loss reserves

Such reserves, if they are not attributable to the actual diminution in value or identifiable potential loss in any specific asset and are available to meet unexpected losses, can be included in Tier II capital. Adequate care must be taken to see that sufficient provisions have been made to meet all known losses and foreseeable potential losses before considering general provisions

and loss reserves to be part of Tier II capital. General provisions/loss reserves will be admitted up to a maximum of 1.25 percent of total risk weighted assets.

4.4.4 **Hybrid debt capital instruments**

In this category, fall a number of capital instruments, which combine certain characteristics of equity and certain characteristics of debt. Each has a particular feature, which can be considered to affect its quality as capital. Where these instruments have close similarities to equity, in particular when they are able to support losses on an ongoing basis without triggering liquidation, they may be included in Tier II capital.

4.4.5 **Subordinated debt**

- (i) To be eligible for inclusion in Tier II capital, the instrument should be fully paid-up, unsecured, subordinated to the claims of other creditors, free of restrictive clauses, and should not be redeemable at the initiative of the holder or without the consent of the Reserve Bank of India. They often carry a fixed maturity, and as they approach maturity, they should be subjected to progressive discount, for inclusion in Tier II capital. Instruments with an initial maturity of less than 5 years or with a remaining maturity of one year should not be included as part of Tier II capital. Subordinated debt instruments eligible to be reckoned as Tier II capital will be limited to 50 percent of Tier I capital.
- (ii) The subordinated debt instruments shall be subjected to discount at the rates shown below and the discounted value shall be eligible for inclusion in Tier II capital:

Remaining Maturity of Instruments	Rate of Discount (%)
Less than one year	100
One year and more but less than two years	80

Remaining Maturity of Instruments	Rate of Discount (%)
Two years and more but less than three years	60
Three years and more but less than four years	40
Four years and more but less than five years	20

4.4.6 The Investment Fluctuation Reserve (IFR) would continue to be treated as Tier II capital.

4.4.7 Banks are allowed to include the 'General Provisions on Standard Assets' and 'provisions held for country exposures' in Tier II capital. However, the provisions on 'standard assets together with other 'general provisions/ loss reserves' and 'provisions held for country exposures' will be admitted as Tier II capital up to a maximum of 1.25 per cent of the total risk-weighted assets.

4.5 Investment in financial entities

4.5.1 In the case of investment in financial subsidiaries and associates, the treatment will be as under for the purpose of these guidelines on capital adequacy:

- (i) Investment up to 30 per cent in the paid up equity of financial entities which are not consolidated for capital purposes with the bank shall be assigned a 100 per cent risk weight,
- (ii) Investment above 30 per cent in the paid up equity of financial entities which are not consolidated for capital purposes with the bank and investments in other instruments eligible for capital status in those entities shall be deducted at 50% from Tier I and 50% from Tier II capital.
- (iii) Banks should not recognise minority interests that arise from consolidation of less than wholly owned banking, securities or other financial entities in consolidated capital.

- (iv) Banks should ensure that the entity that is not consolidated for capital purposes and for which the capital investment is deducted meets its respective regulatory capital requirements. In case of any shortfall in the regulatory capital requirements in the de-consolidated entity the shortfall shall also be deducted at 50% from Tier I capital and 50% from Tier II capital.

4.5.2 An indicative list of institutions which may be deemed to be financial institutions for capital adequacy purposes is as under:

- Banks,
- Mutual funds,
- Insurance companies,
- Non-banking financial companies,
- Housing finance companies,
- Merchant banking companies,
- Primary dealers.

4.6 Other adjustments to capital funds

4.6.1 Intangible assets and losses in the current period and those brought forward from previous periods, should be deducted from Tier I capital.

4.6.2 Creation of deferred tax asset (DTA) results in an increase in Tier I capital of a bank without any tangible asset being added to the banks' balance sheet. Therefore, DTA, which is an intangible asset, should be deducted from Tier I capital.

4.6.3 A bank's investments in all types of instruments listed at 4.7.4 below, which are issued by other banks / FIs / NBFCs / Primary Dealers and are eligible for capital status for the investee entity, should not exceed 10 per cent of the investing bank's capital funds (Tier I plus Tier II capital). Any investment in excess of this limit shall be deducted at 50% from Tier 1 and 50% from Tier 2 capital.

Investments in equity or instruments eligible for capital status issued by banks, NBFCs, FIs and Primary Dealers which are not deducted from capital funds will attract a risk weight of 100%.

4.6.4 Banks' / FIs' investment in the following instruments will be included in the prudential limit of 10 per cent referred to at 4.7.3 above.

- a) Equity shares;
- b) Preference shares eligible for capital status;
- c) Subordinated debt instruments;
- d) Hybrid debt capital instruments; and
- e) Any other instrument approved as in the nature of capital.

4.6.5 Banks / FIs should not acquire any fresh stake in a bank's equity shares, if by such acquisition, the investing bank's / FI's holding exceeds 5 per cent of the investee bank's equity capital.

4.7 Issue of subordinated debt for raising Tier II capital

4.7.1 The Reserve Bank has given autonomy to Indian banks to raise rupee subordinated debt as Tier II capital, subject to strict compliance with the terms and conditions given in [Annex 1](#).

4.7.2 Foreign banks have also been given autonomy for raising subordinated debt in foreign currency through borrowings from Head Office for inclusion in Tier II capital, subject to strict compliance with the terms and conditions given in [Annex 2](#).

4.7.3 Banks should submit a report to Reserve Bank of India giving details of the Subordinated debt issued for raising Tier II capital, such as, amount raised, maturity of the instrument, rate of interest together with a copy of the offer document, soon after the issue is completed.

4.8 The elements of Tier 1 & Tier 2 capital shall not include foreign currency loans granted to Indian parties.

5 Capital Charge for Credit Risk

5.1 Under the Standardised Approach, the rating assigned by the eligible external credit rating agencies will largely support the measure of credit risk. The Reserve Bank will determine whether the external credit rating agencies meet the eligibility criteria specified under the revised Framework. Banks may rely upon the ratings assigned by the recognised external rating agencies for assigning risk weights for capital adequacy purposes. Pending recognition of the external rating agencies by the Reserve Bank, banks may be guided by the broad mapping of external ratings as furnished in these draft guidelines. The mapping as presented in these guidelines are only indicative and shall be refined on the basis of recognition process.

5.2 Claims on Domestic Sovereigns

5.2.1 Exposures to domestic sovereign will be risk weighted as under:

Sovereign	Direct exposures	Guarantee exposures
Central	Zero	Zero
States	Zero	20 %

The risk weight applicable to central government exposures will also apply to the exposures on the Reserve Bank of India, ECGC and Credit Guarantee Fund Trust for Small Industries (CGTSI). Investment in State Government guaranteed securities issued under the market borrowing programme will attract zero risk weight.

5.2.2 The above risk weights for Government guaranteed exposures will continue till they are classified as 'standard' and performing assets. Where these sovereign exposures are classified as non-performing, they would attract risk weights as applicable to NPAs, which are detailed in Paragraph [5.12](#).

5.3 Claims on Foreign Sovereigns

5.3.1 Exposures on foreign sovereigns will attract risk weights as per the rating assigned by international rating agencies as follows:

Credit Assessment of S & P	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
Moody's	Aaa to Aa	A	Baa	Ba to B	Below B	
Risk weight	0 %	20 %	50 %	100 %	150 %	100 %

5.3.2 Exposures denominated in domestic currency of the foreign sovereign met out of the resources in the same currency raised in the jurisdiction of that sovereign will, however, attract a risk weight of zero percent.

5.3.3 However, in case a Host Supervisor requires a more conservative treatment to such exposures in the books of the foreign branches of the Indian banks, they may adopt the requirements prescribed by the Host Country supervisors for computing capital adequacy.

5.4 Claims on public sector entities (PSEs)

5.4.1 Claims on domestic public sector entities will be risk weighted as Corporates.

5.5 Claims on MDBs, BIS and IMF

A zero per cent risk weight will be applied to the exposures on the Bank for International Settlements (BIS), the International Monetary Fund (IMF) and the following eligible Multilateral development banks (MDBs) evaluated by the BCBS :

- World Bank Group: IBRD and IFC,
- Asian Development Bank,
- African Development Bank,
- European Bank for Reconstruction & Development,
- Inter-American Development Bank,

- European Investment Bank,
- European Investment Fund,
- Nordic Investment Bank,
- Caribbean Development Bank,
- Islamic Development Bank and
- Council of Europe Development Bank.

5.6 Claims on banks

5.6.1 The claims denominated in Indian Rupees on banks operating in India will be risk weighted as under:

- All exposures to scheduled banks, will be assigned a risk weight one category less favourable than the Sovereign. Hence all claims on these banks will be risk weighted at 20%.
- All exposures on other banks will be assigned a risk weight of 100%.

5.6.2 The claims denominated in foreign currency on banks will be risk weighted as under as per the ratings assigned by international rating agencies.

Credit Assessment of S &P	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
Moody's	Aaa to Aa	A	Baa	Ba to B	Below B	
Risk weight	20 %	50 %	50 %	100 %	150 %	50 %

However, the claims denominated in foreign currency on a bank which is funded in that currency will be risk weighted at 20%.

5.7 Claims on Primary Dealers

Claims on Primary Dealers shall be treated as claims on corporates.

5.8 Claims on corporates

5.8.1 The claims on corporates shall be risk weighted as per the ratings assigned by the rating agencies registered with the SEBI and recognized by the Reserve Bank of India. The following table indicates the risk weight applicable to claims on corporates. The standard risk weight for unrated claims on corporates will be 100%. No claim on an unrated corporate may be given a risk weight preferential to that assigned to its sovereign of incorporation.

Credit Assessment by domestic rating agencies	AAA	AA	A	BBB and below	Unrated
Risk weight	20 %	50 %	100 %	150 %	100 %

5.8.2 The Reserve Bank would increase the standard risk weight for unrated claims where a higher risk weight is warranted by the overall default experience. As part of the supervisory review process, the Reserve Bank would also consider whether the credit quality of unrated corporate claims held by individual banks should warrant a standard risk weight higher than 100%.

5.9 Claims included in the regulatory retail portfolios

5.9.1 Claims that meet all the four criteria listed below may be included in a regulatory retail portfolio and assigned a risk-weighted of 75%. Exposures by way of investments in securities (such as bonds and equities), whether listed or not, and mortgage loans to the extent that they qualify for treatment as claims secured by residential

property¹ are specifically excluded from this category.

5.9.2 Qualifying criteria:

- (i) *Orientation criterion* - The exposure is to an individual person or persons or to a small business; Person under this clause would mean any legal person capable of entering into contracts and would include but not be restricted to individual, HUF, partnership firm, trust, private limited companies, public limited companies, co-operative societies etc. Small business is one where the total annual turnover is less than Rs. 50 crore.
- (ii) *Product criterion* - The exposure takes the form of any of the following: revolving credits and lines of credit (including credit cards and overdrafts), personal term loans and leases (e.g. instalment loans, auto loans and leases, student and educational loans, personal finance) and small business facilities and commitments.
- (iii) *Granularity criterion* - Banks must ensure that the regulatory retail portfolio is sufficiently diversified to a degree that reduces the risks in the portfolio, warranting the 75% risk weight. One way of achieving this is that no aggregate exposure to one counterpart should exceed 0.2% of the overall regulatory retail portfolio. 'Aggregate exposure' means gross amount (i.e. not taking any benefit for credit risk mitigation² into account) of all forms of debt exposures (e.g. loans or commitments) that individually satisfy the three other criteria. In addition, 'one counterpart' means one or several entities that may be considered as a single beneficiary (e.g. in the case of a small business that is affiliated to another small business, the limit

¹ Mortgage loans qualifying for treatment as claims secured by residential property is covered at paragraph 5.10.

² Credit risk mitigation is explained in paragraph 7

would apply to the bank's aggregated exposure on both businesses). While banks may appropriately use the group exposure concept for computing aggregate exposures, they should evolve adequate systems to ensure strict adherence with this criterion. NPAs under retail loans are to be excluded from the overall regulatory retail portfolio when assessing the granularity criterion for risk-weighting purposes.

- (iv) *Low value of individual exposures.* The maximum aggregated retail exposure to one counterpart should not exceed the following absolute threshold limit:

Banks with capital funds of	Threshold limit
Up to Rs. 300 crore	Rs. 1 crore
More than Rs. 300 crore up to Rs. 500 crore	Rs. 3 crore
More than Rs. 500 crore	Rs. 5 crore

5.9.3 For the purpose of ascertaining the absolute threshold, exposure would mean sanctioned limit or the actual outstanding, whichever is higher for all fund based and non-fund based facilities, including all forms of off-balance sheet exposures. In the case of term loans and EMI based facilities, where there is no scope for redrawing any portion of the sanctioned amounts, exposure shall mean the actual outstanding.

5.9.4 The Reserve Bank would evaluate at periodic intervals the risk weight assigned to the retail portfolio with reference to the default experience for these exposures as appropriate from time-to-time.

5.10 Claims secured by residential property

5.10.1 Lending fully secured by mortgages on residential property that is or will be occupied by the borrower, or that is rented, shall be risk weighted at 75%. Investment in mortgage-backed securities issued by the housing finance companies regulated by the National

Housing Bank, which are backed by mortgages of residential property of the above nature, shall also be risk weighted at 75%.

5.10.2 In applying the 75% risk weight, banks should ensure that this concessionary weight is applied restrictively for residential purposes and in accordance with strict prudential criteria, such as the existence of substantial margin of additional security of at least 25 per cent over the amount of the loan based on strict valuation rules. All other claims secured by residential property would attract a higher risk weight of 100%.

5.10.3 Reserve Bank would increase the standard risk weight where they judge the criteria are not met or where the default experience for claims secured by residential mortgages warrant a higher risk weight. Reserve Bank would review the standard risk weight applicable to claims secured by residential mortgage as appropriate from time to time.

5.11 Claims secured by commercial real estate

Claims secured by mortgages on commercial real estate will attract a risk weight of 100%.

5.12 Non-performing assets (NPAs)

5.12.1 The unsecured portion of NPA (other than a qualifying residential mortgage loan), net of specific provisions (including partial write-offs), will be risk-weighted as follows:

- (i) 150% risk weight when specific provisions are less than 20% of the outstanding amount of the NPA ;
- (ii) 100% risk weight when specific provisions are at least 20% of the outstanding amount of the NPA ;
- (iii) 50% risk weight when specific provisions are at least 50% of the outstanding amount of the NPA.

5.12.2 In terms of the prudential norms, asset classification is identified

borrower-wise and not facility-wise. Accordingly, for the purpose of computing the level of specific provisions in NPAs for deciding the risk-weighting purposes, all funded exposures of a single counterparty should be reckoned.

5.12.3 For the purpose of defining the secured portion of the NPA, eligible collateral and guarantees will be the same as recognised for credit risk mitigation purposes (paragraphs 7.3.4).

5.12.4 In addition to the above, where a NPA is fully secured by the following forms of collateral that are not recognised for credit risk mitigation purposes, either independently or along with other eligible collateral a 100% risk weight may apply, net of specific provisions, when provisions reach 15% of the outstanding amount:

- (i) Land and building which are valued by an expert valuer and where the valuation is not more than three years old, and
- (ii) Plant and machinery in good working condition at a value not higher than the depreciated value as reflected in the audited balance sheet of the borrower.

5.12.5 The above collaterals will be recognized only where the bank is having clear title to realize the sale proceeds thereof and appropriate the same towards the amounts due to the bank. The bank's title to the collateral should also be well documented. These forms of collaterals are not recognised anywhere else under the standardised approach.

5.12.6 In the case of claims secured by residential property as defined in paragraph 5.10.1, which are NPA they will be risk weighted at 100% net of specific provisions. If the specific provisions in such loans are at least 20% of their outstanding amount, the risk weight applicable to the loan net of specific provisions will be 75%.

5.13 Higher-risk categories

Reserve Bank may, in due course, decide to apply a 150% or higher risk weight reflecting the higher risks associated with any exposures, that may be identified as high risk exposures.

5.14 Other Assets

All other assets will attract a uniform risk weight of 100%. The guidelines on treatment of securitisation exposures will be issued separately.

5.15 Off-balance sheet items

5.15.1 The credit risk exposure attached to off-Balance Sheet items has to be first calculated by multiplying the face value of each of the off-Balance Sheet items by 'credit conversion factor' as indicated in the table below. This will then have to be again multiplied by the weights attributable to the relevant counter-party as specified above.

Sr. No.	Instruments	Credit Conversion Factor (%)
1.	Direct credit substitutes e.g. general guarantees of indebtedness (including standby L/Cs serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character of acceptance).	100
2.	Certain transaction-related contingent items (e.g. performance bonds, bid bonds, warranties and standby L/Cs related to particular transactions).	50
3.	Short-term self-liquidating trade-related contingencies (such as documentary credits collateralised by the underlying shipments) for both issuing bank and confirming bank.	20
4.	Sale and repurchase agreement and asset sales with recourse, where the credit risk remains with the bank.	100

Sr. No.	Instruments	Credit Conversion Factor (%)
5.	Forward asset purchases, forward deposits and partly paid shares and securities, which represent commitments with certain drawdown.	100
6.	Note issuance facilities and revolving underwriting facilities.	50
7.	Other commitments (e.g., formal standby facilities and credit lines) with an original maturity of over one year.	50
8.	Similar commitments with an original maturity up to one year	20
9	Commitments that are unconditionally cancellable at any time by the bank without prior notice	0
10.	Take-out Finance in the books of taking-over institution	
	(i) Unconditional take-out finance	100
	(ii) Conditional take-out finance	50

5.15.2 NOTE:

In regard to off-balance sheet items, the following transactions with non-bank counterparties will be treated as claims on banks.

- (i) Guarantees issued by banks against the counter guarantees of other banks.
- (ii) Rediscounting of documentary bills accepted by banks. Bills discounted by banks which have been accepted by another bank will be treated as a funded claim on a bank.

In all the above cases banks should be fully satisfied that the risk exposure is in fact on the other bank.

5.15.3 Risk weights for foreign currency and interest rate derivatives

- (i) For reckoning the minimum capital ratio, the computation of risk weighted assets on account of exchange and

interest rate derivatives should be done as per the current exposure method. Counterparty risk weightings for OTC derivative transactions will not be subject to any specific ceiling.

- (ii) Foreign exchange contracts include the following:
 - (a) Cross currency interest rate swaps
 - (b) Forward foreign exchange contracts
 - (c) Currency futures
 - (d) Currency options purchased
 - (e) Other contracts of a similar nature
- (iii) Interest rate contracts include the following:
 - (a) Single currency interest rate swaps
 - (b) Basis swaps
 - (c) Forward rate agreements
 - (d) Interest rate futures
 - (e) Interest rate options purchased
 - (f) Other contracts of a similar nature
- (iv) The Current Exposure Method to assess the exposure on account of credit risk on interest rate and exchange rate derivative contracts requires periodical calculation of the current replacement cost by marking these contracts to market, thus capturing the current exposure without any need for estimation and then adding a factor (“add-on”) to reflect the potential future exposure over the remaining life of the contract. Therefore, in order to calculate the credit exposure equivalent of off-balance sheet interest rate and exchange rate instruments under Current Exposure Method, a bank would sum:
 - the total replacement cost (obtained by “marking to market”) of all its contracts with positive value (i.e.

when the bank has to receive money from the counterparty), and

- an amount for potential future changes in credit exposure calculated on the basis of the total notional principal amount of the contract multiplied by the following credit conversion factors according to the residual maturity :

Residual Maturity	Conversion Factor to be applied on Notional Principal Amount			
	<i>Interest Contract</i>	<i>Rate</i>	<i>Exchange Contract</i>	<i>Rate</i>
Less than one year	Nil		1.0 %	
One year and over	0.5%		5.0 %	

- (v) Banks would not be required to calculate potential credit exposure for single currency floating / floating interest rate swaps. The credit exposure on these contracts would be evaluated solely on the basis of their mark-to-market value.
- (vi) In terms of circular DBOD.No.BP.BC.48/21.03.054/02-03 dated December 13, 2002 on Measurement of Credit Exposure of Derivative Products, banks were encouraged to follow the Current Exposure Method, which is an accurate method of measuring credit exposure in a derivative product. Banks are now advised to adopt the Current Exposure Method consistently for all derivative products.
- (vii) The exposure as computed under the current exposure method shall be multiplied by the risk weight allotted to the relevant counter-party.
- (viii) A reference may be made to paragraphs 7.3.5 for the calculation of risk-weighted assets where the credit converted exposure is secured by eligible collateral.

5.15.4 Unsettled transactions

- (i) With regard to unsettled securities and foreign exchange transactions, banks are exposed to counterparty credit

risk from trade date, irrespective of the booking or the accounting of the transaction. The BCBS has decided to defer the specification of a capital requirement for unsettled foreign exchange and securities transactions. In the interim, banks are encouraged to develop, implement and improve systems for tracking and monitoring the credit risk exposure arising from unsettled transactions as appropriate for producing management information that facilitates action on a timely basis.

- (ii) The deferral of a specific capital charge for unsettled securities/ foreign exchange transactions does not apply to failed foreign exchange and securities transactions. Banks must closely monitor these transactions starting from the day they fail. Since the failed transactions would convert into a fund based exposure on the relevant counterparty, banks should maintain capital appropriate to the risk weight applicable to the counterparty in terms of these guidelines.

6 External credit assessments

6.1 Eligible Credit Rating Agencies

Reserve Bank will, in due course, undertake the detailed process of identifying the eligible credit rating agencies, whose ratings may be used by the banks for assigning the risk weights for credit risk. In line with the provisions of the New Capital Adequacy Framework, where the facility provided by the bank possesses rating assigned by an eligible credit rating agency, the risk weight of the claim will be based on this rating.

6.2 Scope of application of external ratings

- 6.2.1 Banks should use the recognised credit rating agencies and their ratings consistently for each type of claim, for both risk weighting and internal risk management purposes. Banks will not be allowed to “cherry pick” the assessments provided by different credit rating

agencies. If a bank has decided to use the ratings of some (say two) of the recognised credit rating agencies for a given category of exposures, it can use only the ratings of those two credit rating agencies, despite the fact that some of its claims may be rated by the other recognised credit rating agencies. Banks shall not use one agency's rating for one corporate bond, while using another rating for another exposure to the same counter-party, unless the respective exposures are rated by only one of the recognised credit rating agencies, whose ratings the bank has decided to use. External assessments for one entity within a corporate group cannot be used to risk weight other entities within the same group.

6.2.2 Banks must disclose the names of the credit rating agencies that they use for the risk weighting of their assets by type of claims, the risk weights associated with the particular rating grades as determined by Reserve Bank through the mapping process for each eligible credit rating agency.

6.2.3 For assets in the bank's portfolio that have contractual maturity less than or equal to one year, short term ratings accorded by the eligible credit rating agencies would be relevant. For other assets which have a contractual maturity of more than one year, long term ratings accorded by the eligible credit rating agencies would be relevant.

6.3 Mapping process

6.3.1 The New Capital Adequacy Framework 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. The mapping process is required to result in a risk weight assignment consistent with that of the level of credit risk.

6.3.2 Pending completion of the process of identifying the eligible rating

agencies, a broad mapping of the credit ratings awarded by the domestic rating agencies has been attempted which would serve as a broad guide to the banks in assigning risk weights.

6.4 Long term ratings

6.4.1 On the basis of the above factors as well as the data made available by the rating agencies, the following tentative mapping of ratings issued by the domestic credit rating agencies with the risk weights applicable as per the Standardised approach under the revised Framework has been arrived at:

Long term Ratings of Credit rating agencies operating in India	Standardised approach Risk weights
AAA	20%
AA	50%
A	100%
BBB & below	150%
Unrated	100%

6.4.2 Where “+” or “-” notation is attached to the rating, the corresponding main rating category risk weight should be used. For example, A+ or A- would be considered to be in the A rating category and assigned 100% risk weight.

6.5 Short term ratings

6.5.1 For risk-weighting purposes, short-term ratings are deemed to be issue-specific. They can only be used to derive risk weights for claims arising from the rated facility. They cannot be generalised to other short-term claims, except under the conditions mentioned in paragraph [6.8](#). In no event can a short-term rating be used to support a risk weight for an unrated long-term claim. Short-term assessments may only be used for short-term claims against banks

and corporates.

6.5.2 When banks generalise risk weight applicable to rated short term claims to other unrated short-term claims, subject to strict compliance with the provisions of paragraph [6.8](#), the following broad principles will apply. The unrated short term claim on a counter-party will attract a risk weight of at least one level higher than the risk weight applicable to the rated claim. If a short-term rated facility attracts a 20% or a 50% risk-weight, unrated short-term claims cannot attract a risk weight lower than 50% or 100% respectively.

6.5.3 If an issuer has a short-term facility with an assessment that warrants a risk weight of 150%, all unrated claims, whether long-term or short-term, should also receive a 150% risk weight, unless the bank uses recognised credit risk mitigation techniques for such claims.

6.5.4 In respect of the short term ratings the following mapping may be used:

Short term ratings				Risk weights
CRISIL	ICRA	CARE	Fitch	
P1+	A1+/A1	PL1	F1	20%
P1	A2+/A2	PL2	F2	50%
P2+	A3+/A3	PL3	F3	100%
P2	A4+/A4	PL4	B,C	150%
P3+/P3	A5	PL5	D	150%

6.5.5 The above mappings (both long term and short term) are tentative and limited for the purposes of these draft guidelines. The mapping will be re-visited while identifying the eligible domestic rating agencies and will be issued in due course. The mapping done eventually would be reviewed annually by the Reserve Bank.

6.6 Use of unsolicited ratings

6.6.1 A rating would be treated as solicited only if the issuer of the instrument has requested the credit rating agency for the rating and has accepted the rating assigned by the agency. As a general rule, banks should use only **solicited rating from the eligible credit rating agencies**. No ratings issued by the credit rating agencies on an unsolicited basis should be considered for risk weight calculation as per the Standardised Approach.

6.7 Use of multiple rating assessments

6.7.1 Banks shall be guided by the following in respect of exposures/ obligors having multiple ratings from the eligible credit rating agencies chosen by the bank for the purpose of risk weight calculation:

- (i) If there is only one rating by an eligible credit rating agency for a particular claim, that rating would be used to determine the risk weight of the claim.
- (ii) If there are two ratings accorded by eligible credit rating agencies which map into different risk weights, the higher risk weight should be applied.
- (iii) If there are three or more ratings accorded by eligible credit rating agencies with different risk weights, the ratings corresponding to the two lowest risk weights should be referred to and the higher of those two risk weights should be applied.

6.8 Applicability of issue rating to issuer/ other claims

6.8.1 Where a bank invests in a particular issue that has an issue specific rating by an eligible credit rating agency the risk weight of the claim will be based on this assessment. Where the bank's claim is not an investment in a specific assessed issue, the following general principles will apply:

- (i) In circumstances where the borrower has a specific assessment for an issued debt - but the bank's claim is not an investment in this particular debt - the rating applicable to the specific debt (where the rating maps into a risk weight lower than that which applies to an unrated claim) may be applied to the bank's unassessed claim only if this claim ranks *pari passu* or senior to the specific rated debt in all respects and the maturity of the unassessed claim is not later than the maturity of the rated claim. If not, the rating applicable to the specific debt cannot be used and the unassessed claim will receive the risk weight for unrated claims.
- (ii) If either the issuer or single issue has been assigned a rating which maps into a risk weight equal to or higher than that which applies to unrated claims, a claim on the same counterparty, which is unrated by any eligible credit rating agency, will be assigned the same risk weight as is applicable to the rated exposure, if this claim ranks *pari passu* or junior to the rated exposure in all respects.
- (iii) Where a bank intends to extend an issuer or an issue specific rating assigned by an eligible credit rating agency to any other exposure which the bank has on the same counterparty and which meets the above criterion, it should be extended to the entire amount of credit risk exposure the bank has with regard to that exposure i.e., both principal and interest.
- (iv) With a view to avoiding any double counting of credit enhancement factors, no recognition of credit risk mitigation techniques should be taken into account if the credit enhancement is already reflected in the issue specific rating accorded by an eligible credit rating agency relied upon by the bank.
- (v) Where unrated exposures are risk weighted based on the rating of an equivalent exposure to that borrower, the

general rule is that foreign currency ratings would be used only for exposures in foreign currency. Domestic currency ratings, if separate, would be used to risk weight only claims denominated in the domestic currency.

7 Credit Risk Mitigation

7.1 Credit risk mitigation - Introduction

7.1.1 Banks use a number of techniques to mitigate the credit risks to which they are exposed. The revised approach to credit risk mitigation allows a wider range of credit risk mitigants to be recognised for regulatory capital purposes than is permitted under the 1988 Framework provided these techniques meet the requirements for legal certainty as described in paragraph [7.2](#) below.

7.1.2 The general principles applicable to use of credit risk mitigation techniques are as under:

- (i) 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.
- (ii) The effects of CRM will **not** be double counted. Therefore, no additional supervisory recognition of CRM for regulatory capital purposes will be granted on claims for which an issue-specific rating is used that already reflects that CRM.
- (iii) Principal-only ratings will not be allowed within the CRM framework.
- (iv) 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. Therefore, it is imperative that banks employ robust procedures and processes to control these risks. Where these risks are not adequately controlled, Reserve Bank may impose additional capital charges or take other supervisory actions. The disclosure requirements prescribed in Table 6 must also be observed for banks to obtain capital relief in respect of any CRM techniques.

7.2 Legal Certainty

In order for banks to obtain capital relief for any use of CRM techniques, the following minimum standards for legal documentation must be met. All documentation used in collateralised transactions must be binding on all parties and legally enforceable in all relevant jurisdictions. Banks must have conducted sufficient legal review, which should be well documented, to verify this. Such verification should have a well founded legal basis for reaching the conclusion about the binding nature and enforceability of the documents. Banks should also undertake such further review as necessary to ensure continuing enforceability.

7.3 Credit risk mitigation techniques - Collateralised transactions

7.3.1 A collateralised transaction is one in which:

- (i) banks have a credit exposure and that credit exposure is hedged in whole or in part by collateral posted by a counterparty or by a third party on behalf of the counterparty. Here, “counterparty” is used to denote a party to whom a bank has an on- or off-balance sheet credit exposure.
- (ii) banks have a specific lien on the collateral and the requirements of legal certainty are met.

7.3.2 Overall framework and minimum conditions

The Revised Framework allows banks to adopt either the simple approach, which, similar to the 1988 Accord, substitutes the risk

weighting of the collateral for the risk weighting of the counterparty for the collateralised portion of the exposure (generally subject to a 20% floor), or for the comprehensive approach, which allows fuller offset of collateral against exposures, by effectively reducing the exposure amount by the value ascribed to the collateral. Banks in India may adopt the Comprehensive Approach, which allows fuller offset of collateral against exposures, by effectively reducing the exposure amount by the value ascribed to the collateral. Under this approach, banks which take eligible financial collateral (e.g. cash or securities, more specifically defined below), are allowed to reduce their credit exposure to a counterparty when calculating their capital requirements to take account of the risk mitigating effect of the collateral. However, before capital relief will be granted the standards set out below must be met:

- (i) In addition to the general requirements for legal certainty, the legal mechanism by which collateral is pledged or transferred must ensure that the bank has the right to liquidate or take legal possession of it, in a timely manner, in the event of the default, insolvency or bankruptcy (or one or more otherwise-defined credit events set out in the transaction documentation) of the counterparty (and, where applicable, of the custodian holding the collateral). Furthermore banks must take all steps necessary to fulfill those requirements under the law applicable to the bank's interest in the collateral for obtaining and maintaining an enforceable security interest, e.g. by registering it with a registrar.
- (ii) In order for collateral to provide protection, the credit quality of the counterparty and the value of the collateral must not have a material positive correlation. For example, securities issued by the counterparty - or by any related group entity - would provide little protection

and so would be ineligible.

- (iii) Banks must have clear and robust procedures for the timely liquidation of collateral to ensure that any legal conditions required for declaring the default of the counterparty and liquidating the collateral are observed, and that collateral can be liquidated promptly.
- (iv) Where the collateral is held by a custodian, banks must take reasonable steps to ensure that the custodian segregates the collateral from its own assets.

7.3.3 The comprehensive approach

- (i) In the comprehensive approach, when taking collateral, banks will need to calculate their adjusted exposure to a counterparty for capital adequacy purposes in order to take account of the effects of that collateral. 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.
- (ii) Additionally where the exposure and collateral are held in different currencies an additional downwards adjustment must be made to the volatility adjusted collateral amount

to take account of possible future fluctuations in exchange rates.

- (iii) 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. The framework for performing calculations of capital requirement is indicated in paragraph [7.3.5](#).

7.3.4 Eligible financial collateral

The following collateral instruments are eligible for recognition in the comprehensive approach:

- (i) Cash (as well as certificates of deposit or comparable instruments issued by the lending bank) on deposit with the bank which is incurring the counterparty exposure.
- (ii) Gold: Gold would include both bullion and jewellery. However, the value of the collateralized jewellery should be benchmarked to 99.99 purity.
- (iii) Securities issued by Central and State Governments
- (iv) Indira Vikas Patra, Kisan Vikas Patra and National Savings Certificates
- (v) Life insurance policies with a declared surrender value of an insurance company which is regulated by an insurance sector regulator
- (vi) Debt securities rated by a recognised Credit Rating Agency where these are either:
 - a. at least BB when issued by public sector entities; or
 - b. at least A when issued by other entities (including banks and Primary Dealers); or

- c. at least P2+/ A3/PL3/F3 for short-term debt instruments.
- (vii) (vii) Debt securities not rated by a recognised Credit Rating Agency where these are:
- a) issued by a bank; and
 - b) listed on a recognised exchange; and
 - c) classified as senior debt; and
 - d) all rated issues of the same seniority by the issuing bank that are rated at least A or P2+/ A3/PL3/F3 by a recognised Credit Rating Agency; and
 - e) the bank holding the securities as collateral has no information to suggest that the issue justifies a rating below A or P2+/ A3/PL3/F3 (as applicable) and;
 - f) Banks should be sufficiently confident about the market liquidity of the security.
- (viii) Equities (including convertible bonds) that are listed on a recognised stock exchange in respect of which the banks should be sufficiently confident about the market liquidity³.
- (ix) Undertakings for Collective Investments in Transferable Securities (UCITS) and mutual funds where:
- a price for the units is publicly quoted daily i.e., where the daily NAV is available in public domain; and
 - the UCITS/mutual fund is limited to investing in the instruments listed in this paragraph.

7.3.5 Calculation of capital requirement

For a collateralised transaction, the exposure amount after risk mitigation is calculated as follows:

³ An equity would meet the test of liquidity if it is traded on the stock exchange(s) on at least 90% of the trading days during the preceding 365 days.

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

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.

7.3.6 Haircuts

- (i) In principle, banks have two ways of calculating the haircuts:
 - (i) standard supervisory haircuts, using parameters set by the Committee, and (ii) own-estimate haircuts, using banks' own internal estimates of market price volatility. Banks in India will be allowed to use only the standard supervisory haircuts for both the exposure as well as the collateral.
- (ii) The *Standard Supervisory Haircuts* (assuming daily mark-to-market, daily re-margining and a 10 business day holding period) expressed as percentages are as under:

Issue rating for debt securities	Residual Maturity	Sovereigns	Other issues
AAA to AA-/!-1	> 1 year	0.5	1
	> 1 year, < 5 years	2	4
	> 5 years	4	8
A + to BBB-/ A-2/A-3/P-3 and Unrated bank securities	< 1 year	1	2
	> 1 year, < 5 years	3	6
	> 5 years	6	12
BB + to BB-	All	15	
Main index equities (including convertible bonds) and Gold		15	
Other equities (including convertible bonds) listed on a recognized exchange		25	
UCITs/Mutual funds		Highest haircut applicable to any security in which the fund can invest	
Cash in the same currency		0	

- (iii) The standard supervisory haircuts applicable to exposure/ securities issued by the Central or State Governments, Indira Vikas Patras, Kisan Vikas Patras, National Savings Certificates will be the same as applicable to AAA rated debt securities.
- (iv) Sovereign will include Reserve Bank of India, MDBs, ECGC CGTSI etc. which are eligible for zero per cent risk weight.
- (v) The standard supervisory haircut for currency risk where exposure and collateral are denominated in different currencies is 8% (also based on a 10-business day holding period and daily mark-to-market)
- (vi) Illustrative example calculating the effect of Credit Risk Mitigation is furnished in Annex 3.

- (vii) Where the collateral is a basket of assets, the haircut on the basket will be, $H = \sum_i a_i H_i$, where a_i is the weight of the asset (as measured by units of currency) in the basket and H_i the haircut applicable to that asset.
- (viii) For banks using the standard supervisory haircuts, the 10-business day haircuts provided above will be the basis and this haircut will be scaled up or down depending on the type of transaction and the frequency of remargining or revaluation using the formula below:

$$H = H_{10} \sqrt{\frac{N_R + (T_M - 1)}{10}}$$

where:

H = haircut

H_{10} = 10-business day standard supervisory haircut for instrument

N_R = actual number of business days between remargining for capital market transactions or revaluation for secured transactions.

T_M = minimum holding period for the type of transaction

7.4 Credit risk mitigation techniques - On-balance sheet netting

On-balance sheet netting is confined to loans/advances and deposits, where banks have legally enforceable netting arrangements, involving specific lien with proof of documentation. They may calculate capital requirements on the basis of net credit exposures subject to the following conditions:

Where a bank,

- a) has a well-founded legal basis for concluding that the netting or offsetting agreement is enforceable in each relevant jurisdiction regardless of whether the counterparty is insolvent or bankrupt;

- b) is able at any time to determine the loans/advances and deposits with the same counterparty that are subject to the netting agreement; and
- c) monitors and controls the relevant exposures on a net basis,

it may use the net exposure of loans/advances and deposits as the basis for its capital adequacy calculation in accordance with the formula in paragraph 7.3.5. Loans/advances are treated as exposure and deposits as collateral. The haircuts will be zero except when a currency mismatch exists. All the requirements contained in paragraph 7.3.6 and 7.6 will also apply.

7.5 Credit risk mitigation techniques - Guarantees

7.5.1 Where guarantees are direct, explicit, irrevocable and unconditional banks may take account of such credit protection in calculating capital requirements.

7.5.2 A range of guarantors are recognised. As under the 1988 Accord, a substitution approach will be applied. Thus only guarantees issued by entities with a lower risk weight than the counterparty will lead to reduced capital charges since the protected portion of the counterparty exposure is assigned the risk weight of the guarantor, whereas the uncovered portion retains the risk weight of the underlying counterparty.

7.5.3 Detailed operational requirements for guarantees eligible for being treated as a CRM are as under:

7.5.4 Operational requirements for guarantees

A guarantee (counter-guarantee) must represent a direct claim on the protection provider and must be explicitly referenced to specific exposures or a pool of exposures, so that the extent of the cover is clearly defined and incontrovertible. The guarantee must be irrevocable; there must be no clause in the contract that would allow the protection provider unilaterally to cancel the cover or that

would increase the effective cost of cover as a result of deteriorating credit quality in the guaranteed exposure. The guarantee must also be unconditional; there should be no clause in the guarantee outside the direct control of the bank that could prevent the protection provider from being obliged to pay out in a timely manner in the event that the original counterparty fails to make the payment(s) due.

7.5.5 Additional operational requirements for guarantees

In addition to the legal certainty requirements in paragraphs 7.2 above, in order for a guarantee to be recognised, the following conditions must be satisfied:

- (i) On the qualifying default/non-payment of the counterparty, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. The bank must have the right to receive any such payments from the guarantor without first having to take legal actions in order to pursue the counterparty for payment.
- (ii) The guarantee is an explicitly documented obligation assumed by the guarantor.
- (iii) Except as noted in the following sentence, the guarantee covers all types of payments the underlying obligor is expected to make under the documentation governing the transaction, for example notional amount, margin payments etc. Where a guarantee covers payment of principal only, interests and other uncovered payments should be treated as an unsecured amount in accordance with paragraph 7.5.8.

7.5.6 Range of eligible guarantors (counter-guarantors)

Credit protection given by the following entities will be recognised:

- (i) sovereigns, sovereign entities (including BIS, IMF, European Central Bank and European Community as well as those MDBs referred to in paragraph 5.5, ECGC

- and CGTSI), PSEs, banks and primary dealers with a lower risk weight than the counterparty;
- (ii) other entities rated AA or better. This would include guarantee cover provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor.

7.5.7 Risk weights

The protected portion is assigned the risk weight of the protection provider. Exposures covered by State Government guarantees will attract a risk weight of 20%. The uncovered portion of the exposure is assigned the risk weight of the underlying counterparty.

7.5.8 Proportional cover

Where the amount guaranteed, or against which credit protection is held, is less than the amount of the exposure, and the secured and unsecured portions are of equal seniority, i.e. the bank and the guarantor share losses on a pro-rata basis capital relief will be afforded on a proportional basis: i.e. the protected portion of the exposure will receive the treatment applicable to eligible guarantees, with the remainder treated as unsecured.

7.5.9 Currency mismatches

Where the credit protection is denominated in a currency different from that in which the exposure is denominated – i.e. there is a currency mismatch – the amount of the exposure deemed to be protected will be reduced by the application of a haircut H_{FX} , i.e.

$$GA = G \times (1 - H_{FX})$$

where:

G = nominal amount of the credit protection

H_{FX} = haircut appropriate for currency mismatch between the credit protection and underlying obligation.

Banks using the supervisory haircuts will apply a haircut of 8% for currency mismatch.

7.5.10 Sovereign guarantees and counter-guarantees

A claim may be covered by a guarantee that is indirectly counter-guaranteed by a sovereign. Such a claim may be treated as covered by a sovereign guarantee provided that:

- (i) the sovereign counter-guarantee covers all credit risk elements of the claim;
- (ii) both the original guarantee and the counter-guarantee meet all operational requirements for guarantees, except that the counter-guarantee need not be direct and explicit to the original claim; and
- (iii) the cover should be robust and no historical evidence suggests that the coverage of the counter-guarantee is less than effectively equivalent to that of a direct sovereign guarantee.

7.6 Maturity Mismatch

7.6.1 Where the residual maturity of the CRM is less than that of the underlying credit exposure a maturity mismatch occurs. Where there is a maturity mismatch and the CRM has an original maturity of less than one year, the CRM is not recognised for capital purposes. In other cases where there is a maturity mismatch, partial recognition is given to the CRM for regulatory capital purposes as detailed below in paragraphs 7.6.3 to 7.6.5.

7.6.2 For the purposes of calculating risk-weighted assets, a maturity mismatch occurs when the residual maturity of a collateral is less than that of the underlying exposure.

7.6.3 Definition of maturity

The maturity of the underlying exposure and the maturity of the collateral should both be defined conservatively. The effective maturity of the underlying should be gauged as the longest possible remaining time before the counterparty is scheduled to fulfil its

obligation, taking into account any applicable grace period. For the collateral, embedded options which may reduce the term of the collateral should be taken into account so that the shortest possible effective maturity is used.

7.6.4 Risk weights for maturity mismatches

As outlined in paragraph 7.6.1, collateral with maturity mismatches are only recognised when their original maturities are greater than or equal to one year. As a result, the maturity of collateral for exposures with original maturities of less than one year must be matched to be recognised. In all cases, collateral with maturity mismatches will no longer be recognised when they have a residual maturity of three months or less.

7.6.5 When there is a maturity mismatch with recognised credit risk mitigants (collateral, on-balance sheet netting and guarantees) the following adjustment will be applied.

$$Pa = P \times (t-0.25) / (T-0.25)$$

Where:

Pa = value of the credit protection adjusted for maturity mismatch

P = credit protection (e.g. collateral amount, guarantee amount) adjusted for any haircuts

t = min (T, residual maturity of the credit protection arrangement) expressed in years

T = min (5, residual maturity of the exposure) expressed in years

7.7 Treatment of pools of CRM techniques

In the case where a bank has multiple CRM techniques covering a single exposure (e.g. a bank has both collateral and guarantee partially covering an exposure), the bank will be required to subdivide the exposure into portions covered by each type of CRM

technique (e.g. portion covered by collateral, portion covered by guarantee) and the risk-weighted assets of each portion must be calculated separately. When credit protection provided by a single protection provider has differing maturities, they must be subdivided into separate protection as well.

8 Capital charge for Market Risk

8.1 Introduction

8.1.1 Market risk is defined as the risk of losses in on-balance sheet and off-balance sheet positions arising from movements in market prices. The market risk positions subject to capital charge requirement are:

- (i) The risks pertaining to interest rate related instruments and equities in the trading book; and
- (ii) Foreign exchange risk (including open position in precious metals) throughout the bank (both banking and trading books).

8.1.2 The guidelines in this regard are organized under the following seven sections:

Section	Particulars
<u>A</u>	Scope and coverage of capital charge for market risks
<u>B</u>	Measurement of capital charge for interest rate risk in the trading book
<u>C</u>	Measurement of capital charge for equities in the trading book
<u>D</u>	Measurement of capital charge for foreign exchange risk and gold open positions
<u>E</u>	Aggregation of capital charge for market risks

Section A

8.2 Scope and coverage of capital charge for market risks

8.2.1 These guidelines seek to address the issues involved in computing capital charges for interest rate related instruments in the trading book, equities in the trading book and foreign exchange risk (including gold and other precious metals) in both trading and banking books. Trading book for the purpose of these guidelines will include:

- (i) Securities included under the Held for Trading category
- (ii) Securities included under the Available for Sale category
- (iii) Open gold position limits
- (iv) Open foreign exchange position limits
- (v) Trading positions in derivatives, and
- (vi) Derivatives entered into for hedging trading book exposures.

8.2.2 To begin with, capital charge for market risks is applicable to banks on a global basis. At a later stage, this would be extended to all groups where the controlling entity is a bank.

8.2.3 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.

Section B

8.3 Measurement of capital charge for interest rate risk

8.3.1 This section describes the framework for measuring the risk of holding or taking positions in debt securities and other interest rate related instruments in the **domestic currency** in the trading book.

- 8.3.2 The capital charge for interest rate related instruments and equities would apply to **current market value** of these items in bank's trading book. Since banks are required to maintain capital for market risks on an ongoing basis, they are required to mark to market their trading positions on a daily basis. The current market value will be determined as per extant RBI guidelines on valuation of investments.
- 8.3.3 The minimum capital requirement is expressed in terms of two separately calculated charges, (i) "**specific risk**" charge for each security, which is akin to the conventional capital charge for credit risk, both for short (short position is not allowed in India except in derivatives) and long positions, and (ii) "**general market risk**" charge towards interest rate risk in the portfolio, where long and short positions (which is not allowed in India except in derivatives) in different securities or instruments can be offset.

Specific risk

- 8.3.4 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. The risk weights to be used in this calculation must be consistent with those used for calculating the capital requirements in the banking book. Thus, banks using the standardised approach for credit risk in the banking book will use the standardised approach risk weights for counterparty risks in the trading book in a consistent manner.
- 8.3.5 Banks shall, in addition to computing specific risk charge for OTC derivatives in the trading book, calculate the counterparty credit risk charge for OTC derivatives as part of capital for credit risk as per the Standardised Approach covered in paragraph 5 above.

General Market Risk

- 8.3.6 The capital requirements for general market risk are designed to capture the risk of loss arising from changes in market interest

rates. The capital charge is the sum of four components:

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

8.3.7 The Basle Committee has suggested two broad methodologies for computation of capital charge for market risks. One is the standardised method and the other is the banks’ internal risk management models method. As banks in India are still in a nascent stage of developing internal risk management models, it has been decided that, to start with, banks may adopt the standardised method. Under the standardised method there are two principal methods of measuring market risk, a “maturity” method and a “duration” method. As “duration” method is a more accurate method of measuring interest rate risk, it has been decided to adopt standardised duration method to arrive at the capital charge. Accordingly, banks are required to measure the general market risk charge by calculating the price sensitivity (modified duration) of each position separately. Under this method, the mechanics are as follows:

- (i) first calculate the price sensitivity (modified duration) of each instrument;
- (ii) 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 (see Table-1 below);
- (iii) slot the resulting capital charge measures into a maturity

- ladder with the fifteen time bands as set out in Table-1;
- (iv) subject long and short positions (short position is not allowed in India except in derivatives) in each time band to a 5 per cent vertical disallowance designed to capture basis risk; and
 - (v) carry forward the net positions in each time-band for horizontal offsetting subject to the disallowances set out in Table-2.

Table 1**Duration method – time bands and assumed changes in yield**

Time Bands	Assumed Change in Yield
Zone 1	
1 month or less	1.00
1 to 3 months	1.00
3 to 6 months	1.00
6 to 12 months	1.00
Zone 2	
1.0 to 1.9 years	0.90
1.9 to 2.8 years	0.80
2.8 to 3.6 years	0.75
Zone 3	
3.6 to 4.3 years	0.75
4.3 to 5.7 years	0.70
5.7 to 7.3 years	0.65
7.3 to 9.3 years	0.60
9.3 to 10.6 years	0.60
10.6 to 12 years	0.60
12 to 20 years	0.60
over 20 years	0.60

Table 2

Horizontal Disallowances

Zones	Time band	Within the zones	Between adjacent zones	Between zones 1 and 3
Zone 1	1 month or less	40%	40%	100%
	1 to 3 months			
	3 to 6 months			
	6 to 12 months			
Zone 2	1.0 to 1.9 years	30%	40%	
	1.9 to 2.8 years			
	2.8 to 3.6 years			
Zone 3	3.6 to 4.3 years	30%	40%	
	4.3 to 5.7 years			
	5.7 to 7.3 years			
	7.3 to 9.3 years			
	9.3 to 10.6 years			
	10.6 to 12 years			
	12 to 20 years			
	over 20 years			

Capital charge for interest rate derivatives

8.3.8 The measurement of capital charge for market risks should include all interest rate derivatives and off-balance sheet instruments in the trading book and derivatives entered into for hedging trading book exposures which would react to changes in the interest rates, like FRAs, interest rate positions etc. The details of measurement of

capital charge for interest rate derivatives are furnished in Annex 4. Details of computing capital charges for market risks in major currencies are detailed in Attachment I. In the case of residual currencies the gross positions in each time-band will be subject to the assumed change in yield set out in Table-1 with no further offsets.

Section C

8.4 Measurement of capital charge for equities

8.4.1 At present equities are also treated as any other investments for the purpose of assigning credit risk. An additional risk weight of 2.5% is assigned on these positions to capture market risk.

8.4.2 Minimum capital requirement to cover the risk of holding or taking positions in equities in the trading book is set out below. This is applied to all instruments that exhibit market behaviour similar to equities but not to non-convertible preference shares (which are covered by the interest rate risk requirements described earlier). 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.

Specific and general market risk

8.4.3 Capital charge for specific risk (akin to credit risk) will be 9% and specific risk is computed on the banks' gross equity positions (i.e. the sum of all long equity positions and of all short equity positions – short equity position is, however, not allowed for banks in India). The general market risk charge will also be 9% on the gross equity positions.

Section D

8.5 Measurement of capital charge for foreign exchange and gold

open positions

8.5.1 Foreign exchange open positions and gold open positions are at present risk-weighted at 100%. Thus, capital charge for foreign exchange and gold open position is 9% at present. These open positions, **limits or actual whichever is higher**, would continue to attract capital charge at 9%. This is in line with the Basel Committee requirement.

Section E

8.6 Aggregation of the capital charge for market risks

8.6.1 As explained earlier capital charges for specific risk and general market risk are to be computed separately before aggregation. For computing the total capital charge for market risks, the calculations may be plotted in the following table:

Proforma 1

(Rs. in crore)

Risk Category	Capital charge
I. Interest Rate (a+b)	
a. General market risk	
i) Net position (parallel shift)	
ii) Horizontal disallowance (curvature)	
iii) Vertical disallowance (basis)	
iv) Options	
b. Specific risk	
II. Equity (a+b)	
a. General market risk	
b. Specific risk	
III. Foreign Exchange & Gold	
IV. Total capital charge for market risks (I+II+III)	

9 Capital Charge for Operational risk

9.1 **Definition of operational risk**

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition 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.

9.2 **The measurement methodologies**

9.2.1 The New Capital Adequacy Framework outlines three methods for calculating operational risk capital charges in a continuum of increasing sophistication and risk sensitivity: (i) the Basic Indicator Approach; (ii) the Standardised Approach; and (iii) Advanced Measurement Approaches (AMA).

9.2.2 Banks are encouraged to move along the spectrum of available approaches as they develop more sophisticated operational risk measurement systems and practices.

9.2.3 The New Capital Adequacy Framework provides that internationally active banks and banks with significant operational risk exposures (for example, specialised processing banks) are expected to use an approach that is more sophisticated than the Basic Indicator Approach and that is appropriate for the risk profile of the institution. However, to begin with, banks in India shall compute the capital requirements for operational risk under the Basic Indicator Approach. Reserve Bank will review the capital requirement produced by the Basic Indicator Approach for general credibility, and in the event that credibility is lacking, appropriate supervisory action under Pillar 2 will be considered.

9.3 **The Basic Indicator Approach**

9.3.1 Banks using the Basic Indicator Approach must hold capital for operational risk equal to the average over the previous three years of a fixed percentage (denoted alpha) of positive annual gross income. Figures for any year in which annual gross income is

negative or zero should be excluded from both the numerator and denominator when calculating the average. If negative gross income distorts a bank's Pillar 1 capital charge, supervisors will consider appropriate supervisory action under Pillar 2. The charge may be expressed as follows:

$$\text{KBIA} = \left[\frac{\sum (\text{GI}_{1\dots n} \times a)}{n} \right]$$

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

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

9.3.2 Gross income is defined as under :

Net interest income plus net non-interest income. It is intended that this measure should: (i) be gross of any provisions (e.g. for unpaid interest); (ii) be gross of operating expenses, including fees paid to outsourcing service providers, *in contrast to fees paid for services that are outsourced, fees received by banks that provide outsourcing services shall be included in the definition of gross income*; (iii) exclude realised profits/losses from the sale of securities in the banking book; *Realised profits/losses from securities classified as "held to maturity", which typically constitute items of the banking book, are also excluded from the definition of gross income* and (iv) exclude extraordinary or irregular items as well as income derived from insurance.

9.3.3 Banks are advised to compute capital charge for operational risk under the Basic Indicator Approach as follows:

- Average of [Gross Income * alpha] for each of the last three financial years, excluding years of negative or zero gross income
- Gross income = *Net profit (+) Provisions & contingencies (+) operating expenses (Schedule 16) (-) profit on sale of HTM investments (-) income from insurance (-) extraordinary / irregular item of income (+) loss on sale of HTM investments.*
- Alpha = 15 per cent

9.3.4 As a point of entry for capital calculation, no specific criteria for use of the Basic Indicator Approach are set out in the New Capital Adequacy Framework. Nevertheless, banks using this approach are encouraged to comply with the Committee's guidance on *Sound Practices for the Management and Supervision of Operational Risk*, February 2003.

10 Market Discipline

10.1 The purpose of Market discipline (detailed in Pillar 3) in the New Framework is to complement the minimum capital requirements (detailed under Pillar 1) and the supervisory review process (detailed under Pillar 2). The aim is to encourage market discipline by developing a set of disclosure requirements which will allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes, and hence the capital adequacy of the institution.

10.2 In principle, banks' disclosures should be consistent with how senior management and the Board of directors assess and manage the risks of the bank. Under Pillar 1, banks use specified approaches/ methodologies for measuring the various risks they face and the resulting capital requirements. It is believed that providing disclosures that are based on a common framework is an

effective means of informing the market about a bank's exposure to those risks and provides a consistent and comprehensive disclosure framework that enhances comparability.

10.3 **Achieving appropriate disclosure**

10.3.1 Market discipline can contribute to a safe and sound banking environment. Hence, non-compliance with the prescribed disclosure requirements would attract a penalty, including financial penalty. However, it is not intended that direct additional capital requirements would be a response to non-disclosure, except as indicated below.

10.3.2 In addition to the general intervention measures, the Framework also anticipates a role for specific measures. Where disclosure is a qualifying criterion under Pillar 1 to obtain lower risk weightings and/or to apply specific methodologies, there would be a direct sanction (not being allowed to apply the lower risk weighting or the specific methodology).

10.4 **Interaction with accounting disclosures**

10.4.1 It is recognised that the Pillar 3 disclosure framework does not conflict with requirements under accounting standards, which are broader in scope. The BCBS has taken considerable efforts to see that the narrower focus of Pillar 3, which is aimed at disclosure of bank capital adequacy, does not conflict with the broader accounting requirements. The Reserve Bank will consider future modifications to the Market Discipline disclosures as necessary in light of its ongoing monitoring of this area and industry developments.

10.5 **Scope and frequency of disclosures**

10.5.1 Banks, including consolidated banks, should provide all Pillar 3 disclosures, both qualitative and quantitative, as at end March each year along with the annual financial statements. Banks with capital funds of Rs.100 crore or more should make certain interim disclosures on quantitative aspects, on a stand alone basis, on their

respective websites. Banks in this category that do not host a website are encouraged to make the necessary arrangements to host a website by March 31, 2006. Qualitative disclosures that provide a general summary of a bank's risk management objectives and policies, reporting system and definitions may be published only on an annual basis.

10.5.2 In recognition of the increased risk sensitivity of the Framework and the general trend towards more frequent reporting in capital markets, all banks with capital funds of Rs. 500 crore or more, and their significant bank subsidiaries, must disclose their Tier 1 capital, total capital, total required capital and total capital adequacy ratios, on a quarterly basis.

10.6 **Validation**

The disclosures in this manner should be subjected to adequate validation. For example, since information in the annual financial statements would generally be audited, the additional material published with such statements must be consistent with the audited statements. In addition, supplementary material (such as Management's Discussion and Analysis) that is published should also be subjected to sufficient scrutiny (e.g. internal control assessments, etc.) to satisfy the validation issue. If material is not published under a validation regime, for instance in a stand alone report or as a section on a website, then management should ensure that appropriate verification of the information takes place, in accordance with the general disclosure principle set out below. In the light of the above, Pillar 3 disclosures will not be required to be audited by an external auditor, unless specified.

10.7 **Materiality**

A bank should decide which disclosures are relevant for it based on the materiality concept. Information would be regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the

purpose of making economic decisions. This definition is consistent with International Accounting Standards and with the national accounting framework. The Reserve Bank recognises the need for a qualitative judgement of whether, in light of the particular circumstances, a user of financial information would consider the item to be material (user test). The Reserve Bank does not consider it necessary to set specific thresholds for disclosure as the user test is a useful benchmark for achieving sufficient disclosure. However, with a view to facilitate smooth transition to greater disclosures as well as to promote greater comparability among the banks' Pillar 3 disclosures, the materiality thresholds have been prescribed for certain limited disclosures. Notwithstanding the above, banks are encouraged to apply the user test to these specific disclosures and where considered necessary make disclosures below the specified thresholds also.

10.8 Proprietary and confidential information

Proprietary information encompasses information (for example on products or systems), that if shared with competitors would render a bank's investment in these products/systems less valuable, and hence would undermine its competitive position. Information about customers is often confidential, in that it is provided under the terms of a legal agreement or counterparty relationship. This has an impact on what banks should reveal in terms of information about their customer base, as well as details on their internal arrangements, for instance methodologies used, parameter estimates, data etc. The Reserve Bank believes that the requirements set out below strike an appropriate balance between the need for meaningful disclosure and the protection of proprietary and confidential information.

10.9 The disclosure requirements

The following sections set out in tabular form the disclosure requirements under Pillar 3. Additional definitions and explanations

are provided in a series of footnotes.

10.10 **General disclosure principle**

Banks should have a formal disclosure policy approved by the Board of directors that addresses the bank's approach for determining what disclosures it will make and the internal controls over the disclosure process. In addition, banks should implement a process for assessing the appropriateness of their disclosures, including validation and frequency.

10.11 **Scope of application**

Pillar 3 applies at the top consolidated level of the banking group to which the Framework applies (as indicated above under paragraph 3.1 Scope of Application). Disclosures related to individual banks within the groups would not generally be required to be made by the parent bank. An exception to this arises in the disclosure of Total and Tier 1 Capital Ratios by the top consolidated entity where an analysis of significant bank subsidiaries within the group is appropriate, in order to recognise the need for these subsidiaries to comply with the Framework and other applicable limitations on the transfer of funds or capital within the group. Pillar 3 disclosures will be required to be made by the individual banks on a standalone basis when they are not the top consolidated entity in the banking group.

10.12 **Effective date of disclosures**

The first of the disclosures as per these guidelines shall be made as on March 31, 2007.

Table 1
Scope of application

Qualitative Disclosures

- (a) The name of the top bank in the group to which the Framework applies.
- (b) An outline of differences in the basis of consolidation for accounting and regulatory purposes, with a brief description of the entities ⁴ within the group (i) that are fully consolidated;⁵ (ii) that are pro-rata consolidated;⁶ (iii) that are given a deduction treatment; and (iv) that are neither consolidated nor deducted (e.g. where the investment is risk-weighted).

Quantitative Disclosures

- (c) The aggregate amount of capital deficiencies⁷ in all subsidiaries not included in the consolidation i.e. that are deducted and the name(s) of such subsidiaries.
- (d) The aggregate amounts (e.g. current book value) of the bank's total interests in insurance entities, which are risk-weighted ⁸ as well as their name, their country of incorporation or residence, the proportion of ownership interest and, if different, the proportion of voting power in these entities. In addition, indicate the quantitative impact on regulatory capital of using this method versus using the deduction or alternate group-wide method.

⁴ Entity = securities, insurance and other financial subsidiaries, commercial subsidiaries, significant minority equity investments in insurance, financial and commercial entities.

⁵ Following the listing of significant subsidiaries in consolidated accounting, e.g. AS 21.

⁶ Following the listing of subsidiaries in consolidated accounting, e.g. AS 21.

⁷ A capital deficiency is the amount by which actual capital is less than the regulatory capital requirement. Any deficiencies which have been deducted on a group level in addition to the investment in such subsidiaries are not to be included in the aggregate capital deficiency.

⁸ See paragraph __

Table 2
Capital structure

<p>Qualitative Disclosures</p> <p>(a) Summary information on the terms and conditions of the main features of all capital instruments, especially in the case of innovative, complex or hybrid capital instruments.</p>
<p>Quantitative Disclosures</p> <p>(b) The amount of Tier 1 capital, with separate disclosure of:</p> <ul style="list-style-type: none"> • paid-up share capital; • reserves; • innovative instruments;⁹ • other capital instruments; • other amounts deducted from Tier 1 capital, including goodwill and investments. <p>(c) The total amount of Tier 2 and Tier 3¹⁰ capital (net of deductions from Tier 2 capital).</p> <p>(d) Subordinated debt</p> <ul style="list-style-type: none"> • Total amount outstanding • Of which amount raised during the current year • Amount eligible to be reckoned as capital funds <p>(e) Other deductions from capital, if any.</p> <p>(f) Total eligible capital.</p>

⁹ Banks are not allowed to recognise any innovative instruments as Capital funds, at present.

¹⁰ Banks are not allowed to raise Tier III capital at present.

Table 3
Capital Adequacy

<p>Qualitative disclosures</p> <p>(a) A summary discussion of the bank's approach to assessing the adequacy of its capital to support current and future activities.</p>
<p>Quantitative disclosures</p> <p>(b) Capital requirements for credit risk:</p> <ul style="list-style-type: none">• Portfolios subject to standardised approach• Securitisation exposures.
<p>(c) Capital requirements for market risk:</p> <ul style="list-style-type: none">• Standardised duration approach;
<p>(d) Capital requirements for operational risk:</p> <ul style="list-style-type: none">• Basic indicator approach;
<p>(e) Total and Tier 1 capital ratio:</p> <ul style="list-style-type: none">• For the top consolidated group; and• For significant bank subsidiaries (stand alone or sub-consolidated depending on how the Framework is applied).

10.13 Risk exposure and assessment

The risks to which banks are exposed and the techniques that banks use to identify, measure, monitor and control those risks are important factors market participants consider in their assessment of an institution. In this section, several key banking risks are considered: credit risk, market risk, interest rate risk and equity risk in the banking book¹¹ and operational risk. Also included in this section are disclosures relating to credit risk mitigation and asset securitisation, both of which alter the risk profile of the institution. Where applicable, separate disclosures are set out for banks using different approaches to the assessment of regulatory capital.

10.14 *General qualitative disclosure requirement*

For each separate risk area (e.g. credit, market, operational, banking book interest rate risk, equity) banks must describe their risk management objectives and policies, including:

- (i) strategies and processes;
- (ii) the structure and organisation of the relevant risk management function;
- (iii) the scope and nature of risk reporting and/or measurement systems;
- (iv) policies for hedging and/or mitigating risk and strategies and processes for monitoring the continuing effectiveness of hedges/mitigants.

Credit risk

General disclosures of credit risk provide market participants with a range of information about overall credit exposure and need not necessarily be based on information prepared for regulatory purposes. Disclosures on the capital assessment techniques give information on the specific nature of the exposures, the means of capital assessment and data to assess the reliability of the information

disclosed.

Table 4

Credit risk (including equities): general disclosures for all banks

Qualitative Disclosures

(a) The general qualitative disclosure requirement (paragraph 10.14) with respect to credit risk, including:

- Definitions of past due and impaired (for accounting purposes);
- Discussion of the bank's credit risk management policy;

Quantitative Disclosures

(b) Total gross credit risk exposures¹², Fund based and Non-fund based¹³ separately.

(c) Geographic distribution of exposures¹⁴, Fund based and Non-fund based separately

- Overseas
- Domestic

(d) Industry¹⁵ type distribution of exposures, fund based and non-fund based separately

(e) Residual contractual maturity breakdown of assets,¹⁶

(g) Amount of NPAs (Gross)

- Substandard
- Doubtful 1
- Doubtful 2
- Doubtful 3
- Loss

¹¹ Guidance on interest rate risk and equity risk in the banking book will be issued separately.

¹² That is outstanding, after accounting offsets in accordance with the applicable accounting regime and without taking into account the effects of credit risk mitigation techniques, e.g. collateral and netting.

¹³ At actuals, before application of CCFs

¹⁴ That is, on the same basis as adopted for Segment Reporting adopted for compliance with AS 17

¹⁵ The industry-wise break-up may be provided on the same lines as under DSB returns at present. If the exposure to any particular industry is more than 5% of the gross credit exposure as computed under (b) above it should be disclosed separately.

¹⁶ Banks shall use the same maturity bands as used for reporting positions in the ALM returns.

(h) Net NPAs

(i) NPA Ratios

- Gross NPAs to gross advances
- Net NPAs to net advances

(j) Movement of NPAs (Gross)

- Opening balance
- Additions
- Reductions
- Closing balance

(k) Movement of provisions for NPAs

- Opening balance
- Provisions made during the period
- Write-off / write-back of excess provisions
- Closing balance

(l) Amount of Non-Performing Investments

(m) Movement of provisions for depreciation on investments

- Opening balance
- Provisions made during the period
- Write-off / write-back of excess provisions
- Closing balance

Table 5**Credit risk: disclosures for portfolios subject to the standardised approach****Qualitative Disclosures**

(a) For portfolios under the standardised approach:

- Names of credit rating agencies used, plus reasons for any changes;
- Types of exposure for which each agency is used; and
- A description of the process used to transfer public issue ratings onto comparable assets in the banking book;

Quantitative Disclosures

(b) For exposure amounts after risk mitigation subject to the standardised approach, amount of a bank's outstandings (rated and unrated) in each risk bucket as well as those that are deducted;

- Below 100 % risk weight
- 100 % risk weight
- More than 100 % risk weight

Table 6**Credit risk mitigation: disclosures for standardised approaches ¹⁷****Qualitative Disclosures***

(a) The general qualitative disclosure requirement (paragraph 10.14) with respect to credit risk mitigation including:

- policies and processes for collateral valuation and management;
- a description of the main types of collateral taken by the bank;
- the main types of guarantor counterparty and their creditworthiness; and
- information about (market or credit) risk concentrations within the mitigation taken

Quantitative Disclosures*

(b) For disclosed credit risk portfolio under the standardised approach, the total exposure that is covered by:

- eligible financial collateral; and
- other eligible collateral; after the application of haircuts.¹⁸

¹⁷ At a minimum, banks must give the disclosures below in relation to credit risk mitigation that has been recognised for the purposes of reducing capital requirements under this Framework. Where relevant, banks are encouraged to give further information about mitigants that have not been recognised for that purpose.

¹⁸ If the comprehensive approach is applied, where applicable, the total exposure covered by collateral after haircuts should be reduced further to remove any positive adjustments that were applied to the exposure, as permitted under Part 2.

Table 7

Securitisation: disclosure for standardised approaches [Will be furnished separately]

Table 8

Market risk in trading book: disclosures for banks using the standardised duration approach

<p>Qualitative disclosures</p> <p>(a) The general qualitative disclosure requirement (paragraph 10.14) for market risk including the portfolios covered by the standardised approach.</p>
<p>Quantitative disclosures</p> <p>(b) The capital requirements for:</p> <ul style="list-style-type: none"> • interest rate risk; • equity position risk; • foreign exchange risk; and

Table 9

Operational risk

<p>Qualitative disclosures</p> <ul style="list-style-type: none"> • In addition to the general qualitative disclosure requirement (paragraph 10.14), the approach(es) for operational risk capital assessment for which the bank qualifies.

Table 10

Equities: disclosures for banking book positions will be issued separately

Table 11

Interest rate risk in the banking book (IRRBB) will be issued separately

Raising of subordinated debt by Indian banks

(Vide paragraph 4.8.1)

(i) I. Rupee Subordinated Debt

1. Terms of Issue of Bond

To be eligible for inclusion in Tier - II Capital, terms of issue of the bonds as subordinated debt instruments should be in conformity with the following:

(i) Amount

The amount of subordinated debt to be raised may be decided by the Board of Directors of the banks.

(ii) Maturity period

(a) Subordinated debt instruments with an initial maturity period of less than 5 years, or with a remaining maturity of one year should not be included as part of Tier-II Capital. Further, they should be subjected to progressive discount as they approach maturity at the rates shown below:

Remaining Maturity of Instruments	Rate of Discount (%)
Less than one year	100
More than One year and less than Two years	80
More than Two years and less than Three years	60
More than Three years and less than Four years	40
More than Four years and less than Five years	20

(b) The bonds should have a minimum maturity of 5 years. However if the bonds are issued in the last quarter of the year i.e. from 1st January to 31st March, they should have a minimum tenure of sixty three months.

(iii) Rate of interest

The interest rate should not be more than 200 basis points above the yield on Government of India securities of equal residual maturity at the time of issuing bonds. The instruments should be 'vanilla' with no special features like options etc.

(iv) Other conditions

- The instruments should be fully paid-up, unsecured, subordinated to the claims of other creditors, free of restrictive clauses and should not be redeemable at the initiative of the holder or without the consent of the Reserve Bank of India.
- Necessary permission from Foreign Exchange Department should be obtained for issuing the instruments to NRIs/OCBs/FIIs.
- Banks should comply with the terms and conditions, if any, set by SEBI/other regulatory authorities in regard to issue of the instruments.

d) In the case of foreign banks rupee subordinated debt should be issued by the Head Office of the bank, through the Indian branch after obtaining specific approval from Foreign Exchange Department.

2. Inclusion in Tier II capital

Subordinated debt instruments will be limited to 50 per cent of Tier-I Capital of the bank. These instruments, together with other components of Tier II capital, should not exceed 100% of Tier I capital.

3. Grant of advances against bonds

Banks should not grant advances against the security of their own bonds.

4. Compliance with Reserve Requirements

The total amount of Subordinated Debt raised by the bank has to be reckoned as liability for the calculation of net demand and time liabilities for the purpose of reserve requirements and, as such, will attract CRR/SLR requirements.

5. Treatment of Investment in subordinated debt

Investments by banks in subordinated debt of other banks will be assigned 100% risk weight for capital adequacy purpose. Also, the bank's aggregate investment in Tier II bonds issued by other banks and financial institutions shall be within the overall ceiling of 10 percent of the investing bank's total capital. The capital for this purpose will be the same as that reckoned for the purpose of capital adequacy.

II. Subordinated Debt in foreign currency

Banks may take approval of RBI on a case-by-case basis.

III. Reporting Requirements

The banks should submit a report to Reserve Bank of India giving details of the capital raised, such as, amount raised, maturity of the instrument, rate of interest together with a copy of the offer document soon after the issue is completed.

PRUDENTIAL NORMS ON CAPITAL ADEQUACY**Raising of subordinated debt by foreign banks****Raising of Head Office borrowings in foreign currency by foreign banks operating in India for inclusion in Tier II capital**

(Vide paragraph 4.8.2)

Detailed guidelines on the standard requirements and conditions for Head Office borrowings in foreign currency raised by foreign banks operating in India for inclusion , as subordinated debt in Tier II capital are as indicated below:-

Amount of borrowing

2. The total amount of HO borrowing in foreign currency will be at the discretion of the foreign bank. However, the amount eligible for inclusion in Tier II capital as subordinated debt will be subject to a maximum ceiling of 50% of the Tier I capital maintained in India, and the applicable discount rate mentioned in para 5 below. Further as per extant instructions, the total of Tier II capital should not exceed 100% of Tier I capital.

Maturity period

3. Head Office borrowings should have a minimum initial maturity of 5 years. If the borrowing is in tranches, each tranche will have to be retained in India for a minimum period of five years. HO borrowings in the nature of perpetual subordinated debt, where there may be no final maturity date, will not be permitted.

Features

4. The HO borrowings should be fully paid up, i.e. the entire borrowing or each tranche of the borrowing should be available in full to the branch in India. It should be unsecured, subordinated to the claims of other creditors of the foreign bank in India, free of restrictive clauses and should not be redeemable at the instance of the HO.

Rate of discount

5. The HO borrowings will be subjected to progressive discount as they approach maturity at the rates indicated below:

Remaining maturity of borrowing	Rate of discount
More than 5 years	Not Applicable (the entire amount can be included as subordinated debt in Tier II capital subject to the ceiling mentioned in para 2)
More than 4 years and less than 5 years	20%
More than 3 years and less than 4 years	40%
More than 2 years and less than 3 years	60%
More than 1 year and less than 2 years	80%
Less than 1 year	100% (No amount can be treated as subordinated debt for Tier II capital)

Rate of interest

6. The rate of interest on HO borrowings should not exceed the on-going market rate. Interest should be paid at half yearly rests.

Withholding tax

7. The interest payments to the HO will be subject to applicable

withholding tax.

Repayment

8. All repayments of the principal amount will be subject to prior approval of Reserve Bank of India, Department of Banking Operations and Development.

Documentation

9. The bank should obtain a letter from its HO agreeing to give the loan for supplementing the capital base for the Indian operations of the foreign bank. The loan documentation should confirm that the loan given by Head Office would be subordinated to the claims of all other creditors of the foreign bank in India. The loan agreement will be governed by, and construed in accordance with the Indian law. Prior approval of the RBI should be obtained in case of any material changes in the original terms of issue.

Disclosure

10. The total amount of HO borrowings may be disclosed in the balance sheet under the head 'Subordinated loan in the nature of long term borrowings in foreign currency from Head Office'.

Reserve requirements

11. The total amount of HO borrowings is to be reckoned as liability for the calculation of net demand and time liabilities for the purpose of reserve requirements and, as such, will attract CRR/SLR requirements.

Hedging

12. The entire amount of HO borrowing should remain fully swapped with banks at all times. The swap should be in Indian rupees.

Reporting & Certification

13. Such borrowings done in compliance with the guidelines set out above, would not require prior approval of Reserve Bank of India. However, information regarding the total amount of borrowing raised from

Head Office under this circular, along with a certification to the effect that the borrowing is as per the guidelines, should be advised to the Chief General Managers-in-Charge of the Department of Banking Operations & Development (International Banking Section), Department of External Investments & Operations and Foreign Exchange Department (Forex Markets Division), Reserve Bank of India, Mumbai.

Illustration on Credit risk mitigation

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

Where,

E^*	=	Exposure value after risk mitigation
E	=	Current value of the exposure
H_e	=	Haircut appropriate to the exposure
C	=	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

A bank has an exposure towards a term loan facility of Rs. 100. The tenor of the loan is 1 year. The bank has received debt security as collateral which is rated A+. There is no maturity mismatch between the exposure and the collateral. The collateral received by the bank qualifies for recognition under the credit risk mitigation. The exposure value after mitigation would be as under:

Current value of the exposure (E)	=	Rs. 100,
Haircut app. to the exposure (H_e)	=	0
Current Value of the collateral (C)	=	Rs. 100
Haircut appropriate to the collateral = 1 year – Standard haircut] (H_c)	=	1% (i.e.0.01)
Haircut app. for currency mismatch between collateral and exposure (Para 152) (H_{fx})	=	8% (i.e. 0.08)

$$\begin{aligned} E^* &= \text{Max} \{ 0, [100 \times (1 + 0) - 100 \times (1 - 0.01 - 0.08)] \} \\ &= \text{Max} \{ 0, [100 - 100 \times (0.91)] \} \\ &= \text{Max} \{ 0, [100 - 91] \} \\ &= \text{Max} \{ 0, 9 \} = 9 \end{aligned}$$

The exposure value after risk mitigation will be Rs.9.

Measurement of capital charge for market risks in respect of interest rate derivatives and options

(Para 8.3.8)

A. Interest rate derivatives

The measurement system should include all interest rate derivatives and off-balance-sheet instruments in the trading book, which react to changes in interest rates, (e.g. forward rate agreements (FRAs), other forward contracts, bond futures, interest rate and cross-currency swaps and forward foreign exchange positions). Options can be treated in a variety of ways as described in B.1 below. A summary of the rules for dealing with interest rate derivatives is set out in the Table at the end of this section.

1. Calculation of positions

The derivatives should be converted into positions in the relevant underlying and be subjected to specific and general market risk charges as described in the guidelines. In order to calculate the capital charge, the amounts reported should be the market value of the principal amount of the underlying or of the notional underlying. For instruments where the apparent notional amount differs from the effective notional amount, banks must use the effective notional amount.

(a) Futures and forward contracts, including forward rate agreements

These instruments are treated as a combination of a long and a short position in a notional government security. The maturity of a future or a FRA will be the period until delivery or exercise of the contract, plus - where applicable - the life of the underlying instrument. *For example, a long position in a June three-month interest rate future (taken in April) is to be reported as a long position in a government security with a maturity of five months and a short position in a government security with a maturity of two months.* Where a range of deliverable instruments may be delivered

to fulfill the contract, the bank has flexibility to elect which deliverable security goes into the duration ladder but should take account of any conversion factor defined by the exchange.

(b) Swaps

Swaps will be treated as two notional positions in government securities with relevant maturities. *For example, an interest rate swap under which a bank is receiving floating rate interest and paying fixed will be treated as a long position in a floating rate instrument of maturity equivalent to the period until the next interest fixing and a short position in a fixed-rate instrument of maturity equivalent to the residual life of the swap.* For swaps that pay or receive a fixed or floating interest rate against some other reference price, e.g. a stock index, the interest rate component should be slotted into the appropriate repricing maturity category, with the equity component being included in the equity framework.

Separate legs of cross-currency swaps are to be reported in the relevant maturity ladders for the currencies concerned.

2. Calculation of capital charges for derivatives under the standardised methodology

(a) Allowable offsetting of matched positions

Banks may exclude the following from the interest rate maturity framework altogether (for both specific and general market risk);

- Long and short positions (both actual and notional) in identical instruments with exactly the same issuer, coupon, currency and maturity.
- A matched position in a future or forward and its corresponding underlying may also be fully offset, (the leg representing the time to expiry of the future should however be reported) and thus excluded from the calculation.

When the future or the forward comprises a range of deliverable instruments, offsetting of positions in the future or forward contract and its underlying is only permissible in cases where there is a readily identifiable underlying security which is most profitable for the trader with a short position to deliver. The price of this security, sometimes called the "cheapest-to-deliver", and the price of the future or forward contract should in such cases move in close alignment.

No offsetting will be allowed between positions in different currencies; the separate legs of cross-currency swaps or forward foreign exchange deals are to be treated as notional positions in the relevant instruments and included in the appropriate calculation for each currency.

In addition, opposite positions in the same category of instruments can in certain circumstances be regarded as matched and allowed to offset fully. To qualify for this treatment the positions must relate to the same underlying instruments, be of the same nominal value and be denominated in the same currency. In addition:

- for futures: offsetting positions in the notional or underlying instruments to which the futures contract relates must be for identical products and mature within seven days of each other;
- for swaps and FRAs: the reference rate (for floating rate positions) must be identical and the coupon closely matched (i.e. within 15 basis points); and
- for swaps, FRAs and forwards: the next interest fixing date or, for fixed coupon positions or forwards, the residual maturity must correspond within the following limits:
 - less than one month hence: same day;
 - between one month and one year hence: within seven days;

- o over one year hence: within thirty days.

Banks with large swap books may use alternative formulae for these swaps to calculate the positions to be included in the duration ladder. The method would be to calculate the sensitivity of the net present value implied by the change in yield used in the duration method and allocate these sensitivities into the time-bands set out in Table 1 in Section B.

(b) Specific risk

Interest rate and currency swaps, FRAs, forward foreign exchange contracts and interest rate futures will not be subject to a specific risk charge. This exemption also applies to futures on an interest rate index (e.g. LIBOR). However, in the case of futures contracts where the underlying is a debt security, or an index representing a basket of debt securities, a specific risk charge will apply according to the credit risk of the issuer as set out in paragraphs above.

(c) General market risk

General market risk applies to positions in all derivative products in the same manner as for cash positions, subject only to an exemption for fully or very closely matched positions in identical instruments as defined in paragraphs above. The various categories of instruments should be slotted into the maturity ladder and treated according to the rules identified earlier.

Table - Summary of treatment of interest rate derivatives

Instrument	Specific risk charge	General Market risk charge
Exchange-traded future		
- Government debt security	No	Yes, as two positions
- Corporate debt security	Yes	
- Index on interest rates (e.g. MIBOR)	No	Yes, as two positions
		Yes, as two positions
OTC forward		

- Government debt security	No	Yes, as two positions
- Corporate debt security	Yes	
- Index on interest rates (e.g. MIBOR)	No	
FRAs, Swaps	No	Yes, as two positions
Forward Foreign Exchange	No	Yes, as one position in each currency
Options		
- Government debt security	No	
- Corporate debt security	Yes	
- Index on interest rates (e.g. MIBOR)	No	
- FRAs, Swaps	No	

B. Treatment of Options

1. In recognition of the wide diversity of banks' activities in options and the difficulties of measuring price risk for options, alternative approaches are permissible as under:

- those banks which solely use purchased options¹⁹ will be free to use the simplified approach described in Section I below;
- those banks which also write options will be expected to use one of the intermediate approaches as set out in Section II below.

2. In the ***simplified approach***, the positions for the options and the associated underlying, cash or forward, are not subject to the standardised methodology but rather are "carved-out" and subject to separately calculated capital charges that incorporate both general market risk and specific risk. The risk numbers thus generated are then added to

¹⁹ Unless all their written option positions are hedged by perfectly matched long positions in exactly the same options, in which case no capital charge for market risk is required

the capital charges for the relevant category, i.e. interest rate related instruments, equities, and foreign exchange as described in Sections B to D. The *delta-plus method* uses the sensitivity parameters or "Greek letters" associated with options to measure their market risk and capital requirements. Under this method, the delta-equivalent position of each option becomes part of the standardised methodology set out in Section B to D with the delta-equivalent amount subject to the applicable general market risk charges. Separate capital charges are then applied to the gamma and vega risks of the option positions. The **scenario approach** uses simulation techniques to calculate changes in the value of an options portfolio for changes in the level and volatility of its associated underlyings. Under this approach, the general market risk charge is determined by the scenario "grid" (i.e. the specified combination of underlying and volatility changes) that produces the largest loss. For the delta-plus method and the scenario approach the specific risk capital charges are determined separately by multiplying the delta-equivalent of each option by the specific risk weights set out in Section B and Section C.

I. Simplified approach

3. Banks which handle a limited range of purchased options only will be free to use the simplified approach set out in Table A below, for particular trades. As an example of how the calculation would work, if a holder of 100 shares currently valued at Rs.10 each holds an equivalent put option with a strike price of Rs.11, the capital charge would be: Rs.1,000 x 18% (i.e. 9% specific plus 9% general market risk) = Rs.180, less the amount the option is in the money (Rs.11 – Rs.10) x 100 = Rs.100, i.e. the capital charge would be Rs.80. A similar methodology applies for options whose underlying is a foreign currency or an interest rate related instrument.

Table A

Simplified approach: capital charges

Position	Treatment
Long cash and Long put Or Short cash and Long call	The capital charge will be the market value of the underlying security ²⁰ multiplied by the sum of specific and general market risk charges ²¹ for the underlying less the amount the option is in the money (if any) bounded at zero ²²
Long call or Long put	The capital charge will be the lesser of: (i) the market value of the underlying security multiplied by the sum of

²⁰ In some cases such as foreign exchange, it may be unclear which side is the "underlying security"; this should be taken to be the asset which would be received if the option were exercised. In addition the nominal value should be used for items where the market value of the underlying instrument could be zero, e.g. caps and floors, swaptions etc.

²¹ Some options (e.g. where the underlying is an interest rate or a currency) bear no specific risk, but specific risk will be present in the case of options on certain interest rate-related instruments (e.g. options on a corporate debt security or corporate bond index; see Section B for the relevant capital charges) and for options on equities and stock indices (see Section C). The charge under this measure for currency options will be 9%.

²² For options with a residual maturity of more than six months, the strike price should be compared with the forward, not current, price. A bank unable to do this must take the "in-the-money" amount to be zero.

²³ Where the position does not fall within the trading book (i.e. options on certain foreign exchange or commodities positions not belonging to the trading book), it may be acceptable to use the book value instead.

Position	Treatment
	specific and general market risk charges ³ for the underlying (ii) the market value of the option ²³

II. Intermediate approaches

(a) Delta-plus method

4. Banks which write options will be allowed to include delta-weighted options positions within the standardised methodology set out in Section B - D. Such options should be reported as a position equal to the market value of the underlying multiplied by the delta.

However, since delta does not sufficiently cover the risks associated with options positions, banks will also be required to measure gamma (which measures the rate of change of delta) and vega (which measures the sensitivity of the value of an option with respect to a change in volatility) sensitivities in order to calculate the total capital charge. These sensitivities will be calculated according to an approved exchange model or to the bank's proprietary options pricing model subject to oversight by the Reserve Bank of India²⁴.

5. Delta-weighted positions with *debt securities or interest rates as the underlying* will be slotted into the interest rate time-bands, as set out in Table 1 of Section B, under the following procedure. A two-legged approach should be used as for other derivatives, requiring one entry at the time the underlying contract takes effect and a second at the time the

²⁴ Reserve Bank of India may wish to require banks doing business in certain classes of exotic options (e.g. barriers, digitals) or in options "at-the-money" that are close to expiry to use either the scenario approach or the internal models alternative, both of which can accommodate more detailed revaluation approaches.

underlying contract matures. For instance, a bought call option on a June three-month interest-rate future will in April be considered, on the basis of its delta-equivalent value, to be a long position with a maturity of five months and a short position with a maturity of two months²⁵. The written option will be similarly slotted as a long position with a maturity of two months and a short position with a maturity of five months. Floating rate instruments with caps or floors will be treated as a combination of floating rate securities and a series of European-style options. For example, the holder of a three-year floating rate bond indexed to six month LIBOR with a cap of 15% will treat it as:

- (i) a debt security that reprices in six months; and
- (ii) a series of five written call options on a FRA with a reference rate of 15%, each with a negative sign at the time the underlying FRA takes effect and a positive sign at the time the underlying FRA matures²⁶.

6. The capital charge for *options with equities as the underlying* will also be based on the delta-weighted positions which will be incorporated in the measure of market risk described in Section C. For purposes of this calculation each national market is to be treated as a separate underlying. The capital charge for *options on foreign exchange and gold positions* will be based on the method set out in Section D. For delta risk, the net delta-based equivalent of the foreign currency and gold options will be incorporated into the measurement of the exposure for the respective currency (or gold) position.

²⁵ A two-months call option on a bond future, where delivery of the bond takes place in September, would be considered in April as being long the bond and short a five-months deposit, both positions being delta-weighted.

²⁶ The rules applying to closely-matched positions set out in paragraph 2 (a) of this Annex will also apply in this respect.

7. In addition to the above capital charges arising from delta risk, there will be further capital charges for *gamma* and for *vega risk*. Banks using the delta-plus method will be required to calculate the gamma and vega for each option position (including hedge positions) separately. The capital charges should be calculated in the following way:

(i) for **each individual option** a "gamma impact" should be calculated according to a Taylor series expansion as:

$$\text{Gamma impact} = \frac{1}{2} \times \text{Gamma} \times \text{VU}^2$$

where VU = Variation of the underlying of the option.

(ii) VU will be calculated as follows:

- for interest rate options if the underlying is a bond, the price sensitivity should be worked out as explained. An equivalent calculation should be carried out where the underlying is an interest rate.
- for options on equities and equity indices; which are not permitted at present, the market value of the underlying should be multiplied by 9%²⁷;
- for foreign exchange and gold options: the market value of the underlying should be multiplied by 9%;

(iii) For the purpose of this calculation the following positions should be treated as ***the same underlying***:

²⁷ The basic rules set out here for interest rate and equity options do not attempt to capture specific risk when calculating gamma capital charges. However, Reserve Bank may require specific banks to do so.

- for interest rates,²⁸ each time-band as set out in Table 1 of Section B;²⁹
- for equities and stock indices, each national market;
- for foreign currencies and gold, each currency pair and gold;

(iv) Each option on the same underlying will have a gamma impact that is either positive or negative. These individual gamma impacts will be summed, resulting in a net gamma impact for each underlying that is either positive or negative. Only those net gamma impacts that are negative will be included in the capital calculation.

(v) The total gamma capital charge will be the sum of the absolute value of the net negative gamma impacts as calculated above.

(vi) For **volatility risk**, banks will be required to calculate the capital charges by multiplying the sum of the vegas for all options on the same underlying, as defined above, by a proportional shift in volatility of $\pm 25\%$.

(vii) The **total capital charge** for vega risk will be the sum of the absolute value of the individual capital charges that have been calculated for vega risk.

(b) Scenario approach

8. More sophisticated banks will also have the right to base the market risk capital charge for options portfolios and associated hedging positions on *scenario matrix analysis*. This will be accomplished by specifying a fixed range of changes in the option portfolio's risk factors and calculating changes in the value of the option portfolio at various points along this "grid". For the purpose of calculating the capital charge, the bank will revalue the option portfolio using matrices for simultaneous changes in the

²⁸ Positions have to be slotted into separate maturity ladders by currency.

²⁹ Banks using the duration method should use the time-bands as set out in Table 1 of Section B

option's underlying rate or price and in the volatility of that rate or price. A different matrix will be set up for each individual underlying as defined in paragraph 7 above. As an alternative, at the discretion of each national authority, banks which are significant traders in options for interest rate options will be permitted to base the calculation on a minimum of six sets of time-bands. When using this method, not more than three of the time-bands as defined in Section B should be combined into any one set.

9. The options and related hedging positions will be evaluated over a specified range above and below the current value of the underlying. The range for interest rates is consistent with the assumed changes in yield in Table 1 of Section B. Those banks using the alternative method for interest rate options set out in paragraph 8 above should use, for each set of time-bands, the highest of the assumed changes in yield applicable to the group to which the time-bands belong.³⁰ The other ranges are $\pm 9\%$ for equities and $\pm 9\%$ for foreign exchange and gold. For all risk categories, at least seven observations (including the current observation) should be used to divide the range into equally spaced intervals.

10. The second dimension of the matrix entails a change in the volatility of the underlying rate or price. A single change in the volatility of the underlying rate or price equal to a shift in volatility of $+ 25\%$ and $- 25\%$ is expected to be sufficient in most cases. As circumstances warrant, however, the Reserve Bank may choose to require that a different change in volatility be used and / or that intermediate points on the grid be calculated.

11. After calculating the matrix, each cell contains the net profit or loss of the option and the underlying hedge instrument. The capital charge for each underlying will then be calculated as the largest loss contained in the matrix.

³⁰ If, for example, the time-bands 3 to 4 years, 4 to 5 years and 5 to 7 years are combined, the highest assumed change in yield of these three bands would be 0.75.

12. In drawing up these intermediate approaches it has been sought to cover the major risks associated with options. In doing so, it is conscious that so far as specific risk is concerned, only the delta-related elements are captured; to capture other risks would necessitate a much more complex regime. On the other hand, in other areas the simplifying assumptions used have resulted in a relatively conservative treatment of certain options positions.

13. Besides the options risks mentioned above, the RBI is conscious of the other risks also associated with options, e.g. rho (rate of change of the value of the option with respect to the interest rate) and theta (rate of change of the value of the option with respect to time). While not proposing a measurement system for those risks at present, it expects banks undertaking significant options business at the very least to monitor such risks closely. Additionally, banks will be permitted to incorporate rho into their capital calculations for interest rate risk, if they wish to do so.

**Details of computing capital charges for
positions in other currencies**

Capital charges should be calculated for each currency separately and then summed with no offsetting between positions of opposite sign. In the case of those currencies in which business is insignificant (where the turnover in the respective currency is less than 5 per cent of overall foreign exchange turnover), separate calculations for each currency are not required. The bank may, instead, slot within each appropriate time-band, the net long or short position for each currency. However, these individual net positions are to be summed within each time-band, irrespective of whether they are long or short positions, to produce a gross position figure.