Measurement of Credit Exposure of Derivative Products

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December 13, 2002

All Scheduled Commercial Banks
(excluding RRBs and LABs)

Dear Sir,

Measurement of Credit Exposure of Derivative Products

Please refer to paragraph B.2 our circular DBOD.No.BP.BC.116/21.04.048/ 2000-2001 dated May 2, 2001 on credit exposure to individual / group borrowers. It was mentioned therein that at present, derivative products such as Forward Rate Agreements (FRAs) and Interest Rate Swaps (IRSs) are captured for computing exposure by applying the conversion factors to notional principal amounts as per the original exposure method. It was also indicated that, effective from April 1, 2003, in addition to reckoning non-fund based limits at 100 per cent, banks should also include forward contract in foreign exchange and other derivative products at their replacement cost value in determining individual / group borrower exposure. The methodology to be adopted by banks for arriving at the replacement cost value is given below.

2. As per the Basle Committee on Banking Supervision's International Convergence of Capital Measurement and Capital Standards, 1988, there are two methods to assess the exposure on account of credit risk in derivative products, viz. (i) Original Exposure Method, and (ii) Current Exposure Method.

2.1 Under the Original Exposure Method, credit exposure is calculated at the beginning of the derivative transaction by multiplying the notional principal amount with a conversion factor. In order to arrive at the credit equivalent amount using the Original Exposure Method, a bank would apply the following credit conversion factors to the notional principal amounts of each instrument according to the nature of the instrument and its original maturity **:**

Original Maturity	**Conversion Factor to be applied on Notional Principal Amount**	
	Interest Rate Contract	**Exchange Rate Contract**
Less than one year	**0.5%**	**2.0 %**
One year and less than two years	**1.0%**	**5.0 % (2 % + 3 %)**
For each additional year	**1.0%**	**3.0 %**

2.2 The other method (Current Exposure Method) to assess the exposure on account of credit risk on interest rate and exchange rate derivative contracts is to calculate periodically 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:

(i) 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

(ii) 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 of conversion factors according to the residual maturity :

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

2.3. Banks should mark to market the derivative products at least on a monthly basis and they may follow their internal methods of determining the marked to market value of the derivative products.

2.4 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.

3. Banks are encouraged to follow the Current Exposure Method which is an accurate method of measuring credit exposure in a derivative product. In case a bank is not in a position to adopt the Current Exposure Method, it may follow the Original Exposure Method. However, its endeavour should be to move over to Current Exposure Method in course of time.

4. Banks are advised to adopt, effective from April 1, 2003, either of the above two methods, consistently for all derivative products, in determining individual / group borrower exposure.

5. Please acknowledge receipt.

Yours faithfully,

Sd/-
(*M.R. Srinivasan*)
Chief General Manager-in-Charge