THE CLEARING CORPORATION OF INDIA LTD

Risk Management Department

This has been Superseded by Notification No. RMD DRV-21-40 dated 30-Dec-2021 on Margining and Risk Processes for Rupee IRS Segment

No. RMD/DRV/14/05 **12th Mar'14**

FOR INFORMATION OF ALL MEMBERS

Rupee Derivatives Segment

Margin Computation

In terms of Chapter VI(B) and Chapter VIII(C) of the Regulations of the Rupee Derivatives Segment, the under-mentioned process will be adopted for margin computation for this segment:

A. Initial Margin

1. The initial margin on the outstanding trade portfolios of the members will be based on portfolio Value at Risk (VaR). The detailed process for Initial Margin computation will be as under:
   i) Outstanding trades portfolios of the members will be split into benchmark-wise groups.
   ii) VaR will be computed by simulating 250 swap scenarios as under:
      a. Historical returns series of the Zero curves implied from the Swap curves of the past 250 days will be worked out for standard tenor points.
      b. Exponentially Weighted Moving Average (EWMA) volatilities will be calculated for each such tenor point for each day in this historical period.
      c. Historical return series of these 250 days will be modulated by multiplying each return by the ratio of current EWMA volatility and the historical EWMA volatility.

d. Value of the portfolio of outstanding trades will then be simulated using the modulated returns series mentioned above. For discounting future value cash flows, zero rates as mentioned in (a) above will be used.

e. Value at Risk will be arrived at 99% Confidence level using a holding period of 3 days.

2. **Spread margin** Spread Margin will be added to Portfolio VaR to arrive at Applicable Initial Margin for the trades of a member. It will be computed as under:

   a) All trades having same residual maturity and on same benchmark are netted together. All such net trades as above will be classified into groups having residual tenors falling into 6-monthly buckets (e.g. 0-6m, >6m-1yr.................>9.5yrs – 10yrs)

   (b) VaR will be computed individually for all such net trades, sum of which is say X. Portfolio VaR will also be computed for the entire portfolio (say Y) as well as for above mentioned Group portfolios (sum of which is say Z).

   Spread Margin will then be computed as 20% (X-Z) + 10 %(Z-Y).

3. **Minimum Initial margin**: The minimum margin rates for swaps on MIBOR benchmark will be as under:

Residual Tenor	Minimum Margin Rate (Of net notional value)
0 to 3	0.50%
>3 to 5 years	1.00%
> 5 Years	1.75%

   Set offs will be allowed for trades in the same benchmark but falling in different residual maturity buckets (For example, if in 0 to 3 years net buy is of Rs.10,000 Crores and in 3 to 5 years net sale is of Rs.2,000 Crores, the minimum margin would be calculated as rs.30 Crores i.e. Rs.50 Crores – Rs. 20 Crores).

   If applicable initial margin is lower than the minimum margin computed as above, such minimum margin will be collected as initial margin.

4. **Step up in Initial Margin for weaker entities**: In terms of para A(4) of Chapter VIII of the Regulations of the Derivatives Segment, CCIL may collect higher Initial Margin from members having lower credit ratings.

B. MTM valuation and MTM Margin computation

1. End of the day Swap Rates for standard tenors from the Reuters pages “IRS08=” or “MIOIS=” will be considered for arriving at the daily Mark to Market values of outstanding IRS/FRA trades. If for some reason such rate is not available, CCIL will be using rates from other sources as considered appropriate by it. Use of any such rate(/s) will however be communicated by CCIL to its members of this segment with the reason for such deviation.
2. Swap Rates for other tenors would be arrived at through linear interpolation / extrapolation of the rates available for the standard tenor points immediately preceding and succeeding such tenor.
3. The implied zero curve will be arrived from the swap curve using bootstrapping.
4. All trades of a member on a benchmark will be re-valued using implied swap zero Curve for the benchmark and the net value will be taken as MTM value of the portfolio of outstanding trades of the member.
5. For such valuation, value of floating leg cash flows will be estimated using the zero curves as in 3 above. For future dated cash flows zero rates from zero curve as above will be used.
6. Half of the bid-offer spread will be reduced from the floating side cash-flows for a buyer and added to the floating side cash-flow for a seller. To start with, bid offer spreads will be treated as NIL.
7. In terms of Clause C (2.4), of Chapter VIII of the Regulations, if the aggregate of MTM margin for a member for all such settlement date-wise

positions shows MTM loss, such amount will be collected as MTM margin from a member

8. In terms of Clause E (1) of Chapter VIII of the Regulations, if the aggregate of MTM value for a member shows MTM gain, then the member's margin account will be credited with the MTM gain amount and the same will be allowed to be treated as Margin Made Available by the member. Such margin made available can be used against margin requirements in the Derivatives segment as well as in any other segment which draws margins from Securities Segment SGF

9. As a corollary to the process of providing Margin Credit as in para 8 above in case trades have Cash flows payable on the next working day and Net Cash flow receivables for other days, the Total MTM margin will be equal to amount payable on next working day as the other net cash flows which are receivable will be recorded as margin credit for the segment in terms of para 8 above. Such MTM margin on cash flow settling on the next business day will not form part of incremental MTM margin.

10. In terms of Clause E (2) of Chapter VIII, such margin credit mentioned in paragraph 8 above will be withdrawn on the day of settlement of the particular position having MTM gain. In terms of Clause E (3) of Chapter VIII, if there is a margin shortfall as a result of such withdrawal of margin credit on account of settlement, CCIL will hold back settlement proceeds to the extent of such shortfall in margin. In terms of Clause E (4), such, withheld settlement proceeds will be released on replenishment of the margin shortfall.

11. In terms of clause E (4), if the member fails to replenish the shortfall by the end of the day of such withholding, such withheld settlement proceeds may be credited by CCIL to the SGF account of the member in the Securities Settlement Segment without any further notice to the member.

C. **Crystallized Settlement Obligations**:

1. Discounted value of any amount determined as payable or receivable by the Member due to early termination is termed as Crystallized Settlement Obligation. This would be classified into two groups viz. Crystallized Settlement Obligation for the day and for other days.

2. Crystallized Settlement Obligation payable by a member is treated as a margin liability of the member. The Crystallized Settlement Obligation receivable by a member, on the other hand, is treated like a margin credit available to the member

3. The amount of Crystallized Settlement Obligation Receivable for the day is treated as nil when the settlement file is sent for settlement. If such reduction in Crystallised Settlement Obligation Receivable could cause margin shortfall, the corresponding amount is held back from settlement amount till replenishment of margin shortfall. If the replenishment of shortfall does not happen till the end of the day, the amount is credited back to Securities Segment SGF account.

4. The amount of Crystallized Settlement Obligation Payable for the day for a member is treated as nil when the settlement is over in the account of the member. In the event of settlement shortage however, such amount will be transferred to Margin Held Back for Default account

5. Moreover, if the settlement for the day is not over till the processing for End of the day MTM margin calculation for the day, settlement obligation Payable for the day together with possible interest costs on such amount in case of default, will be transferred from MTM margin collected from such Member to its Crystallized Settlement Obligation Account.

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