THE CLEARING CORPORATION OF INDIA LTD

Risk Management Department

This has been Superseded by Notification No. RMD-FX-FF-20-71 dated 30-Dec-2020 on Risk Management Process and Margin Methodology

No. RMD/FX-FF/09/20 **5th Nov'09**

FOR INFORMATION OF ALL MEMBERS

Forex Forwards Segment

Margin Computation

In terms of Chapter V(B) and Chapter VIII(C) of the Regulations of the Forex Forwards 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:

   a) Outstanding trades portfolios of the members will be split into three groups viz. trades due for settlement which are already in the spot window (i.e. transferred to INR/USD Settlement Segment), trades which are beyond spot window but due for settlement within next seven working days and trades due for settlement beyond seven working days. Settlement date-wise US Dollar net buy and net sale amounts will be arrived at for each settlement date.

   b) For the first group i.e. for trades within spot window, no initial margin will be payable except if at the time of entry into the spot window, the net sell position of the member exceeds his Exposure Limit in Clearing Corporation's USD/INR sub-segment, then the initial margin on such position arrived at on the day prior to entry of the position into the spot window will be carried forward till the settlement date.

c) For the trades which are outside spot windows but are due for settlement within a period of seven working days, the initial margin will be equal to the aggregate of the VaR numbers computed for positions for each of these days.

d) The initial margin for the group comprising of trades due for settlement beyond seven working days will be equal to VaR for all such settlement date-wise net US Dollar positions at a portfolio level.

e) In addition, there will be a Spread Margin as a component of Initial Margin as described in para 3 below.

2. VaR will be computed by simulating 500 price scenarios as under:
   a. Historical returns series of forward exchange rates for the past 500 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 500 days will be modulated by multiplying each return by the ratio of current EWMA volatility and the historical EWMA volatility.
   d. Computations detailed in a, b and c above will be repeated for Clearing Corporation’s sovereign Zero Coupon Yield Curve for the above-mentioned standard tenors.
   e. Value of the portfolio of outstanding trades will then be simulated using the modulated returns series mentioned above.
   f. Value at Risk will be arrived at 99% Confidence level using a holding period of 2 days.
3. **Spread margin** will be equal to 20% of difference between portfolio VaR (i.e. the VaR computed considering all settlement date-wise net US Dollar positions for trades due for settlement beyond seven working days) and the higher of:

   a) The VaR computed considering only net USD buy positions for the above-mentioned trades, and

b) The VaR computed considering only net USD sale positions for the above mentioned trades.

In case the portfolio VaR exceeds both (a) and (b), no Spread margin will be charged.

Spread margin will also be a component of Initial Margin

4. **Minimum Initial margin**: Initial Margin of a member will be the higher of the margin amount arrived at as per para 1 to 3 above or 1.5% of the net currency position across settlement dates for trades in the forwards segment.

B. **MTM valuation and MTM Margin computation**

1. Forward Rates for the specified tenor points (calendar month ends and for other short tenors) as on the date of MTM margin computation will be taken as basis.

2. Forward Rates for other tenors would be arrived at through linear interpolation / extrapolation of the rates available for the tenor points immediately preceding and succeeding such tenor.

3. Rates arrived as above will be treated as mid-rates. Half of the bid-offer spreads for the respective tenor, will be added to such mid-rates to arrive at MTM rates for valuing sale positions. Similarly, half of the bid-offer spreads for the respective tenor, will be deducted from such mid-rates to arrive at MTM rates for valuing buy positions. To start with, bid offer spreads will be treated as NIL.

4. Settlement date-wise net outstanding US Dollar sale or buy positions of the members will be split into seven groups viz. trades due for settlement beyond 7 working days, trades due for settlement on the 7th , 6th , 5th , 4th and 3rd day from the day and trades due for settlement within spot window. For the first group (i.e. trades due for settlement beyond 7 working days), complete off-set will be provided between MTM loss and MTM gain across all settlement dates. In case of other groups, the treatment will be as under:

Days from Settlement Date	*Status of adjustment of MTM gains*
Less than or equal to 2 days (i.e. Within spot window)	MTM margins to remain unchanged from the positions prevailing as at EOD of the day prior to the day such position enters the Spot Window (i.e. for trades transferred to INR/USD Settlement Segment)
3 days	No credit allowed for MTM gain; MTM loss is to be recovered in full
4 days	Credit allowed for 20% of MTM gain; MTM loss is to be recovered in full
5 days	Credit allowed for 40% of MTM gain; MTM loss is to be recovered in full
6 days	Credit allowed for 60% of MTM gain; MTM loss is to be recovered in full
7 days	Credit allowed for 80% of MTM gain; MTM loss is to be recovered in full

5. For trades which are in the Spot window, there will be no recalculation of MTM margin. MTM margin collected, if any, at the time of entering INR/USD Settlement segment will be carried forward till the end of the settlement date.

6. If the aggregate of MTM margin for a member for all such settlement date-wise positions shows MTM gain, MTM margin will be taken at nil; else, aggregate of the MTM loss for all such positions will be collected as MTM margin from a member.

7. If the total MTM Margin payable by a member on any given day is less than the MTM Margin for positions that will be in the spot window on the

next day, then the MTM margin charged to such member will be equal to the MTM margin payable on the aforesaid positions.

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