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THE CLEARING CORPORATION OF INDIA LTD

Risk Management Department

<u>Consultation Paper: Triparty Repo Clearing</u>

Introduction of Concentration charge for Higher Borrowing and Stepped up Haircuts for Weak entities

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1. Introduction

1.1 CCIL, in its Securities Segment, offers guaranteed settlement of the trades in Tri-Party Repo also on a multilateral net basis. The securities obligations of the Tri-Party repo trades are settled by CCIL as a Tri-Party repo agent. In the process, CCIL is mainly exposed to two kinds of risks viz., market risk and liquidity risk. CCIL's risk exposure in the Triparty Repo is mainly on two counts:

a) Risk of failure by a lender to make funds available at the time of settlement and/or
b) Risk of default by a borrower in repayment of funds on repayment date.

CCIL is exposed to the risk of failure by a lender to honor his obligation at the time of settlement. If the rates at the time of settlement have moved adversely from the traded rate and a lender does not make funds available at the time of settlement, non-defaulter member(s), in case of shortage allocation, needs to be compensated for the loss suffered. To ensure that this risk is adequately taken care of, CCIL collects margins from members in respect of trades in Tri-Party Repo. As the risk on any such trade continues up to the settlement of the trade, margins collected on the trades are released on the settlement of such trades.

As the repayment of borrowing under Triparty Repo is guaranteed by CCIL, it should have enough collateral if a borrower defaults in repayment of funds on repayment date. To take care of this risk, all borrowings are fully collateralized (with haircuts) in the form of Central Government Securities (including STRIPS) and Treasury Bills, GOI Special Securities and SDLs (except special SDLs such as UDAYA Bonds etc.).

1.2 In order to address the risk of concentration of illiquid securities in the Triparty repo collateral, a collateral concentration policy has been implemented since Nov 2019 stipulating certain caps on deposit of collateral in illiquid GOI Securities. At the same time SDLs have been made eligible for depositing as collateral subject to certain cap.

1.3 Haircut rates on securities deposited as collateral in Triparty Repo are arrived at based on VAR with Margin Period of Risk of 5 days rounded up to the next higher integer percentage. Haircut rates for semi-liquid and illiquid securities are stepped by illiquidity multiplicands of 1.5 and 2 respectively. Haircut rates for certain categories of securities viz., SDLs, GOI Special Securities such as Oil Bonds and GOI Floating rate bonds are set at a uniform rate of 25%.

1.4 In the cases of members showing concern from credit risk perspective, caps are imposed on their borrowing and lending volumes. Single Order Limit in the Triparty repo dealing system is also reduced in line with the reduction in borrowing and lending limits.

2. Need for a Concentration charge in Triparty Repo Clearing

2.1 CCIL covers its current exposure on the Collateral deposited towards Triparty repo by re-valuing the securities in the collateral at their current mark to market prices. Haircuts are charged on the collateral to cover the potential future exposures (PFE).

2.2 In the event of a default by a borrower, any loss in excess of the value of the defaulter's collateral is covered using CCIL's contributions from Settlement Reserve Fund and member contributed Default Fund as per Default Waterfall for the segment.

2.3 Stress Testing results suggest that the probability of large losses (on default) is likely to be higher for entities who have large borrowings as the liquidation of the large quantum of a security or pool of securities deposited by them as collateral for borrowing limit will have an adverse price impact. If higher hair cut is collected from such members, it is likely to cushion the CCP and other participants against these losses.

2.4 Haircuts cover losses arising from one's own positions whereas default fund contributions form part of a loss mutualisation arrangement. Hence, members prefer to pay higher haircuts rather than contribute towards higher default fund requirements.

2.5 Default Fund requirements from members are directly linked to the highest stress loss of an entity and its affiliates in the respective segments. Increasing haircut requirements of large borrowers will result in reduction in stress losses (compared to current levels), thereby limiting the required contributions towards Default Fund for all Members.

2.6 Owing to the above stated benefits, many global CCPs are now collecting additional margins from dominant market participants either by stepping up their initial margin requirements or by collecting margins separately in the form of "*Concentration Margin*".

2.7 Currently, irrespective of the quantum of borrowing in Triparty repo, the ISIN specific haircut rate remains same for all members. On default by a borrower in repayment of funds on maturity, CCIL needs to sell the entire withheld collateral of the defaulter in the market. Any such large sale by CCIL is likely to move the prices adversely resulting in inability of CCIL to cover the required amount to meet the entire shortage along with the incidental charges.

2.8 Para 3.5.7 under Principle-15 of PFMI states: "*An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects. High concentrations within holdings can be avoided by* <u>*establishing concentration limits or imposing concentration charges*</u>*. Concentration limits restrict participants' ability to provide certain collateral assets above a specified threshold as established by the FMI.* <u>*Concentration charges penalize participants for maintaining holdings of certain assets beyond a specified threshold as established by the FMI*</u>*.*"

2.9 In 2019, CCIL introduced concentration margin in its Forex Forward and the Rupee Derivatives Segments. Similar concept is now proposed to be extended to its Triparty repo clearing service.

3. Proposal to levy Concentration charge on Higher Net Borrowings in Triparty repo clearing

3.1 The net MTM value of the securities deposited towards borrowing limit (*after accounting for collateral concentration limits*) as reduced by the applicable haircuts constitutes the Borrowing Limit (BL) available for a member for borrowing in Triparty repo. In Triparty Repo, a member is entitled to borrow to the extent of the available BL as determined above. For any member, the sum total of the security-wise haircuts constitutes the total haircut on the collateral deposited towards BL.

3.2 It is proposed to levy additional haircut if the market value net of the haircut of collateral exceeds the following pre-defined thresholds [1]:

Value of Collateral (net of total Haircut)	Additional Haircut (as % of Total Haircut of Securities deposited as Collateral)
Less than Rs. 10,000 Crores	Nil
Greater than or equal to Rs. 10,000 crores and less than Rs. 20,000 crores	15% of the Haircut
Greater than or equal to Rs. 20,000 crores	20% of the Haircut

Table 1: Additional Haircut Matrix

3.3 In effect, this would result in a higher total applicable haircut if a member's borrowing limit exceeds the predefined thresholds as shown in Table 1 above. It is to be noted that additional haircut will be levied on the total market value of collateral net of haircut and not on the incremental amount above the thresholds. The reduced borrowing limit on levy of higher haircut will also ensure that the sufficient securities would be available for encumbrance at the end of the day when additional haircut rates are applicable based on the net borrowing as mentioned in para 3.5 below.

[1] The thresholds in Table 1 above have been arrived at based on an analysis of net borrowings of members during the six months period ending March'20.

3.4 The market value of collateral net of total haircut will be monitored against the thresholds on an online basis during the trading session. Thus intraday deposit / withdrawal of collateral could result in increase/ decrease of (additional) haircut if market value of collateral net of total haircut breaches thresholds or fall below thresholds.

3.5 At the end of the day, based on the net borrowing of the member, additional haircut will be charged if net borrowing exceeds the thresholds as mentioned in Table 1. That is, additional securities will be encumbered separately from the member as Concentration Charge. It is to be noted that additional haircut will be charged on the total net borrowing and not on the incremental net borrowing exceeding thresholds.

3.6 An illustration explaining the proposed approach has been placed in *Annexure*.

4 Proposal to Step up haircut rates for Weak entities in Triparty Repo clearing

4.1 Currently, all Members who have deposited the same securities (in terms of ISIN and value) as collateral in Triparty repo are charged the same haircut amounts. That is, same borrowing limits are provided to weak / low rated members as provided to strong / high rated members if they have deposited the same securities (same ISIN, same value) as collateral in Triparty repo.

4.2 It is felt that if higher haircut is charged to members who have higher probabilities of default, there would be additional collateral with CCIL which would ease the default handling process, if any/ some of these entities were to default.

4.3 We propose a rating based haircut step up matrix as shown in Table 2. The proposed rating based haircut rate step up model in Triparty collateral mentioned in Table 2 is consistent with the rating based Initial margin step up model applicable on weak members in other Securities segment trades (outright and market repo).

4.4 Additionally, haircut rates also are proposed to be stepped up for entities who show concern from credit risk monitoring (CRM) perspective (because of adverse financials or/ and regulatory actions etc.). This proposed process of increasing haircut rates on collateral deposited in Triparty repo for entities showing concern from CRM perspective is consistent with the current process followed in stepping up Initial margin for members showing concern in other Securities segment trades (outright and market repo).

Short Term Credit Rating	**Rating Based Step up Haircut (%) (Applicable on VAR based Haircut)**	**CRM Based Step up Haircut (%) (Applicable on VAR based haircut)**
CCIL 1 to CCIL 4	NIL	As per the step up factors in Initial Margin requirements in other segments OR In multiples of 25% if the member is operating in Triparty Repo only
CCIL 5 and CCIL 6	25	
CCIL 7 and CCIL 8	50	

Table 2: Rating and Credit Risk Monitoring (CRM) based Step up in Haircut rates in Triparty Repo collateral

In cases of members (CCIL 5 and below) where both rating based and CRM based step up factors are applicable, both the step up rates will be additive and will be applicable on the VAR based haircut.

5 All Members and other interested entities are requested to send their comments and feedback on the proposed approaches as mentioned in **Sections – 3 and 4**. The feedback may be sent to us latest by **14th Aug 2020** at rmd@ccilindia.co.in for the attention of Chief Risk Officer, CCIL with subject: "*Consultation Paper : Introduction of Concentration Charge for Higher Borrowing and Stepped up haircuts for Weak entities in Triparty Repo clearing*".

6 If any clarification is required on any aspect of this paper, please feel free to contact Mr. S.T.P. Venugopal, AVP, Risk Management at 61546413 or Mr. Nandan Pradhan, AVP, Risk Management Dept. at 61546422.

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Annexure

Illustration of Proposed Implementation of Higher Haircut for Higher Net Borrowing in Triparty Repo

Say, **threshold = 10,000 crores** beyond which Concentration Charge of 15% is to be levied

Market Value (MV) of collateral deposited by Member A	= Rs. 15,000 crores
Total Haircut (HC) of securities deposited as collateral by Member A	= Rs. 1,500 crores

MV of collateral – Total HC of securities = Rs. 13,500 crores (exceeds threshold)
Additional Haircut = 15% of Total HC = 15% * Rs. 1,500 crores = Rs.225 crores

Revised Borrowing Limit (BL) = Rs. (15,000 – 1,500 - 225) = Rs. 13,275 crores

Scenario -1

The Bank's net borrowing at EOD = Rs. 9,000 crores **(less than the threshold)**
Market Value of Collateral against net borrowing = Rs. 9,000 * 10/9 crores = Rs. 10,000 crores (assuming haircut rate of 10%)

No Concentration Charge is to be levied. Securities for the value of Rs.10,000 crores will be debited.

Scenario -2

The Bank's net borrowing at EOD = Rs. 12,000 crores **(exceeds the threshold)**
Market Value of Collateral against net borrowing = Rs. 12,000 * 10/9 crores = Rs. 13,333 crores (assuming haircut rate of 10%)

Haircut Amount = Rs. (13,333 – 12,000) crores = Rs. 1,333 crores
Concentration Charge to be levied = 15% of Rs. 1,333 crores = Rs. 200 crores

Securities for the value of Rs. 13,333 crores will be debited and additional securities for the value Rs. 200 crores will be encumbered as Concentration Charge.