

Risk Notice 2023-016

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Enforcement Date	July 2023
Subject	Cash & Derivatives Default Fund parameters and the Default Fund Additional Margin
Market	EquityClear and CommodityClear
Classification	PUBLIC

LCH SA publishes hereinafter a Notice on the Cash and Derivatives Default Fund parameters and Default Fund Additional Margin for Transactions registered in the Cash & Derivatives Clearing System, pursuant to Instruction IV.3-1.

These changes will be applicable for **July 2023** Default Fund's contributions (calculation date: 30th June 2023):

- **The modification of the STLOIM formula in the appendix in the context of the introduction of the stress-test on collateral.**

The Cash and Derivatives Default fund

Article 1

The date of calculation of the Cash and Derivatives Default Fund size and Clearing Members contributions ("Contribution Determination Date") mentioned in Articles 2, 12 and 16 of Instruction IV.3-1 is the latest Clearing Day of each month (position at end of day).

The contributions are called on the morning of the 4th Clearing Day of each month.

Article 2

The cap mentioned in Article 13 of Instruction IV.3-1 is set up to 2,400,000,000 Euros.

Article 3

The floor mentioned in Article 14 of Instruction IV.3-1 is set up to 750,000,000 Euros.

Article 4

The Minimum Contribution mentioned in Article 16 of Instruction IV.3-1 is set up to 100,000 Euros.

SA EquityClear Business Development & Relationship Management team (SAEquityClear@lch.com) remains at your disposal for any additional questions.

Site Web: www.LCH.com

APPENDIX

This appendix aims at:

- Providing the method used for the calculation of the Stress Test Loss Over Initial Margin (STLOIM);
- Presenting how the size of the Digital Asset Derivatives Default Fund is set and how the individual contributions of the Clearing Members are determined.

1.1 The daily Stress Test Loss Over Initial Margin (STLOIM)

STLOIM_Dⁱ means in respect of each Clearing Member active on Cash and/or Derivatives markets and any day, the stress-tested loss (calculated by LCH SA for a given scenario *i* which is determined by LCH SA) in excess of the pure Initial Margin¹, which could be incurred by LCH SA in respect of that Clearing Member's Cash and/or Derivatives business if that Clearing Member became a Defaulting Clearing Member on that day.

STLOIM is computed at Margin Account level using a set of both historical and theoretical scenarios, reviewed at least yearly. Potential stress test loss over collateral haircut (STLOHC) are also integrated (in respect of the collateral posted by the Clearing Member to cover its margin requirements, on the basis of an aggregation performed at collateral account level).

For derivatives.

$$STLOIM_D^i = \text{Stress Test Loss}_D^i - \text{Final Risk}_D + \max(\text{STLOHC}_D^i; 0)$$

Final Risk_D is the Final Risk computed by SPAN®.

$$\text{Final Risk} = \sum_{\text{ALL CC}} [\max([\text{Scanning Risk} + \text{inter month charge} + \text{delivery month charge} - \text{intercommodity spread credit}]; \text{short option minimum}) \times \text{Currency Exchange Rate}]$$

For cash security.

$$STLOIM_D^i = \left[\frac{(\max(ER_D, STL_D^i) + SRR_D)}{\text{Stress test loss component}} - \frac{\text{Total IM}_D}{\text{Initial margin component}} \right] + \max(\text{STLOHC}_D^i; 0)$$

Where:

- STL_D^i the Stress Test Loss computed at Margin Account level for a given scenario *i* on all securities, excluding SRR positions;
- ER_D is the Event Risk on all securities, excluding SRR positions (please refer to Instruction IV.2-1);
- SRR_D is the Self Referencing Risk (please refer to Instruction IV.2-1);
- $Total IM_D$ is the total Initial Margin (please refer to Instruction IV.2-1);
- $STLOHC_D^i$ is the stress test loss over collateral haircut (please refer to Instruction IV.3-1), on the basis of aggregation performed at collateral account level;

¹ Considering the remove of the Net Option Value on derivatives and corresponding to the total Initial Margin on cash security.

Then STLOIMs for a given day and a given scenario are aggregated at Clearing Member (“CMF”) level for all cash equity and derivatives markets where offsets inside a market are allowed on House accounts of the same Clearing Member but not between Client accounts.

For each CMF, the STLOIM for scenario i is;

$$\text{STLOIM}_{\text{CMF}}^i = \max\left(\sum_{u=1}^n (\text{STLOIM}_u^i) - \text{ICS Margin}_{\text{GC}}; 0\right)$$

1.2 Default Fund Size

1.2.1 Determine the daily measure for the default fund size

At this stage, a set of X scenarios i is available for every CMF. For each scenario i , the first and the second worst STLOIMs are retained.

$$\text{Daily Overall STLOIM}^i = \max_1\{\text{STLOIM}_{\text{all CMF groups}}^i\} + \max_2\{\text{STLOIM}_{\text{all CMF groups}}^i\}$$

Where Daily Overall STLOIM ^{i} is the daily STLOIM computed for scenario i with the two worst STLOIMs selected among all the CMF financial groups.

$$\text{Daily Max STLOIM}^D = \max_{i=1 \text{ to } n} (\text{Daily Overall STLOIM}^i)$$

Where Daily Max STLOIM is the worst daily overall STLOIM among the X scenarios. Thus, every day, a Daily Max STLOIM is retained; the scenario can be different from one day to another.

1.2.2 Determine the theoretical size of the Digital Asset Derivatives Default Fund

The Cash and Derivatives Default Fund Size (DF Size) is set, on a monthly basis, from the maximum over a 60 Clearing Day period of the daily Max STLOIM + a 10% buffer.

$$\text{Default Fund theoretical size} = \max_{D=1 \text{ to } 60 \text{ days}} (\text{Daily Max STLOIM}^D) \times 1.1$$

1.2.3 Apply Cap and Floor to the Default Fund Size

To determine the size of the default fund used to calculate the contributions, the cap and the floor, defined above in this notice are applied to the Default Fund theoretical size.

1.3 Member Contribution

The Cash and Derivatives Default Fund contributions are calculated at CMF level, once a month. The individual DF Contributions “shall be proportional to the exposures” (EMIR; art 42-2) of the Clearing Member. Therefore, the individual contribution is computed as the pro-rata of the average IM over the last 60 Clearing Days.

$$\text{Average Overall IM}_{\text{CMF}} = \frac{1}{m} \sum_{i=1}^n (\text{Daily Overall IM}_{\text{CMF}})$$

Where:

- m is the number of actual days of IM among the 60 historical Clearing Days.
- Average Overall IM_{CMF} is the average IM over the last 60 Clearing Days for the CMF.
- Daily Overall IM_{CMF} is the consolidated IM, for la cash and derivative markets for the CMF.
- IM here stands for Final Risk for derivatives markets and total Initial Margin for cash equity markets.

Then the pro-rata of the average IM is calculated and the Cash and Derivatives Default Fund Contribution Floor is applied if the individual DF contribution provided by the pro rata methodology is too low or if the member has no Open Positions.

$$\begin{aligned} & \text{Individual DF Contribution}_{\text{CMF}} \\ &= \max \left(\frac{\text{Average Overall IM}_{\text{CMF}}}{\sum_{\text{all CMF}} (\text{Average Overall IM}_{\text{CMF}})} \times \text{Default Fund theoretical size; Contribution floor} \right) \end{aligned}$$

Where:

- Individual DF Contribution $_{\text{CMF}}$ is the individual contribution for the CMF.
- $\sum_{\text{all CMF}} (\text{Average Overall IM}_{\text{CMF}})$ is the sum of the average IM over the last 60 Clearing Days for all the CMFs.
- Default Fund theoretical size is the theoretical DF based on the cover 2 principle + a 10% buffer.
- Contribution floor is the minimum contribution floor defined above in this Risk Notice.

Due to this floor, the final size of the Default Fund can be higher than the theoretical size. Therefore, the sum of contributions can be higher than the theoretical DF and potentially higher than the cap.

1.4 Date of calculation and contribution call

Monthly reviews of the Default Fund

The date of calculation, i.e. the latest day of the 60 Clearing Day period used for monthly review of the contribution is the latest Clearing Day of each month (position at end of day).

Date of pre-advice

The pre-advice report is provided the 2nd and 3rd Clearing Day of each month in the treasury report.

Date of contribution calls

The contributions are called on the morning of the 4th Clearing Day of each month.

1.5 The default fund additional margin

An additional margin (Default Fund) can be called intra-day the D Day of the observation of the event described in Article 15 of the IV.3-1 Instruction.

The additional margin (Default Fund) is released in the morning call process of the 2nd following day (D+2) if this excess is not anymore observed on the following day (D+1).