ICE CDS MARGIN SIMULATION CALCULATOR

OVERVIEW

• Buy-side institutions and their clearing counterparties may access the ICE Clear Credit LLC and ICE Clear Europe Limited margin risk tool to calculate clearing margin requirements in the ICE Link GUI.

• Users can simply point and click which positions to calculate margin, whether it be pre-trade, hypothetical/what-if trades, or historical non-cleared trades.

• Users may also bulk upload hypothetical portfolios via spreadsheet upload for simulating different portfolio scenarios.

• Single Name CDS contracts with offsetting Index contracts are calculated using the integrated spread response monte carlo risk framework.

• Margin is always calculated at a portfolio level (e.g., fund/legal entity) per Clearing Broker / Futures Commission Merchant (FCM).

• The margin calculator provides users with detailed analysis of the margin details providing deeper transparency of the ICE margin methodology.
## ICE CDS MARGIN SIMULATION CALCULATOR

### COMPONENTS – MARGIN RISK MODELLING APPROACH

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ICE CDS MARGIN SIMULATION CALCULATOR
MARGIN COMPONENTS – SPREAD RESPONSE RISK

- **Integrated Spread Response I**
  - Capital efficient portfolio approach to market dynamics via Copula-based Monte Carlo simulations\(^1,2\)
  - 99.5% VaR measures\(^3\) reflecting joint Credit Spread and Recovery Rate Profit/Loss moves
  - Margin Period of Risk (MPOR): at least 5 days
    - increased MPOR (up to 6 days) is applied to instruments/sub-portfolios that trade during market hours different from the clearinghouse’s hours of operations

- **Integrated Spread Response (iSR) measures:**
  - \(iSR^{(RF)}\): Associated with positions in instruments related to the same Risk Factor
  - \(iSR_{SP}\): Associated with positions in instruments related to Risk Factors with common risk characteristics
    - NA Corporate sub-portfolio, European Corporate sub-portfolio, Western-European Sovereign sub-portfolio, Asia-Pacific sub-portfolio, etc.
    - Multi-currency benefits between NA and European corporate sub-portfolios are recognized
  - \(iSR_P\): Associated with all portfolio positions introducing limits on portfolio benefits\(^4\)
  - \(iSR_{IM}\): Associated with all portfolio positions introducing anti-procyclical Initial Margin (IM) features\(^5\)

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(1) Stanislav Ivanov, “Initial Margin Estimations for Credit Default Swap Portfolios”, Journal of Financial Market Infrastructures, Volume 5, Number 4, June 2017
(4) In accordance with the Article 27 and (5) in accordance with the Article 28 of the Commission Delegated Regulation (EU) No. 153/2013 of EMIR RTS

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**Integrated Spread Response II**

- Portfolio level $iSR_P$ measure (offset benefits & limits) is computed as

$$iSR_P = 80\% \times \sum_{SP\in P} iSR_{SP} + 20\% \times \sum_{RF\in P} iSR^{(RF)}$$

- Full Cross-RF portfolio benefits are provided
- No Cross-RF portfolio benefits are provided

- Final Initial Margin $iSR_{IM}$ measure (anti-procyclical) is computed as

$$iSR_{IM} = 0.75 \times iSR_P + 0.25 \times \min(iSR_P, SRP_{Stress\ Events})$$

Portfolio responses to stress market events, e.g. LB default period
Multi-currency Spread Response Risk portfolio benefits among risk factor Profit / Loss vectors with applied FX conversion
ICE CDS MARGIN SIMULATION CALCULATOR
CALCULATE MARGIN PRE-AFFIRMED TRANSACTION

- ICE Link Affirm/Allocate screen; View Projected Margin

**Projected Margin Calculator Steps**

1. Prior to clearing a trade, any party to the transaction can calculate the clearing house projected initial margin by selecting the **View Projected Margin** button after providing FCM and allocation details.

2. After selecting the **View Projected Margin** button, users may select to view the margin amount weighted against all existing cleared positions from yesterday's end of day, only today's trades, all trades (selecting both yesterday and today's trades), or view the isolated margin amount (deselecting yesterday's and today's trades) and select OK to run the calculations.

3. The calculator returns the margin results for each fund/portfolio (separate row for each portfolio-FCM combination; users may optionally email the calculation results).

**Note:** The 'Simulation' option is for future eligible instruments margin testing or for Self Clearing Participants for ICE Clear Europe.

The margin tool may be accessed pre-trade via the ‘New Deal-Upload’ option in the Menu (or) the Positions Blotter.
Users may run hypothetical Margin calculations on non-cleared clearing eligible positions in the ICE Link Position Blotter to project the clearing house required minimum margin amounts.

To calculate margin from the Position Blotter, users may:

1. Filter positions eligible for margin simulation
2. Select All (or) Specific Positions
3. Click the Margin button and select a potential FCM

Note:

A. ICE Link automatically synchronizes all client DTCC warehouse positions in the Position Blotter, simplifying margin calculations.
B. Additional positions may be manually entered or uploaded via spreadsheet *
C. Select ‘Include Cleared Trades’ to automatically include open cleared trades into the calculation.
D. The Simulation checkbox is only for ICE Clear Europe calculations for Self Clearing members or for testing with new instruments with ICE Clear Credit.

* Note: Buy-side firms have the ability to upload positions for testing clearing house margin requirements by selecting the Upload feature in the GUI Menu, see the Help Documents screen for more details.
1. View all portfolios with summary margin information per portfolio
   - 6 key risk components: Spread, Basis, Jump-to-Default/Health, Liquidity, Concentration and Interest Rate Risk
   - FX Rate, Haircut, Equivalent IM Requirement and Equivalent Currency for multi-currency portfolios
2. Access Margin Simulation Guides in the results screen
3. Export results to spreadsheet/file
1. Hypothetical trade positions may be **uploaded directly** to the Margin Calculator **via spreadsheet** (CSV file) for testing; the **upload template** and template instructions are available in the Help Documents screen.

2. After selecting the **‘Margin’ option in the menu**, select ‘Upload’ in the Margin Calculation criteria screen, select the spreadsheet file (CSV) and the Open button to upload (any upload displayed in the errors window).

3. Select the **Clearing House** the hypothetical portfolio will be cleared to.

4. Select **OK** to run the calculation.

Note: ICE Clear Credit and ICE Clear Europe trades must be uploaded separately; calculations can be mixed with existing non-cleared, cleared, and hypothetical trades.

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**Note:** The ‘Simulate’ option is only applicable for self-clear ICE Clear Europe parties; to include pre-existing cleared trades from yesterday’s end of day or for today’s activity (or both for all), select the ‘Include Cleared Trades’ options.
To manually calculate margin on a single hypothetical /pre-trade position for margin calculation, select the New Deal-Single Name or Index option in the GUI menu.

In the trade entry screen, select a counterparty (‘Clearing Executing Broker’) and a clearing eligible instrument with a notional amount, scheduled termination date, and fixed rate (spread).

On a Pre-trade basis, users may select the ‘View Proj. Margin’ button without actually uploading the trade to run the margin calculation.

On the margin calculation selection screen, select the Clearing House ‘Include Cleared Trades’ options if calculating against existing trades and select OK to perform the calculation.

Note: A list of clearing instruments are available in the Margin Upload file in the help documents screen or on the internet at https://www.theice.com/publicdocs/clear_credit/ICE_Clear_Credit_Clearing_Eligible_Products.xls
ICE CDS MARGIN SIMULATION CALCULATOR
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