ICE CDS CLEARING

Mark-to-Market Interest Rates Transition

April 28, 2021

Overview

- ICC and ICEU have, for some time, been discussing with CDS industry participants the potential impact of the upcoming benchmark reforms on CDS valuations and interest on Mark-to-Market (MTM) calculations
- In terms of interest on MTM, the consensus is to change from EONIA to €STR and Effective Fed Funds to SOFR for EUR and USD denominated products, respectively
- ICE will begin using the new rates for interest on MTM starting Monday June 14, 2021 (the "Transition Date")
 - Begin using €STR for interest on EUR MTM balances and SOFR for interest on USD MTM balances
 - The €STR and SOFR rates available on Monday June 14, 2021 will be applied to balances of Friday June 11, 2021 for the determination of the first day of interest on MTM using the new rates
- In relation to CDS valuations, the feedback has included a desire for one time adjustment payments to make up for the reasonable expected valuations changes
- ICE has defined the operational process for the one off adjustment payments (details on following slides)
 - ICE to include ad-hoc payment adjustments in CP EOD processing on Monday June 14, 2021, which will be netted with other cash payments to determine Monday June 14, 2021 EOD CP margin calls to be paid Tuesday June 15, 2021
 - Provide Clearing Participants (CPs) and Clients with position-level payment adjustment details after EOD June 11, 2021 and prior to Monday June 14, 2021 we expect these files to be available before 1 p.m. ET on Saturday June 12, 2021.
- The Transition Date currently being targeted in the CDS industry is June 14, 2021 and is subject to regulatory approvals. Any revised Transition Date will fall on a Monday to maintain the proposed operational process

One-Time Adjustment Methodology

- ICE will obtain implied hazard term structures by using the EOD settlement values and the near EOD discount rate term structure for the rate being replaced (Effective Fed Funds for USD denominated and EONIA for EUR denominated products) in the ISDA CDS Standard Model (fair value).
- For single names, the EOD prices of the 9 benchmark tenors will be used to create the corresponding implied hazard rate term structure. Standard industry recovery rates will also be used except for distressed names where the standard recovery rate cannot result in a consistent hazard rate term structure. In such case a recovery rate will be used that is close to the standard recovery rate that can result in a consistent hazard rate term structure.
- For indexes, the implied hazard rates for the tenors available for clearing will be used to create an implied hazard rate term structure. Based on feedback requesting that ICE include 3-year tenor of iTraxx Crossover and CDX High Yield index in determining the hazard rate term structure, ICE has been collecting daily prices these instruments which are not clearing eligible. (Note that ICC clears the 3-year tenor of CDX High Yield Index Series 35 and later only) ICC and ICEU will review the reasonability of the price collections with their risk committees near the PAI Transition date to determine whether to use these in determining the hazard term structures for iTraxx Crossover and CDX High Yield indexes.
- ICE will calculate an adjusted EOD valuation using the implied hazard rate term structure and the replacement discount rate term structure (e.g. SOFR for USD and €STR for EUR denominated products).
- The EOD valuation less the adjusted EOD valuation will be the adjustment amount.
- EOD London snapshot of EONIA and ESTER interest rate curves and EOD New York snapshot of EFFR and SOFR interest rate curves published by ICE Data Services will be used for the discount rate term structures. Based on feedback to achieve congruent adjustment amounts for positions at ICEU and ICC, EOD valuations for North American products will be taken from ICC's EOD process during its North American pricing window.
- This methodology is subject to regulatory review

One-Time Adjustment Payment Process Adjustment Details

- ICE will provide adjustment details to CPs and Clients using a new "Adjustment File"
 - Adjustment details for each open position as-of EOD on the Friday prior to the Monday Transition Date
- Allows CPs to allocate adjustments to individual House or Client accounts
 - On the Monday Transition Date, CPs can determine the allocations to be included in their Monday payment processing
- Enables Clients to reconcile adjustments they may receive from their FCM / Clearing Broker

Clearinghouse Adjustment File

- Same format as MARKTOMARKETMARGINDETAIL file but with 5 additional fields on far right
- Filename Convention:

<u>ICC</u>

ADJUSTED_{DEALERCODE}_MARKTOMARKETMARGINDE TAIL-{CPCODE}-CLEARED_NA_YYYYMMDD.csv ICEU ADJUSTED_{DEALERCODE}_MARKTOMARKETMARGINDE TAIL-{CPCODE}-CLEARED_EU_YYYYMMDD.csv

• Delivery and SLE:

Published to current Client folder on MFT by 1:00 p.m. ET on the Saturday prior to the Monday Transition Date

ICE Link Adjustment File

- Same format as Cleared Positions file but with 5 additional fields on far right
- Filename Convention:

ADJUSTED_{YourFirmsShortName}_{CCPShortname}_Cleare dPositions_YYYYMMDD.csv

• Delivery and SLE:

Published to current Client folder on MFT by 1:00 p.m. ET on the Saturday prior to the Monday Transition Date

One-Time Adjustment Payment Process Additional Fields Included in the Adjustment File

#	Data Element	Format	Description
1	IR Adj Clean Price	Number, 6 dec	The clearinghouse's IR Adjusted clean price for the associated instrument on this clearing date.
2	IR Adj Dirty Price	Number, 11 dec	• The clearinghouse's IR Adjusted Dirty Price for a particular instrument and clearing date, computed as the IR Adj Clean Price plus the Accrual
3	IR Adj Mark To Market	Number, 2 dec	 Represents the market to market amount computed as: (1 – IR Adj Dirty Price) * Notional * Current Index Factor. The Current Index Factor is set to one (1) for single names. The IR Adj Mark To Market value is signed and rounded to two decimal places. A positive value represents a clearing participant cash credit. A negative value represents a clearing participant cash debit.
4	Adjustment Amount	Number, 2 dec	(IR Adj Mark To Market - Mark To Market) * -1
5	Simulation	Char, 1	 Represents whether or not the report is for a simulation run or a production run. Y means simulation (e.g. No Money is moved) N means production and represents that the compensation amounts will be adjusted

One-Time Adjustment Payment Process Simulations

- ICE will provide CPs and Clients the opportunity to review / consume Adjustment Files as part of pre-transition simulations
- Two Production based simulations were completed for Friday March 26, 2021 and Friday April 16, 2021. ICE plans future simulations for Friday May 7, 2021, Friday May 21, 2021 and Friday June 4, 2021.
- Example Adjustment Files were and will be distributed via Production MFT for simulated Transition Dates by 1:00 p.m. ET on the Saturday prior to the Monday Transition Date
- Example files will reflect open positions as-of EOD on the Friday prior to the simulated Transition Date
 - Example files will include adjustment amounts determined using the finalized methodology. The final transition
 methodology is subject to a final decision near the transition date whether to use the prices on non-cleared 3 year tenor
 for iTraxx Crossover and CDX High Yield in determining the hazard term structures for iTraxx Crossover and CDX High
 Yield indexes.
 - Simulation files will have the "Simulation" field set to "Y" to confirm no payment adjustments will be made

One-Time Adjustment Payment Process Simulation & Transition Dates

Target Date	Operational Process
<u>Simulated</u> <u>Operational</u> <u>Test</u> 29-Mar	 Adjustment report generated for <u>production</u> Clearing House MFT account for members and via ICE Link for buy-side clearing clients for ICE Clear Credit and ICE Clear Europe Simulated Adjustments file source positions from <u>production, Friday 26-Mar EOD</u> No adjustments processed, does not impact ECS Banking reports Last column in the Adjustment reports in production will include <u>'Simulation=Y'</u>
<u>Simulated</u> <u>Operational</u> <u>Test</u> 19-April	 Adjustment report generated for <u>production</u> Clearing House MFT account for members and via ICE Link for buy-side clearing clients for ICE Clear Credit and ICE Clear Europe Simulated Adjustments file source positions from <u>production, Friday 16-April EOD</u> No adjustments processed, does not impact ECS Banking reports Last column in the Adjustment reports in production will include <u>'Simulation=Y'</u>
<u>Simulated</u> <u>Operational</u> <u>Test</u> 10-May	 Adjustment report generated for <u>production</u> Clearing House MFT account for members and via ICE Link for buy-side clearing clients for ICE Clear Credit and ICE Clear Europe Simulated Adjustments file source positions from <u>production, Friday 7-May EOD</u> No adjustments processed, does not impact ECS Banking reports Last column in the Adjustment reports in production will include <u>'Simulation=Y'</u>

The current reports (Mark to Market Margin Detail for members; Cleared Positions for clients) will be published on all business days including the business days for which the Adjustment files are produced

One-Time Adjustment Payment Process Simulation & Transition Dates

Target Date	Operational Process
<u>Simulated</u> <u>Operational</u> <u>Test</u> 24-May	 Adjustment report generated for <u>production</u> Clearing House MFT account for members and via ICE Link for buy-side clearing clients for ICE Clear Credit and ICE Clear Europe Simulated Adjustments file source positions from <u>production, Friday 21-May EOD</u> No adjustments processed, does not impact ECS Banking reports Last column in the Adjustment reports in production will include <u>'Simulation=Y'</u>
<u>Simulated</u> <u>Operational</u> <u>Test</u> 7-June	 Adjustment report generated for <u>production</u> Clearing House MFT account for members and via ICE Link for buy-side clearing clients for ICE Clear Credit and ICE Clear Europe Simulated Adjustments file source positions from <u>production, Friday 4-June EOD</u> No adjustments processed, does not impact ECS Banking reports Last column in the Adjustment reports in production will include <u>'Simulation=Y'</u>
<u>Production</u> <u>Transition</u> Monday, 14- June	 Adjustment report generated for <u>production</u> Clearing House MFT account for members and via ICE Link for buy-side clearing clients for ICE Clear Credit and ICE Clear Europe Simulated Adjustments file source positions from <u>production, Friday 11-June EOD</u> ECS Banking reports on Monday 14-June, <u>will include the adjustments</u> Last column in the Adjustment reports in production will include '<u>Simulation=N</u>'

The current reports (Mark to Market Margin Detail for members; Cleared Positions for clients) will be published on all business days including the business days for which the Adjustment files are produced