

Via CFTC Portal

16 November 2020

Mr. Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street NW
Washington, DC 20581

Re: Proposed LCH SA CDSClear initiative – Clearing CDX Swaptions

Dear Mr. Kirkpatrick,

Pursuant to CFTC regulation §40.6(a), LCH SA, a derivatives clearing organization (“**DCO**”) registered with the Commodity Futures Trading Commission (the “**CFTC**”), is submitting for self-certification the amendments to its rules in order to incorporate new terms and to make conforming, clarifying and changes to permit the clearing of options on index credit default swaps in respect of North American indices (the “**Proposed Rule Changes**”).

The intended date of implementation is on or after December 1st, 2020, subject to any relevant regulatory review or approval process duly completed and in no event, the changes will be implemented earlier than ten (10) business days after the formal filing with the CFTC.

The submission changes made to the Rules are attached hereto as Appendix¹.

Part I: Explanation and Analysis

Since December 8, 2017, LCH SA is eligible to clear certain credit default swap index options (CDS on Markit iTraxx[®] Europe Index and iTraxx[®] Crossover Index or iTraxx Swaptions) under section 5c(c)(5)(C)(iii) of the CEA and Regulation 39.5(a)(2). The relevant proposed changes were duly filed with the CFTC.²

The Proposed Rule Changes will permit LCH SA to introduce the clearing of options on index credit default swaps in respect of North American indices (more specifically, CDX.NA.IG and CDX.NA.HY) (“**CDX Swaptions**”).

¹ All capitalized terms not defined herein have the same definition as the Rule Book, Supplement or Procedures, as applicable.

² https://www.lch.com/system/files/media_root/CIO-Risk-changes_CFTC-Self-Certification_Final.pdf
https://www.lch.com/system/files/media_root/CDSClear_CIO%20RB_Final.pdf

Part II: Description of Rule changes

As part of this initiative, LCH SA is proposing to amend its (i) Reference Guide: CDS Margin Framework (“**CDSClear Margin Framework**”) and (ii) CDS Clearing Supplement (“**Supplement**”) and (iii) CDS Clearing Procedures (“**Procedures**”).

1) CDSClear Margin Framework

The introduction of CDX Swaptions requires minimal changes to extend the existing risk framework to the new product, these are reflected in the LCH SA Reference Guide: CDS Margin Framework alongside other changes described below enabling it to cover the clearing of CDX Swaptions. This has led to an opportunity to make other changes, unrelated to the CDX Swaptions, also described below, including changes to the Vega Margin which would apply to both iTraxx Swaptions and CDX Swaptions.

Paragraph 2.3.4 which deals with the Daily Contributions Assessment has been expanded in order to include CDX Swaptions. Members’ price contribution will be mandatory on CDX Swaptions for all strikes that are multiples of 2.5 bps for CDX.NA.IG and 0.5 point for CDX.NA.HY of a given expiry from the moment Members have at least one open position on one of that expiry’s strike, in order to ensure implied volatility measurements are updated on a daily basis. Otherwise, LCH SA will fall back to Markit's composite prices or according to section 2.3.3.2 of the Reference Guide: CDS Margin Framework, use pre-defined rules to fill in missing data.

The proposed changes in section 3.9 (which are unrelated to the requirements for clearing CDS Options on CDX) serve to enrich and align the methodology for calculating Vega Margin with LCH SA’s approach across all products and business segments. Vega Margin captures the risk of volatility changes in the options premium relative to the strikes, *i.e.*, the skew risk and the risk of changes in the volatility of volatility. As a result of a risk model validation finding, LCH SA is proposing to transition from a parametric model to a historical model, using predefined scenarios to simulate the risk of volatility change. In order to introduce shocks on the volatility itself rather than on the calculation’s model parameters only as was the case before, the new methodology would rely on use of four regular and four stressed historical scenarios for each index family, calibrated based on the worst skew risk and the volatility of volatility risk at given confidence levels. Since Vega Margin represents an add-on amount to spread margin that accounts for potential moves in assumed volatility, the P&L impact of the proposed change is not expected to be significant.

- a) The volatility scenarios are built using data going back to April 3, 2007 whereby for each index family, historical scenarios are identified by making an estimate of the largest 5-day shifts in volatility distance, at a given percentile, between At-The-Money strikes and implied volatilities for options with a delta of 10, 25, 75 and 90%, so as to capture the deformation of volatility surface across.
- b) The Skew and Smile scenarios are calibrated against the worst volatility surface distortion (*i.e.*, largest changes of the volatility distance previously defined) at a given confidence level. The scenarios are derived in the form of volatility shocks at each delta level, these are used to shift the end of day volatilities, at the corresponding delta levels, to calibrate a set of shifted or Stochastic Volatility Inspired (SVI) scenarios as depicted in the updated table in paragraph 3.9.2.

- c) The number of scenarios calculated for each index family has been adjusted from eight previously to four as a result of the shocks now being applied at volatility level.

In paragraph 4.1.9 of CDSClear Margin Framework,

- As requested by the LCH SA Risk model validation department, a comment has been added to highlight that although the example given pertains to iTraxx Swaptions, the same logic applies to CDX Swaptions.
- In the description of Step 2 regarding the calculation of the cost of vega hedging, it has been detailed that the volume of delta neutral Swaption notional that can be reasonably unwound by LCH SA in a day is derived from a clearing member survey and that the volume of principal index 5YR Off-The-Run -1 series Swaption notional that can be reasonably unwound by LCH SA in a day is defined in the section on indices.
- In the description of Step 3, the contributions to the macro-hedge cost, the CDX Swaptions have been added to the description of the variable beta (" β ") that defines an index sub-family, either Main or Xover for iTraxx, and IG or HY for CDX.
- In the description of Step 4 regarding the final Liquidity Charge and in order to aggregate the costs of delta hedging and vega hedging, while no changes are required to the liquidity and concentration risk margin methodology, a formula has been added to clarify that the existing methodology would also apply and to describe how the Foreign Exchange rate is introduced into the final Liquidity Charge formula in order to cater for CDX Swaptions.

With respect to the calculation of liquidity charge, in the event of a clearing member default, the market does not require for swaptions to be liquidated as a delta-hedged package is intended to trade and hedge an option along with an index but it is deemed more optimal to do so from a friction cost standpoint as per the market feedback. LCH SA attempts to source the hedges from the CDS part of the defaulting member's portfolio using a delta hedging algorithm to ensure minimal hedging costs before sourcing the hedges from the market, and language has been added to note that the volume of the delta neutral package of the selected option that can be reasonably unwound per day is based on a member survey. Finally, additional commentary serves to confirm how currency conversion from USD to EUR will apply where options forming part of the delta-hedged package are priced in USD.

Paragraph 4.2 sets forth accrued coupon liquidation risk margin (margin covering the risk that a protection buyer will not be paying any accrued coupon via the VM between the time it defaults and the end of the liquidation of its portfolio) for both CDS and CDS options. The accrued coupon liquidation risk margin with respect to CDS Options remains the same, but now reflects that any such amount for CDX Swaptions contracts is converted from USD to EUR.

Finally, the following changes, unrelated to the CDX Swaptions initiative were made.

- a) Section 3 provides for the total initial margin framework with respect to both CDS and CDS Options. While the methodology for calculating Short Charge Margin in section 3.1 remains the same, the summary language in paragraph 3.1 has been amended to explicitly state that it covers the Profit and Loss impact of liquidating a defaulting member's portfolio under one or two credit events, whereas the number of credit events considered was previously set to two.

This is also reflected in the Risk Overview table in paragraph 3.2. The specific rule to calculate the Short Charge Margin on financial entities (which covered the default risk by the two largest financials entities comprising the underlying constituent entities of the relevant index) has been removed from paragraph 3.1. The Short Charge Margin accounts for the risk of default by the underlying constituent entities of the relevant index, and per the model used for linear U.S. products this amount would also cover the possibility of a default in respect of an exposure representing the average net short exposure of the ten (10) riskiest exposures with the defined recovery rate cap. Since the approach in respect of iTraxx Swaptions only accounts for the risk of default of the entity with the largest net short exposure, the language has been amended to include the additional default risk that must be taken into account in respect of CDX Swaptions on CDX.NA.HY.

Additionally, a corresponding change to the removal of the calculation of the Short Charge Margin on financial entities has been made to section 3.2, which provides an overview of the risks captured by each margin component.

- b) Reference to a 10 year sample for the Foreign Exchange rate has been removed from paragraph 3.4.8.3 as it was not an accurate description of how the Foreign Exchange rate was computed.
- c) A typographical error in paragraph 3.8.2 has been corrected (double parenthesis and period missing).

The Content table and the summary of changes to the document have been updated as a result of the above-mentioned items. Finally, corresponding changes to provision numbering throughout the Reference Guide: CDS Margin Framework have been made as necessary.

2) Supplement

a) CDX Swaption-related amendments

The Supplement has been amended in order to include the relevant provisions to allow the clearing of the new CDX Swaptions.

In Part C of the Supplement, the following amendments have been made to Section 1.2 (*Terms defined in the CDS Clearing Supplement*):

- i. The “CDX Swaption Standard Terms Supplement” definition has been added to refer to the applicable documentation to the CDX Swaptions, as published by Markit North America Inc. and as amended by the Supplement;
- ii. the definition of the term “Index Swaption Cleared Transaction Confirmation” has been amended to make a reference to the applicable form of confirmation which is relevant for CDX Swaptions and make some minor corrections in new indent (a) and in the last paragraph of the definition;

- iii. the new defined term of "Submission Deadline" has been added in order to cater for both the Markit iTraxx and CDX exercise windows in respect of a swaption which differ; and
- iv. the definition of "Transaction Data" has been amended to make a reference to the Option Type which is relevant for CDX Swaptions.

In Sections 6.3, 6.4, 6.5 (paragraph (c)), 6.10 (paragraph (b)) and Sections 5.3, 5.5 and 5.7 of Appendix VIII (*CCM Client Transaction Requirements*) of Part C of the Supplement, references to the standard fixed time of 4:00pm (London time) or 5:00pm (Central European Time), which would only be applicable to iTraxx Swaptions, have been replaced by a reference to the new defined term of "Submission Deadline". In Section 7.2, references to the relevant paragraph of the CDX Swaption Standard Terms Supplement for consistency purpose have been added.

References to a CDX as an Underlying Index and the Swaption Type have been added to the Schedules of Appendix 1 (*Form of Exercise Notice*) and Appendix II (*Form of Abandonment Notice*) to Part C of the Supplement.

In Appendix VIII (*CCM Client Transaction Requirements*) to Part C of the Supplement, Section 1 has been amended to refer to the CDX Swaptions Standard Terms Supplement and the definition of "STS Supplement" has been removed. Consequently, the reference to the "STS Supplement" in Section 8.2. of this Appendix has been replaced by a reference to the "iTraxx Swaption Standard Terms Supplement" as this only concerns iTraxx Swaptions. References to the relevant paragraph of the CDX Swaption Standard Terms Supplement or the relevant paragraph of such Supplement have been added where relevant and any reference to the STS Supplement has been removed from Sections 8.3 and 8.4 of this Appendix.

b) Miscellaneous amendments

LCH SA is also taking the opportunity of the modification of the Supplement to make a few changes for clarification/harmonization purposes.

In Part C of the Supplement, Section 9.1 (*Creation of Matched Pairs*), a principle governing the size of the Matched Pairs created by LCH SA in the context of a Restructuring or an Exercise has been added to align with equivalent provisions of Parts A and B of the Supplement. We have taken the opportunity to remove the amounts of the Matched Pair from Section 8.1 (*Creation of Matched Pairs*) of Parts A and Part B of the Supplement since such amounts are proposed to be set out in a new Clearing Notice which outlines the maximum applicable Matched Pair notional amounts to allow for greater flexibility in adapting these amounts according to market conditions and evolution of open interest going forward.

Since the Protocol Effectiveness Condition in respect of the ISDA 2019 Narrowly Tailored Credit Event Protocol (NTCE) Protocol published by ISDA on 27 August 2019 is now satisfied, the conditional with the reference to "if" have been removed from Section 2.4 and Appendix XIII (Section 2.6) of Part B of the Supplement and from Section 2.3 and Appendix VIII (Section 2.4) of Part C of the Supplement. An equivalent amendment has been made to Appendix XIII of Part A of the Supplement (Section 2.6) in respect of the 2014 ISDA Credit Derivatives Definitions Protocol published by ISDA on 21 August 2014 for consistency purpose.

References to the Implementation Date as provided for in the 2019 ISDA NTCE have been removed from the definition of the “iTraxx® Swaption Standard Terms Supplement” in Section 1.2 of Part C of the Supplement to refer to the current version of this document which is the version published on 20 March 2017. Indeed, at the time the 2019 ISDA NTCE Protocol-related amendments were drafted and submitted to the regulatory process, an initial Swaption Standard Terms Supplement draft taking into account this Protocol was available. Finally, this draft was taken no further and the most recent version which is applicable remains the version published in 2017. Consequently, in Section 2.2 (*Index Swaption Cleared Transaction Confirmation*) of Part C of the Supplement, any confirmation in respect of a Swaption will be amended by specifying in a new indent (d) that the Standard Terms Date applicable to the underlying transaction of a Swaption will be the most updated version of the Standard Terms Supplement to ensure that the applicable version is the one that has taken into account the 2019 ISDA NTCE Protocol (i.e. the versions applicable to Markit iTraxx and CDX published on the Implementation Date of such Protocol). As a result, the following indents in Section 2.2 have been renumbered from (e) to (i).

Finally, the following corrections have been made to the Supplement:

- i. In Sections 7.10 of Parts A and B, the reference to a “CDS Clearing Member” has been replaced by “Clearing Member” which is the correct defined term to be used;
- ii. In Sections 9.1 of Parts A and B, paragraph (c), it is specified that the Self Referencing Transaction is a Clearing Member Self Referencing Transaction to be consistent with the title of Section 9.1;
- iii. In Section 1.2 of Part B, in the definition of “Index Cleared Transaction Confirmation”, the correct name of the publisher of the documentation for Markit CDX has been inserted;
- iv. In Section 1.2 of Part C, a typographical error has been corrected in the definition of “Swaption Restructuring Cleared Transaction” and the word “Eligible” has been removed from the definition of “Underlying Index Transaction” as an Eligible Index Swaption is not a defined term; and
- v. In Appendix VIII of Part C, the definitions have been removed from Section 1 as these terms are already defined in Section 1.2 of Part C.

3) Procedures

LCH SA also proposes to modify Section 5 of the Procedures (*CDS Clearing Operations*) in order to include the CDX Swaptions in the scope of the End of Day Price Contribution as set out in Paragraph 5.18.

Therefore, references to “CDS” have been changed to “CDS and an Index Swaption” in paragraphs 5.18.3 and 5.18.5, for instruments with a CDS Contractual Currency in US Dollar. In paragraph 5.18.4, the first sentence has been modified to clarify the scenarios in which LCH SA will seek composite spreads/prices for CDS Contractual Currency in Euro and US Dollar. Additionally, the scope of the End of Day Contributed Prices in respect of CDS with a Contractual Currency in US Dollar has been extended to include Index Swaptions in paragraph 5.18.4.

In paragraph 5.18.5b), the restriction to Index Swaptions with a CDS Contractual Currency in Euro has been removed and the Delta Hedged Swaption Package has been split into two sub-sections to tailor it for the two different deadlines by which to execute the Delta Hedged Swaption Package for iTraxx Swaptions and CDX Swaptions, respectively.

Part III: Core Principles Compliance

LCH SA will continue to comply with all Core Principles following the introduction of this change and has concluded that its compliance with the Core Principles would not be adversely affected by this change.

Part IV: Public Information

LCH SA has posted a notice of pending certifications with the CFTC and a copy of the submission on LCH's website at: <https://www.lch.com/resources/rules-and-regulations/proposed-rule-changes>

Part V: Opposing Views

There were no opposing views expressed to LCH SA by governing board or committee members, members of LCH SA that were not incorporated into the rules.

Certification

LCH SA hereby certifies to the CFTC, pursuant to the procedures set forth in the Commission regulation §40.6, that this change submission complies with the Commodity Exchange Act, as amended, and the regulations promulgated there under.

Should you have any questions please contact me at: françois.faure@lch.com



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APPENDIX

- LCH SA CDS Clearing Supplement and CDS Clearing Procedures (Section 5)
- LCH SA Reference Guide: CDS Margin Framework **(to be filed separately with the CFTC under Confidential Treatment request)**