

VIA CFTC PORTAL

May 30, 2023

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

LCH Limited Self-Certification: ForexClear – USD LIBOR Decommission

Dear Mr. Kirkpatrick,

Pursuant to Commodity Futures Trading Commission (“CFTC”) Regulation §40.6(a), LCH Limited (“LCH”), a derivatives clearing organization registered with the CFTC, is submitting for self-certification revisions to its rules related to LCH’s ForexClear Service having to remove all reference to USD LIBOR in pricing and Initial Margin due to USD LIBOR being subject to planned future cessation (June 30, 2023). ForexClear will instead use USD SOFR in its place.

Part I: Explanation and Analysis

LCH’s ForexClear Service offers for clearing of the following OTC Foreign Exchange Contracts:

- FX Spot
- FX Forwards
- FX Non-Deliverable Forwards (“NDF”)
- European FX Options (“FXO”)

FX forward prices can be stated as a function of the current FX spot rate, the time to settlement and the interest rate differential between the 2 currencies in the currency pairs. Whilst ForexClear uses member contributed market data to generate FX Forward prices on standard tenors, USD LIBOR is used in ForexClear to interpolate between quoted FX Forward prices on standard tenors without violating covered interest rate parity.

With the planned future cessation of USD LIBOR on June 30, 2023, ForexClear is now required to remove all reference to USD LIBOR in the Rulebook and replace it with USD SOFR to show the amendment to FX Forward price calculations.

These revisions are in Section 2I (ForexClear Clearing Service) of the LCH Procedures and Section 2.2 (ForexClear) of the LCH FCM Procedures (jointly the “Procedures”).

An LSEG Business

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Part II: Description of Rule Changes

The FX curve construction methodology in the Procedures has been updated to have USD SOFR as an input rather than USD LIBOR.

The changes to the rules are included as **Appendices I - II** in black line form. The changes will be effective not earlier than June 19, 2023.

Part III: Core Principle Compliance

LCH reviewed the proposed rule changes against the requirements of the Core Principles and finds it will continue to comply with all requirements and standards set forth therein. Specifically, this rule change has potential relevance to Core Principle C (Participant and Product Eligibility) and Core Principle L (Public Information).

The changes described in this filing ensure that LCH meets the objectives of Core Principle C, including that LCH have appropriate requirements for determining the eligibility of agreements, contracts, or transactions submitted for clearing, taking into account LCH's ability to manage the risks associated with such agreements, contracts, or transactions. The changes described in this filing provide for LCH's ability to amend, maintain, and risk manage ForexClear contracts.

LCH considered its product eligibility requirements, specifically those related to the maintenance of product terms and conditions, and determined that the changes discussed in this filing will not impact LCH's compliance with Core Principle C. As a result, LCH believes these changes are consistent with the requirements of Core Principle C on Participant and Product Eligibility under CFTC regulation §39.12.

The changes described in this filing also ensure that LCH meets the objectives of Core Principle L, including that, in addition to the specified requirements of §39.21, LCH make available any information that is relevant to participation in the clearing and settlement activities of LCH. LCH considered its public information requirements and believes including rules related to these contract in its publicly available Regulations and Procedures maintains its compliance with Core Principle L. As a result, LCH believes these changes are consistent with the requirements of Core Principle L on Public Information under CFTC regulation §39.21.

Part IV: Public Information

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

Part V: Opposing Views

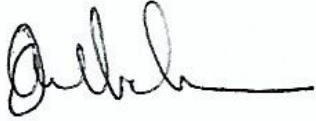
There were no opposing views expressed to LCH by governing board or committee members, members of LCH or market participants that were not incorporated into this proposal.

Certification

LCH hereby certifies to the CFTC, pursuant to the procedures set forth in CFTC Regulation §40.6, that the attached submission complies with the Commodity Exchange Act, as amended, and the regulations promulgated thereunder.

Should you have any questions please contact me at lavannyan.mahalinam@lseg.com.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Lavannyan Mahalingam', written over a light green rectangular background.

Lavannyan Mahalingam
Regulatory Advisor
LCH Limited

Appendix I

Section 2I (ForexClear Clearing Service) of the LCH Procedures
Changed Pages



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PROCEDURES SECTION 2I

FOREXCLEAR CLEARING SERVICE

and its initial margin obligations in relation to ForexClear Contracts due to fix or settle the next business day, as applicable.

1.4 Market Data

1.4.1 *Sources used by ForexClear Service:* With respect to each ForexClear Contract, the ForexClear Service collates instrument quotes for the following from multiple market sources (as detailed in Section 1.4.2 (*Market Data Sources and Frequencies*)) in relation to each Currency Pair or ForexClear Currency Pair:

- (a) FX spot rates ("**FX Spot Rates**");
- (b) FX swap points ("**FX Swap Points**");
- (c) FX implied volatility points ("**FX Volatility Points**");
- (d) FX Settlement Rate Option;
- (e) Interest rate swap curves and Overnight index swap curves ("**Interest Rate Curves**");
- (f) PAI rates ("**PAI Rates**") or PAA rates ("**PAA Rates**"), as applicable;
- (g) Country credit spreads ("**Country Credit Spreads**"); and
- (h) FX spot reference prices ("**FX Spot Reference Prices**"),

together, "**Market Data**".

FX Spot Rates, FX Swap Points and FX Volatility are received by the Clearing House via a live link from all eligible FXCCMs during the Opening Hours (as defined in paragraph (b) of Section 1.2.2 (*Service Operating Hours*)).

1.4.2 *Market Data Sources and Frequencies:* The Clearing House receives the following updated raw prices:

- (a) FX Spot Rates:
 - (i) Source – contributing FXCCMs.
 - (ii) Frequency - every time updated by contributing FXCCMs up to a maximum rate of once every five minutes.
- (b) FX Swap Points:
 - (i) Source - all contributing FXCCMs.
 - (ii) Frequency - every time updated by contributing FXCCMs up to a maximum rate of once every five minutes.
 - (iii) Tenors – as shown in the table below.

Tenor
O/N
T/N
S/N
1 week
1 month
2 months
3 months
6 months
9 months
12 months
24 months
36 months
48 months
60 months

(c) FX Volatility Points:

- (i) Source – all contributing FXCCMs.
- (ii) Frequency – every time updated by contributing FXCCMs up to a maximum rate of once every five minutes.
- (iii) Deltas and Tenors – as shown in the tables below. All delta points should be contributed for each tenor.

Tenor
O/N
1 week
2 weeks
1 month
2 months
3 months
6 months
9 months
12 months
18 months
24 months

Deltas
ATM
25-RR
25-Fly
10-RR
10-Fly

(d) FX Non-Deliverable Settlement Rates:

- (i) Source - Reuters.

- (ii) Frequency - when published (as referenced in the Relevant EMTA Template or given LCH Non-EMTA Contract Template, as applicable).
 - (e) Interest Rate Curves:
 - (i) Source - internal Clearing House.
 - (ii) Frequency - at each SwapClear ~~Margin or Settlement Run~~margin run.
 - (f) USD secured overnight financing rate curve:
 - (i) Source – SwapClear.
 - (ii) Frequency – at each SwapClear margin run.
 - (g) PAI Rates and PAA Rates:
 - (i) Source - LCH Treasury.
 - (ii) Frequency - daily.
 - (h) Country Credit Spreads:
 - (i) Source – Bloomberg.
 - (ii) Frequency – when published.
 - (i) FX Spot Reference Prices:
 - (i) Source – the source published on the ForexClear website from time to time.
 - (ii) Frequency – at each expiration time.
- 1.4.3 *Market Data Provision to FXCCMs:* Market Data used in a Margin or Settlement Run is made available to FXCCMs via ForexClear Reporting (as defined in Section 1.7 (*ForexClear Reporting*)).
- 1.4.4 *Curve Building in ForexClear*
- (a) *FX Curve (Zero Coupon/Market Rate Curve):* The Clearing House builds for each Currency Pair an FX curve (zero coupon/market rate curve) using the FX Spot Rates, FX Swap Points and the USD secured overnight financing rate~~LIBOR~~ cCurve. The currency zero coupon curves are implied from the FX curve and the USD secured overnight financing rate ~~LIBOR~~ cCurve; the FX curve is used for capitalisation of forward cash flows. Cross rates spot and forward curves will be triangulated from the non cross currency pairs (i.e., the currency pairs where USD is one of the currencies). Linear interpolation is applied on zero coupon curves.

- (b) *Implied Volatility Surface*: The Clearing House builds for each Currency Pair or ForexClear Currency Pair an FX Implied Volatility Surface using the FX Volatility Points. Implied volatility interpolation is performed along both the delta and tenor axes. Interpolation is firstly applied on the delta axis of the two neighbouring implied volatility smiles, and then tenor axis interpolation is applied. To prevent arbitrages on the input volatility surfaces impacting on margining calculations, a de-arbitraging methodology is applied where an arbitrage exists on any reference volatility surfaces.
- (c) *Interest Rate Curve*: The Clearing House applies standard bootstrap method to build the Interest Rate Curve. Linear interpolation is applied on zero coupon curves.
- (d) *Curve Use*: End of day is defined as 22.00 local London time ("**EOD**"). The following EOD data is used in the calculation of risk analytics for an EOD Margin and Settlement Run (as defined in paragraph (b) of Section 1.6.1 (*Types of Margin or Settlement Runs*)):
 - (i) FX Spot Rates;
 - (ii) FX Swap Points; and
 - (iii) FX Volatility Points.

1.4.5 *Country Credit Spreads*: The Clearing House takes country credit spreads (in relation to Brazil, Russia, India, China, Chile, South Korea, Colombia, Indonesia, Malaysia, Philippines and Taiwan) from Bloomberg for use in risk multiplier calculations.

1.5 Initial Margin; Variation Margin and NPV Payments

1.5.1 Product Valuation

- (a) *ForexClear Non-Deliverable Contract*: From (and including) the Registration Time to the EOD Margin and Settlement Run on the business day preceding the Valuation Date, each ForexClear Non-Deliverable Contract is valued in USD using the current market rates and discounted from the future Settlement Date to its present value (being valued using the data submitted by FXCCMs, in accordance with Section 1.4.2 (*Market Data Sources and Frequencies*)).

At EOD on the Valuation Date, the Settlement Rate is used to value the ForexClear Non-Deliverable Contract.

If Valuation Postponement applies, the ForexClear Non-Deliverable Contract is valued using the current forward price (based on the data submitted by FXCCMs, in accordance with Section 1.4.2 (*Market Data Sources and Frequencies*)) to (and including) the date on which the Settlement Rate is determined in accordance with the relevant ForexClear Contract Terms.

Appendix II
Section 2 (ForexClear) of the LCH FCM Procedures
Changed Pages



FCM PROCEDURES OF THE CLEARING HOUSE

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If a change is declared that affects the SwapsMonitor Financial Calendar that is referenced on FCM ForexClear, then a corresponding calendar adjustment will be made to the FCM ForexClear system, unless the Clearing House informs FXCCMs by notice on its website (at <https://www.lch.com/services/forexclear>, or such other web page as the Clearing House determines) that the relevant change will not apply to FCM ForexClear Contracts.

The Clearing House may temporarily close the FCM ForexClear Service to process a calendar adjustment in its clearing system. FX FCMs will be notified in advance of the date, time and expected duration of such closure.

Date Adjustment:

As a result of the calendar adjustment process, the Valuation Date, the Settlement Date and/or Premium Payment Date of any affected FCM ForexClear Contracts will automatically be adjusted in accordance with the provisions of the Relevant EMTA Template, relevant LCH Non-EMTA Contract Template or ISDA definitions as applicable.

The Clearing House will notify the FX FCMs via file download from the Clearing Member Reporting as to any FCM ForexClear Contracts affected and the date adjustments made.

2.2.9 *Market Data*

(a) *Sources used by FCM ForexClear Service*

The FCM ForexClear Service collates instrument quotes for the following from multiple market sources (as detailed in Section 2.2.9(b)) in relation to each Currency Pair:

- (A) FX spot rates (“**FX Spot Rates**”);
- (B) FX swap points (“**FX Swap Points**”);
- (C) Settlement Rate Option;
- (D) Interest rate curves and overnight index swap curves (“**Interest Rate Curves**”);
- (E) Price Alignment Amount rates (“**Price Alignment Amount Rates**”); and
- (F) Country credit spreads (see Section 2.2.9(f) below) (“**Country Credit Spreads**”),

together, “**Market Data**”.

FX Spot Rates and FX Swap Points are received by the Clearing House via a live link from all eligible FXCCMs (including FX FCMs) during the Opening Hours.

(b) *Market Data Sources and Frequencies*

The Clearing House receives the following updated raw prices:

FX Spot Rates:

- (A) Source – FXCCMs.
- (B) Frequency - every time updated by FXCCMs up to a maximum rate of once every five minutes.

FX Swap Points:

- (i) Source - all FXCCMs.
- (ii) Frequency - every time updated by FXCCMs up to a maximum rate of once every five minutes.
- (iii) Tenors – as shown in the table below.

Tenor
O/N
T/N
S/N
1 week
1 month
2 months
3 months
6 months
9 months
12 months
24 months
36 months
48 months
60 months

Settlement Rate Options:

- (i) Source - Reuters.
- (ii) Frequency - when published (as referenced in the Relevant ETMA Template or given LCH Non-EMTA Contract Template, as applicable).

Interest Rate Curves:

- (i) Source - internal Clearing House

- (ii) Frequency - at each SwapClear margin run.

Country Credit Spreads:

- (i) Source - Bloomberg.
- (ii) Frequency - when published.

USD ~~secured overnight financing rate LIBOR c~~Curve:

- (i) Source - SwapClear.
- (ii) Frequency - at each SwapClear margin run.

Price Alignment Amount rates:

- (i) Source - LCH Treasury.
- (ii) Frequency - Daily.

- (c) *[Not Used]*

- (d) *Market Data Provision to FX FCMs*

Market Data used in a Margin Run is made available to FX FCMs via ForexClear Reporting (as defined in Section 2.2.24).

- (e) *Curve Building in ForexClear*

FX Curve (Zero Coupon/Market Rate Curve):

The Clearing House builds for each Currency Pair an FX curve (zero coupon/market rate curve) using the FX Spot Rates, FX Swap Points and the USD ~~secured overnight financing rate LIBOR c~~Curve based on interpolation techniques agreed through the ForexClear Risk & Trading Working Group (a group comprising the Clearing House's and FXCCM's (including FX FCM) risk and trading representatives) ("RTWG"). The USD ~~secured overnight financing rate LIBOR c~~Curve is used for discounting; the FX curve is used for capitalization of forward cash flows.

Interest Rate Curve:

The Clearing House applies the linear interpolation method to build the Interest Rate Curve. Linear interpolation is applied on zero coupon curves.

Curve Use:

End of day is defined as 22.00 hours, London time (“EOD”). The following EOD data is used in the calculation of risk analytics for an EOD Margin Run (as defined in Section 2.2.16(b)):

- (A) FX Spot Rates; and
- (B) FX Swap Points.
- (f) *Country Credit Spreads*

The Clearing House takes country credit spreads (in relation to Brazil, Russia, India, China, Chile, South Korea, Colombia, Indonesia, Malaysia, Philippines and Taiwan) from Bloomberg for use in risk multiplier calculations.

2.2.10 *FCM ForexClear Contract Valuation*

- (a) *Net Present Value (“NPV”)*

From (and including) the Registration Time to the EOD Margin Run on the business day preceding the Valuation Date, each FCM ForexClear Contract is valued in USD using the current market rates and discounted from the future Settlement Date to its present value.

On the Valuation Date, the Settlement Rate is used to value the FCM ForexClear Contract.

If Valuation Postponement applies, the FCM ForexClear Contract is valued using the current forward price to (and including) the date on which the Settlement Rate is determined in accordance with the FCM ForexClear Contract Terms.

In the event a Settlement Rate or market rate is unavailable, as determined by the Clearing House in its sole discretion, the Clearing House will determine an alternative Settlement Rate or market rate.

- (b) *Variation Settlement (“VS”)*

VS for each FCM ForexClear Contract is calculated at EOD as the change from the preceding business day in its NPV. With respect to each FX FCM, the net sum of the VS for all open FCM ForexClear Contracts is, subject to the netting provisions of FCM Regulation 47, credited to or debited from such FX FCM once a day, following the EOD Margin Run.

VS will, subject to the netting provisions of FCM Regulation 47, be paid each business day by or to each FX FCM in respect of all of its open FCM ForexClear Contracts. The VS will be calculated in, and must be paid in, USD.