LCH

SwapClear consultation

CAD CDOR contract conversion

August 2023

LSEG POST TRADE

Contents

01
Executive Summary

On 16th May 2022, Refinitiv Benchmark Services (UK) Limited (RBSL), CDOR's regulated benchmark administrator, announced the cessation of the publication of all tenors of CDOR after 28th June 2024[1]. At the same time, the Ontario Securities Commission[2] and the Autorité des marchés financiers[3] issued decisions authorizing RBSL to cease the publication of CDOR, and ISDA confirmed that such announcement constituted an index cessation event under the ISDA IBOR Fallbacks Supplement and Fallback Protocol[4].

The market confronted similar statements in the context of other IBOR benchmarks in cessation in the past, and most recently in relation to USD LIBOR, which had its last publication on 30th June 2023. In response to USD LIBOR cessation, LCH Limited (LCH), and more specifically the SwapClear service, successfully performed a contractual conversion of its outstanding stock of USD LIBOR contracts into SOFR equivalents in two tranches, in April and May 2023, respectively. The framework and specification of the USD LIBOR conversion process was developed following extensive consultation by SwapClear with its members and clients, and it was based on the key building blocks, coupled with some enhancements, of the non-USD LIBORs conversion performed by LCH in 2021.

In light of the success of the previous conversion events, our view remains that SwapClear users would be best served by an equivalent conversion approach for their contracts linked to CAD CDOR into CORRA, hence ensuring migration ahead of the cessation date and not allowing the fallbacks to become operational in the context of LCH-cleared swaps.

Furthermore, LCH believes that members and clients would benefit from a CDOR conversion process that 1) replicates the USD (and non-USD) LIBOR conversion process to the maximum extent and 2) caters for the specificities and nuances of the CDOR swaps cleared at LCH. As a result, this document includes various areas that are relevant should SwapClear participants support a CDOR conversion process. Such areas are grouped as described on the following page.

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[1] https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/cdor-cessation-notice.pdf
[2] https://www.osc.ca/en/securities-law/orders-rulings-decisions/canadian-dollar-offered-rate-and-refinitiv-benchmark-services-uk-limited-1
[3] https://lautorite.qc.ca/fileadmin/lautorite/professionnels/structures-marche/indice-reference/2022-PDG-0032-cessation-CEDOR.pdf
[4] https://www.isda.org/2022/05/16/isda-statement-on-rbsl-cdor-announcement/

SwapClear consultation | CAD CDOR contract conversion

1) *Core functionality in line with previous LCH conversions that are not subject to consultation:*

> i) CAD CDOR contracts outstanding at (or shortly before) 28th June 2024 and relying on at least one post-cessation fixing will be converted to CORRA-based contracts;
>
> ii) in respect of periods of the original contract which would otherwise be reliant on a post-cessation fixing, the CAD CDOR floating rate will be replaced by compounded CORRA, to which the IBOR Fallbacks Spread Adjustment as published by Bloomberg will be added;
>
> iii) in respect of periods of the original contract which would be reliant on a representative CDOR setting, LCH will preserve the cashflow associated with that setting through the use of overlay bookings;
>
> iv) LCH will cash compensate for any valuation difference between the original CDOR trade (Input Contract) and the corresponding CORRA trade (Output Contract(s)).

2) *Proposals that consider the specificities of CAD CDOR swaps on which LCH is seeking feedback from its users:*

> i) conversion will cater for all product types, except for outstanding CDOR/CDOR and CDOR/CORRA basis swaps which will be split by LCH via a mandatory splitting event to be carried out in advance of or coincident with conversion;
>
> ii) where relevant, conversion will preserve the application of IMM CAD roll conventions whilst accounting for the changes in the applicable definitions relevant to trades with IMM CAD rolls that span 28th June 2024;
>
> iii) the conversion date will take place on Saturday 1st June 2024, with a contingency date of Saturday 15th June;
>
> iv) LCH will not offer a CAD CDOR Legacy solution to support registration of trades relying on non-representative CDOR fixings beyond the conversion date;
>
> v) SwapClear users will be afforded the ability to offset/exit CDOR trades that have a last period relying on a representative CDOR fixing (e.g., in order to offset/exit fully-fixed trades and/or overlay bookings).

LCH's conversion to CORRA aims at providing a robust and transparent mechanism that is applied consistently across the whole service and which should be seen as a backstop. We strongly encourage SwapClear users to respond to this consultation by **Friday 15th September 2023** in order to have the widest set of feedback on which to proceed with next steps.

Once agreed, the proposals in this document will drive the schedule and functionality made available and will ultimately be reflected in LCH's Rulebook. These proposals will be subject to legal and regulatory review or approval and may be subject to further change.

02
CAD CDOR Contract Conversion

1   Background and key considerations

In a series of coordinated statements made on 16th May 2022 by the Ontario Securities Commission, the Autorité des marchés financiers, RBSL and ISDA, the cessation of all CAD CDOR tenors has been confirmed following their final publication on 28th June 2024.

The discontinuation of CDOR triggers CORRA-driven fallback arrangements under the ISDA IBOR Fallbacks Supplement and IBOR Fallbacks Protocol[5], which amended ISDA's standard definitions. SwapClear has incorporated these fallbacks into its Rulebook[6]. Notwithstanding the legal certainty provided by such arrangements, fallbacks do not result in a transition to Risk Free Rates or "RFR"-referencing trades with the characteristics of standard OIS trades[7]. In the context of CDOR cessation specifically, on cessation of the relevant tenor of CDOR, the provisions in the IBOR Fallbacks Supplement and the associated BISL IBOR Fallback Rate Adjustments Rulebook[8] economically transform each CDOR leg into a backward-shifted compounded CORRA return to which a non-compounded spread is added. The observation periods associated with the CORRA settings are shifted by 2 days to enable the retention of the contractual payment dates of the original CDOR trade whilst ensuring that the fallback rate is always known sufficiently far ahead of the relevant payment date.

However, based on the successful conversion of other IBORs in the past, including USD LIBOR most recently, LCH firmly believes that an active conversion process will best serve our users in the context of CDOR cessation. Allowing the ISDA IBOR Fallbacks to become operational could materially impact LCH's specific risk management responsibilities. For example, it is likely that liquidity in the "fallen back" CDOR contracts could impact LCH's default management arrangements with respect to such contracts. Furthermore, market participants are not able to trade Fallback-style CORRA as a primary Floating Rate Option and, if they were, it could fragment liquidity and result in increased transaction costs and margin requirements.

Conversely, the conversion process would ensure a direct and explicit transition to CORRA before the CDOR cessation date, thus avoiding the coexistence and split in liquidity in the LCH-cleared market of fallen-back (legacy non-market standard) CORRA linked trades and standard CORRA OIS trades. This will support the efficient functioning of the cleared market beyond the cessation date. As a result, default management

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[5] ISDA Launches IBOR Fallbacks Supplement and Protocol – International Swaps and Derivatives Association
[6] Update on LCH Limited's Position on LIBOR cessation and Forward Rate Agreements | LCH Group
[7] ISDA User Guide to IBOR Fallbacks and RFRs
[8] BISL IBOR Fallback Rate Adjustments Rulebook

arrangements should be minimally impacted and the process should preserve the efficiencies associated with a non-fragmented CAD liquidity pool. As explored in detail in this document, central to the proposed conversion approach for CAD CDOR is to maximise consistency with the approach taken by LCH for conversion of other IBORs in the past, including the USD LIBOR conversion most recently. This approach aims to leverage i) LCH and SwapClear members and clients' know-how/familiarity with RFR conversion processes and ii) industry investments and functionality delivered in this area in the past.

2.   Target Design Principles for CDOR conversion

The table below provides details around the differences between generic CDOR IRS trades, generic CORRA OIS trades and Conversion-Standard CORRA Output trades, i.e., those contracts that would result from the LCH conversion process. The logic for the target design principles for Conversion-Standard CORRA Output contracts mirrors LCH's implemented solution for USD LIBOR conversion, and other previous IBOR conversions.

It is important to note that whilst ISDA fallbacks do not change the legal characterisation of the trade, LCH's process represents a contractual conversion. For example, a CDOR trade to which ISDA's fallbacks have begun to apply remains a CDOR trade and a subsequent process is required to complete the legal change. Instead, LCH conversion envisages the creation of CORRA trades as output contracts, which are legally characterised as such. In addition, from an economic perspective, LCH converts IBOR trades to their corresponding RFR-based contracts using the same interest calculation period as the original IBOR contract and applies a payment lag as per the OIS conventions. As a result, in the context of CDOR conversion, a 1-day payment lag would be applied to the floating leg of the converted CORRA trade, as per underlying OIS conventions.

Any SwapClear users for whom the attributes of LCH's proposed Conversion-Standard CORRA Output contracts described below are not suitable or not preferred should strongly consider amending their CDOR contracts well ahead of LCH's conversion date. Note that LCH will not need to convert CAD CDOR contracts which rely exclusively on representative CAD CDOR settings prior to its cessation date, and therefore proposes to allow these contracts to run to maturity, in line with previous conversion processes.

2.1 Trade attributes: typical CAD CDOR IRS, generic CORRA OIS and LCH Conversion Standard CORRA Output Contract

Trade attribute, FLT leg	Typical CAD CDOR IRS, subject to ISDA fallbacks (Input Contract)	CORRA OIS, generic market trading	Conversion-Standard CORRA Output Contract	Rationale for Output Contract attribute
Floating Rate Option (FRO)	CAD-BA-CDOR; or CAD-CDOR	CAD-CORRA-OIS-COMPOUND	CAD-CORRA-OIS-COMPOUND	Cessation of CAD CDOR

Floating Rate Spread	None vs CDOR, but implicit to CORRA via fallbacks	None	Applicable ISDA / BISL Spread Adjustment	Ongoing cashflow & NPV alignment vs Input Contract
Interest Period Frequency	1M, 3M	6M	Inherited from the Input Contract	Respects Input Contract frequency
Payment Frequency	6M (based on regular periodic compounding interest)*	6M	Inherited from the Input Contract	Respects Input Contract frequency
Payment lag	Zero	1 CATO business day	1 CATO business day	Preserves Input Contract accrual period
Offset Lag[9]	2 (2D backward shift for CORRA required vs CDOR Interest Period)	n/a (zero)	n/a (zero)	Respects Input Contract Interest Periods
Effective Date	Deal specific	Deal specific	Inherited from the Input Contract	Respects Input Contract terms
Termination Date	Deal specific	Deal specific	Inherited from the Input Contract	Respects Input Contract terms

*Contracts with regular periodic compounding have a Payment Frequency that differs from the Interest Period Frequency.

2.2 Applicable Spreads relevant to LCH conversion

Regarding spreads, the applicable values were crystallised on 16th May 2022, as announced by Bloomberg as their calculation agent[10]. The values relevant to this consultation are as follows:

Currency	Tenor (Interest Period Frequency)	Spread Adjustment (%)
CAD	1 Month	0.29547
CAD	3 Months	0.32138

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[9] Offset Lag is a term in the IBOR Fallback Rate Adjustments Rulebook. It defines a complicating but necessary offset between each accrual period in the original CDOR contract and the corresponding observation period for CORRA compounding towards each Adjusted Reference Rate / Fallback Rate when operating under fallbacks. A non-zero Offset Lag creates CORRA trades which would not be fungible with contracts that are traded with CORRA as their original FRO.

[10] IBOR-Fallbacks_CDOR_Cessation_Technical-Note_220516.pdf (bbhub.io)

2.3 Illustrative mapping approach for converting a CAD CDOR IRS into a Conversion-Standard CORRA Output.

Based on the elements articulated above, the following table provides an illustrative mapping for the conversion of a CAD CDOR vs. fixed IRS.

Converted Swap Leg	Feature	Comment
Fixed Leg	All details to remain the same	To note, the fixed leg of the converted CORRA trade will retain the 0 business days payment lag of the original contract.
CORRA Floating Leg	Notional	Same as the original CAD CDOR trade
	Roll Convention	Same as the original CAD CDOR trade
	Effective Date	Same as the original CAD CDOR trade
	Maturity Date	Same as the original CAD CDOR trade
	Business Day Convention	Same as the original CAD CDOR trade, including Adjusted/Unadjusted specification.
	Spread	Any contractual spread will be applied/persisted on the CORRA leg, same as it was on the original CAD CDOR trade (i.e., no adjustment). A spread adjustment (SA) will be populated on the CORRA leg (as defined by the original index/reset tenor of the CAD CDOR swap) in addition to any contractual spread. Treatment for stubs: the CORRA trade will carry over the regular period SA, not an interpolated SA. Note, LCH will cash compensate for the difference in spread value.
	Index	The new index will become the corresponding CORRA to the converted CAD CDOR and will be booked under the ISDA 2021 FRO label.
	Day Count Fractions	Same as the original CAD CDOR trade.
	IBOR Coupon Preservation	CAD CDOR coupons with all representative fixings occurring before cessation date will be preserved through the use of overlays. Further details are included in the next section.
	Fixings	As per vanilla OIS conventions, i.e., no offsets/lags/backward shifts. For CDOR trades with non-standard fixing lags, these will be converted to standard fixing for the CORRA trade, i.e., 0 days.
	Fixing Centres	CATO – as per default convention for CORRA index. Additional fixing centres will not be persisted onto the new CORRA trade.

Payment Lag	1 business day payment lag as per underlying CORRA index payment convention.
Payment Calendar	Same calendar as the original CAD CDOR trade. Additional payment calendars included in the original contract will also be persisted.
Fees with future payment dates	Same as original CAD CDOR trade

In addition to the above, the Conversion-Standard CORRA Output trades will have a Cleared Registration Date equal to the Monday following the conversion event weekend, and a Trade Date equal to the Friday before the conversion event weekend. Additional details around proposed timings are included in the section below.

3. Central features of LCH's Conversion Process

The central design features outlined in this section have been the pillars of previous IBOR conversions, such as the USD LIBOR conversion performed in Q2 2023. Since the features below have proven to successfully support conversions in the past and given that diverting from these principles would result in material changes to SwapClear's core conversion code/functionality, LCH is not seeking feedback on these features. We believe that it would be in LCH's and SwapClear members' and clients' best interest to align the central features of the CAD CDOR conversion to those used previously, and to minimise the number of changes needed (operational, technological, reporting, etc.) in relation to the core conversion functionality and processes. This would build on and benefit from the experience stemming from previous LCH conversions.

Concurrently, there are a number of CAD conversion-specific elements on which LCH is seeking feedback from its participants. They take into account the nuances of the CAD CDOR swap population at LCH and may represent a deviation from previous conversion processes, and more specifically from the USD LIBOR conversion process. We outline these features in Section 4.

3.1 Scope of conversion

In scope products	Out of scope
CAD CDOR Interest Rate Swaps	Any CAD CDOR trade that is either:
CAD CDOR Variable Notional Swaps	1) fully fixed before the cessation date; or
	2) matures before the cessation date,
CAD CDOR Zero Coupon Swaps	will not be eligible for conversion.
CAD CDOR/CDOR Basis swaps	
CAD CDOR/CORRA Basis swaps	

3.2 Representative CDOR preservation and overlay booking model

To ensure continuity in market pricing (cleared vs. bilateral) and in acknowledgement of the fact that CAD CDOR is still representative up and until the cessation date, LCH will seek to preserve the payments associated with representative CAD CDOR fixings and/or coupons.

More specifically, over the conversion weekend, all in-scope CAD CDOR trades will be converted to CORRA equivalents. Overlay bookings will be used as an operational device to achieve cashflow continuity/preservation on each trade that involves payments in respect of representative CAD CDORs that are already fixed or will fix ahead of the conversion date. In practice, the overlay bookings will offset the early, duplicative element of the Conversion-Standard CORRA Output trade/leg, while reinstating CAD CDOR in the exact form of the Input Contract for all the periods on the original trade for which it remains representative.

The <u>overlay booking model</u> is structured as follows:

  i)   House accounts: direct CAD CDOR/CORRA basis swap overlay booking where possible;

  ii)   Client accounts: pairs of outright CAD CDOR vs Fixed (0%) and CORRA vs Fixed (0%) bookings;

  iii) The effective date of the overlay booking will match that of the original CAD CDOR swap[11], which will facilitate reconciliation;

  iv)   The maturity date of the overlay booking(s) will be shorter than that of the original CAD CDOR swap. It will mature on the period end date relating to the last representative CAD CDOR fixing;

  v)   The periodicity (e.g., quarterly, semi-annual, etc.) will be inherited from the floating leg of the original CAD CDOR swap;

  vi)   The Fixed leg day count fraction will be inherited from the fixed leg of the original CAD CDOR swap;

  vii) Forward starting swaps which rely on no representative CDOR fixings will not generate overlays.

Similar to previous conversions, LCH will provide the information necessary to link overlays to the Conversion-Standard CORRA Output contracts running for the full length of the CDOR Input Contract. The use of overlay bookings is a purely operational matter, and their legal status for previous IBOR conversions was addressed in LCH's Rulebook and will be applied to CAD CDOR conversion in an equivalent manner.

3.3 Cash Compensation

Central to LCH RFR conversion processes is the provision of cash compensation calculated as the difference in present value between the pre-conversion CDOR trade ("Input Contract") and its Conversion-Standard CORRA Output ("Output Contract"), which in this context includes the present value of any overlay bookings.

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[11] ZCS with a yet-to-be-fixed representative CDOR fixing will however receive overlays with an effective date as the start date of the last representative CDOR period. Further details are provided in Section 4.

For these purposes, the present value of the Input Contract is calculated under fallbacks i.e., as if fallback-style CORRA was payable in all periods for which a post-cessation CDOR fixing would otherwise apply. The difference of NPV will be capitalised from the Friday prior to conversion weekend to Settlement date using the CORRA discounting curve. Cash compensation will therefore account for differences between Input and Output contracts such as the elimination of the Offset Lag and the introduction of the payment lag.

Cash compensation amount $= \sum_i \left[\mathrm{NPV}_i^{\mathrm{Fallback}} - \left(\mathrm{NPV}_i^{\mathrm{RFR}} + \mathrm{NPV}_i^{\mathrm{Overlay}} + \mathrm{NPV}_i^{\mathrm{Overlay\_2}} + \mathrm{NPV}_i^{\mathrm{Overlay\_3}} + \mathrm{NPV}_i^{\mathrm{Overlay\_4}} \right) \right] \cdot \dfrac{1}{\mathrm{DF}_{\mathrm{Spot}}^{\mathrm{RFR}}}$

NPV Fallback = NPV of the Input CDOR contract valued conforming to ISDA's CORRA-based Fallbacks

NPV RFR = NPV of the Conversion-Standard CORRA Output contract

NPV Overlay = NPV of the overlay used to preserve the representative CDOR payments. The number of overlays relevant for the calculation of the cash compensation will vary according to the type of account and product in scope for conversion.

With regards to the operational details, in line with previous conversion events, cash compensation will be delivered via a single net cash compensation CORRA swap at the clearing account level, with a minimum remaining term to maturity and notional of 1 CAD. The registration date will be the Monday following the conversion weekend, with payment and settlement date being the following day (Tuesday) since CAD is a PPS+1 currency. Trade level breakdown and reporting will be available to ensure correct attribution is possible for any users wishing to break the fee down to a detailed level.

3.4 Legal, operational and reporting considerations

From a legal perspective, LCH will characterise the conversion as a legal amendment to the existing CAD CDOR contract, notwithstanding its operational treatment as a close-out of the existing contract and the registration of a new contract. This approach mirrors the approach embedded in the LCH Rulebook in relation to the USD LIBOR and other conversion processes.

From an operational perspective, and distinct from the legal characterisation, LCH will terminate the CAD CDOR contract, and will create a new CORRA contract with a new LCH ID (different to the original CDOR trade). This new ID is required in order to conform with the existing established data model in LCH (and middleware provider) systems for workflows such as compression events, portfolio transfers and economic amendments. With regards to reporting, all conversion-related bookings will be reported using new UTIs. LCH's view remains that this is the most reliable operational workflow, and it intends to rely on the well-established LCH messaging infrastructure (e.g., Clearlink, ATSS synchronisation) for the purpose of CAD CDOR conversion.

Similarly, LCH will make available to members and clients the range of Portal functionality and reporting tools that have supported users in the context of previous conversions. These will enable them to: i) observe on a given day the indicative results of a (simulated) conversion in relation to the outstanding CAD CDOR book, in preparation for the real conversion event and to increase familiarity with the expected results; and ii) reconcile their books and records with LCH following the final (real) conversion events. In this context, reports such as REP315 and REP72FB will be updated to cater for the CAD conversion specificities, providing users with (indicative/final) information regarding NPVs and cash compensations fees at the trade level and cash-flow level, respectively.

4.   Features specific to CAD CDOR conversion

This section includes design principles that consider the specificities of the LCH-cleared CAD CDOR swap market. Some of the proposed features may differ from the USD LIBOR conversion process performed by LCH in Q2 2023 and/or from other IBOR conversions undertaken in 2021. **LCH is seeking feedback from SwapClear users on all the design principles proposed below**.

4.1 Input Contracts involving CAD CDOR legs with Regular Compounding

As a function of the CAD CDOR swap market, the majority of SwapClear's outstanding CAD CDOR contracts are trades for which the CAD CDOR leg involves compounding. Such legs involve a Payment Frequency higher than their Interest Period Frequency. The most common combinations are: (i) a 3M Interest Period Frequency with 6M Payment Frequency; (ii) a 1M Interest Period Frequency with 3M Payment Frequency; and (iii) a 1M Interest Period Frequency with 6M Payment Frequency. Other combinations are also present.

When converting these contracts and similar to the USD LIBOR conversion process, LCH proposes to produce an Output Contract in which the CORRA leg adopts the Spread Adjustment corresponding to the Interest Period Frequency of the Input Contract and has a Payment Frequency equal to the Payment Frequency of the Input Contract. For example, for an Input Contract with a CDOR leg with a 3M Interest Period Frequency and with 6M Payment Frequency, the CORRA leg of the Output Contract would involve CORRA (flat) compounded daily with 6M Payment Frequency, to which the 3M Spread Adjustment of 0.32138% would be added (non-compounded, with 6M Payment Frequency).

From an overlay perspective, it is important to note that there may be a number of these periodic compounding trades involving a coupon period which would otherwise rely on combining representative and non-representative CDOR settings towards a single payment. This structure may be particularly relevant for those Input Contracts with a CDOR leg with 1M Interest Period Frequency and with either 3M or 6M Payment Frequency. In these cases, it is not possible to wholly preserve the coupon of a periodic compounder trade if it requires one or more non-representative CAD CDOR fixings (i.e., a fixing that falls after cessation date) in order to compute the coupon amount to be settled. As a result, LCH proposes to preserve – via overlay bookings – a "truncated" CDOR-based payment running to the end of the irregular compounding period that relies exclusively on the representative CDOR period(s). This approach would mirror the one used in the context of USD LIBOR conversion for trades involving USD LIBOR legs with Regular Compounding.

Worked Example – Periodic compounding IRS

Input Contract details:

- CAD CDOR 1M CMP 3M trade with effective date 28th May 2020 and a maturity date of 28th May 2025.

- Conversion date assumed to be on Saturday 1st June 2024.

> - There are 2 Representative CDOR fixings/periods to be preserved under a compounding structure:
>
>   - o A period that would be ongoing at the point of conversion with reset date of 28th May 2024; and
>
>   - o a second (yet-to-be fixed) representative period related to a reset date of 28th June 2024.
>
> - There is a third non-representative period related to a Reset Date of 28th July 2024 that, however, should not be preserved by LCH.
>
> The resulting combination of conversion Output bookings would be as follows:
>
> - The CORRA leg of the Output Contract would involve CORRA (flat) compounded daily with 3M Payment Frequency, to which a 1M Spread Adjustment of 0.29547% would be added (non-compounded, 3M Payment Frequency).
>
> - The overlay would be booked via a trade that would be compounding over 2 months only, i.e., up to the end of the second period based on a representative CDOR rate[12].
>
> - The maturity date of the overlay would coincide with the end date of the last period based on a representative CDOR fixing (i.e., 28th July 2024).

4.2 Proposed treatment of CAD CDOR/ CDOR and CAD CDOR/CORRA Basis Swaps

Unlike the USD LIBOR conversion process, LCH does not plan to introduce a new CAD CORRA/CORRA contract, i.e., we do not propose to convert outstanding CAD CDOR/CDOR and/or CDOR/CORRA basis swaps into CAD CORRA/CORRA basis swaps. Such products are not currently traded, nor are they expected to be actively traded by market participants in the future. As such, the proposed approach by LCH would be to rely on a mandatory service-wide basis splitting event similar to the one performed by SwapClear in the context of non-USD LIBOR conversions in 2021. Through such a mandatory event, all outstanding basis swaps would be split by LCH into pairs of outright swaps in advance of or coincident with conversion.

The proposed approach would have a series of advantages: i) it would not require LCH and its users to build eligibility and operational support for CAD CORRA/CORRA trades; ii) it would be comprehensive in the definition of a single approach for all outstanding basis swaps (CDOR/CDOR and CDOR/CORRA); and iii) it would create pairs of outright CDOR IRS trades to which the standard Input Contract/Output Contract relationship can be applied. At the same time, there are also some disadvantages in relation to a mandatory basis splitting event, such as the requirement for members and clients to potentially participate in an additional event ahead of conversion, and the increase in line items and related notional stemming from splitting one trade into a pair of trades with the same maturity as the original basis swap.

However, in light of the total number of outstanding basis swaps at SwapClear, we believe that the advantages of a mandatory basis splitting process outweigh the disadvantages. As a result, LCH proposes to impose a service-wide mandatory basis swap splitting event on SwapClear participants ahead of or coincident with the performance of the CAD CDOR conversion.

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[12] Please note that SwapClear does not support clearing of CDOR/CORRA basis swaps with compounding on the CDOR leg. LCH will adjust the overlay booking model accordingly.

4.3 CAD CDOR Zero Coupon Swaps (ZCS)

SwapClear clears CAD CDOR swaps in which the CDOR leg involves compounding throughout its life towards a single terminal CDOR-based payment ("ZCS"). For these types of trades, LCH proposes to replicate the approach taken for conversion of USD LIBOR ZCS, which relied on the determination of the end date of the final floating rate period to which a representative LIBOR applied.

In the context of CAD CDOR conversion, it is worth noting that CORRA is a rate that has been first published in 1997 with a change in methodology occurred in June 2020 to ensure its robustness and to support the transition to alternative RFRs in the CAD market through an "enhanced" version of the rate[13]. We believe that using the same logic of USD LIBOR ZCS for conversion of CAD CDOR ZCS would provide a solution that ensures the preservation of the total floating rate based on representative CDOR fixings accrued up to the point of conversion, whilst overcoming a few operational challenges linked to the potential differences in fixings history between CDOR (originally developed in the 1980s) and CORRA, as well as to the potential reliance on two versions of CORRA on the Output converted trade for periods before/after June 2020.

In particular, the proposed approach envisages the determination by LCH of the end date of the final floating rate period to which a representative CDOR applies ("Representative CDOR Accrual End Date"). LCH will then determine the total floating rate accrued to that date (the "CDOR Accrued"). LCH will then register Output CORRA Contracts which take the Representative CDOR Accrual End Date as their forward Effective Date. The notional amount of this trade will be the sum of the original notional amount and the CDOR Accrued. The fixed leg of the Output CORRA contract will be a fixed known amount that on termination date would be net of the original fixed leg cashflow and CDOR accrued amount up to the end date of the last representative CDOR period. Overlays will also be used to preserve any representative CDOR setting that will fix between LCH conversion date and CDOR cessation date.

Similar to the USD LIBOR ZCS conversion, we believe this solution would support a closer NPV relationship between the Input ZC Contract and the Output ZC Contract, that would then be reflected in a more precisely calibrated cash compensation amount.

Worked Example ZCS

Input Contract details – last representative CDOR setting fixes between conversion and cessation date:

- CAD CDOR 3M CMP 1T trade with effective date of 24th March 2019 and a maturity date of 24th March 2029.

- Conversion date assumed to be on Saturday 1st June 2024.

- Start date of the last representative CDOR fixing is 24th June 2024 (yet-to-be-fixed).

- Representative CDOR Accrual End Date is 24th September 2024.

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[13] https://www.bankofcanada.ca/rates/interest-rates/corra/methodology-calculating-corra/

The resulting combination of conversion Output bookings would be as follows:

- One new converted/Output CORRA swap where:

   o Floating rate is CORRA + 3M spread adjustment (0.32138%)

   o The effective date is the start date of the first non-representative CDOR period (24th September 2024).

   o The notional is equal to the sum of the original notional and the CDOR accrued amount up to the start date of the last representative CDOR (yet-to-be fixed) period, i.e., accrued up to 24th June 2024.

   o The fixed leg is a fixed Known Amount that on termination date would be net of the original fixed leg cashflow and of the CDOR accrued amount up to the start date of the last representative CDOR period (24th June 2024)[14] .

   o The maturity date is equal to the maturity date of the original Input contract.

- One new overlay booking for CAD CDOR Coupon Preservation[15] where:

   o The effective date is the start date of the last representative CDOR period to be preserved (24th June 2024).

   o The notional is equal to the sum of original notional + CDOR accrued amount up to the start date of the last representative CDOR period (i.e., accrued up to 24th June 2024).

   o The maturity date is the end date of the last representative CDOR period (24th September 2024).

4.4 Proposed treatment of CDOR swaps that follow the IMM CAD roll convention

Under ISDA's 2021 definitions (Section 3.1.14 iii), IMM CAD roll dates are defined as being "in respect of a Calculation Period and a Calculation Amount denominated in CAD, the last trading day of the Canadian Derivatives Exchange (Bourse de Montréal) 3-Month Canadian Bankers' Acceptance Futures contract"[16].

Specifications in relation to the 3-Month Canadian Bankers' Acceptance Futures (BAX)[17] state that the last trading day is as follows:

a) For contract months expiring on or before June 28, 2024: Trading of Canadian Bankers' Acceptance Futures ceases at 10:15 a.m. (Montréal time) on the second London (Great Britain) banking day preceding the third Wednesday of the Settlement Month.

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[14] Where a known amount is already present, the accrued interest will be combined with the known amount i.e., it could either be added or deducted to the fixed rate/amount. Where the original terminal fixed leg payment is expressed as a rate, such fixed rate will be converted to a known amount and then the same logic applies i.e., the accrued interest element will be added or deducted to the known amount. The use of a known amount ensures that such trade is compressible by users post conversion.
[15] A client account would require 2 bookings vs 0% Fixed rate in line with the overlay model for clients.
[16] If the determined day is not a Business Day in Montreal or Toronto or is not a day on which the Bourse de Montréal is open for trading, the last trading day shall be the previous Business Day in Montreal or Toronto on which the Bourse de Montréal is open for trading.
[17] These contracts have as underlying the reference 3-month Canadian Bankers' Acceptance rate. The Reference Canadian Bankers' Acceptance Rate means the daily CDOR expressed as an interest rate per annum. Further information is available at TMX - Montréal Exchange - Three-Month Canadian Bankers' Acceptance Futures (BAX) (m-x.ca)

b) For contract months expiring after June 28, 2024: Trading of Canadian Bankers' Acceptance Futures ceases at 10:15 a.m. (Montréal time) on the third Wednesday of the Settlement Month.

c) If this day is not a business day for the Bourse or for the Montreal or Toronto banks, trading of Canadian Bankers' Acceptance Futures ceases at 10:15 a.m. (Montréal time) on the preceding business day[18].

These specifications cause the last trading day (and by extension the related IMM CAD date) for periods before 28th June 2024 to differ from periods after. We need to understand these differences and then interpret them in the context of LCH conversion.

LCH is considering a conversion of its CDOR swaps to CORRA equivalents. In this context, it is notable that the Montreal Exchange has announced plans to convert eligible BAX futures to equivalent 3M CORRA futures contracts[19] in Q2 2024 as part of their BAX fallback implementation plan[20]. Now, 3M CORRA futures are based on a standard 'IMM Settlement Date' definition[21], with Reference Quarters running between the third Wednesdays of the relevant months. Use of the third Wednesday aligns with the last trading day definition under limb b) of the 3M BAX futures specifications above (as picked up in ISDA's IMM CAD definition and applicable to SwapClear's CDOR swaps) and the CORRA futures specifications are positive for one potential approach for LCH.

We anticipate that market participants will be keen to have post-conversion LCH-cleared CORRA swaps that align with CORRA futures (as hedging instruments) just as they originally aligned to BAX futures. As a result, we propose as part of the LCH transition process to convert the CDOR swaps with IMM CAD roll conventions to CORRA swaps with IMM CAD roll conventions, thus ensuring contractual continuity in this respect.

There are, however, two additional issues that need consideration in this context:

Intermediate irregular period: during the life of a CDOR trade with IMM CAD rolls that spans 28th June 2024, there is an irregular intermediate period, i.e., a period that starts on Monday 17th June 2024 and finishes on Wednesday 18th Sep 2024. This creates operational complication for booking systems that only support an initial and/or an end stub. To resolve this, and as articulated in the worked example below, we propose to apply a new common forward effective date to each converted IMM CAD CORRA swap that differs from the effective date of the original IMM CAD CDOR trade. In tandem, we propose to use overlay trades that use the effective date of the original IMM CAD CDOR trade, but which have an adjusted termination date equal to the effective date of each converted IMM CAD CORRA swap. Together, this approach aims to account for and preserve this irregular intermediate period.

Termination date: the change in roll dates embedded in the ISDA definition leads to the creation of a back stub, i.e., a final period that runs from the (now adjusted) third Wednesday up until the original termination date (which does not adjust) being a Monday. We believe that retaining this outcome in the converted CORRA swaps is undesirable as it would not align with the dates associated with the corresponding CORRA futures

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[18] TMX - Montréal Exchange - Three-Month Canadian Bankers' Acceptance Futures (BAX) (m-x.ca)
[19] TMX - Montréal Exchange - Three-Month CORRA Futures (CRA) (m-x.ca)
[20] BAX Fallbacks Implementation Plan (m-x.ca)
[21] "IMM Settlement Dates" means, in respect of a Calculation Period and a currency or a Floating Rate Option for which contracts are written on the International Money Market Section of the Chicago Mercantile Exchange, each day during that Calculation Period that is specified by the Chicago Mercantile Exchange, pursuant to its contract specifications, as "First Delivery Date" for such currency or Floating Rate Option. References in the Confirmation to "IMM" shall be construed as a reference to IMM Settlement Dates.

SwapClear consultation | CAD CDOR contract conversion

for such final periods. As a result, we propose to amend the termination date of each converted CORRA swap to be the third Wednesday of the relevant month in line with the IMM CAD definition.

Worked example: Floating Leg of IMM CAD IRS Input Contract (assuming 1st June 2024 conversion date)

Contractual Feature	Input Contract	Output Contract: Main	Output Contract: Overlay
Notional	CAD 100mn	CAD 100mn	CAD 100mn
Effective Date	13-Mar-2023	18-Sep-2024	13-Mar-2023
Maturity Date	16-Mar-2026	18-Mar-2026	18-Sep-2024
Index	CDOR, 3M	CORRA	CDOR, 3M
Spread	0.00%	0.32138%	0.00%
Period End Dates	Quarterly	Quarterly	Quarterly
Roll Convention	IMM CAD	IMM CAD	IMM CAD
Day Count Fraction	ACT/365	ACT/365	ACT/365
Fixing Lag	0D	0D	0D
First Fixing Date	Effective Date	Effective Date + 1	Effective Date
Last Fixing Date	15-Dec-2025	Termination Date	17-Jun-2024
Fixing Centres	CATO	CATO	CATO
Payment Lag	0D	1D	0D
Payment Calendar	CATO	CATO	CATO

Note that as a function of making these proposed amendments to the floating legs of the Output Contracts (relative to the Input Contract) and noting that we propose to make corresponding changes to the fixed leg (to align such dates with the modified floating leg dates), we expect to fold the valuation impact of all such changes into the cash compensation payment.

SwapClear consultation | CAD CDOR contract conversion

4.5 Timing

LCH proposes the conversion of all outstanding CDOR contracts to be performed in a single event on Saturday 1st June 2024, based on the population of contracts that would be outstanding on EOD Friday 31st May 2024.

We believe that the proposed conversion date would strike the right balance in allowing enough time for LCH and its participants to complete the preparatory work needed ahead of the conversion event and have sufficient built-in contingency. In particular, having considered relevant holidays across jurisdictions and keeping the CDOR cessation date of 28th June 2024 in mind, the CAD CDOR conversion events schedule will be the following:

Period/Date	Event	Environment
Q1 2024 (precise date TBD)	CAD Basis swaps splitting event Dress Rehearsal	UAT
Q1 2024 (precise date TBD)	CAD Conversion Dress Rehearsal #1	UAT
Q2 2024 (precise date TBD)	CAD Conversion Dress Rehearsal #2	UAT
Q2 2024 (precise date TBD)	CAD Basis swaps Splitting event[22]	Production
Saturday 1st June 2024	CAD Conversion event	Production
Saturday 15th June 2024	*CAD Conversion event contingency date*	*Production*

We believe that a conversion date of 1st June 2024 would maximise the efficiencies from a conversion perspective. In particular, it would: i) allow more time to members and clients to optimise their outstanding portfolio ahead of the conversion event; ii) help minimise the number of overlays generated as part of the conversion process; iii) help minimise the number of potential offsets required, should SwapClear participants wish to exit/trade out such overlay positions; iv) allow enough time for the completion of the various events as per above schedule, including the ability to have some built-in contingency on such events to be completed before the main conversion; and v) still allow LCH to have a few weekends in June 2024 should SwapClear need to activate any contingency planning for the purpose of the final CAD CDOR conversion event.

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[22] The Basis swap splitting event and the conversion process could potentially be performed over the same weekend, with the splitting event being a precursory step to conversion. The possibility of combining these two events into a single weekend, for both dress rehearsals and production events, remains to be determined by LCH and it will be subject to risk, legal and regulatory review.

5. Post conversion solutions

5.1 CAD CDOR Swap Product Eligibility beyond conversion

After careful consideration, we propose not to support the creation of an LCH legacy capability for CAD CDOR contracts post conversion. As a result, in common with LCH's EONIA, SOR and THBFIX conversions, LCH does not plan to offer a CAD CDOR Legacy capability and it intends to withdraw clearing eligibility of the relevant CDOR products beyond the conversion date.

Notwithstanding this, LCH intends to enable firms to register CAD CDOR trades where the last setting before maturity would be based on a representative CDOR fixing (i.e., last fixing occurring on or prior to CDOR cessation date), thus allowing members and clients to: i) offset/exit outstanding CAD CDOR trades that were not in scope of conversion; and ii) to offset/exit the overlay bookings generated as part of the conversion process, which by definition would rely on a representative CDOR setting.

Should consultation respondents signal a strong desire for SwapClear to create a CAD CDOR Legacy solution, LCH would need to subsequently consult on the applicable commercial terms.

03
Request for feedback

The proposed process outlined in this consultation aims to provide a robust, transparent and standardised back-stop outcome for LCH-cleared CAD CDOR contracts that remain outstanding at or shortly before 28th June 2024. The conversion process must be applied consistently to all relevant CAD CDOR contracts and, therefore, cannot provide for any optionality at trade or account level. Customers needing or wanting a tailored approach, should make their own arrangements. LCH encourages pro-active transition of customers' CDOR trades ahead of LCH's conversion process and believes that providing clarity and certainty over these back-stop outcomes will assist SwapClear participants with their prioritisation and planning. Please note that as with LCH's previous conversion processes, there will be a charge for any CDOR trades subject to it. The applicable pricing structures will be part of a separate communication by LCH.

We strongly encourage SwapClear participants to respond to this consultation and to express their opinion in order that LCH has the widest set of feedback on which to determine how to proceed. LCH will be supporting this consultation with a number of briefings and with additional materials. Please contact your LCH Sales & Relationship manager should you require further information about these.

To participate in this consultation, please reply to **CADConversion@lseg.com** and we will send you a link to complete the on-line survey by **Friday 15th September 2023**. Individual responses received by this date will be kept CONFIDENTIAL and will be considered by LCH in determining which approach should be adopted. Any responses received after this date may not be considered.

Consultation questions

1) Do you agree that LCH should convert any CAD CDOR trades outstanding at (or shortly before) 28th June 2024, leveraging the core functionality successfully deployed in past conversions (e.g., generation of Conversion Standard CORRA Output contracts, use of overlay bookings and cash compensation)? (Yes/No) If No, please outline your preferred alternative, noting that LCH cannot allow CAD CDOR trades reliant on non-representative settings to remain outstanding after 28th June 2024.

2) Do you agree with LCH's proposal outlined in this consultation for the conversion of CAD CDOR IRS having CDOR legs with Regular Compounding? (Yes/No) If No, please outline your preferred alternative.

3) Do you have or expect to have at the time of conversion any outstanding CAD CDOR/CDOR and/or CDOR/CORRA Basis Swaps cleared at SwapClear? (Yes/No) If so, do you agree with LCH's conversion proposal based on a mandatory basis splitting event to be performed by LCH ahead of or coincident with conversion? (Yes/No) If No, please outline your preferred alternative.

4) Do you have or expect to have at the time of conversion any outstanding CAD CDOR ZCS cleared at SwapClear? (Yes/No) If so, do you agree with LCH's proposal outlined in this consultation? (Yes/No) If No, please outline your preferred alternative.

5) Do you have or expect to have at the time of conversion any outstanding CAD CDOR swaps that follow the IMM CAD roll convention at SwapClear? (Yes/No) If so, do you agree with LCH's proposal outlined in this consultation? (Yes/No) If No, please outline your preferred alternative.

6) Do you agree with LCH's proposed conversion date of Saturday 1st June 2024? (Yes/No) If No, please outline your preferred alternative.

7) Do you agree with LCH's proposed approach with regards to CDOR clearing eligibility post conversion date, i.e. CDOR trades will not be eligible other than those relying wholly on CDOR fixings on or prior to 28th June 2024? (Yes/No) If No, please outline your preferred alternative, noting that a CAD CDOR Legacy solution by LCH would be supported only in conjunction with the application of appropriate commercial terms.

8) Are there any other factors not identified in this consultation that LCH should consider in association with the impact of CAD CDOR cessation on cleared swaps?

We are extremely grateful for your engagement with this consultation, and we thank you in advance for your participation. Implementation of any proposal is subject to ongoing legal review, regulatory approval and risk governance and may be subject to further change. Should you have any questions not addressed here, please do not hesitate to contact your regular LCH representative or email **CADConversion@lseg.com**.

LCH

LSEG POST TRADE