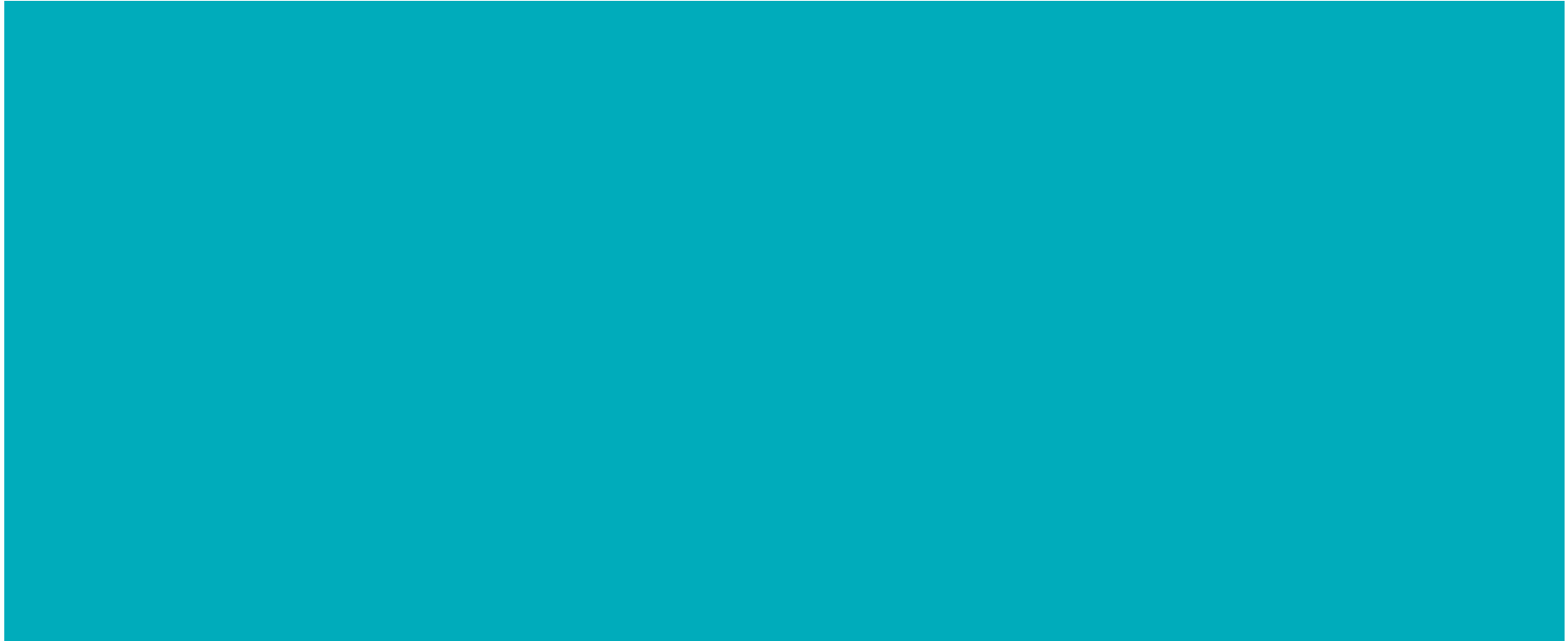


# Transition to €STR discounting in SwapClear



## Summary of LCH's planned approach

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As previously published, LCH plans to implement the following changes in the SwapClear service:

### €STR:

1. LCH plans to change the discounting and PAI/PAA<sup>(\*)</sup> on all EUR-denominated SwapClear products (including inflation) from EONIA to €STR flat;
2. LCH plans to apply cash compensation payments for all accounts containing open EUR-denominated positions on the conversion date;
3. LCH is targeting a conversion date of 24<sup>th</sup> July 2020.

# Methodology for determining the cash compensation amount

The cash compensation amount will be calculated as the difference between the net present value of all future cash flows calculated using €STR discounting and the net present value using EONIA discounting.

$$\text{Compensation amount} = \sum_i \text{NetCashflow}_i \times [DF_i^{EONIA} - DF_i^{\text{€STR}}] \cdot \frac{1}{DF_{\text{Payment Date}}^{\text{€STR}}}$$

The calculation will be performed on a net basis across all EUR discounted positions in each account.

## 'Constant-forward' methodology

In the above calculation, under this methodology all EUR future cash flows, known and projected (as calibrated under the EUR EONIA discount regime), are held constant and the compensation amount is calculated as solely the differential between the present value of these cashflows under the EUR EONIA discount regime versus the EUR €STR discount regime.

This approach can be considered consistent with the assumption that the expected forward rate is common under different CSAs, as outlined in the 19<sup>th</sup> August 2019 report from the private sector working group on euro risk-free rates<sup>(\*)</sup>. Section 5.4 of the report states:

1. "Compensation schemes should be devised to counter adverse price effects on derivatives due to the transition";
2. "In particular, the working group expects market makers and brokers to quote par swap rates based on the assumption that implied forward rates will not be affected by the transition from EONIA to the €STR discounting framework";
3. "Under [this] scenario, implied forward rates are assumed to remain unaffected by the transition from the EONIA to the €STR discounting framework".

<sup>(\*)</sup> [https://www.ecb.europa.eu/pub/pdf/other/ecb.wgeurofr\\_impacttransitioneoniaeurostrcashderivativesproducts~d917dff84.en.pdf](https://www.ecb.europa.eu/pub/pdf/other/ecb.wgeurofr_impacttransitioneoniaeurostrcashderivativesproducts~d917dff84.en.pdf)

# Operational process design for settling the cash compensation amount

SwapClear will adopt the following operational procedure to implement the change of discounting regime and book the compensation amount:

1. Saturday 20<sup>th</sup> – Tuesday 23<sup>rd</sup> June 2020 – Dress rehearsal will be conducted:
  - LCH will make available a Member test environment in which we will run the full operational process.
2. Friday 24<sup>th</sup> July 2020 (EUR EONIA discounting regime):
  - SwapClear will perform all EOD margin processing and report generation under the EUR EONIA discounting regime (no change).
3. Saturday 25<sup>th</sup> July 2020:
  - Based on the contract population at Friday's EOD close, SwapClear will calculate the compensation amount for all trades<sup>(\*)</sup> for every Member and Client account with an open EUR-discounted position;
  - Calculations will be performed at the "Clearing Account Level"<sup>(\*\*)</sup>;
  - SwapClear will book all compensating amounts on a new 1 EUR notional EONIA trade for settlement Tuesday 28<sup>th</sup> July 2020 in each Member/Client clearing account (visible as a new trade as per existing Member, Client and regulatory reporting specifications);
  - SwapClear will amend the EUR discounting regime from EUR EONIA to EUR €STR.
4. Monday 27<sup>th</sup> July 2020 (EUR €STR discounting regime):
  - Start of day – trade valuations updated in line with new €STR discounting regime.
5. Tuesday 28<sup>th</sup> July 2020 (am):
  - SwapClear will process the settlement for the compensation amount<sup>(\*\*\*)</sup> (EUR is a "same-day" currency).

(\*) SwapClear will publish a separate report of all trades with associated compensation amounts settled (REP315/c).

(\*\*) The Margin Account Level is the parent account where the account and all affiliates are margined, the Clearing Account Level is the entity level of the account where clearing activity takes place and trades are booked against.

(\*\*\*) Settlement will be made on a net basis combined with all other EUR considerations for 28<sup>th</sup> July 2020.

## Reporting and Analytics

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SwapClear currently produces the following EOD reports<sup>(\*)</sup> which can be used to identify future EUR cashflows:

1. REP00072 Cash Flow and Trade Level NPV (for Swaps only);
  - PayDate - coupon payment date, includes OIS payment lags
  - Discount Factor (EUR EONIA) - discount factor applied
  - Future NetCashFlow - cash flow amount [ $NetCashflow_i$ ]
2. REP000105 Trade Level NPV - FRA Trades.
  - PaymentDate - the date on which FRA settlement is made
  - Discount Factor (EUR EONIA) - discount factor applied
  - TradeLevelNPV → *derive future NetCashflow amount*

SwapClear also produces the following EOD yield curve reports:

1. REP00099 VM Yield Curve – Par Rates Day 0;
2. REP00101 VM Yield Curve – Zero Rates Day 0;
3. REP00109 Discount Factors <EUR>.
  - [ $DF_i^{\text{€STR}}, DF_i^{\text{EONIA}}$ ]

(\*) The latest version of the EOD reports can be found: [SwapClear Report Breakdown](#)

# €STR Reporting Overview

The following reports have been created or enhanced to provide customers with the relevant cash compensation information. In addition the cash compensation information will be available for customers via the SwapClear Portal.

Subject	Description
Update to Existing Reports	<ul style="list-style-type: none"> <li>• REP00306/c, REP00307/c and REP00308/c will include €STR information from Release 1 2020.</li> <li>• A direct client report versions for these reports are being created for this release: REP00306cf, REP00307cf, REP00308cf.</li> </ul>
New Reports	<ul style="list-style-type: none"> <li>• New report REP00315 (RFR Transition Cash Compensation) is being created as well as a direct client report version: REP00315cf.</li> <li>• New portfolio breakdown level equivalents are being created of REP00103 and REP00308:               <ul style="list-style-type: none"> <li>• REP00103PTF/REP00103cPTF</li> <li>• REP00308PTF/REP00308cPTF</li> </ul> </li> </ul>
Portal	<ul style="list-style-type: none"> <li>• Cash compensation amounts will be available via the reporting page on the SwapClear Portal (starting March 2020 for direct members and April/May 2020 for non-members)</li> </ul>
Specifications	<p>Updated Reporting Specifications reflecting these changes can be found on the Secure Area.</p> <p>Member: <a href="https://secure-area.lchclearnet.com/secure_area/secure/default.asp?folder=5787&amp;view=list">https://secure-area.lchclearnet.com/secure_area/secure/default.asp?folder=5787&amp;view=list</a></p> <p>Reporting samples will be made available in due course.</p>

(\*) The latest version of the EOD reports can be found: [SwapClear Report Breakdown](#)

## €STR Compensation Process: cash compensation details

### Settlement of compensation amount

The below provides an example of the settlement timeline for the week following the EUR transition weekend as show in REP45:

	MbrMnemonic	Party_A_SdMnemonic	Party_A_SdTradeId	LchMatchedTradeRef	PayDate	Currency	Account	Amount	StateName
Monday EOD	BD1	BDYMW1	BDYMW1	LCH0001	23/06/2020	EUR	H	1000	PaymentInstructed
Tuesday EOD	BD1	BDYMW1	BDYMW1	LCH0001	23/06/2020	EUR	H	1000	Settled

### Booking considerations

SwapClear will book the cash compensating swaps for Members and Clients at the “Clearing Account Level<sup>(\*)</sup>”. The cash compensating swaps will be 1 EUR notional OIS with a minimum remaining term to maturity.

€STR Trade Details	Value
Trade Type	Fixed vs Float
Registration Date	July 27 <sup>th</sup> 2020
Trade Date	July 24 <sup>th</sup> 2020
Effective Date	July 27 <sup>th</sup> 2020
Maturity Date	July 28 <sup>th</sup> 2020
Payment Date	July 28 <sup>th</sup> 2020

(\*) The Margin Account Level is the parent account where the account and all affiliates are margined, the Clearing Account Level is the entity level of the account where clearing activity takes place and trades are booked against.

## Reference: EUR curve building and instrument selection

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For the purposes of calculating variation margin, LCH adopts the following yield curve conventions<sup>(\*)</sup>:

1. Interpolation function: cubic spline;
2. Interpolant: continuously compounded zero rate x time (log of discount factors);
3. Piece wise flat extrapolation in the continuously compounded zero rate where necessary;
4. EUR EURIBOR 1M, 3M, 6M and 1Y curves are calibrated with respect to the EUR discount curve (EUR EONIA → EUR €STR).

The curve constituents are defined as follows:

1. EUR EONIA: fixing and outright EUR EONIA OIS;
2. EUR €STR: fixing and outright EUR €STR OIS;
3. EUR EURIBOR 1M: fixing and annual fixed versus float swaps<sup>(\*\*)</sup>;
4. EUR EURIBOR 3M: fixing, 12 futures and annual fixed versus float swaps<sup>(\*\*)</sup>;
5. EUR EURIBOR 6M: fixing, 18M strip of FRAs and annual fixed versus float swaps;
6. EUR EURIBOR 1Y: fixing, 2Y strip of FRAs and annual fixed versus float swaps<sup>(\*\*)</sup>.

(\*) [SwapClear Zero Coupon Rate Curve Construction Methodology v3.14\(Oct, 2019\).pdf](#)

(\*\*) SwapClear derives a synthetic outright par quote from the liquid benchmark swap and the basis swap market



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