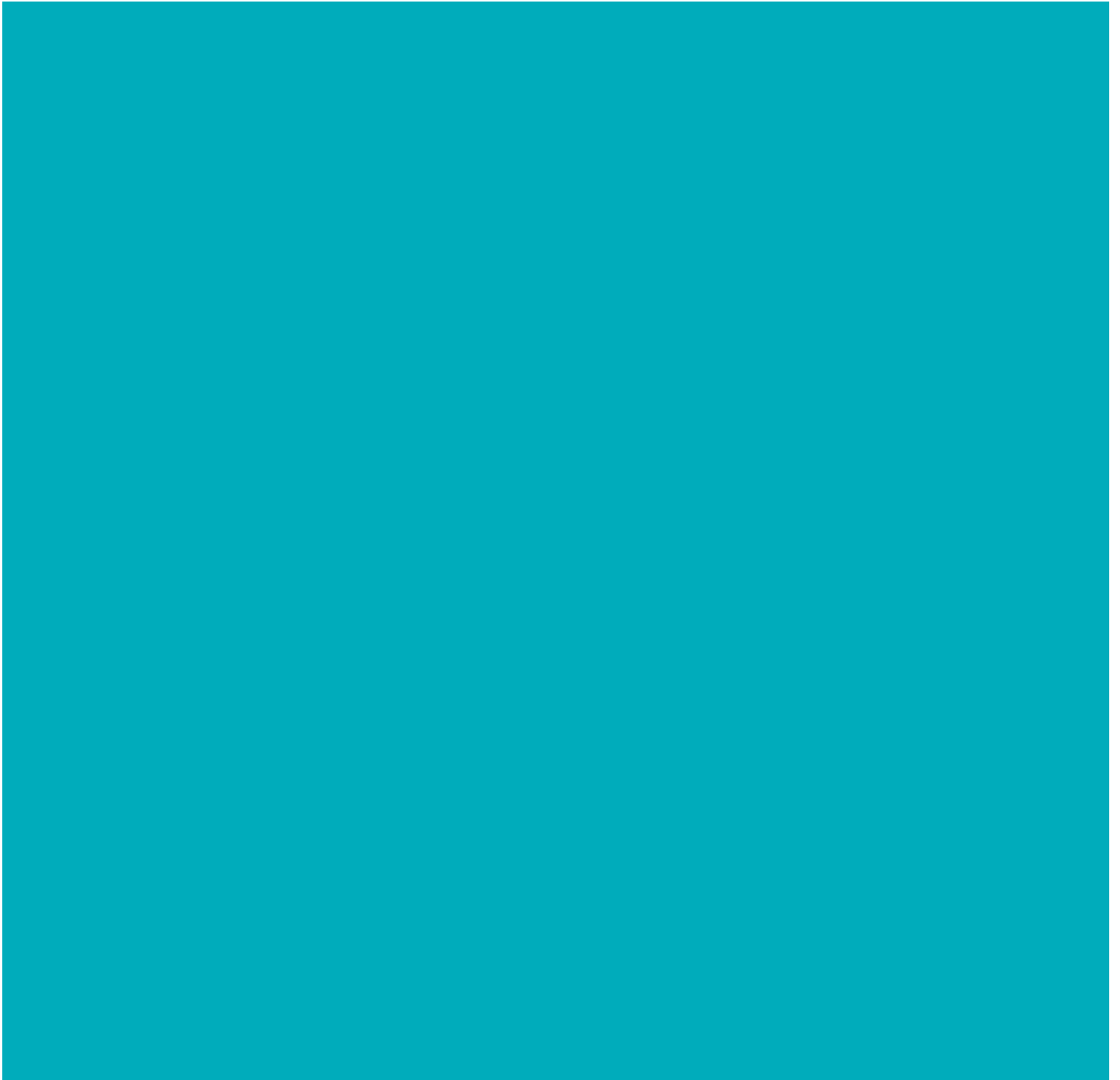# Transition from EONIA to €STR

LCH SA – March 2021

LCH The Markets'
Partner

The impact of Benchmark Reform in Euros in LCH SA Services:

LCH Group ("LCH") strongly supports the ongoing industry-wide efforts to reform many of the benchmarks used in Repo markets globally. Given the impact of these reforms on one of the two major benchmarks currently in use in euro markets, EONIA, and given the recent introduction of €STR as its recommended alternative, we wish to summarise LCH SA's transition plan for our users. This circular aims to identify the LCH SA service functionality and products that currently rely on EONIA, and the measures being taken to address the impact of the changes.

Both ECB[1] and EMMI[2] have issued materials to summarise the roles they respectively play in the reforms, their nature and progress towards their objectives. We will not reproduce this information but recommend that our users familiarise themselves with the salient points and note the key recalibration date.

EONIA at a glance:

EONIA ("*Euro Overnight Index Average*") is the benchmark 1-day interbank interest rate for the Euro zone. It is produced by the European Money Markets Institute. The definition and calculation methodology for EONIA, in its previous form, is not complying with EU benchmark regulations since 1 Jan 2020 and cannot be used for new financial contracts after this date.

EONIA will continue to be published until start of Jan 2022. The first publication of EONIA under its new methodology (a fixed 8.5bp spread to €STR) was on 2 October 2019 (referencing business conducted on 1 October 2019).

The ECB recommends that market participants gradually replace EONIA with the €STR for all products and contracts, making the €STR their standard reference rate.

Introduction of €STR (Euro Short Term Rate):

€STR is an overnight benchmark rate for the Euro zone that will be compliant with EU regulations. €STR is published by the ECB since 2 October 2019 reflecting the trading activity of 1 October 2019.

The ECB publishes €STR with three decimal places no later than 08:00am CET on the next TARGET2 business day ('T+1'). If errors are detected following standard publication that affect the published €STR by more than 2 basis points, the €STR is revised and republished on the same day, no later than 09:00am CET.

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[1] https://www.ecb.europa.eu/paym/initiatives/interest_rate_benchmarks/WG_euro_risk-free_rates/shared/pdf/20191016/2019-10 16_WG_on_euro_RFR_meeting_Frequently_Asked_Questions.pdf#_blank

https://www.ecb.europa.eu/paym/initiatives/interest_rate_benchmarks/WG_euro_risk-free_rates/shared/pdf/20191016/2019-10-16_WG_on_euro_RFR_meeting_Checklist.pdf#_blank

[2] https://www.emmi-benchmarks.eu/euribor-eonia-org/about-eonia.html

Main differences between EONIA and €STR:

EONIA is administered by EMMI, and reflects the rate at which credit institutions in the EU lend overnight funds to each other in the unsecured money market in Euro.

The €STR will be administered by the ECB and will reflect the wholesale Euro unsecured overnight borrowing costs of Euro area banks and will complement existing benchmark rates produced by the private sector.

The €STR is calculated based entirely on actual individual transactions in Euro that are reported by banks in accordance with the ECB's money market statistical reporting (MMSR).

The EONIA methodology is redefined as €STR plus a spread, calculated as the difference between the underlying interests of EONIA and the pre-€STR. The ECB has calculated this spread as 0.085% 2(8.5 bps).

	EONIA	€STR
Economic interest of index	Interbank unsecured lending rate	Wholesale unsecured borrowing rate
Number of reporting agents or bank participants	28 panel banks	52 reporting agents
Average Daily Volume	€7,7 bn	€29,8 bn
Lowest Daily Volume	€0,8 bn	€6,8 bn
Publication day	Same day by 19:00 CET	Next day by 9:15 CET
Nature of Administrator	European Money Market Institute (EMMI)	European Central Bank (ECB)

Data from ECB (review period 01/08/2016 -15/01/2018)

Compounded euro short-term rate (€STR) average rates:

The European Central Bank (ECB) will start publishing compounded €STR average rates and a compounded index based on the euro short-term rate (€STR) on 15 April 2021. Publication will take place on each TARGET2 business day at 09:15 CET and will include compounded €STR average rates for tenors of 1 week, 1 month, 3 months, 6 months and 12 months, as well as a compounded €STR index enabling the derivation of compounded rates for any non-standard tenor. The ECB is responding to market feedback in favour of having compounded rates based on the €STR published regularly by a trusted authority.

Useful links:

https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210318~4835219b4b.en.html

https://www.ecb.europa.eu/paym/interest_rate_benchmarks/WG_euro_risk-free_rates/shared/pdf/ecb.Compounded_euro_short-term_rate_calculation_rules.en.pdf

RepoClear SA

RepoClear SA Variable Rate Repo:

Since October 2019, LCH SA clears VRR referencing both €STR and EONIA. The earliest trade date and open leg settlement date for VRR referencing €STR was 1 October 2019. LCH SA will continue to offer clearing in VRR referencing EONIA until end of 2021 or until otherwise notified.

Any VRR trades submitted to LCH for clearing that reference EONIA and have a maturity date beyond end 2021 will not be accepted for clearing. Fixed rate repo will continue to be offered in all markets.

For avoidance of doubt, RepoClear SA currently being a single currency service i.e only clears Euro denominated trades (as opposed to certain LCH businesses) it will be able to accept both VRR trades referencing both EONIA and €STR until EONIA is decommissioned.

Due to the timing of the publication of €STR (and by definition, EONIA) the correct final valuation of an EONIA-referencing repo trade will not be known until after publication of the rate on the following morning at 08:00am CET. If errors are detected following standard publication that affect the published €STR by more than 2 basis points, there is also a provision to amend the rate until 09:00am CET. This delay will affect the creation of next day settlement instructions for the end-legs.

In order to ensure the instruction of VRR end-legs for settlement continues to occur on a timely basis, and also that the calculated interest payment is accurate, LCH SA is adopting the following process ('**Delta Cash Adjustment**'):

➢ Settlement instructions for VRR end-legs will be instructed in T2S, as normal, on the day prior to settlement using the latest known €STR/EONIA rate. The end-leg of trades will settle in T2S based on this cash value

➢ Once €STR/EONIA is published on settlement date (T), LCH SA will calculate the relevant delta to the instructed cash values and will, for each member, create a cash debit/credit instruction for the differential amount. This amount will settle on the following day through the usual margin process payable via Target2 account (T+1).

➢ Details of all cash adjustments related to VRR transactions will be made available via LCH SA's member reporting service.

Communication from LCH SA:

LCH SA has proactively consulted with its Members on RepoClear business line for several months through dedicated calls and meetings with bank repo traders.

LCH SA is also present active on this topic within various associations. LCH SA has shared its proposed approach alongside general information regarding the transition to €STR on its website and via direct communication to its membership.

Testing phase:

LCH SA has been keen to adapt to the variety of levels of readiness and approaches of its membership by accepting both the recalibrated EONIA rate until its decommissioning and the €STR rate as early as possible.
LCH SA offered to its Membership two testing periods end of 2019 to ensure a successful and smooth transition from EONIA to the €STR based Variable Rate Repo.

LCH SA has been accepting VRR trades indexed on €STR in production since **29th October 2019**

RepoClear SA Q&A:

Please find below a Q&A aiming at ensuring best understanding from members on how RepoClear SA is transitioning from EONIA to €STR.

1/ How will the "delta cash adjustment" be settled on our account? Will this be a separate amount or included into another amount?

The debit/credit difference is actually folded into the overnight margin call at EOD on VRR end date so effectively it won't be paid/received until the following morning (i.e. VRR end date + 1).

2/The "delta cash adjustment" will be included in the daily margin process, but will we receive a report regarding the composition of this amount?

Yes, you will be notified of the cash adjustments via existing member reports (which breakdown at different levels):

- **CRS_Payment** report – adjustment amount per transaction
- **SFEU** report – aggregated payment for all adjustments per clearing member/compartment (section AC102)

The process is the same today in the case of an adjustment to the Eonia.

3/ If we need a report that provides the trade level detail for the adjustment, what report should we look at?

The CRS_Payment report. The adjustement will be reflected by the difference of 2 fields:

- <interestRequired>Interest Required</interestRequired>
- <interestPaid>Interest Paid</interestPaid>

and the difference will be reported in the field: <amount>Amount</amount>

Here are the following descriptions of those fields:

<interestRequired> represents the amount of interest required. This tag is shown for RepoClear SA and €GCPlus

<interestPaid> represents the amount of interest previously paid. This tag is shown for RepoClear SA and €GCPlus

<repoInterestRate> represents the repo interest rate. This tag is shown for €GCPlus
<amount> represents the amount to be paid

4/ Could you please let us know when exactly during the day this payment/debit will be done? Will you do that on trade basis (trade by trade)?

Settlement instructions for VRR end-legs will be instructed in T2S on T-1, as per usual practice, on the day prior to settlement using the latest known €STR/EONIA rate. The end-leg of trades will settle in T2S based on this cash value. Once €STR/EONIA is published on T, LCH will calculate the relevant delta to the instructed cash values and will, for each member, <u>include the global amount in the following day initial margin call</u> (T+1 @ 8:30 am CET) through TARGET2.

Please see below example:

In the SFEU report (section AC0102), the adjustment is visible in the VARIABLE RATE record:

```
11 CODE ETAT : AC0102E   BANQUE CENTRALE DE COMPENSATION DITE LCH SA - 18 RUE DU QUATRE SEPTEMBRE 75002 PARIS
2              BANQUE CENTRALE DE COMPENSATION DITE LCH SA - 18 RUE DU QUATRE SEPTEMBRE 75002 PARIS      PAGE  1
3         ------------------------------------------------------------------
4          |                                    |
5          |        DOCUMENT APPEL DE FONDS FIXED INCOME EN EUR - INITIAL      |
6          |        FIXED INCOME CASH CALL DOCUMENT IN EUR - INITIAL           |
7          |                                    |
8         ------------------------------------------------------------------
9    ADHERENT   / MEMBER   :               DATE DE VALEUR/VALUE DATE     : 11/09/2019
0    CODE MEMBRE / MEMBER CODE : XXXXX              DATE DE BOURSE/TRADING DATE    : 10/09/2019
1
2                   S/Cpte M       S/Cpte T      S/Cpte C        TOTAL
3                   House S-Acc   Market Maker S-Acc   Client S-Acc      TOTAL
4 (D) ---> FLUX DIVERS / VARIOUS FLOW
5        ------------------------
6 PENALITE / PENALTY              0,00C        0,00C        0,00C        0,00C
7 TVA PENALITE / PENALTY VAT        0,00C        0,00C        0,00C        0,00C
8 DETACHEMENT DE COUPON / INCOME COUPON DETACH   338.492,63C     0,00C        0,00C    338.492,63C
9 TAUX VARIABLES / VARIABLE RATE        1,05D        0,00C        0,00C        1,05D
0 REGULATION LCP / DVP BALANCE         0,00C        0,00C        0,00C        0,00C
1                 -------------   -------------   -------------   -----------------
2                 338.491,58C       0,00C        0,00C |   338.491,58C| (D)
3                                   -----------------
```

5/ Could you please let us know if there will be multiple cash adjustments per day or will it be an aggregated amount?

It will be a global amount for all daily repo cash adjustments.

6/ Could you give us some information regarding the testing phase that has started on the 9th of September?

In order to perform testing, you need to send trades to LCH SA via Trading venues. Alternatively, LCH SA can inject some trades on your behalf (data to be agreed upon).

Then we can start the testing phase with corresponding results and reporting.

On LCH SA operations side we will be able to help on the testing of the below exclusively:
- Partial Settlement
- Failed Settlement
- Coupon payments

Please contact ops_client_support_sa@lch.com for follow-up or/and any questions.

7/ Will there be a test environment available post October 29th?

The testing platform is open since the 9 September 2019 to test EONIA and since the 23 September 2019 to test €STR. It will remain open after the 29 October 2019. There will be no closing date for testing.

8/ Why are you following a different transition strategy from SwapClear?

1. **Trade acceptance:** SwapClear is a multicurrency service as opposed to RepoClear SA that is currently only accepting Euro denominated trades. Therefore, RepoClear SA is able to support acceptance of VRR trades referencing both EONIA and €STR until decommissioning of EONIA.

2. **Margin calculations:** While no impact is expected in LCH SA, SwapClear switched to use €STR benchmark on **27 July 2020** for Variation Margin discounting calculation.
   Find more information here:
   https://www.lch.com/membership/ltd-membership/ltd-member-updates/euro-short-term-rate-eustr-rate-change-notice
   https://www.eachccp.eu/wp-content/uploads/2020/04/EACH-statement-on-the-transition-from-EONIA-to-€STR-discounting-regime.pdf

3. **Euro Cash collateral remuneration**:

   LCH SA continues to use the re-calibrated EONIA rate.
   LCH LTD announced a switch to €STR on 27 July 2020, aligned with SwapClear.
   Find more information here: https://www.lch.com/index.php/membership/ltd-membership/ltd-member-updates/change-eur-benchmark-interest-rate-eonia-eustr-cash

9/ Are you going to continue to use EONIA for EUR cash collateral remuneration in LCH SA?

Regarding cash collateral management, LCH SA uses the re-calibrated EONIA rate (incorporating the T+1 new methodology) since 1 October 2019. Euro cash collateral balances are remunerated based on the rate available since 2 October 2019 and this will be the case until the switch to €TSR benchmark (more details in the Collateral section in p.10)

10/ What are the impacts expected on Variation Margin calls?

No impact is expected as the benchmark currently used for VM discounting calculation is EURIBOR for all Repo trades. There is no plan to change it.

11/ Could you please confirm the date that LCH SA has started clearing €STR repos, is it the 29 October 2019?

As per the latest LCH SA communication, LCH SA started clearing €STR repos since 29 October 2019.

12/ Could you please confirm if LCH SA will continue to clear Variable Repos rates indexed on EONIA?

EONIA will continue to be published until 3 Jan 2022.
Hence, LCH will continue to offer VRR referencing EONIA until this time (unless instructed otherwise). However, the European Central Bank recommendation is not to trade any instruments indexed on EONIA close to EONIA's decommission date.

CDSClear

CDSClear is transitioning the rate used for the Price Alignment Interest (for CTM Cleared Transactions) and Price Alignment Amount (for STM Cleared Transactions) from EONIA to €STR.
This is the rate used for interest on the Variation Margin for CTM Cleared Transactions, or on the Cumulative Net Present Value for STM Cleared Transactions.
CDSClear is planning to make this change over the weekend starting on Friday 11th June 2021, following the recommendation from the ISDA Credit Steering committee.
The recommendation from the ECB working group on euro risk-free rates3 is that "that CCPs align their discounting switch date as much as possible to transition from an EONIA discounting regime to a €STR discounting regime using a "big bang" approach". We understand other credit CCPs will also be using the recommended date for transition.

CDSClear Q&A:

1/ When is CDSClear planning to transition from EONIA to €STR for PAI/PAA?

The ISDA Credit Steering Committee (ISDA CSC) has recommended the change take place over the weekend starting Friday 11th June 2021. CDSClear will follow this recommendation and transition over this weekend.

2/ Will CDSClear move at the same time as other credit CCPs?

Members are particularly concerned that all credit CCPs align the date of transition to €STR. We understand other credit CCPs will also be following the ISDA CSC recommended date.

3/ Why didn't CDSClear move at the same time as SwapClear?

Although it may have been optimal to move at the same time as SwapClear (which moved on 27th July 2020), Members told us that they would not all be sufficiently ready by this date. Aligning with other Credit CCPs was felt to be of greater importance than aligning with rates products.

4/ How will the compensating payment be calculated?

LCH will calculate the interest rate risk of each portfolio and multiply this by the difference between the EONIA curve and the €STR curve.

5/ How will the compensating payment be settled?

LCH will book a fee on a small notional index CDS transaction to settle the fee. An offsetting index CDS transaction with no fee will also be booked.

6/ Will there be an impact of the value of the trades?

For a given market spread or upfront we do not expect the valuation of trades to change. However, we may expect the market prices to change due to the change of risk-free discounting rate.

7/ What about USD denominated products?

LCH will also be changing the PAI/PAA rate used for USD denominated products. This will change from Fed Funds to SOFR. A similar process to for EUR trades will be used.
This is planned to take place over the same weekend as for the EUR trades, as recommended by the ISDA CSC.

8/ In which reports will I see the new rate?

The PAI/PAA rate is published in reports CVMH (for house margin accounts), CVMC (for client margin accounts) and CVMD (direct client report of margin accounts).

9/ Will there be a report showing the compensation amount per trade?

LCH plans to produce a trade level report showing the compensation amount per trade to be uploaded to Portal with other Member and client reports.

10/ Is the ISDA CDS Standard Model also being updated?

ISDA have started consulting the industry about updating the CDS Standard Model (used for example on CDSW on Bloomberg). This however is separate from and unaffected by the PAI/PAA change.

EquityClear SA

Concerning the €STER to EONIA migration, LCH SA does not expect any impact for EquityClear & CommodityClear clearing flows and margin requirements.

Focus on Cash Collateral remuneration (applicable to all LCH SA Businesses):

Regarding cash collateral management, LCH SA uses the re-calibrated EONIA rate (incorporating the T+1 new methodology) since 1 October 2019. Euro cash collateral balances are remunerated based on the rate available since 2 October 2019 and this will be the case until the switch to €TSR benchmark **in Q3 2021 (exact date to be confirmed).**

Rates to be applied for EURO Cash deposited as collateral:

Cash collateral remuneration based on re-calibrated EONIA (to be used until the switch)	EONIA – 30bps
Cash collateral remuneration based on €STR* (to be used after the switch – Q3 tbc)	€STR – 21.5bps

Rates to be applied for EURO Cash deposited as Default Fund Contribution:

Cash collateral remuneration based on re-calibrated EONIA (to be used until the switch)	EONIA – 20bps
Cash collateral remuneration based on €STR* (to be used after the switch – Q3 tbc)	€STR – 11.5bps

€STR being equal to EONIA-8.5bps

Need more information?

Please contact LCH teams:

- ❖ LCH Operations: ops_client_support_sa@lch.com

- ❖ Collateral Operations: Treasury.Ops.FR@lch.com

- ❖ RepoClear Relationship Management: repoclearclientserviceSA@lch.com

- ❖ CDSClear Relationship Management: cdsclearbusinessdevrm@lch.com

- ❖ EquityClear Relationship Management: SAEquityClearBusinessDev&RM@lch.com

<u>Useful links:</u>

https://www.icmagroup.org/assets/documents/Regulatory/Benchmark-reform/A-quick-guide-to-the-transition-to-risk-free-rates-in-the-international-bond-market-February-2020-27022020.pdf