

## Virtual Conference of the Working Group on Euro Risk-Free Rates

Tuesday, 13 December 2022 (10:00-11:00 CET)

### Summary

#### **1. Introductory remarks, approval of the agenda and obligations of the Working Group members under competition law**

Mr James von Moltke (Chair) opened the call. He welcomed all the members of the Working Group (WG) to the fourth WG meeting of 2022 and reminded WG members of the agenda scheduled for the meeting:

1. *Introductory remarks, approval of the agenda and obligations of the Working Group members under competition law*
2. *Update by the €STR Task Force*
3. *Future deliverables of the Working Group*
  - a. *Fulfillment of the existing Work Programme (end date mid-2023)*
  - b. *Exchange of views on possible additional objectives beyond mid-2023*
4. *ISDA market data presentation on the transition to RFR/€STR*
5. *AOB*

Mr von Moltke expressed his gratitude to the WG members participating in the €STR Task Force for providing input and suggestions related to the presentation by the Chair of the €STR Task Force (agenda item 2). He also thanked ESMA staff for preparing a set of slides regarding the progress on the WG Work Programme (agenda item 3) and ISDA for providing an updated presentation on market data regarding the transition to risk-free rates (agenda item 4).

Finally, Mr von Moltke reminded the members of the WG of their obligations under EU competition law, as described in the guidelines on compliance with EU competition law published on the ESMA's website<sup>1</sup>.

#### **2. Update by the €STR Task Force**

Mr von Moltke handed over to Mr Alex Wilson (Chair's Office and Chair of the €STR Task Force) to update WG members on the proposed schedule of work of the €STR Task Force for 2023.

Firstly, Mr Wilson provided an overview of the market developments since the last meeting of the WG (that was held on 15 September 2022). He also presented the trends identified by the members of the €STR Task Force. In relation to the adoption of EURIBOR fallbacks, members of the Task Force agree that derivative and bond markets standards for €STR based EURIBOR fallbacks are established. At the same time, market practice for €STR based EURIBOR fallbacks in loan markets is not yet established, with existing loan fallbacks (i.e. cost of funds and replacement of screen rate language) still being used and the WG's EURIBOR fallback recommendations not generally being adopted. Task Force members also agreed that it is now too early to consider any potential recommendation or endorsement of a specific term €STR as a

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<sup>1</sup>[https://www.esma.europa.eu/sites/default/files/library/eu\\_competition\\_law\\_guidelines\\_for\\_the\\_working\\_group\\_on\\_euro\\_risk-free\\_rates.pdf](https://www.esma.europa.eu/sites/default/files/library/eu_competition_law_guidelines_for_the_working_group_on_euro_risk-free_rates.pdf)

fallback to EURIBOR, or for the market to establish a preferred term rate, and they note also that the use of €STR in new business across bond and loan markets remains limited.

Mr Wilson then presented the possible deliverables of the €STR Task Force for 2023. He suggested that in Q1 the Task Force could work on the possibility to complement the *May 2021 EURIBOR Fallback recommendations*<sup>2</sup> in the areas where adoption of EURIBOR fallback appears more challenging, for instance in the loan markets. An option could be for the WG to provide further clarity or guidance to facilitate the practical implementation of the recommendations and promote standardised market practice.

Furthermore, he added that in Q2 the Task Force could also work on a separate possible future deliverable prepare a recommendation for the use of €STR or compounded €STR for new business in cash markets. Finally, Mr Wilson suggested that in the course of Q2 and Q3 the Task Force could assess whether there are any pending problems and barriers for adoption of term €STR rates as EURIBOR fallbacks and consider possible remedial action.

Mr von Moltke thanked Mr Wilson for his presentation and opened the floor for comments. One member raised some doubts about the need for the €STR Task Force to work on a further recommendation for the use of €STR or compounded €STR for new business in cash markets, arguing that the adoption of €STR in new cash products should be left to market forces since EURIBOR will continue to be available for use. Mr Wilson replied explaining that the proposal is for the €STR Task Force to consider whether a recommendation of that kind is feasible and appropriate and, if so, propose a draft to be submitted to the members of the WG for approval or rejection. Mr Helmut Wacket (ECB) asked for more information in relation to the proposal for the €STR Task Force to complement the existing EURIBOR Fallback recommendations with a view to providing loan markets with further clarity, in particular with regard to the governance and approval process (and possible need of a public consultation) in case there would be new recommendations impacting the previous ones. Mr Wilson explained that the adoption of EURIBOR fallbacks in the loan markets is low, as confirmed also by LMA, and for this reason, now that term €STR is available as a fallback rate, the Task Force can prepare a more granular recommendation for this specific market segment. Such proposed recommendation would be fully aligned with the existing one issued in May 2021, providing however additional clarity and guidance to foster the adoption of €STR based EURIBOR fallbacks in the loan space. A non-voting member noted that any potential recommendation or endorsement of a specific term €STR as a fallback to EURIBOR should duly take into consideration the competition issue.

No other comment followed, and Mr von Moltke asked WG members whether the plan for the €STR Task Force could be considered as approved. In the absence of any refusal, the proposed schedule of €STR recommendations in 2023 was considered approved.

### 3. Future deliverables of the Working Group

Mr von Moltke handed over to Mr Michele Mazzoni (ESMA) to deliver the presentation on the future deliverables of the WG. The presentation focused on the progress made by the WG vis-à-vis the WG Work Programme for 2022 / 2023<sup>3</sup>, which translated the mandate of the WG included in the amended WG ToR<sup>4</sup> into practical deliverables.

Mr Mazzoni started the presentation introducing the priorities and the timeline included in the Work Programme. He then focused on each priority, illustrating what the WG has already achieved in each area and proposing some pending tasks to fulfil the Work Programme.

In relation to the goal of fostering the use of €STR in a diverse range of financial products, he reminded the WG recommendation on the availability of derivative products referencing €STR<sup>5</sup> published in September 2022, as well as a number of other publications and activities that the WG has carried out since the *€STR First Initiative*<sup>6</sup> of July 2021. In other to fulfil this section of the Work Programme, Mr Mazzoni recalled the

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<sup>2</sup> <https://www.ecb.europa.eu/pub/pdf/other/ecb.recommendationsEURIBORfallbacktriggereventsandESTR.202105-9e859b5aa7.en.pdf>

<sup>3</sup> [https://www.esma.europa.eu/sites/default/files/library/esma81-459-50\\_wg\\_on\\_euro\\_risk-free\\_rates\\_-\\_work\\_programme\\_2022-23.pdf](https://www.esma.europa.eu/sites/default/files/library/esma81-459-50_wg_on_euro_risk-free_rates_-_work_programme_2022-23.pdf)

<sup>4</sup> [https://www.esma.europa.eu/sites/default/files/library/eur\\_rfr\\_wg\\_tor.pdf](https://www.esma.europa.eu/sites/default/files/library/eur_rfr_wg_tor.pdf)

<sup>5</sup> [https://www.esma.europa.eu/sites/default/files/library/esma81-459-69\\_eur\\_rfr\\_wg\\_-\\_eustr\\_recommendation.pdf](https://www.esma.europa.eu/sites/default/files/library/esma81-459-69_eur_rfr_wg_-_eustr_recommendation.pdf)

<sup>6</sup> [https://www.esma.europa.eu/sites/default/files/library/esma81-391-73\\_eur\\_rfr\\_wg\\_statements\\_on\\_estr\\_first\\_and\\_ccs.pdf](https://www.esma.europa.eu/sites/default/files/library/esma81-391-73_eur_rfr_wg_statements_on_estr_first_and_ccs.pdf)

proposal of the €STR Task Force presented under agenda item 2 (see previous section) and the possibility for a WG recommendation on the adoption of €STR in cash products

In relation to the assessment of the availability of EURIBOR fallback rates to be published by one or more administrators, Mr Mazzone recalled that in March 2022 the WG published a call for interest for potential administrators of term €STR and that two administrators presented their projects for the publication of term €STR at the June 2022 WG meeting<sup>7</sup>. He suggested that, going forward, the WG should continue monitoring the availability and use of term €STR. As per the identification of impediments to the adoption of EURIBOR fallbacks, following the discussions that took place in previous meetings of the WG, to fulfil the Work Programme Mr Mazzone suggested to launch a final EURIBOR fallbacks survey among WG members to gather views on the progress made since introduction of term €STR and to identify remaining barriers to the adoption of EURIBOR fallbacks as recommended by the WG.

In relation to the identification of potential issues related to the discontinuation of USD LIBOR in the EU, Mr Mazzone made reference to the first USD LIBOR survey, the results of which were presented at the September 2022 WG meeting<sup>8</sup>. He proposed to finalise the work relative to this WG priority with a follow-up USD LIBOR survey, to be launched after this WG meeting, to gather the latest data available in relation to members' exposures towards USD LIBOR stemming from contracts governed by laws of an EU Member State. The results of this exercise would also inform the European Commission on the need to use its power of statutory replacement under the Benchmarks Regulation in relation to USD LIBOR.

Mr Mazzone concluded the presentation mentioning that the WG has been active in relation to all the deliverables included in the Work Programme, that different tools have been used to conduct the WG activities (recommendations, letters, surveys, data analysis), and that the WG could be able to fulfil the Work Programme in the first half of 2023 once the pending tasks are completed.

Mr von Moltke thanked Mr Mazzone and opened the floor for questions. Mr Helmut Wacket (ECB) emphasised the substantial progress that the WG has done in accomplishing its mission. He also supported the proposals presented by Mr Mazzone to finalise the tasks included in the WG Work Programme, commenting that he believes that the WG will be able to deliver the pending actions by mid-2023 as enshrined in its mandate. One member raised again his doubts about the need to publish a recommendation focusing on the adoption of €STR in cash products. The Chair confirmed that this is a deliverable that the WG should consider and that the final decision on the actual publication of such recommendation will be made only in due course.

Since no other comment followed, Mr von Moltke mentioned that the WG agreed on the steps to take to finalise the deliverables included in the WG Work Programme.

#### **4. ISDA market data presentation on the transition to RFR/€STR**

Mr von Moltke handed over to Mr Rick Sandilands (ISDA) to present the ISDA market data slides on the transition to €STR and SOFR (the full presentation is included in Annex I to this document). Mr Sandilands explained that ISDA has conducted the analysis of euro- and US dollar-denominated interest rate derivatives by underlying reference rates to show the adoption of €STR and SOFR in different regions from September 2021 to September 2022.

Mr Sandilands noted that the percentage of trading activity in €STR as total euro-denominated interest rate derivatives traded notional: a) in the EU, increased to 44.1% in September 2022 compared to 8.4% in September 2021; b) in the UK, increased to 45.0% from 0.6% over the same period; c) in the US, increased to 41.6% from 1.9% over the same period. He confirmed that most transactions referencing €STR were short-term: in September 2022, 87.0% of €STR-linked interest rate derivatives traded notional in the EU, 90.6% in the UK and 81.9% in the US had a tenor up to and including one year.

Mr Sandilands also provided similar data in relation to the SOFR adoption: a) in the EU, the percentage of trading activity in SOFR reached 66.3% of total US dollar-denominated interest rate derivatives traded

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<sup>7</sup> For the presentations of the two administrators, see Annex I of the minutes of the June 2022 WG meeting: [https://www.esma.europa.eu/sites/default/files/library/esma81-459-65\\_eur\\_wg\\_rfr\\_-\\_17\\_june\\_meeting\\_minutes.pdf](https://www.esma.europa.eu/sites/default/files/library/esma81-459-65_eur_wg_rfr_-_17_june_meeting_minutes.pdf)

<sup>8</sup> See agenda item 2 of the minutes of the September 2022 WG meeting: [https://www.esma.europa.eu/sites/default/files/library/esma81-459-72\\_eur\\_rfr\\_wg\\_-\\_15\\_september\\_2022\\_meeting\\_minutes.pdf](https://www.esma.europa.eu/sites/default/files/library/esma81-459-72_eur_rfr_wg_-_15_september_2022_meeting_minutes.pdf)

notional in September 2022 compared to 12.7% in September 2021; b) in the UK, it increased to 60.1% from 10.6% over the same period; c) in the US, it increased to 45.3% from to 10.5%.

Mr von Moltke thanked Mr Sandilands and opened the floor for questions. No question was raised by WG members.

## **5. AOB.**

No AOB was raised by WG members.

## **6. Closing remarks by the Chair**

Mr von Moltke thanked everyone for their time and commitment to the work of the WG. He mentioned that the Secretariat will inform WG members about the date of the next WG meeting. The Chair wished to all participants a happy holiday season.

## List of participants

### Participant's organisation

### Name of participant

#### **Chairperson**

Deutsche Bank

Mr James von Moltke

#### **Chair's office**

Deutsche Bank

Mr Simon Goodwin

Deutsche Bank

Ms Queenie Choong

Deutsche Bank

Mr Alex Wilson

#### **Voting members**

Banco Sabadell

Ms Marta Riveira Cazorla

Bank of Ireland

Mr Barry Moran

Bank of Ireland

Mr David Tilson

BBVA

Ms Ana Rubio

BBVA

Mr Ignacio Ollero

BME Clearing

Mr Emilio Gamarra Mompeán

BME Clearing

Ms Monica Blanco Vieito

BNP Paribas

Ms Dominique Le Masson

BNP Paribas

Mr David Gorans

BNP Paribas

Mr Xavier Aublin

BPCE/Natixis

Mr Olivier Hubert

BPCE/Natixis

Mr Grégoire de Clarens

CaixaBank, S.A.

Mr Francesc Xavier Combis

Crédit Agricole

Ms Florence Mariotti

Crédit Agricole

Mr Yann Marhic

Deutsche Bank

Mr Christian Gau

DZ Bank

Mr Christoph Block

DZ Bank

Mr Philipp Nordloh

Erste Group

Mr Rene Brunner

Erste Group

Mr Neil Mcleod

Eurobank SA

Mr Dimitris Psychogios

Eurobank SA

Mr Theodoros Stamatiou

European Investment Bank

Mr Nikolaos Tzoldos

ING Bank

Ms Stephanie Broks

ING Bank

Mr Jaap Kes

Intesa Sanpaolo

Ms Maria Cristina Lege

KfW Bankengruppe

Mr Markus Schmidtchen

LCH Group

Mr Davide Tortora

Santander

Mr Santiago Lobato Piñana

Santander

Mr Javier Pareja Marta

Société Générale

Mr Stephane Cuny

**Non-voting members**

European Money Markets Institute  
International Capital Market Association  
International Swaps and Derivatives Association  
Loan Market Association  
Loan Market Association

Ms Petra de Deyne  
Ms Katie Kelly  
Mr Rick Sandilands  
Mr Keith Taylor  
Ms Kam Hessling

**Observers**

European Central Bank  
European Central Bank  
European Central Bank  
European Commission  
European Commission  
European Commission  
European Securities and Markets Authority

Mr Helmut Wacket  
Mr Pascal Nicoloso  
Ms Anne-Lise Nguyen  
Mr Rik Hansen  
Mr Antoine Picot  
Ms Mehtap Oelger  
Mr Lelio Lapresa

**Secretariat**

European Securities and Markets Authority  
European Securities and Markets Authority

Mr Michele Mazzoni  
Mr Cristian Weststeijn

December 2022

**Analysis of IRD Trading Activity by  
Underlying Reference Rates and Tenors**



## Executive Summary

### €STR Adoption

- In the EU, the percentage of trading activity in €STR reached 44.1% of total euro-denominated IRD traded notional in September 2022 compared to 8.4% in September 2021.
- In the UK, €STR-linked traded notional increased to 45.0% from 0.6% over the same period.
- In the US, the percentage of trading activity in €STR increased to 41.6% of total euro-denominated IRD traded notional in September 2022 compared to 1.9% in September 2021.
- Most transactions referencing €STR were short-term. In September 2022, 87.0% of €STR-linked IRD traded notional in the EU, 90.6% in the UK and 81.9% in the US had a tenor up to and including one year.

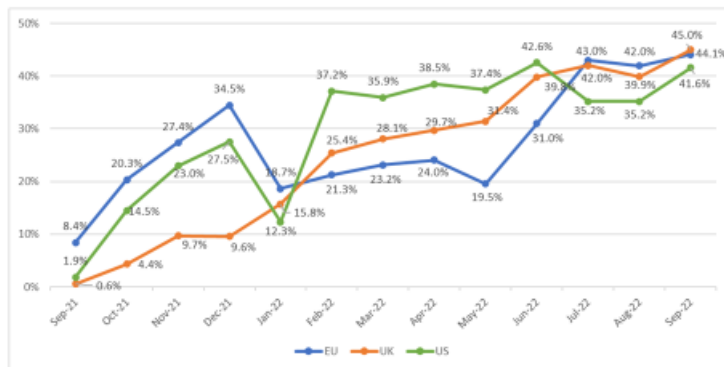
### SOFR Adoption

- In the EU, the percentage of trading activity in SOFR reached 66.3% of total US dollar-denominated IRD traded notional in September 2022 compared to 12.7% in September 2021.
- In the UK, SOFR-linked traded notional increased to 60.1% from 10.6% over the same period.
- In the US, the percentage of trading activity in SOFR increased to 45.3% of total US dollar-denominated IRD traded notional in September 2022 compared to 10.5% in September 2021.
- In September 2022, 49.8% of SOFR-linked IRD traded notional in the EU, 43.2% in the UK and 41.4% in the US had a tenor up to and including one year.

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### €STR Traded Notional as % of EUR-denominated IRD Traded Notional by Region



Source: DTCC SDR, European APAs and TVs

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## €STR, EONIA and EURIBOR Traded Notional as % of EUR-denominated IRD Traded Notional by Region

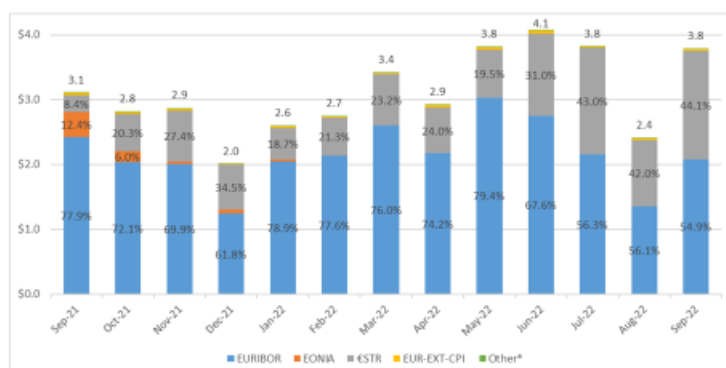
|        | EU    |       |         | UK    |       |         | US    |       |         |
|--------|-------|-------|---------|-------|-------|---------|-------|-------|---------|
|        | €STR  | EONIA | EURIBOR | €STR  | EONIA | EURIBOR | €STR  | EONIA | EURIBOR |
| Sep-21 | 8.4%  | 12.4% | 77.9%   | 0.6%  | 17.6% | 75.8%   | 1.9%  | 14.9% | 81.1%   |
| Oct-21 | 20.3% | 6.0%  | 72.1%   | 4.4%  | 11.9% | 75.0%   | 14.5% | 12.6% | 70.7%   |
| Nov-21 | 27.4% | 1.4%  | 69.9%   | 9.7%  | 0.4%  | 80.8%   | 23.0% | 0.0%  | 75.6%   |
| Dec-21 | 34.5% | 3.0%  | 61.8%   | 9.6%  | 0.5%  | 79.6%   | 27.5% | 0.0%  | 67.9%   |
| Jan-22 | 18.7% | 1.2%  | 78.9%   | 15.8% | 0.5%  | 76.8%   | 12.3% | 0.0%  | 65.4%   |
| Feb-22 | 21.3% | 0.0%  | 77.6%   | 25.4% | 0.0%  | 67.3%   | 37.2% | 0.0%  | 61.2%   |
| Mar-22 | 23.2% | 0.0%  | 76.0%   | 28.1% | 0.0%  | 65.9%   | 35.9% | 0.0%  | 62.7%   |
| Apr-22 | 24.0% | 0.0%  | 74.2%   | 29.7% | 0.0%  | 64.2%   | 38.5% | 0.0%  | 60.1%   |
| May-22 | 19.5% | 0.0%  | 79.4%   | 31.4% | 0.0%  | 62.1%   | 37.4% | 0.0%  | 61.1%   |
| Jun-22 | 31.0% | 0.0%  | 67.6%   | 39.8% | 0.0%  | 55.2%   | 42.6% | 0.0%  | 55.7%   |
| Jul-22 | 43.0% | 0.0%  | 56.3%   | 42.0% | 0.0%  | 52.5%   | 35.2% | 0.0%  | 63.1%   |
| Aug-22 | 42.0% | 0.0%  | 56.1%   | 39.9% | 0.0%  | 54.2%   | 35.2% | 0.0%  | 63.3%   |
| Sep-22 | 44.1% | 0.0%  | 54.9%   | 45.0% | 0.0%  | 49.9%   | 41.6% | 0.0%  | 57.1%   |

Source: DTCC SDR, European APAs and TV's

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## Euro-denominated IRD Traded Notional Reported in the EU (US\$ trillions)



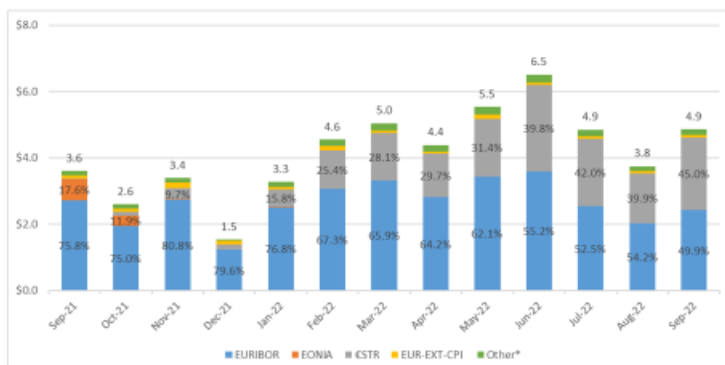
Source: European APAs and TV's

\*Other includes EURIBOR-€STR, EURIBOR/EONIA and other underlying reference rates

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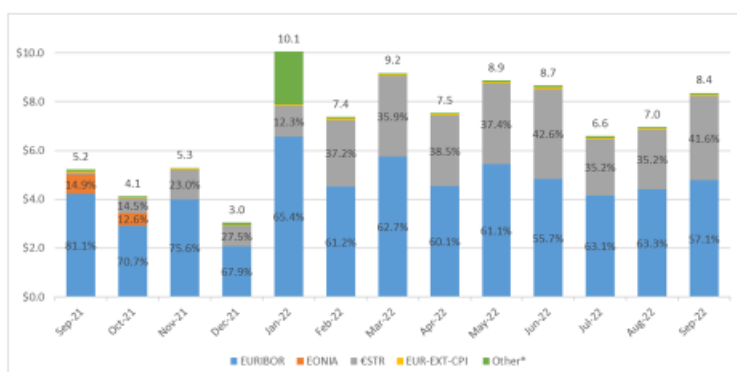
## Euro-denominated IRD Traded Notional Reported in the UK (US\$ trillions)



Source: European APAs and TV's

\*Other includes EURIBOR/ESTR, EURIBOR/EONIA and other underlying reference rates

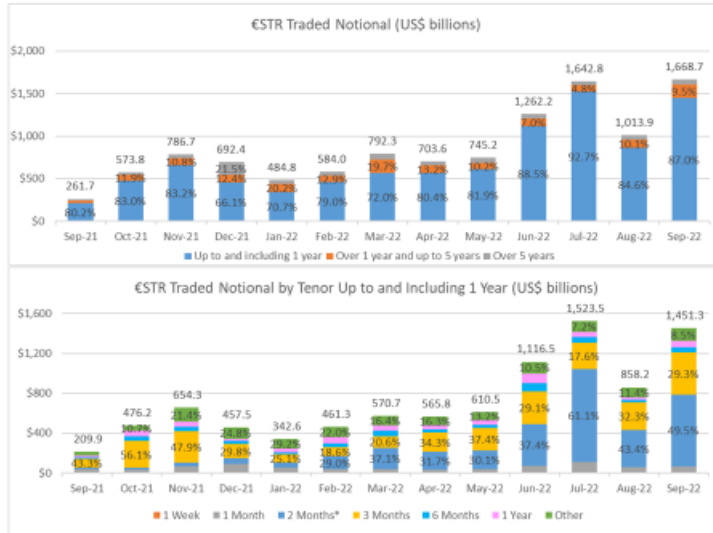
## Euro-denominated IRD Traded Notional Reported in the US (US\$ trillions)



Source: DTCC SDR

\*Other includes EURIBOR/ESTR, EURIBOR/EONIA, EURIBOR/EUR-EXT-CPI and other underlying reference rates

## €STR Traded Notional Reported in the EU by Tenors



Source: European APAs and TVs  
\*2 months tenor also includes 6 weeks and 7 weeks tenors

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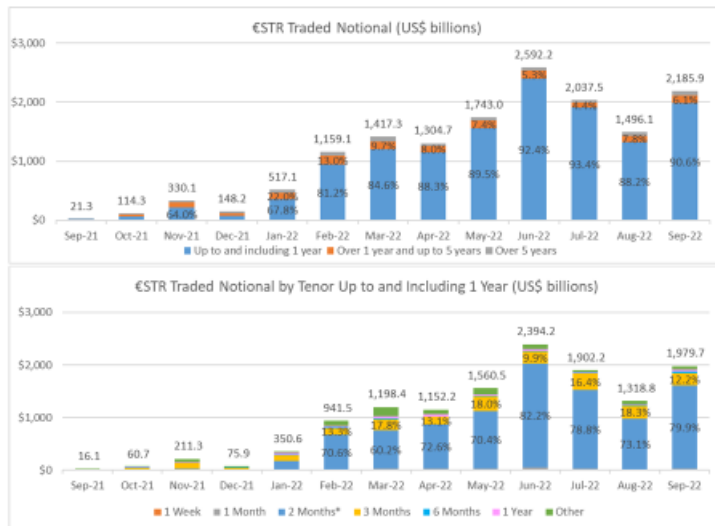
## Percentage of €STR Traded Notional Reported in the EU by Tenors

|        | €STR           |         |           |          |          |        |       |                          |                 |
|--------|----------------|---------|-----------|----------|----------|--------|-------|--------------------------|-----------------|
|        | Tenor ≤ 1 Year |         |           |          |          |        |       | 1 Year < Tenor ≤ 5 Years | Tenor > 5 Years |
|        | 1 Week         | 1 Month | 2 Months* | 3 Months | 6 Months | 1 Year | Other |                          |                 |
| Sep-21 | 0.0%           | 15.4%   | 4.5%      | 34.7%    | 4.0%     | 6.6%   | 14.9% | 12.3%                    | 7.5%            |
| Oct-21 | 0.0%           | 5.1%    | 4.1%      | 46.6%    | 8.2%     | 10.2%  | 8.9%  | 11.9%                    | 5.1%            |
| Nov-21 | 0.9%           | 7.4%    | 4.8%      | 39.9%    | 6.1%     | 6.3%   | 17.8% | 10.8%                    | 6.0%            |
| Dec-21 | 0.9%           | 12.6%   | 8.3%      | 19.7%    | 5.2%     | 3.0%   | 16.4% | 12.4%                    | 21.5%           |
| Jan-22 | 0.0%           | 10.6%   | 10.3%     | 17.8%    | 3.6%     | 7.8%   | 20.6% | 20.2%                    | 9.1%            |
| Feb-22 | 0.0%           | 6.2%    | 22.9%     | 14.7%    | 6.7%     | 11.1%  | 17.3% | 12.9%                    | 8.1%            |
| Mar-22 | 0.0%           | 5.1%    | 26.7%     | 14.8%    | 6.9%     | 6.7%   | 11.8% | 19.7%                    | 8.2%            |
| Apr-22 | 0.0%           | 4.3%    | 25.5%     | 27.6%    | 5.0%     | 4.9%   | 13.1% | 13.2%                    | 6.3%            |
| May-22 | 0.0%           | 5.4%    | 24.7%     | 30.7%    | 4.2%     | 6.2%   | 10.8% | 10.2%                    | 7.9%            |
| Jun-22 | 0.0%           | 5.9%    | 33.1%     | 25.8%    | 6.6%     | 7.9%   | 9.3%  | 7.0%                     | 4.5%            |
| Jul-22 | 0.0%           | 6.6%    | 56.7%     | 16.3%    | 3.6%     | 2.8%   | 6.7%  | 4.8%                     | 2.5%            |
| Aug-22 | 0.0%           | 5.6%    | 36.8%     | 27.3%    | 2.9%     | 2.3%   | 9.7%  | 10.1%                    | 5.3%            |
| Sep-22 | 0.1%           | 3.8%    | 43.1%     | 25.5%    | 3.2%     | 3.8%   | 7.4%  | 9.5%                     | 3.5%            |

Source: European APAs and TVs  
\*2 months tenor also includes 6 weeks and 7 weeks tenors  
Tenor is calculated based on ISIN Term of contract data

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## €STR Traded Notional Reported in the UK by Tenors



Source: European APAs and TVs

\*2 months tenor also includes 6 weeks and 7 weeks tenors

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## Percentage of €STR Traded Notional Reported in the UK by Tenors

|        | €STR           |         |           |          |          |        |       |                          |                 |
|--------|----------------|---------|-----------|----------|----------|--------|-------|--------------------------|-----------------|
|        | Tenor ≤ 1 Year |         |           |          |          |        |       | 1 Year < Tenor ≤ 5 Years | Tenor > 5 Years |
|        | 1 Week         | 1 Month | 2 Months* | 3 Months | 6 Months | 1 Year | Other |                          |                 |
| Sep-21 | 0.0%           | 4.2%    | 0.0%      | 40.8%    | 0.9%     | 14.5%  | 15.1% | 12.4%                    | 12.0%           |
| Oct-21 | 0.0%           | 1.6%    | 0.7%      | 33.6%    | 5.2%     | 9.8%   | 2.2%  | 34.3%                    | 12.6%           |
| Nov-21 | 0.1%           | 1.1%    | 7.1%      | 31.6%    | 0.5%     | 4.4%   | 19.2% | 27.8%                    | 8.2%            |
| Dec-21 | 0.0%           | 3.1%    | 3.1%      | 20.8%    | 2.1%     | 5.8%   | 16.4% | 27.2%                    | 21.6%           |
| Jan-22 | 0.0%           | 1.8%    | 31.1%     | 20.7%    | 2.6%     | 6.5%   | 5.2%  | 22.0%                    | 10.2%           |
| Feb-22 | 0.0%           | 0.7%    | 57.3%     | 10.8%    | 1.2%     | 2.3%   | 8.9%  | 13.0%                    | 5.8%            |
| Mar-22 | 0.0%           | 2.1%    | 50.9%     | 15.0%    | 1.8%     | 2.2%   | 12.5% | 9.7%                     | 5.7%            |
| Apr-22 | 0.0%           | 1.9%    | 64.1%     | 11.6%    | 0.1%     | 3.2%   | 7.3%  | 8.0%                     | 3.7%            |
| May-22 | 0.0%           | 1.6%    | 63.0%     | 16.1%    | 0.7%     | 1.1%   | 7.1%  | 7.4%                     | 3.1%            |
| Jun-22 | 0.0%           | 2.1%    | 76.0%     | 9.2%     | 0.3%     | 1.4%   | 3.4%  | 5.3%                     | 2.3%            |
| Jul-22 | 0.0%           | 1.3%    | 73.5%     | 15.4%    | 0.5%     | 0.9%   | 1.7%  | 4.4%                     | 2.3%            |
| Aug-22 | 0.0%           | 1.1%    | 64.4%     | 16.2%    | 0.3%     | 1.5%   | 4.7%  | 7.8%                     | 4.1%            |
| Sep-22 | 0.0%           | 1.1%    | 72.4%     | 11.0%    | 1.4%     | 1.7%   | 3.0%  | 6.1%                     | 3.3%            |

Source: European APAs and TVs

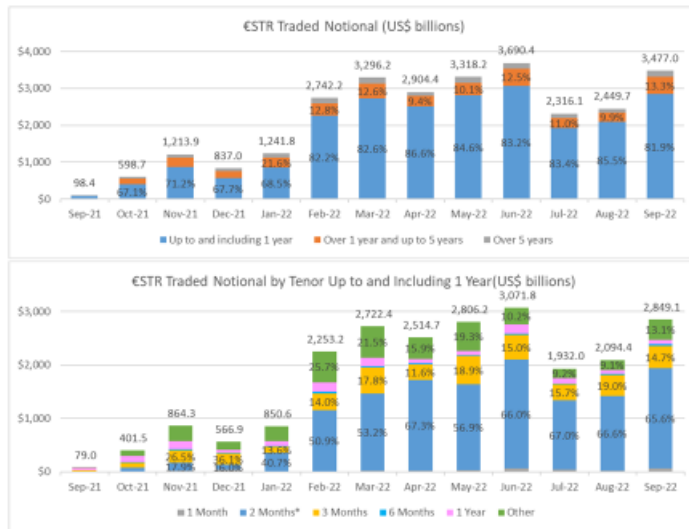
\*2 months tenor also includes 6 weeks and 7 weeks tenors

Tenor is calculated based on ISIN term of contract data

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## €STR Traded Notional Reported in the US by Tenors



Source: DTCC SDR  
\*2 months tenor also includes 6 weeks and 7 weeks tenors

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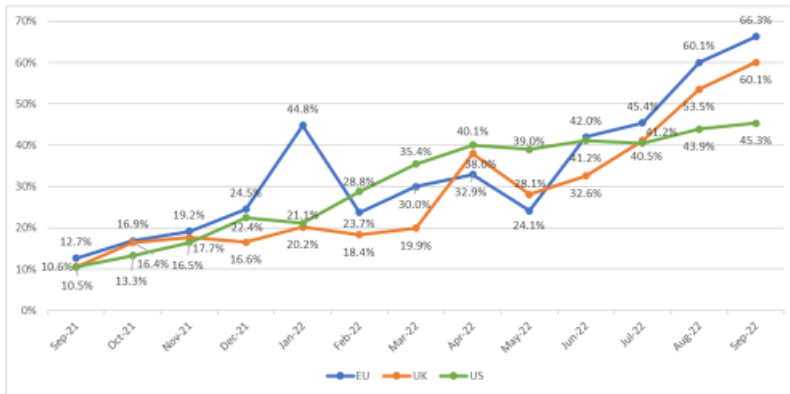
## Percentage of €STR Traded Notional Reported in the US by Tenors

|        | €STR           |           |          |          |        |       |                          |                 |
|--------|----------------|-----------|----------|----------|--------|-------|--------------------------|-----------------|
|        | Tenor ≤ 1 Year |           |          |          |        |       | 1 Year < Tenor ≤ 5 Years | Tenor > 5 Years |
|        | 1 Month        | 2 Months* | 3 Months | 6 Months | 1 Year | Other |                          |                 |
| Sep-21 | 9.3%           | 1.5%      | 24.6%    | 3.3%     | 39.3%  | 2.2%  | 14.2%                    | 5.6%            |
| Oct-21 | 0.7%           | 11.6%     | 17.1%    | 1.3%     | 19.4%  | 17.0% | 25.6%                    | 7.3%            |
| Nov-21 | 1.5%           | 12.8%     | 18.9%    | 1.7%     | 12.2%  | 24.2% | 21.8%                    | 7.0%            |
| Dec-21 | 5.4%           | 10.8%     | 24.5%    | 1.6%     | 7.1%   | 18.3% | 22.0%                    | 10.2%           |
| Jan-22 | 0.8%           | 27.9%     | 9.3%     | 1.0%     | 7.6%   | 21.8% | 21.6%                    | 9.9%            |
| Feb-22 | 0.3%           | 41.8%     | 11.5%    | 1.0%     | 6.4%   | 21.1% | 12.8%                    | 5.1%            |
| Mar-22 | 0.6%           | 43.9%     | 14.7%    | 0.6%     | 5.1%   | 17.7% | 12.6%                    | 4.9%            |
| Apr-22 | 0.9%           | 58.3%     | 10.0%    | 0.9%     | 2.8%   | 13.8% | 9.4%                     | 4.0%            |
| May-22 | 1.1%           | 48.1%     | 16.0%    | 0.3%     | 2.7%   | 16.3% | 10.1%                    | 5.3%            |
| Jun-22 | 1.9%           | 54.9%     | 12.5%    | 0.9%     | 4.6%   | 8.5%  | 12.5%                    | 4.2%            |
| Jul-22 | 1.8%           | 55.9%     | 13.1%    | 0.3%     | 4.8%   | 7.6%  | 11.0%                    | 5.6%            |
| Aug-22 | 0.8%           | 56.9%     | 16.2%    | 1.1%     | 2.6%   | 7.8%  | 9.9%                     | 4.6%            |
| Sep-22 | 1.9%           | 53.8%     | 12.1%    | 0.9%     | 2.6%   | 10.8% | 13.3%                    | 4.8%            |

Source: DTCC SDR  
\*2 months tenor also includes 6 weeks and 7 weeks tenors  
Tenor is calculated as the difference between the effective date and the maturity date

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## SOFR Traded Notional as % of USD-denominated IRD Traded Notional by Region



Source: DTCC SDR, European APAs and TV's

## SOFR and USD LIBOR Traded Notional as % of USD-denominated IRD Traded Notional by Region

|        | EU    |           | UK    |           | US    |           |
|--------|-------|-----------|-------|-----------|-------|-----------|
|        | SOFR  | USD LIBOR | SOFR  | USD LIBOR | SOFR  | USD LIBOR |
| Sep-21 | 12.7% | 79.0%     | 10.6% | 59.6%     | 10.5% | 73.0%     |
| Oct-21 | 16.9% | 71.8%     | 16.4% | 43.1%     | 13.3% | 63.6%     |
| Nov-21 | 19.2% | 68.0%     | 17.7% | 34.8%     | 16.5% | 57.8%     |
| Dec-21 | 24.5% | 63.5%     | 16.6% | 44.5%     | 22.4% | 52.2%     |
| Jan-22 | 44.8% | 43.6%     | 20.2% | 16.5%     | 21.1% | 50.5%     |
| Feb-22 | 23.7% | 70.6%     | 18.4% | 25.9%     | 28.8% | 45.1%     |
| Mar-22 | 30.0% | 64.7%     | 19.9% | 21.7%     | 35.4% | 39.0%     |
| Apr-22 | 32.9% | 60.7%     | 38.0% | 19.3%     | 40.1% | 40.7%     |
| May-22 | 24.1% | 70.3%     | 28.1% | 27.3%     | 39.0% | 41.4%     |
| Jun-22 | 42.0% | 44.9%     | 32.6% | 16.2%     | 41.2% | 35.5%     |
| Jul-22 | 45.4% | 42.7%     | 41.2% | 24.4%     | 40.5% | 38.1%     |
| Aug-22 | 60.1% | 18.1%     | 53.5% | 15.3%     | 43.9% | 37.6%     |
| Sep-22 | 66.3% | 16.9%     | 60.1% | 10.2%     | 45.3% | 25.8%     |

Source: DTCC SDR, European APAs and TV's

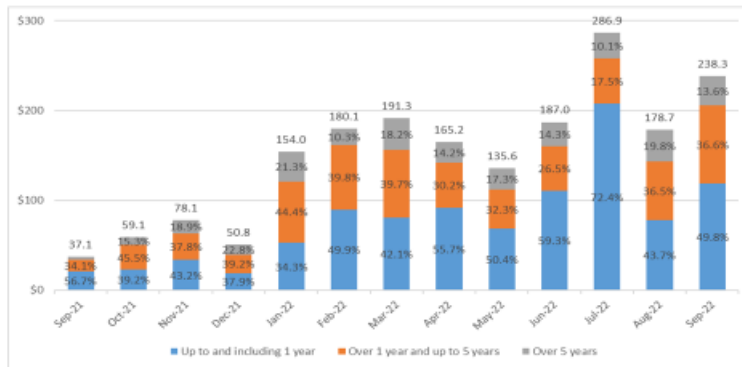
## USD-denominated IRD Traded Notional Reported in the EU (US\$ billions)



Source: European APAs and TVs

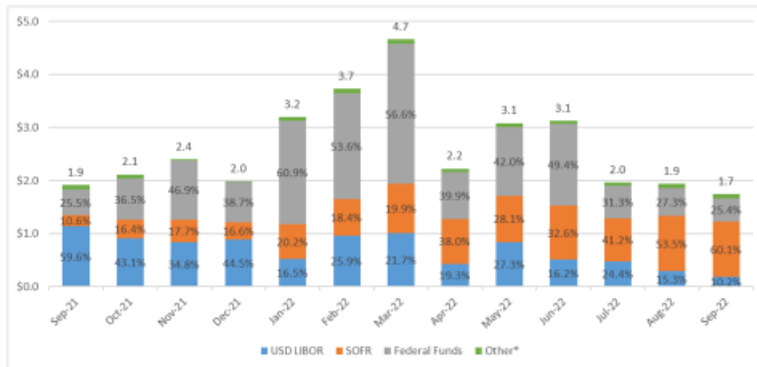
\*Other includes other underlying reference rates. SOFR/USD LIBOR and SOFR/Fed Funds swaps are included under SOFR.

## SOFR Traded Notional Reported in the EU by Tenors (US\$ billions)



Source: European APAs and TVs

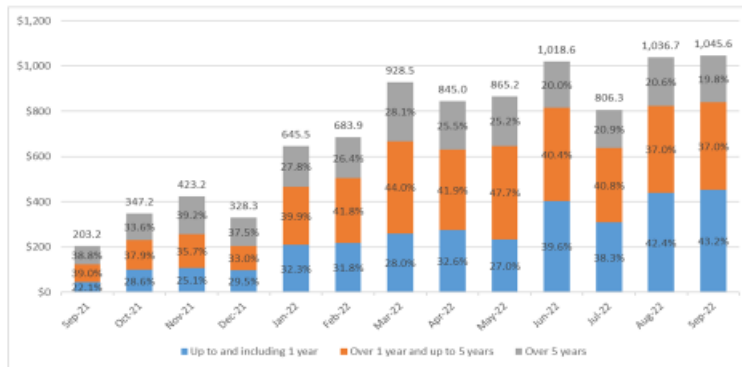
## USD-denominated IRD Traded Notional Reported in the UK (US\$ trillions)



Source: European APAs and TVs

\*Other includes other underlying reference rates. SOFR/USD LIBOR and SOFR/Fed Funds swaps are included under SOFR.

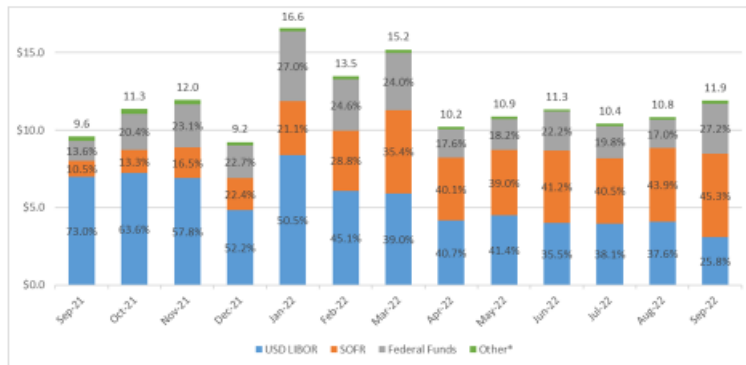
## SOFR Traded Notional Reported in the UK by Tenors (US\$ billions)



Source: European APAs and TVs



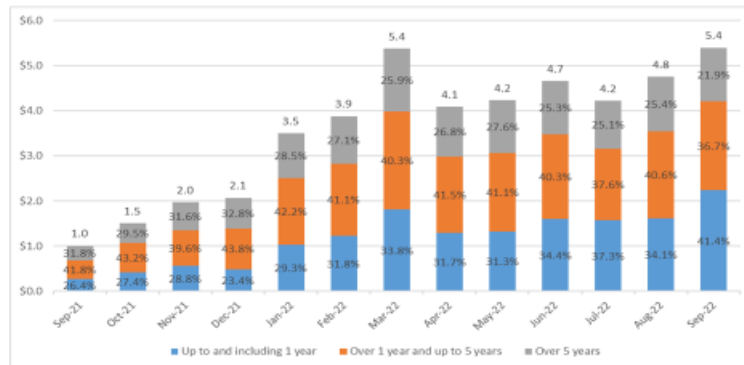
## USD-denominated IRD Traded Notional Reported in the US (US\$ trillions)



Source: DTCC SDR

\*Other includes other underlying reference rates. SOFR/USD LIBOR and SOFR/Fed Funds swaps are included under SOFR.

## SOFR Traded Notional Reported in the US by Tenors (US\$ trillions)



Source: DTCC SDR

## European Data

- EU and UK IRD trading data is based on transactions publicly reported by 30 European approved publication arrangements (APAs) and trading venues (TVs).
- EU IRD trading activity is measured by IRD traded notional reported by APAs and TVs located in the EU, while UK IRD trading activity is measured by IRD traded notional reported by APAs and TVs located in the UK.
- Data set includes only new transactions. All cancelled transactions are removed and amended trades are updated using the dissemination ID field. Transactions reported with a four-week aggregation flag and volume omission flag are also removed from the data set.
- Reported notional is converted to US dollars based on daily FX rates.
- All reported transactions are aggregated on a daily basis. Monthly traded notional referenced in this report represents the sum of converted traded notional of all transactions executed during the month.

## US Data

- Analysis of US IRD is based on data from the Depository Trust & Clearing Corporation (DTCC) swap data repository (SDR) that only covers transactions required to be disclosed under Commodity Futures Trading Commission regulations.
- Data set includes only new transactions. All cancelled transactions are removed and amended trades are updated using the dissemination ID field.
- Reported notional is converted to US dollars based on daily FX rates.
- All reported transactions are aggregated on a daily basis. Monthly traded notional referenced in this report represents the sum of converted traded notional of all transactions executed during the month.

## Data Limitations

- While ISDA believes this data covers the majority of OTC IRD transactions in Europe, it doesn't capture 100% of the market.
- In Europe, transparency reporting requirements apply to instruments that are admitted to trading on regulated markets (RMs), as well as those that are traded on other TVs, including MTFs and OTFs. The transparency requirements also apply to investment firms not trading on TVs if the underlying financial instrument is 'traded on a trading venue' (TOTV) or is an index or basket composed of financial instruments that are traded on a TV. Financial instruments that are solely traded outside of TVs are not subject to the requirements and, therefore, are not included in this analysis.
- When European counterparties face US entities on a swap execution facility (SEF), ESMA does not require EU firms to systematically republish information in the EU about transactions executed on TVs outside the EU that are subject to transparency provisions similar to those applicable to EU TVs. Under US rules, SEFs are required to send relevant trade details to an SDR for real-time public dissemination. Therefore, these trades will be captured in US trading activity only, resulting in a potential understatement of European traded notional.
- Trades executed on MTFs and OTFs between EU and US counterparties may be disseminated to the public twice. Since EU and US reporting rules have not been determined equivalent, trades executed on MTFs and OTFs are viewed as off-facility transactions for US real-time reporting purposes and are subject to the CFTC reporting rules. At the same time, MTFs and OTFs have an obligation to send trade details for public dissemination. Therefore, these trades may be double counted in European and US combined trading activity analysis.

### For questions on this analysis, please contact:

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