€STR-based forward-looking term structure

Presentation to the Working Group on euro risk-free rates
Who we are

• FTSE Russell is a leading global provider of benchmarks, analytics, and data solutions with multi-asset capabilities.
  – Approximately $16 trillion is currently benchmarked to FTSE Russell indexes.
  – FTSE Russell has a well established and robust governance framework designed to meet the requirements of the IOSCO Principles for Financial Benchmarks and the European Benchmark Regulation (EU BMR).
  – FTSE International Limited is authorized as a benchmark administrator under EU BMR.
  – FTSE Russell is the benchmark administrator for the Tradeweb FTSE Gilt Closing Prices.

• FTSE Russell is wholly owned by the London Stock Exchange Group (LSEG).

• LCH is also a subsidiary of LSEG and is a leading Rates and multi-asset clearing house, including a strong market presence in the clearing of OTC Rates Derivatives.
Forward-looking Term Rate Status

FTSE Russell has been working with key partners\(^1\) to:

- Establish benchmark design principles covering forward-looking term rates across currencies
- Evaluate existing order book data, where available, to inform methodologies and understand market structure changes needed to support certain methodologies
- Define an appropriate two-part definition including an underlying interest and a detailed statement of methodology
- Develop appropriate procedures and governance arrangements for the evolution of forward-looking term rates
- Undertake client outreach and formulate licensing approach.

\(^1\)Tradition, TP ICAP and LCH

Key Findings

- Spot OIS contracts represent the best measure of forward-looking term rates.
- Futures could play a supporting role in the absence of OIS liquidity.
- Forward-looking term rate robustness could be significantly improved through the trading of spot OIS on central limit order books (CLOBs).
Benchmark Design Principles

- Forward-looking term rates must be compliant with the IOSCO Principles for Financial Benchmarks and EU Benchmark Regulation.
- To ensure this is the case, we have established benchmark design principles.

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<thead>
<tr>
<th>Design Principle</th>
<th>Description</th>
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<tr>
<td>Anchored in transactions, or executable data, where possible</td>
<td>The methodology must be biased in the direction of tangible / observable transactions or executable data above all other available market raw material</td>
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<td>Resilient and reliable, particularly in times of market stress</td>
<td>The methodology must be able to produce a reliable rate in times of extreme market stress, particularly when there is a shortage of available market data</td>
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<td>Robust to potential manipulation</td>
<td>The methodology design must protect the rate from manipulation attempts, and be able to identify and highlight suspicious activity</td>
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<td>Derived from transparent methodologies and processes, which are publicly available</td>
<td>The methodology used must be clear, transparent and comprehensible to market participants</td>
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<td>Allow for data sources and methodologies to evolve, transparently, over time</td>
<td>The methodology must be able to appropriately utilise underlying market data in an objective and structured manner, recognising data sources may change over time</td>
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<tr>
<td>Devoid of expert judgement on behalf of the Index provider</td>
<td>To the extent possible, the methodology must avoid the use of expert judgement. In all circumstances, expert judgement on behalf of the index provider is avoided</td>
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<tr>
<td>Designed with appropriate fallback arrangements</td>
<td>In the event that RFR-derived term rates can no longer be produced, appropriate fallback rates/mechanisms should be defined</td>
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# Input Data: Derivative Markets

- Forward-looking term rates can be created from derivative markets referencing overnight RFRs (in this case €STR). Available markets and contract types have strengths and weaknesses for the construction of robust benchmarks.

- We plan to consult with market participants to understand their methodology preferences further.

<table>
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<tr>
<th>Market</th>
<th>Description</th>
<th>Strength(s)</th>
<th>Weakness(es)</th>
<th>High Level Methodology</th>
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| OIS    | Interest rate swaps in which daily compounded RFR is exchanged for a fixed interest rate. | ▪ Reference period alignment. | ▪ Executed transactions in spot contracts may be insufficient in isolation to calculate robust forward-looking term rates on all trading days. | **Transactions**: Volume-weighted average price (VWAP) of eligible transactions.  
**Quotes**: Create an aggregated central order book from contributing trading venues and find the weighted average rate at top of order book. |
| Futures | Various contracts with differing specifications have been launched across futures exchanges. | ▪ Highly standardised and can consolidate liquidity. | ▪ Reference period misalignment.  
▪ A yield curve model is needed. This requires assumptions to be made and introduces model risk.  
▪ Current market size. | **Transactions**: VWAP of eligible transactions and contracts. Use these as inputs to model an RFR curve.  
**Quotes**: Weighted average rate at top of order book for each futures contract. Use these as inputs to model an RFR curve. |
| Hybrid | A combination of both futures and OIS can be used to construct forward-looking term rates. | ▪ Maximises the use of available data sources. | ▪ Benchmark production may be more complex and less transparent.  
▪ The combining of input data may be subjective. | A methodology to either prioritise or combine OIS and futures data. |
### Development of CLOBs
- CLOBs for EONIA OIS are well established.
- We expect liquidity on CLOBs to develop for €STR OIS, particularly as €STR OIS becomes eligible for clearing.

### Benefits of CLOBs
- The creation and use of the CLOB gives the reference price desirable attributes:
  - Transparency
  - Irrefutable Liquidity
  - A cleared rather than credit based market
  - Provision by an independent MiFID II regulated MTF

### Conflicts of Interest
- The fact that all prices are tradable helps to ensure genuine liquidity.
- The methodology also has a number of layers of defence to mitigate potential conflicts of interest.
- Ongoing surveillance and monitoring on venue and across venues would also be established.
Next Steps

1) Broad Market Engagement

2) Consultation on Methodology
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