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Agenda item 4.2: Update by Subgroup 2 on the identification and recommendation of a term structure on RFRs

Sixth meeting of the working group on euro risk-free rates

Frankfurt am Main, 18 October 2018

Presentation structure

Target

- Long term
  - Propose an RFR-based term structure as a **fallback** for EURIBOR
  - Aim at broad-based adoption of the recommended term structure
    - Would one-size-fits-all methodology be preferable?
    - What are the risks of several methodologies co-existing and how to mitigate them?
- Short term
  - Target set in High Level Implementation Plan: define the criteria and organize a first consultation

Context

- ISDA consultation on derivatives fallback
- Strong guidance from FSB to limit the usage of term fixings in derivatives
  - Interest rate benchmark reform – overnight risk-free rates and term rates (FSB, 12 July 2018)
  - FSB will publish a further progress report in November 2018
- Work done by other groups, and notably UK RFR Group consultation on Term SONIA Reference Rates (TSRRs)
  - Aim of the UK group consultation: help to build TSRRs which are expected to help some products (loans, DCM) to **transition** from Libor to Sonia
- Findings by the working group (and others) that backward-looking methodologies are not suitable for some industries/products
  - Mortgage market the main European specificity

Uncertainties and work plan

Uncertainties

- Findings of on-going consultations
- Outcome of request to postpone the BMR transition deadline
- EURIBOR reform outcome
- EONIA transition to ESTER and the need for a liquid ESTER derivatives
- FSB November 2018 recommendations

Work plan

- Determining the selection criteria and public consultation on the forward-looking methodologies are the first steps in narrowing the list of options
- Work done since September 2018 working group meeting:
  - Finalization of the work on selection criteria
  - Extensive discussions on the scope of the consultation:
    - Progress done provides basis for designing the work plan and for allocating work
    - Euro area main specificity: ESTER market does not exist yet
    - Need for a very clear foreword to the consultation

Clustering of selection criteria in three groups

Earlier work	First step: bundling along main categories	Second step: further clustering along IOSCO Principles
Underpinned by a broad base of transactions	Term Structure Qualities	IOSCO Principle 7: Data Sufficiency
Transactions represent sufficient volume/depth		
Existence of active related markets		
Representative of near risk free bank borrowing costs (at any time), (minimal counterparty risk)	Term Structure Characteristics	IOSCO Principle 6: Benchmark Design
Reasonably aligned with policy rates		
Appropriate euro area representation		
Minimal opportunities for market manipulation	Other Requirements	
Underlying interest that the benchmark seeks to measure must be easy to understand	Methodological Qualities	IOSCO Principle 9: Transparency of benchmark determination
Eligible transactions clearly defined / accessible data sources	Governance and Accountability	
Calculation methodology easy to understand on a rudimentary basis		

Question 1

- Subgroup 2 validated / approved the criteria at the 11 October 2018 SG2 plenary call.

=> Do the working group members agree with the proposed selection criteria?

Scope discussion outcome

- Concentrate for now on forward-looking methodologies
  - Avoid overlap / timing issues with the ISDA consultation. Additional work with ISDA on how consultations could interact (e.g. the in advance method)
  - Reflect on UK working group experience on its consultation
  - Forward-looking methodologies all imply the creation of a benchmark

- Reduce the scope of the questionnaire to feasible options
  - Subgroup 2 agreed to recommend a focus on quote-based and futures-based options
  - Additional analysis on composite methodology (see below)

- Need for additional analyses
  - On expected volumes and liquidity, timing of the developments
  - On current market structures versus needed electronic trading platforms
  - On potential size of the derivatives market using the new benchmark vs. the OIS / futures markets

Question 2

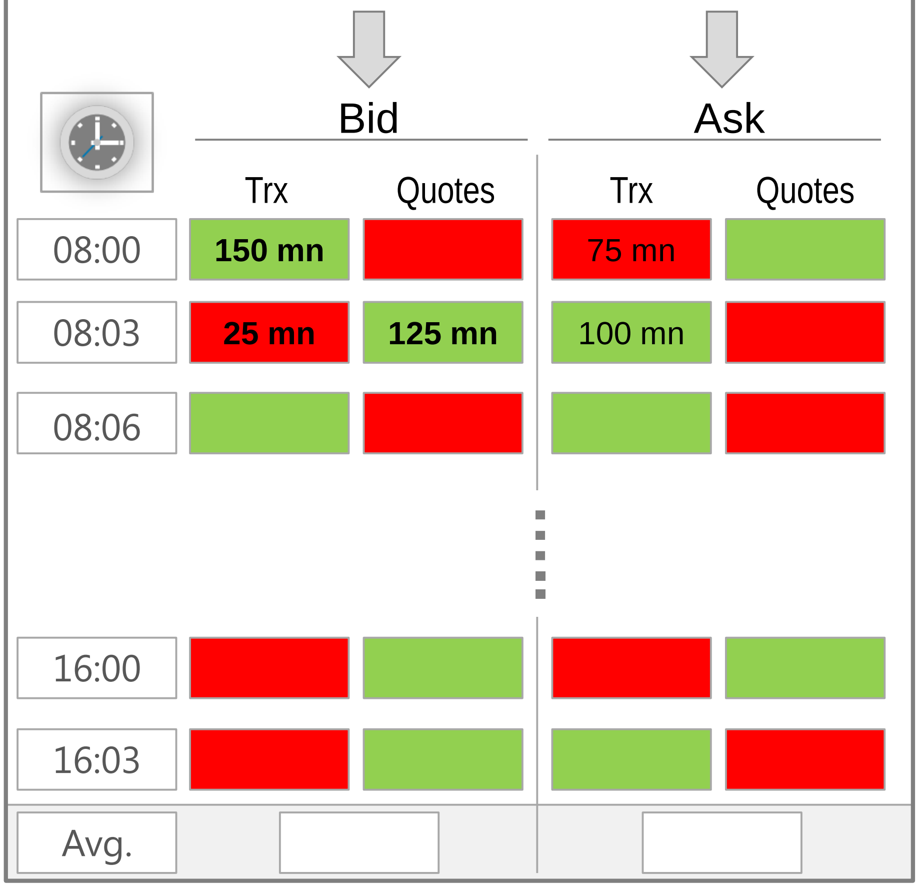
- ESTER expected by 2019Q4
- ESTER based term structure requires a liquid derivatives market (see FSB recommendations)
- Assumptions on the shape and the liquidity of the future ESTER based derivatives market necessary for SG2 to deliver on its mandate to select a term structure and to propose measures to foster its adoption.

=> Does the WG agree that - given the 2019 time constraint for delivering what has been requested - for the purpose of selecting a term reference rate (TRR) we must work on generic assumptions on the shape and liquidity of an ESTER derivative market ?

Description (1/2)

Potential data sources

Electronic trading venues (e.g. MTFs), data repositories, ...



Key methodological features

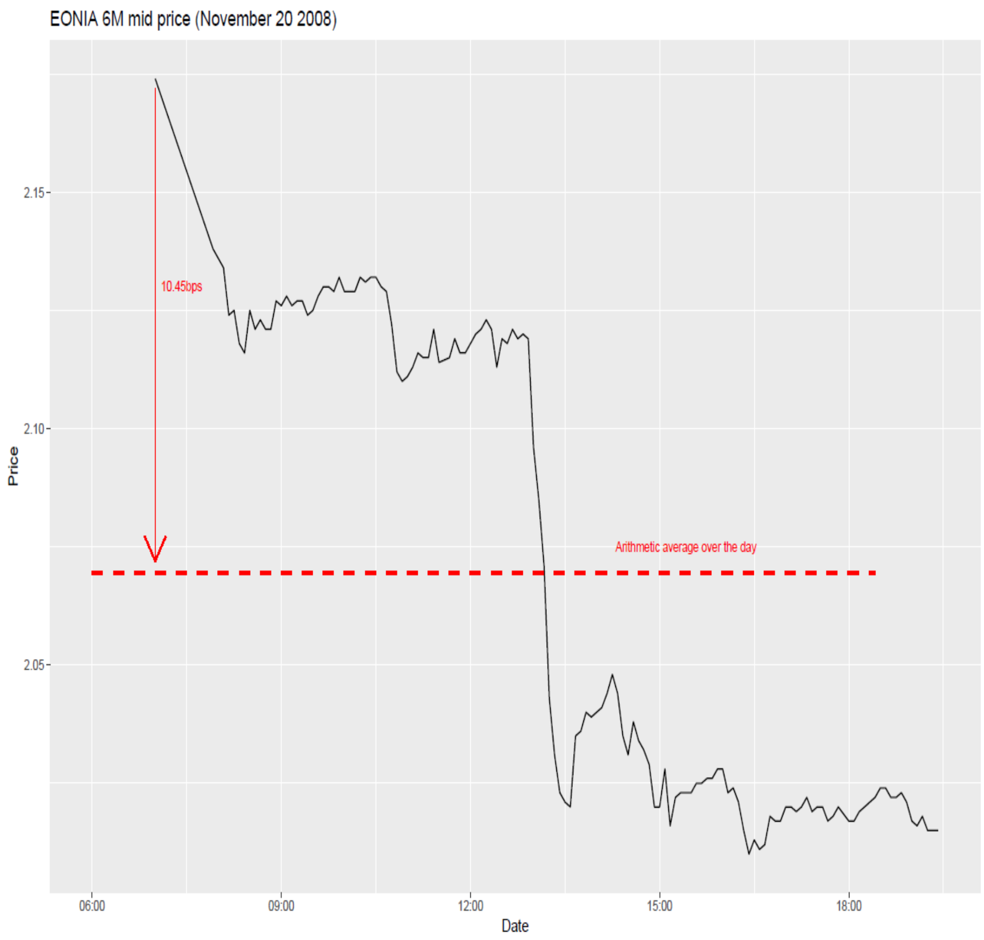
- Methodologically challenging to combine transactions and quotes:
  - How to weight transactions and quotes
  - Waterfall logic simplifies this, taking **EITHER** transactions **OR** quotes at each sample point
- Average then taken over the whole period (e.g. randomised snapshots could be taken)
- Operationally challenging to combine quotes and transactions from multiple trading venues:
  - Source(s) of transaction data
  - Compilation/Verification of transactions
  - Timing between calculation and publication
- Composite methodology suited better to a complete day fixing because transaction data can be maximised

If the transaction volume is greater or equal to the volume threshold (assumed 100mn above), the transaction data is used to compute the rate (shown as GREEN)

Description (2/2)

Consequences of a complete day fixing:

- Deposit market exhibits very different dynamics vs OIS market due to wider bid/offers making it less sensitive to market moves
- Hedging of fixing extremely difficult
- Volume not as concentrated at a specific point in the day
- Representation of average during a day may not be meaningful during volatile periods
- Consistent with the EURIBOR Hybrid method complete day data



Pros & cons

+	-
• Allows the use of transactions where possible, therefore superior to quotes under IOSCO principles • Can help the transition from a quote based methodology to a transaction based methodology, until sufficient transactions become available	• Methodologically complex to incorporate transactions and quotes • Operationally complex • Currently limited transactions available • Better suited to a complete day fixing rather than point in time fixing

Update

In case of the "Dark Scenario"[1] a backward looking methodology appears to be the only viable option

$$TRFRc = \left[\prod_{i=Ts}^{Te}\left(1 + \frac{RFRi * di}{360}\right) - 1\right]\frac{360}{nt}$$

$TRFR_c$ ... term rate (ESTER) taking compound interest into account
$T_s = (T_e - T)$ ... start date of the term period
di ... number of days the rate RFRi is applied (business day adjusted, usually one day, three for weekends)
T .... term of the rate to be calculated (1Week, 2Weeks, 1Month, 3Months, ...)
RFR_i ... overnight RFR (ESTER) on day i of the term period
T_e ... end date of the term period (= publication date)
nt ... number of days between start date and end date of the term period

Publishing of the compounded RFR

- An institution publishing the compounded RFR for various maturities would aid this scenario, **especially for the retail market** (e.g. for a mortgage rate to be used in Spain it must be published by the Bank of Spain).
- Market participants expect the administrator of the O/N RFR in other regions to also be publishing the compounded term rate.
- Additionally, ICE benchmarks plans to publish the compound rate for various RFRs.

[1] "Catastrophic Scenario" involves non-compliance of the EURIBOR hybrid methodology and no extension of the BMR timeline.

Consultation targets

- **Objective:** one single forward-looking methodology
- **Timeline:** working group to approve the consultation document at the latest at its 19 December 2018 meeting.

Open issue

- Possible co-existence of backward-looking methodologies potentially applicable to different cash products
  - ISDA consultation is only for derivatives

Topics for consideration by the working group

Working group discussion topics

- Multiple methodologies – is it a feasible option? (see ARRC annex)
- Shall we have multiple consultations (by asset class / users) or shall we have only one?
- How to account for FSB guidance?

Additional issues for exploration

- Accounting implications
- Integration with other groups
  - Some members have expressed the need to align methodologies in products that are multicurrency such as cross-currency swaps or certain loans.

Financial Stability Board (FSB)

- FSB: Where market participants move to a forward-looking term rate or to the overnight RFRs, the FSB envisages that, if they are structured appropriately, either choice could be hedged using derivatives that reference the RFR directly with little or no basis risk. This is true because they would be structured based on the same floating rate payment streams that are envisioned for derivatives based on the RFRs.

Alternative Reference Rates Committee (ARRC)

- **The Alternative Reference Rates Committee (ARRC) released consultations on U.S. dollar (USD) LIBOR fallback contract language for floating rate notes and syndicated business loans for public feedback**. These consultations outline draft language for new contracts that reference LIBOR so as to ensure these contracts will continue to be effective in the event that LIBOR is no longer usable. Feedback should be submitted no later than November 8, 2018. This effort is part of the ARRC's mandate to help in addressing risks in contracts referencing LIBOR and builds on its work developing the Paced Transition Plan, which outlines the steps for an effective shift to the ARRC's recommended alternative reference rate, the Secured Overnight Financing Rate (SOFR). **These are the first consultations on fallback language that the ARRC has released, and the ARRC expects to consult on proposals for other cash products, including securitizations, bilateral loans, and consumer products, in the future.**
- As described in the ARRC's guiding principles for fallback contract language, there are substantial benefits to consistency across products. **Aligning fallback provisions across different types of products so that they would operate similarly during a LIBOR cessation reduces operational, legal, and basis risk**

ISDA

- Consistent with this position, the Working Group on Sterling Risk-Free Reference Rates **(Sterling RFR WG) indicated in its December 12th, 2017 minutes that there should be no need for forward-looking term rates to be used for cleared and listed derivatives and, over time, a reduced need for term rates in bilateral swap markets**. While USD LIBOR is not directly in scope for this consultation, we note that the US Alternative Reference Rates Committee **(ARRC) has also indicated that derivatives should reference the overnight RFRs and that forward-looking term rates are intended for use in cash products and would not be appropriate for most derivatives.**

- The fallbacks that ISDA is implementing will be for derivatives (as opposed to cash products) and therefore, unlike the forward-looking term rates separately under consideration by the Sterling RFR WG and the ARRC, the approaches under consideration are based on the overnight RFRs.