EFTERM®
Consultation Paper

Public consultation on the euro forward-looking term rate EFTERM®

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1.   Introduction

The European Money Market Institute[1] (EMMI) is the authorised administrator of EURIBOR®, a critical benchmark under the EU Benchmarks Regulation[2] (BMR) and the eurozone's most important interest rate benchmark. EMMI continuously enhances its benchmark governance, transparency and robustness, and has decided to develop fallback rates to EURIBOR® to provide its users with an easily accessible option to comply with relevant legal requirements. In this context, EMMI has developed EFTERM®, a forward-looking term rate based primarily on €STR[3]-linked OIS quotes as a fallback rate to EURIBOR®. With this consultation paper, EMMI is seeking input from all interested parties on the EFTERM® methodology. The EFTERM® methodology presented in this document is a draft methodology based on recommendations issued by the Euro Risk Free Rate Working Group (RFR WG). EMMI welcomes feedback on the questions raised and encourages respondents to share any additional comments that are not addressed in the suggested questions. Please email your responses to efterm-consultation2022@emmi-benchmarks.eu before **31 August 2022**.

A summary of the stakeholder feedback will be made available in the fourth quarter of 2022, together with the final methodology for EFTERM®.

2.   Background

The BMR requires that supervised entities other than benchmark administrators produce and maintain robust written plans in the event that a benchmark they use changes materially or ceases to be provided. Where feasible and appropriate, these plans should include one or more alternative benchmarks (Article 28 II BMR), regularly referred to as "fallback rates".

The RFR WG has discussed and consulted on appropriate fallbacks for EURIBOR®. It recommended an OIS quote-based methodology for the €STR-based forward-looking term structure methodology as a fallback to EURIBOR-linked contracts[4]. In a subsequent consultation, the RFR WG obtained wide public agreement for its further recommendations of forward- and backward-looking term rates as appropriate EURIBOR® fallback rates.[5] The RFR WG's final recommendation was to use forward-looking term structures based on quotes and transactions in the derivatives markets, referencing the €STR exclusively or in combination with backward-looking term structures as fallback rates for EURIBOR®, for a variety of asset classes.[6] Early on, the RFR WG acknowledged that developing term structures required a successful transfer of liquidity from EONIA to €STR OIS markets, a transparent and regulated underlying derivatives market and sufficient data sources to capture the majority of market activity[7] - and it has upheld this caveat. In its second consultation on determining an €STR-based term structure methodology in 2018, the RFR WG also found that an OIS transaction-based methodology was unviable in the absence of

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[1] https://www.emmi-benchmarks.eu/

[2] Regulation (EU) 2016/1011 of the European parliament and of the Council on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds

[3] €STR is the euro short-term rate as published on each TARGET2 business day by the European Central Bank: https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/euro_short-term_rate/html/index.en.html

[4] https://www.ecb.europa.eu/pub/pdf/annex/ecb.sp190314_annex_recommendation.en.pdf

[5] https://www.ecb.europa.eu/pub/pdf/other/ecb.summaryresponsespublicconsultation_ESTRWGonEURIBORtriggerevents~e61e54d75b.202102.pdf

[6] https://www.ecb.europa.eu/pub/pdf/other/ecb.recommendationsEURIBORfallbacktriggereventsandESTR.202105~9e859b5aa7.en.pdf

[7] https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.consultation_details_201812.en.pdf

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sufficient transactions and volumes to support it. Instead, it favoured a methodology that combined tradeable bid and ask prices in €STR OIS swaps markets in multiple Central Limit Order Books into a "theoretical" order book to capture the highest possible liquidity.[8] The RFR WG explicitly referred to the ICE Swap Rate, as published by ICE Benchmark Administration (IBA), and has cited it as an example for a viable quote-based calculation methodology.

In October 2019, EMMI expressed its interest in becoming an administrator of a €STR-based forward-looking term structure and subsequently entered into discussions with IBA, the administrator of the ICE Swap Rate® and a SONIA-based forward looking term rate (ICE Term SONIA Reference Rate), to work jointly on developing a forward-looking fallback rate for EURIBOR®. Following a joint presentation to the RFR WG in July 2020, EMMI formally appointed IBA as its calculation agent for EFTERM® in 2022.

3. EFTERM® Underlying Interest

The primary purpose of EFTERM® is to facilitate the compliance of supervised EURIBOR® users with their obligations under the BMR. The RFR WG has recommended that forward-looking term structures be based on quotes and transactions in the derivatives markets referencing the €STR and reflect market expectations of the evolution of the €STR during the upcoming interest rate period.[9]

The EFTERM® underlying interest is therefore the rate which reflects the average expected (i.e., forward-looking) wholesale euro unsecured overnight borrowing costs of euro area banks over defined tenor periods. The defined tenors are those of EURIBOR®, namely 1 week, 1 month, 3 months, 6 months, and 12 months.

Question 1: Do you have any comments on EFTERM®'s underlying interest?

4. Methodology

4.1. Overview

EMMI proposes that EFTERM® follows a waterfall methodology, using €STR-linked OIS tradeable quotes as a first level, €STR-linked OIS dealer-to-client quotes as a second level, and €STR-linked one month futures settlement prices as the last level to fall back to (see below for more details).

The proposed use of €STR-linked OIS tradeable quotes as a primary source of input data directly follows the RFR WG's recommendations. The group has also noted a preference for tradeable quotes over indicative quotes, where only for the former, "the individual dealer showing this quote must be able and willing to transact at this specific price in the specific volume at exactly this point in time."[10] At the time of the RFR WG's second consultation, the ICE Swap Rate®, which served as a model for the group's recommendations, was based on these tradeable quotes alone. Only on 29 May 2020 did IBA introduce dealer-to-client quotes in its ICE Swap Rate® waterfall

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[8] Ibid
[9] https://www.ecb.europa.eu/pub/pdf/other/ecb.recommendationsEURIBORfallbacktriggereventsandESTR.202105~9e859b5aa7.en.pdf, page 9
[10] https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.consultation_details_201812.en.pdf

methodology.[11] EFTERM® draws from the solid experience IBA has gained in the application of this approach.

The RFR WG also assessed a futures-based methodology, which uses a sequence of overlapping futures to extract the expected levels of €STR between ECB monetary decision dates, and concluded that it could be a viable alternative once liquid futures markets have developed.[12] Given that settlement prices for €STR-linked futures are now published daily, EMMI proposes to include a futures-based methodology as a last waterfall level (see below for more details).

EMMI proposes the following detailed methodology:

4.2.   Level 1 description

The first level of the waterfall consists of €STR-based OIS tradeable bid and offer prices and volumes collected for each defined tenor available on the central limit order books of the selected trading venue(s) over a two-hour window spanning from 8:30 to 10.30 am CET on the day of the EFTERM® calculation and divided into 24 blocks of five minutes each.

Eligible bids and offers are collected at a random point in time (referred to below as a "snapshot") within each of these five-minute blocks, i.e., 24 snapshots.

For each snapshot:

- a synthetic order book is created by combining the eligible bids and offers from each trading venue and ranking them by price;

- these prices and the associated volumes are used to calculate the volume-weighted bid (VWB) and the volume-weighted offer (VWO) of the prices that would result from filling a hypothetical trade of Standard Market Size (SMS) on each side of the market, starting from the highest bid and the lowest offer, respectively; and

- a volume-weighted average mid-price (VWAMP) is calculated from the VWB price and the VWO price, and the VWB-VWO spread is collected.

Snapshots with insufficient tradable volume to fill the SMS, or which contain crossed or zero-spread bid and offer prices, are excluded from the calculation.

The remaining snapshots (maximum 24) are ordered by VWAMP and those with a VWAMP above the 85th percentile or below the 15th percentile are also excluded from the calculation.

If at least six snapshots remain, the EFTERM® rate for the defined tenor is calculated as a quality-weighted average of the VWAMPs from these snapshots. The quality-weighting applied to each snapshot is the inverse of the VWB-VWO spread, ensuring that snapshots with a tighter spread are given a higher weighting.

Question 2: Do you have any comments on Level 1 of the methodology?

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[11] https://www.tradeweb.com/49daa1/globalassets/newsroom/media-center/risk_ice-swap-rate-adds-safety-net-with-tradeweb-quotes.pdf
[12] https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.consultation_details_201812.en.pdf, page 29

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4.3. Level 2 description

The second level of the waterfall is invoked when fewer than six snapshots can be calculated using the level 1 methodology. It consists of €STR-based OIS dealer-to-client bid and offer prices and volumes displayed electronically for each defined tenor by the selected trading venue(s) over the same two-hour window as in the level 1 methodology, again divided into 24 blocks of five minutes each.

Eligible bids and offers are then collected at the same random points in time (i.e., using the same snapshots) determined under the level 1 methodology.

For each snapshot,

- where a dealer provides prices for multiple categories of clients within a snapshot, the 'best' price per dealer is selected, based firstly on the tightest spread and then on the largest volume for each client category within the snapshot. When there is more than one category of clients, or tier, with the same spread and volume, the lowest tier number is selected;

- the selected, eligible bids and offers from each dealer from each trading venue are combined and ranked by price starting from the highest bid and the lowest offer, respectively, to create a synthetic order book;

- these prices and associated volumes are ranked in order to calculate the volume weighted bid ("VWB") and offer ("VWO") of the prices that would result from filling a hypothetical trade of Standard Market Size ("SMS") on each side of the market;

- a volume-weighted average mid-price ("VWAMP") is calculated from the VWB price and the VWO price, and the VWB-VWO spread is collected.

For each snapshot that contains crossed bid and offer prices, the best bid and best offer volumes are matched until no crossed bid and offer prices remain. If there is sufficient volume to meet the required SMS on each side, the snapshot is retained. Otherwise, the snapshot is excluded from the calculation.

The remaining snapshots (maximum 24) are ordered by VWAMP and snapshots with a VWAMP above the 85th percentile and below the 15th percentile are also excluded from the calculation.

If at least six snapshots remain, the EFTERM® rate for the defined tenor is calculated as a quality-weighted average of the VWAMPs from these snapshots. The quality-weighting applied to each snapshot is the inverse of the VWB-VWO spread, ensuring that snapshots with a tighter spread are given a higher weighting.

Question 3: Do you have any comments on Level 2 of the methodology?

4.4. Level 3 description

The third level of the waterfall is invoked whenever fewer than six snapshots can be calculated using the level 2 methodology. It uses the following input values:

- One-month €STR index futures contracts maturing within each calendar month spanned by the relevant defined tenor period, and their associated settlement closing prices from the preceding trading day;

- €STR rates published by the ECB from the beginning of the current month and on the date EFTERM® is being calculated;

- A schedule of rate change dates containing exactly one rate change date for each calendar month spanned by the defined tenor

The schedule of rate change dates is determined as follows:

- For the calendar month containing the calculation date, the rate change date will be either:
  - the scheduled ECB's reserve maintenance period start date[13] for that month, provided this occurs on or after the calculation date; or
  - the calculation date itself, where this falls after the scheduled ECB maintenance period start date for that month or there is no ECB maintenance period start date scheduled for that month.

- For subsequent calendar months the rate change date for that month will be either:
  - the scheduled ECB maintenance period start date for that month; or
  - the first TARGET day of that month, where there is no scheduled ECB maintenance period start date meeting date for that month.

A step function model is then used to determine, from these input values, the implied average daily overnight rates. This is done from the date the EFTERM® rate is being calculated until the end of the last calendar month spanned by the relevant defined tenor, applying the implied rate changes for each month to the relevant rate change dates.

The implied average daily overnight rates are then compounded over the relevant tenor period to produce the corresponding EFTERM® rate.

Question 4: Do you have any comments on Level 3 of the methodology?

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[13] This date may be estimated based on the previous year's schedule where the official schedule has yet to be announced.

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4.5. Specific elements of the methodology

4.5.1. Waterfall Order

We wish to stress that the preference of level 1 of the waterfall methodology over level 2 is justified by the preference of tradeable quotes, as initially stated by the RFR WG. As for level 2, dealer-to-client quotes are attributable to specific liquidity providers and are executable by the receiving liquidity takers, subject to the liquidity providers accepting the trade.

Separately, level 3 of the waterfall ensures that a rate can be calculated even in the absence of sufficient tradeable or dealer-to-client quotes in the two-hour window.

Despite this hierarchy, the time-series of EFTERM® rates calculated over a test period spanning 3 January to 10 June 2022 yield very similar rates when calculated under level 2 and level 3. For an illustration of rates during a sample period, please see section 5 below.

Question 5: Do you agree with the proposed hierarchy of the waterfall methodology?

4.5.2. Defined tenors

EMMI proposes to publish EFTERM® for all currently defined EURIBOR® tenors, i.e., 1 week, 1 month, 3months, 6 months and 12 months. This will allow EURIBOR® users to nominate EFTERM® as a fallback rate, regardless of which EURIBOR® tenor they are using in their specific case.

Question 6: Do you agree that EFTERM® should be published for all the existing EURIBOR® tenors?

4.5.3. Two-hour window

EMMI has considered an appropriate time frame to obtain snapshots for the calculation of level 1 and level 2 of the EFTERM® methodology and has favoured the two-hour window from 8.30 until 10.30 am (CET) as the most appropriate, since:

- It represents a large share of the activity in the OIS market.
- It allows EFTERM® to be calculated and published at a similar time to EURIBOR®.
- Alongside the random selection of snapshot times, it prevents market participants from anticipating the weight that will be given to a quote (if any) on the final calculated rate.

However, it should be noted that EFTERM® published on day T will be based on quotes available during the defined two hours on day T, while EURIBOR® published on day T considers transactions executed throughout the entire TARGET day T-1.

Consequently, if an event affecting money market rates occurs before (respectively, after) 10:30 am CET, it would be captured in the calculated EFTERM® rates on the same day (respectively, the following day,) while it would always be captured in the calculated EURIBOR® rates the following publication day.

Question 7: Do you find the two-hour window from 8:30 am to 10:30 am CET appropriate to capture a representative portion of the €STR-based OIS market?

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4.6.   Standard Market Sizes

The Standard Market Sizes are used to ensure that there is enough volume supporting the VWAMP of a defined snapshot. As per the proposed methodology, the final calculated level 1 or level 2 rate is a trimmed average of the VWAMPs from a minimum of 6 and a maximum of 24 snapshots.

Notwithstanding, a higher SMS also increases the likelihood of a snapshot being below such SMS. This would disqualify the snapshot from the calculation, and consequently increase the likelihood of relying on lower methodology levels.

In light of the above, we propose to use the following Standard Market Sizes in both the level 1 and level 2 waterfall methodology:

Tenor	SMS (EUR)
1W	1,000 million
1M	750 million
3M	500 million
6M	250 million
12M	100 million

They are tenor-specific and reflect the average market size's behaviour observed over an early testing period. The SMSs will be regularly reviewed based on the underlying data, and in particular for level 1 when €STR-based OIS tradeable bid and offer prices and volumes data become available to us. EMMI will then also assess whether different SMSs should be used for level 1 and level 2 of the methodology.

Question 8: Do you think the proposed Standard Market Sizes are appropriate for each defined tenor?

4.7.   Trimming parameters

The calculation of waterfall levels 1 and 2 is based on a trimmed average, an outlier-removal technique. EFTERM® uses 85-15 trimming parameters, meaning the calculation algorithm removes the observations that are distributed above the 85th percentile and below the 15th percentile.

The trimmed average technique used in the calculation of EFTERM® rates is different from the trimmed average used by the ECB on €STR or by EMMI on EURIBOR®. In the €STR calculation, the observations are removed in volume terms (top 25% and bottom 25%). In EURIBOR®, 15% of the total observations are removed from the top and 15% from the bottom. In EFTERM® we look at the distribution of the valid snapshot rates – all filling the same Standard Market Size – and remove rates higher (resp. lower) than the 85% (resp. 15%) of the rates distribution. Thus, in EFTERM®, we do not necessarily remove the same number of observations on either side of the distribution, compared with EURIBOR®.

When developing the EFTERM® methodology, EMMI has considered and compared two sets of trimming parameters: 85-15 and 75-25. The differences in both settings observed on the

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calculated rates over the period 5 January to 7 February 2022 was insignificant[14]. It is proposed to retain the 85-15 parameter as is it increases the number of data points underlying the final calculated EFTERM® rates.

Question 9: Do you have any comment on the choice of trimming parameters?

5.   State of play

5.1.   Current input data situation

To date, EMMI could not source €STR-based OIS tradeable bid and offer prices and volumes (i.e., the input data for level 1 of the methodology) from eligible level 1 trading venues. However, we have successfully secured the daily provision of €STR-based OIS dealer-to-client bid and offer prices and volumes (i.e., the input data for level 2 of the methodology) from Tradeweb[15]. This data has been used throughout the past 6 months by IBA, the EFTERM® calculation agent, to reliably calculate EFTERM® rates over an internal testing period. Similarly, independent calculations under level 3 of the methodology have been executed using the ICE One Month €STR Index Futures[16] as input data.

The input data available to EMMI and used throughout the testing period is summarized in the below table. The time-series and descriptive statistics on the calculated rates are shown in section 5.2 below.

Methodology Level	Input Data Type	Selected Trading Venue(s)/Futures' contract(s)
Level 1	Tradeable bid and offer prices and volumes for the Defined Tenors	*No data available at the moment*
Level 2	€STR-based OIS dealer-to-client bid and offer prices and volumes for the Defined Tenors	Tradeweb's electronic trading platform
Level 3	€STR-linked futures' settlement prices	ICE One Month €STR Index Futures

EMMI constantly monitors the situation and consults with additional third-party data providers so as to be able to include level 1 input data in the calculation process when eligible prices and volumes are available and sufficiently tested.

While level 1 rates cannot be calculated at the moment due to the unavailability of the input data, EMMI is confident that level 2 of the waterfall methodology determines a robust benchmark that relies on quality data with (i) dealer-to-client quotes that can be executed by clients to whom the quote is shown, subject to the dealer accepting the trade, and (ii) selected standard market sizes large enough to ensure that calculations are based on reliable input data.

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[14] On average, the calculated rates using the 85-15 trimming parameter are 0.00003% higher than those using the 75-25 trimming parameter, with a standard deviation of 0.0003.
[15] https://www.tradeweb.com/
[16] https://www.theice.com/products/37650328/One-Month-ESTR-Index-Futures

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Furthermore, the quality and liquidity checks embedded in level 2 of the methodology (e.g., lowest bid-ask, highest volume, removal of cross-order/zero spread), together with the random selection of the snapshots and the trimmed average, ensure that any outlier is removed and that the calculated benchmark rates are based on robust and representative data.
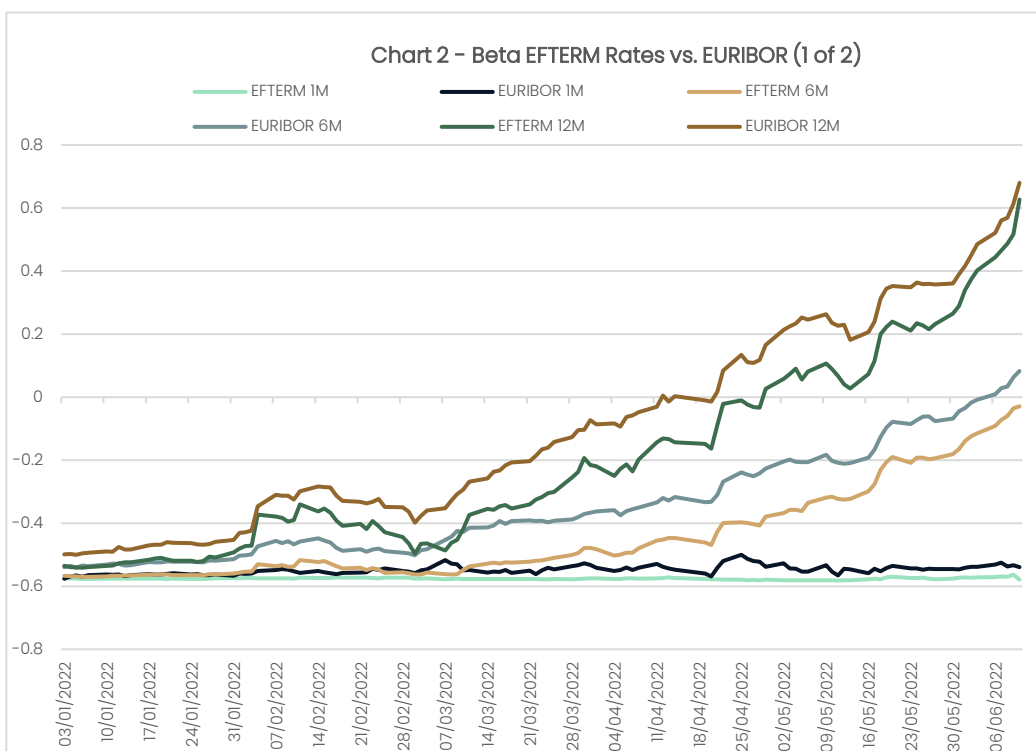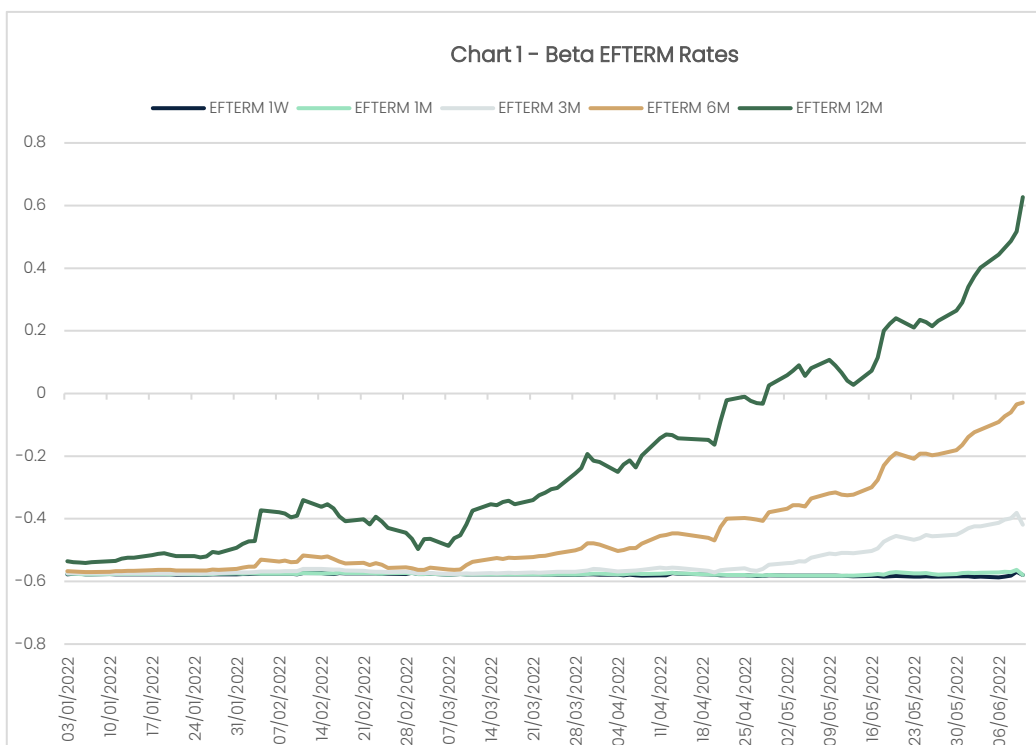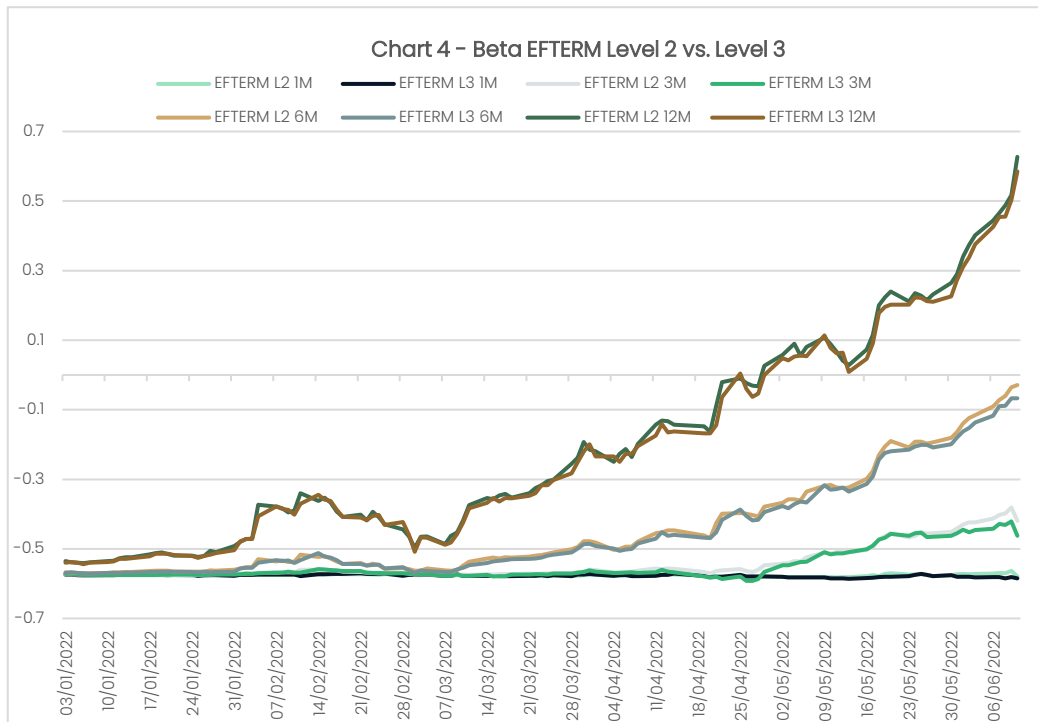
5.2.   Results of the testing period

On the basis of the above-mentioned waterfall methodology, the selected parameters, and the availability of input data, EMMI has analysed the calculated EFTERM® rates over the sample period 3 January to 10 June 2022. The results are highlighted in this section.

During the testing period, the resulting EFTERM® rates were always determined using level 2 of the methodology across all tenors. No reliance on level 3 of the methodology was required. The corresponding time-series are displayed in Chart 1.

A comparison to EURIBOR® is featured in Charts 2 and 3, while a comparison between the rates calculated under level 2 and 3 are available for selected tenors in Chart 4. A spread to EURIBOR® can be observed across all tenors — though it is less apparent in the 1-week tenor — reflecting the quasi risk-free nature of the term rate curves. Such spread has increased over the testing period for the tenors beyond one month, reflecting the volatile funding market.

It should be noted that EMMI does not intend to include a spread adjustment in its published EFTERM®. EMMI suggests that EFTERM® users determine the most appropriate spread adjustment in their contractual relationship, be it fixed or based on a pre-defined spread adjustment methodology.

Chart 1 - Beta EFTERM Rates

Legend: EFTERM 1W, EFTERM 1M, EFTERM 3M, EFTERM 6M, EFTERM 12M

Chart 2 - Beta EFTERM Rates vs. EURIBOR (1 of 2)

Legend: EFTERM 1M, EURIBOR 1M, EFTERM 6M, EURIBOR 6M, EFTERM 12M, EURIBOR 12M

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Chart 3 - Beta EFTERM Rates vs. EURIBOR (2 of 2)

Legend: EFTERM 1W, EURIBOR 1W, EFTERM 3M, EURIBOR 3M

Chart 4 - Beta EFTERM Level 2 vs. Level 3

Legend: EFTERM L2 1M, EFTERM L3 1M, EFTERM L2 3M, EFTERM L3 3M, EFTERM L2 6M, EFTERM L3 6M, EFTERM L2 12M, EFTERM L3 12M

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Descriptive statistics are calculated in Table 1 to give further insight as to the behaviour of the level 2 and level 3 time-series among themselves and vis-à-vis EURIBOR®. We observe that on average over the testing period:

- Level 2 and level 3 rates are very similar, although level 2 rates are slightly lower across all tenors.
- The spread to EURIBOR® increases with the tenor and is somewhat smaller for level 2 across all tenors.
- The rates from both level 2 and 3 are less volatile than EURIBOR® across all tenors, except for level 3 in the 1-week tenor.
- Compared to the level 3 rates, level 2 is less volatile in the shorter tenors and more volatile in the 3-month tenor and beyond.
- Except for the 1-week and 1-month tenors, level 2 EFTERM® rates are more dispersed than EURIBOR® rates; this is in line with the larger volatility observed for EURIBOR®.
- The skewness and kurtosis statistics show more rate dispersion at the 1-week tenor under the Level 3 methodology.

Table 1 – Descriptive Statistics

		1W	1M	3M	6M	12M
Mean	EFTERM L2	-0.578	-0.576	-0.542	-0.442	-0.202
	EFTERM L3	-0.579	-0.577	-0.548	-0.449	-0.213
	EURIBOR	-0.571	-0.548	-0.471	-0.346	-0.100
Average Spread to EURIBOR	EFTERM L2	0.007	0.028	0.071	0.096	0.102
	EFTERM L3	0.009	0.029	0.076	0.103	0.113
Standard deviation	EFTERM L2	0.0033	0.0029	0.0501	0.1508	0.3043
	EFTERM L3	0.0075	0.0035	0.0455	0.1442	0.2970
	EURIBOR	0.0058	0.0137	0.0774	0.1724	0.3248
Maximum	EFTERM L2	-0.569	-0.563	-0.381	-0.029	0.627
	EFTERM L3	-0.559	-0.570	-0.421	-0.067	0.585
	EURIBOR	-0.558	-0.500	-0.282	0.083	0.680
Minimum	EFTERM L2	-0.587	-0.582	-0.576	-0.570	-0.541
	EFTERM L3	-0.624	-0.586	-0.592	-0.571	-0.544
	EURIBOR	-0.587	-0.576	-0.576	-0.541	-0.500
Skewness	EFTERM L2	-0.2415	0.6230	1.7091	1.2548	0.8068
	EFTERM L3	-2.0013	-0.5921	1.5146	1.2447	0.8152
	EURIBOR	-0.2338	0.6648	0.6560	0.8155	0.5494
Kurtosis	EFTERM L2	-0.2200	2.6284	1.6559	0.3942	-0.4143
	EFTERM L3	11.2076	-0.0659	0.7898	0.3199	-0.4035
	EURIBOR	-0.3529	0.6380	-0.5465	-0.4674	-0.8957

Source: EMMI calculations

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5.3. Beta rate

Since 13 June 2022, the European Money Markets Institute has published sample EFTERM® calculations (Beta EFTERM® Rates) on its website[17] for an initial period covering the duration of this consultation. The sample file is updated every Monday with the daily calculations from the previous week, dating back to 1 June 2022.

Given the current availability of input data described in section 5.1 above, the Beta EFTERM® Rates are calculated on the basis of level 2, and when required, level 3 of the waterfall methodology.

EMMI invites users to consult the Beta EFTERM® Rates and conduct their own assessment of the calculated rates to inform their response to this consultation.

We hereby remind the public that the Beta EFTERM® Rates are for informational and illustrative purposes only. They should facilitate EURIBOR® users to evaluate the suitability of the Beta EFTERM® Rates as a fallback to EURIBOR® in their own use cases.

6.   Additional considerations

6.1. Calculation basis and publication

EFTERM® will follow euro money market conventions, that is, the TARGET2[18] calendar, an Actual/360 rate count convention, and modified following business day with month-end adjustment convention. It will be calculated to three decimal places following the symmetric arithmetic rounding convention: "half away from zero"[19]. The EFTERM® rates will be published on every TARGET day at or shortly after 11:15 am (CET) and will be made available to all subscribers of the EMMI Data Package via authorised data vendors[20]. On its website, EMMI will publish monthly transparency indicators demonstrating the reliance on each methodology level. .

Question 10: Do you find it desirable that the EFTERM® rates be published at the same time or shortly after the publication of EURIBOR® rates?

6.2. Contingency

Where it is not possible to calculate EFTERM® for a defined tenor at level 1, 2 or 3 of the waterfall methodology, EFTERM® of the previous TARGET day for the corresponding tenor will be republished and used as the EFTERM® rate for that day.

In such an event, the EFTERM® Oversight Committee shall be convened in a special session as soon as practicable, to devise a resolution strategy preserving the continuity of EFTERM®. This strategy should be implemented within a period no longer than 5 TARGET days of the prior publication

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[17] https://www.emmi-benchmarks.eu/benchmarks/FallbackRates/BetaEfterm/

[18] TARGET is the Trans-European Automated Real-time Gross settlement Express Transfer System. The Eurosystem maintains TARGET2, which is the second generation of TARGET and is a real-time gross settlement system. Throughout this document, references to "TARGET" should be read with respect to the euro system's TARGET2 system.

[19] The third decimal shall be rounded up to the nearest integer if the fourth decimal is more or equal to 5 and down if it is less than 5. This method applies symmetrically to negative rates.

[20] The list of authorised data vendors is publicly available on EMMI's official website.

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established under the regular process. Pending the implementation of this strategy, the prior rates may continue to be republished as the EFTERM® rates for the days in this period.

Question 11: Do you agree with the approach to republish previous days' EFTERM® rates as a contingency?

6.3. Error-handling Policy and Republication

Any errors in the input data, calculation or publication processes will be reported to EMMI as soon as operationally feasible upon discovery. For errors discovered prior to 12:30 p.m. (CET) that affect a published EFTERM® tenor by more than 2 basis points, the corresponding EFTERM® tenor will be revised and republished on the same day, no later than 1:30 p.m. (CET). Any republished rate will be identified as such by EMMI.

7. Summary and next steps

EMMI has highlighted the current input data situation that allows us to publish EFTERM® based on calculations according to level 2 of the described waterfall methodology, with a possible fallback to level 3. We have described the details of all waterfall levels of the methodology and have provided further elaborations on Standard Market Sizes, calculation windows, publication times, and contingency measures.

EMMI welcomes feedback to the questions raised in this consultation and encourages respondents to share any additional comments not covered in the suggested questions. Please submit your responses by e-mail to efterm-consultation2022@emmi-benchmarks.eu before **31 August 2022**.

A summary of the stakeholder feedback, together with the final methodology for EFTERM®, will be made available in the fourth quarter of 2022.

Annex

Questions

Question 1: Do you have any comments on EFTERM®'s underlying interest?

Question 2: Do you have any comments on Level 1 of the methodology?

Question 3: Do you have any comments on Level 2 of the methodology?

Question 4: Do you have any comments on Level 3 of the methodology?

Question 5: Do you agree with the proposed hierarchy of the waterfall methodology?

Question 6: Do you agree that EFTERM® should be published for all the existing EURIBOR® tenors?

Question 7: Do you find the two-hour window from 8:30 am to 10:30 am CET appropriate to capture a representative portion of the €STR-based OIS market?

Question 8: Do you think the proposed Standard Market Sizes are appropriate for each defined tenor?

Question 9: Do you have any comment on the choice of trimming parameters?

Question 10: Do you find it desirable that the EFTERM® rates be published at the same time or shortly after the publication of EURIBOR® rates?

Question 11: Do you agree with the approach to republish previous days' EFTERM® rates as a contingency?

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