



Benchmark Determination Methodology for Euribor

Euribor Governance Framework

Document information

Document title	Benchmark Determination Methodology for Euribor	Status:	Final
Business area	Benchmarks		
Product	Euribor		
EMMI reference	D0016F-2019		
Sensitivity	Public	Approval Date:	[05 12 2024]
Documentation type	Policy		
Owner	Operations Benchmarks Team		
Stakeholders			
Approval authority	Oversight Committee Board of Directors		

History

Version	Date applicable	Summary of Changes
D0016A-2019	31/01/2019	Initial version
D0016B-2019	24/03/2021	<p>Clarified the Euribor Underlying Interest to include former EU and EFTA countries;</p> <p>Reduced the minimum size threshold eligible transactions from EUR 20 million to EUR 10 million;</p> <p>Included T+3 settlement amongst eligible transactions;</p> <p>Increased the lookback period of usable historical Level 1 contributions by one day;</p> <p>Rolling forward the quarterly Euribor® futures used in Level 2.3 calculations one TARGET day earlier;</p> <p>Replaced references to 'Steering Committee' with 'Oversight Committee'.</p>

D0016C-2019	27/06/2022	<p>Increased the maturity window of 12-months tenor by 15 business days;</p> <p>Replaced the use of previous 5-days Euribor® rates with previous 5-days panel bank's contribution rates to calculate the SAF used to determine the Level 2.1 ;</p> <p>Replaced the use of the previous day Euribor® rates with the previous day panel bank's contribution rates to calculate the shift adjustment used to determine the Level 2.2;</p> <p>Qualified Level 2.2. rate as eligible if the original volume of the non-standard maturity trade is higher than EUR 10 million.</p>
D0016D-2019	30/11/23	3d Annual Review – Articulate non-eligibility of embedded options.
D0016E-2019	21/02/2024	<p>1W maturity window adjusted to exclude 1 day transactions in holiday periods (Christmas, Easter etc)</p> <p>Reformulation of Level 2.3 and discontinuation of Level 3.</p>
D0016F-2019	05/12/2024	Included references to additional Level 2.1 and Level 2.2 controls and credit risk change component calculation for Level 2.3

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Definitions and conventions

- BMR** Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investments funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014.
- RTS** Commission Delegated Regulation (EU) 2018/1637-1646 of 13 July 2018 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council.
- GCC** The Euribor Governance Code of Conduct sets out the governance arrangements and control framework established by EMMI, in its role as administrator of Euribor, for the provision of the benchmark.

Reference to regulatory requirements

For ease of reference, next to each paragraph in all documents of the Euribor Governance Framework, EMMI includes an explicit mention to the applicable EU BMR requirement, e.g.

- BMR 5, 3(c)** Refers to article 5, paragraph 3, point (c) in the EU BMR.
- Furthermore, in case the requirement arises from a regulatory technical standard (RTS) developed by ESMA, EMMI refers to the RTS by indicating the article for which it provides further specification, e.g.
- RTS 5, 2.1** Refers to article 2.1 on the RTS further specifying the requirements in EU BMR article 5 on procedures and characteristics of the oversight function.
- In case the corresponding RTS includes an annex complementing its main text, reference to the annex will be made applying the same logic, e.g.
- Annex 5, 1** Refers to article 1 in the annex to the RTS article further specifying the requirements of EU BMR article 5.

1. Euribor specification

1.1. Euribor specification

- BMR 3, 14**
BMR 3, 22
RTS 13, 2.1(a)
RTS 13, 2.1(b)

 1. The “Underlying Interest” for Euribor is stated as: “The rate at which wholesale funds in euro could be obtained by credit institutions in current and former EU and EFTA countries in the unsecured money market.”
 2. There are five “Defined Tenors” for Euribor, being 1 week, 1 month, 3 months, 6 months and 12 months.

2. Determination methodology overview

2.1. Euribor Panel

- RTS 13, 2.1(e)**

 3. The Benchmark Determination Methodology for Euribor relies on contributions from a panel of credit institutions (“Panel Banks”) that are active participants in the euro money markets.
 4. For this purpose “credit institution” has the meaning as specified in Article 4(1)(1) of Regulation (EU) No. 575/2013, an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account.
- BMR 11, 1(d)**
RTS 13, 2.1(e)

 5. The composition of the panel should be sufficient to constitute a representative sample for the purposes of determining an average rate and to reflect the activity in the unsecured euro money market, including its geographic diversity. Conversely, the panel size should remain at a level that is operationally manageable and efficient.
- RTS 13, 2.1(e)**

 6. A bank may qualify for panel membership if it has the capacity to handle significant volumes in euro-interest rate related instruments, in particular in the money market.
- RTS 13, 2.1(e)**

 7. More specifically, the following items will be considered in assessing the levels of activity and expertise of a potential Panel Bank in the euro money markets:
 - a. Balance sheet interbank items:
 - i. Assets
 - ii. Loans up to one year
 - iii. Short Term Securities (e.g. Certificate of Deposits and Commercial Paper)
 - iv. Reverse repurchase agreements
 - v. Liabilities
 - vi. Deposits up to one year
 - vii. Repurchase agreements

and also, the following:

- b. Otherbalance sheet items:
 - i. Derivatives referring to Euribor as the underlying, and denominated in euro (EUR) (OTC and exchange traded);
 - ii. Foreign exchange swaps and cross-currency basis swaps (one leg denominated in euro (EUR))
- RTS 13, 2.1(e)**
8. The Euribor Oversight Committee defines and reviews the size and composition of the panel, monitors the adequacy of the criteria to qualify for and stay on the panel, and defines the procedure for selecting Panel Banks and decides on individual applications, as per the Euribor Oversight Committee Terms of Reference.
 9. Banks wishing to join the panel must disclose all relevant information on the items considered for the selection. As a matter of convenience, the applicants may present figures notified to the national competent authorities or central banks, or other regulatory or supervisory bodies.
 10. When considering an application, only consolidated figures shall be accepted. In considering market participation levels, internal transactions within non-consolidated networks will be excluded if market conditions are not applied to such transactions.
 11. Non-public information presented to the Euribor Oversight Committee in respect of an application will be treated on a strictly confidential basis.

2.2. Calculation hierarchy

- BMR 11, 1(a)**
 - BMR 12, 1(a)**
 - BMR 12, 2**
 - RTS 12, 2.1(c)**
 - RTS 13, 2.1(d)**
 - BMR 15, 2(a)**
 - RTS 15, 1(d)**
12. Euribor is grounded, to the extent possible, in euro money market transactions that reflect the Underlying Interest. To ensure robustness in the absence of transactions in the Underlying Interest, the Benchmark Determination Methodology for Euribor follows a hierarchical approach consisting of two levels. These levels should be employed progressively and in the order specified below.
- BMR 11, 1(c)**
 - BMR 12, 2(c)**
 - RTS 13, 2.1(d)**
13. Level 1 consists of contributions based solely on transactions in the Underlying Interest at the Defined Tenor from the prior TARGET¹ day, using a formulaic approach provided by The European Money Markets Institute (hereafter “EMMI”).
- BMR 11, 1(c)**
 - BMR 12, 2(c)**
 - RTS 13, 2.1(d)**
14. Level 2 consists of contributions based on transactions in the Underlying Interest across the money market maturity spectrum and from prior TARGET days, using a defined range of formulaic calculation techniques provided by EMMI.

¹ 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.

3. Level 1 contributions

3.1. Level 1 eligible transactions

- RTS 13, 2.1(b)** 15. Only transactions exclusively directly denominated in euro are eligible².
RTS 15, 1(a)
- RTS 13, 2.1(c)** 16. Only transactions executed³ on TARGET day T are eligible for a Level 1 contribution
RTS 15, 1(a) on TARGET day T+1.
- BMR 12, 2(b)** 17. Only borrowing (i.e. cash receiving) transactions conducted in the wholesale
RTS 13, 2.1(c) unsecured money markets at arm's length are eligible. Intragroup transactions
RTS 15, 1(a) are not eligible.
- RTS 13, 2.1(c)** 18. Only transactions with a fixed rate, or floating rate transactions referenced to the
RTS 15, 1(a) unsecured euro overnight interest rate where the Panel Bank is able to report to
EMMI a fixed rate equivalent, are eligible⁴.
- RTS 13, 2.1(c)** 19. For the purpose of measuring wholesale funds, only transactions with the
RTS 15, 1(a) following counterparty types⁵ are eligible:
- a. Deposit-taking corporations except the central bank (S122);
 - b. Money Market Funds (MMFs) (S123);
 - c. Non-MMF investment funds (S124);
 - d. Other financial intermediaries, except insurance corporations and pension funds (S125);
 - e. Financial auxiliaries (S126);
 - f. Captive financial institutions and money lenders (S127);
 - g. Insurance corporations (ICs) (S128);
 - h. Pension funds (S129);
 - i. Central bank (S121)⁶;
 - j. General government (S13).
- RTS 13, 2.1(c)** 20. Only transactions with the following instruments are eligible:
RTS 15, 1(a)
BMR ANNEX I, I
- a. Unsecured deposits;
 - b. Commercial paper (CPs);
 - c. Certificates of deposit (CDs);

² In particular, borrowing transaction in Euro through the foreign exchange market are not eligible.

³ TARGET2 is open every working day from 7AM to 6PM CET. Further details on the operational day in TARGET2 can be found on the ECB's website.

⁴ EMMI's Guidelines for the Conversion of Floating Rate Transactions can be found in Section 13 of the Code of Obligations for Panel Banks.

⁵ The counterparty classification used for the specification of counterparties follows the definitions of institutional sectors and subsectors described by the European System of Accounts (ESA 2010) developed by the European Union's Eurostat group.

⁶ Transactions related to tender operations and standing facilities, or, in more general terms, any transaction conducted with Central Banks for the implementation of monetary policy, should be excluded from the file communicated to EMMI.

- d. Floating rate notes (FRN), provided they are referenced to the unsecured euro overnight interest rate and the Panel Bank is able to report to EMMI a fixed rate equivalent;
- e. Other short-term securities⁷.

Transactions with embedded options, including but not limited to transactions where the maturity date can be rolled over every day (so-called evergreen deposits), are NOI eligible.

- RTS 13, 2.1(c)**
RTS 15, 1(a)
21. Only transactions with standard value date (settlement date) of T, T+1, T+2 and T+3 are eligible.
- RTS 13, 2.1(c)**
RTS 15, 1(a)
22. Only transactions with maturity date falling into one of the following maturity date windows are eligible:
- a. 1 week +/- 2 TARGET days;
 - b. 1 month +/- 5 TARGET days;
 - c. 3 months +/- 10 TARGET days;
 - d. 6 months +/- 15 TARGET days;
 - e. 12 months +/- 15 TARGET days.
- RTS 13, 2.1(c)**
RTS 13, 2.1(h)
RTS 15, 1(c)
23. Only transactions with notional volume of EUR 10 million or more are eligible.

3.2. Level 1 contribution eligibility

- RTS 15, 1(c)**
24. A Panel Bank's contribution at a given tenor shall be made using the Level 1 methodology when the bank has at least one Eligible Transaction at that tenor for the respective day.

3.3. Level 1 contribution rate

25. The contribution rate is the volume-weighted average rate ("VWAR") of the set of Eligible Transactions for the Defined Tenor. It is calculated as:

$$\text{Contribution Rate} = \frac{\sum_i (r_i \cdot Vol_i)}{\sum_i Vol_i},$$

where r_i and Vol_i are the borrowing rate and size of the Eligible Transaction i , respectively.

4. Level 2 contributions

- RTS 15, 1(d)**
26. Where a Panel Bank has insufficient Eligible Transactions for a Level 1 contribution to be calculated for a given tenor, but nonetheless has had transactions in nearby maturities or from prior dates the Panel Bank's contribution can be calculated using a further range of calculation techniques in order to make a Level 2

⁷ Call account/call money and Asset-backed commercial paper instruments are not eligible.

contribution for that tenor. EMMI permits three Level 2 contribution techniques. These techniques should be employed progressively and in the order specified below:

- a. Level 2.1: adjusted linear interpolation from adjacent Defined Tenors;
- b. Level 2.2: Transactions at non-Defined Tenors;
- c. Level 2.3: Eligible contributions from prior dates with the Market Adjustment Factor.⁸

4.1. Level 2.1. Adjusted Linear Interpolation from Adjacent Defined Tenors

- RTS 13, 2.1(n)** 27. This technique applies to contributions for the 1 Month, 3 Months and 6 Months tenors only. A Panel Bank's contribution should be determined using this technique only when the Panel Bank's does not have a Level 1 contribution at the central tenor and has a Level 1 contribution at both adjacent tenors:
- BMR ANNEX I, 2**
- a. 1 month: Level 1 contributions for 1 week and 3 month tenors
 - b. 3 month: Level 1 contributions for 1 month and 6 month tenors
 - c. 6 month: Level 1 contributions for 3 month and 12 month tenors
- RTS 13, 2.1(n)** 28. The Panel Bank's contribution rate should be calculated as the sum of two components:
- a. The linearly interpolated rate at the contribution tenor using the Level 1 contribution rates at the adjacent tenors; and
 - b. The Spread Adjustment Factor (SAF), which seeks to incorporate the curvature of the money market yield curve
- RTS 13, 2.1(n)** 29. The linear interpolation between the adjacent tenors should be based on the respective number of days over the spot settlement date applying to each tenor.
- RTS 13, 2.1(n)** 30. The SAF is determined based on the prior five days of Panel Bank's contribution rates at each of the tenors. It is calculated as follows:
- a. For each of the last five panel bank's contributions, the linearly interpolated rate at the contribution tenor is calculated based on the panel bank's contribution rates at the two adjacent tenors.
 - b. The spread of these linearly interpolated rates to the actual contribution rates is taken.
 - c. The SAF is the arithmetic mean of these spreads over the past five panel bank's contributions.
 - d. In case the last five contribution rates of the panel bank are incomplete or do not exist for any of the tenors used in the calculation, the Euribor fixing rates are used instead to determine the SAF

⁸ Examples of calculations of contributions under each of the different Level 2 methodologies can be found on [EMMI's website](#).

4.2. Level 2.2. Transactions at Non-Defined Tenors

- RTS 13, 2.1(n)**
BMR ANNEX I, 2
31. A Qualifying Non-Standard Maturity Transaction is a transaction that satisfies all of the conditions for being an Eligible Transaction (as outlined in Section 4 Level 1 eligible transactions), except that its maturity date falls between 1 Week and 12 Months but lies outside of the maturity date windows specified for Eligible Transactions (Paragraph 22). A Level 2.2 contribution can be determined for all Defined Tenors.
- RTS 13, 2.1(n)**
32. A Panel Bank's contribution should be calculated using this technique when it could not be determined as a Level 1 or Level 2.1 contribution at a particular Defined Tenor, and:
- a. The Panel Bank has at least one Qualifying Non-Standard Maturity Transaction; and
 - b. The transaction volume of the original Qualifying Non-Standard Maturity Transaction is at least EUR 10 million.
- RTS 13, 2.1(n)**
33. The volume of the Qualifying Non-Standard Maturity Transaction is split between the two closest Defined Tenors based on the linearly interpolated weights derived from the days over spot of the Qualifying Non-Standard Maturity Transaction and the two closest Defined Tenors.
- RTS 13, 2.1(n)**
34. The linearly interpolated rate at the non-standard maturity date is calculated using the prior TARGET day panel bank's contributions at the two closest Defined Tenors and the weights defined in Paragraph 33. The spread between the linearly interpolated rate and the Qualifying Non-Standard Maturity Transaction rate is calculated. The ascribed rate at the two closest Defined Tenors is calculated as the sum of this spread and the prior TARGET day panel bank contributions at the two closest Defined Tenors. In case the prior day panel bank's contributions are incomplete or do not exist for any of the tenors used in the calculation, the prior day Euribor fixing rates are used instead.
- RTS 13, 2.1(n)**
35. The final Level 2.2 contribution rate is calculated as the VWAR of all ascribed Level 2.2 rates based on the volumes ascribed to that tenor, if the original volume of each transaction exceeds the threshold set out in Paragraph 32.b.

4.3. Level 2.3. Prior contributions with Market Adjustment Factor

36. This technique applies to all Defined Tenors and it should be applied when a contribution rate for a Panel Bank for a specific Defined Tenor could not be determined using Level 1, Level 2.1 or Level 2.2.
37. The Panel Bank's contribution on TARGET date T+1 for a given Defined Tenor is determined as the sum of:
- a. The bank's "Cost of funding component": the contribution rate for a Defined Tenor on TARGET date T; and

- b. The “Interest rate change component” for a Defined Tenor: the difference between the Eferm rate published on TARGET date T and the Eferm rate published on TARGET date T-1; and
- c. The “Credit risk change component” for a Defined Tenor: the difference between the Euribor -Eferm spread on TARGET date T and the Euribor - Eferm spread on TARGET date T-1⁹. The credit risk change component is applied if, and only if, at least one Euribor Panel Bank submits a Level 1, 2.1 or 2.2 contribution. Otherwise it will be set to zero for a given Defined Tenor on TARGET date T.

BMR ANNEX I, 2

38. The afore-mentioned calculations occur under the condition that the Panel Bank’s contribution rate on TARGET date T determined using Level 1, Level 2.1 or Level 2.2 meets one or all of the Qualifying Criteria below. Level 2.3 contributions from TARGET date T are not subject to the Qualifying Criteria.

1. The Dynamic rate threshold test: The absolute value of the Z-score¹⁰ of the day-on-day changes of the Panel bank’s contribution rate-Eferm term spreads¹¹ over the preceding 21 days is lower than the one-sided Z-score with 2 standard deviations from the mean of the normal distribution.

If the Qualifying Criteria (1) does not hold, then the Qualifying Criteria (2) is checked:

2. The Volume threshold test:
 - (i) If the candidate rate corresponds to a Level 1 contribution, the sum of the volume(s) underlying the transaction(s) composing the contribution needs to be larger than or equal to EUR 20 million
 - (ii) If the candidate rate corresponds to a Level 2.1 contribution, the weighted average of the sum of the volumes of the transaction underlying the Level 1 contribution in the adjacent tenors needs to be larger than or equal to EUR 20 million. The weights will be based on the respective number of days over the spot settlement date applying to each tenor.
 - (iii) If the candidate rate corresponds to a Level 2.2 contribution, the sum of the volume(s) underlying the split transaction(s) composing the contribution needs to be larger than or equal to EUR 20 million.

⁹ The Euribor -Eferm spread on TARGET date T is equal to the difference between the Euribor rate on TARGET date T and the Eferm rate on TARGET date T-1. The Euribor-Eferm spread on TARGET date T-1 is equal to the difference between the Euribor rate on TARGET date T-1 and the Eferm rate on TARGET date T-2.

¹⁰ Statistical measure that quantifies the number of standard deviations a data point is from the mean of a distribution.

¹¹ The Panel bank’s contribution rate-Eferm spread on TARGET date T+1 is calculated as $[(Cont_T - Eferm_{T-1}) - (Cont_{T-1} - Eferm_{T-2})]$.

If the Qualifying Criteria (2) does not hold, the methodology looks back to prior (on a Target date T-n) contributions reversed-chronologically, until it encounters a contribution that was either a:

- Level 2.3; or
- Level 1, Level 2.1 or Level 2.2 that successfully passes one of the two Qualifying Criteria.

Consequently, the Panel Bank' contribution rate on TARGET date T+1 is determined as the sum of:

- a. The Panel Bank's contribution rate on TARGET date T-n.
- b. The sum of the previous "n+1" interest rate change components; and
- c. The sum of the previous "n+1" credit risk change components.

5. Calculation and publication

Calculation

- RTS 15, 1(f)** 39. Panel Banks will submit their contribution data on every TARGET day during the specified Contribution Windows. The contribution rates of individual Panel Banks will be rounded to two decimal places following the symmetric arithmetic rounding convention: "half away from zero"¹².
- RTS 15, 1(g)** 40. The contribution window for transactions data is from 06:00 a.m. (CET) to 08:30 a.m. (CET).
41. The final contribution rate of each Panel Bank is determined using the hierarchical approach defined above. The final contribution rate is determined with Level 1 when possible, then Level 2.1, 2.2 and finally, if no other level is possible, Level 2.3.
- RTS 13, 2.1(f)** 42. The Calculation Agent shall, for each Euribor tenor, eliminate the highest and lowest 15% of the number of Panel Banks final contribution rates . The remaining rates will be arithmetically averaged and rounded to three decimal places following the symmetric arithmetic rounding convention: "half away from zero".
43. The published Euribor rates follow euro money market conventions, that is, spot settlement (T+2)¹³, the TARGET2 calendar, an Actual/360 day count convention, and modified following business day with month-end adjustment convention.

¹² Applying this convention to the Euribor contributions, in this instance the second decimal shall be rounded up to the nearest integer if the third decimal is more or equal to 5 and down if it is less than 5. This method applies symmetrically to negative rates. The same logic applies for the third decimal in the final Euribor rate (see Paragraph 42).

¹³ As noted in Paragraph 16, the underlying interest is measured in relation to the day preceding publication. The T+2 convention should therefore be understood as applying to the date preceding the publication date.

44. For the purpose of calculation, EMMI measures the Underlying Interest as the average rate of borrowing by credit institutions over the TARGET day preceding the day of publication.

Fallback provisions

- BMR 12, 3** 45. If more than 50% of Panel Banks fail to provide their data by 11:00 a.m. (CET), the Calculation Agent shall delay the calculation of the Euribor until 50% of the Panel Banks have contributed. This convention is applied to each Defined Tenor separately.
- BMR 12, 3** 46. If at 11:15 a.m. (CET) fewer than 12 Panel Banks have provided data (quorum 1), or if the Panel Banks, which have provided data, are from fewer than 3 countries (quorum 2), the calculation agent shall delay the calculation of the Euribor for that day until 12 or more Panel Banks from 3 or more countries have provided data. The Calculation Agent, at 11:15 a.m. (CET), informs the authorised data vendors of the delay. The data vendors in turn should make this information available to their end users. This convention is applied to each Defined Tenor separately.
- BMR 12, 3** 47. If at 12:30 p.m. (CET) fewer than 12 Panel Banks have provided data (quorum 1), or if the Panel Banks, which have provided data, are from fewer than 3 countries (quorum 2), Euribor rates of the previous TARGET day will be republished at 12:30 p.m. (CET) and will be used as the Euribor rates for that day. Any republished rates from the previous business day will be identified as such by EMMI on its webpage. This convention is applied to each Defined Tenor separately.
- RTS 13, 2.1(l)**
- BMR 12, 3** 48. In the event described in Paragraph 47, the Euribor Oversight Committee shall be convened in a special session as soon as practicable on notification of a contingency event, in order to devise a resolution strategy preserving the continuity of Euribor. This strategy should be implemented within a period no longer than 3 fixing days of the prior fixing established under the regular process. The prior fixing may be re-published as the fixing for the days in this period.
- BMR 12, 3** 49. Calculation of the rates may also be delayed up to 11:15 a.m. (CET) to allow the Calculation Agent to re-confirm Panel Bank contributions, which have been flagged based on the execution of pre-calculation checks designed to detect potential data errors. If this is not possible before 11:15 a.m. (CET) and the exclusion of the Panel Bank contribution results in quorum 1 or quorum 2 not being reached, the process described in Paragraph 46 is followed. Otherwise the Panel Bank contribution is excluded and Euribor is published at 11:15 a.m. (CET). This convention is applied to each Defined Tenor separately.

Publication

50. Euribor is published daily on every TARGET day, at or shortly after 11 a.m. CET for each of the Defined Tenors. The rates will be made available to all its subscribers and authorised data vendors.
51. Historical data for Euribor is also made publicly available on a delayed basis on EMMI's official website, as per Paragraph 53.f.

52. The Euribor Oversight Committee has adopted the Euribor Intraday Re-fixing Policy that defines the circumstances under which Euribor may be re-fixed.

6. Transparency

- BMR 13, 1** 53. The following information on the Euribor governance and rate-setting process shall be publicly disclosed on the EMMI website:
- a. The Euribor Governance Framework, including this BDM, the Euribor Code of Obligations of the Panel Banks (“COPB”), the Euribor Code of Obligations of Calculation Agent (“COCA”) and the Euribor Governance Code of Conduct including the Euribor Oversight Committee Terms of Reference;
 - b. The procedures for consulting on any proposed material change in the Euribor methodology and the rationale for such changes, including a definition of what constitutes a material change to the Euribor benchmark and the circumstances in which EMMI should notify users, as determined on the EMMI Benchmarks Consultation Policy;
 - c. The list of Panel Banks contributing to Euribor and, when applicable, any change in the composition of the panel, as well as the list of Panel Banks that have declared their adherence to the COPB;
 - d. Membership of the Euribor Oversight Committee along with declarations of conflicts of interest;
 - e. The minutes of the Oversight Committee; and
 - f. The Euribor daily rate, monthly and yearly averages on a delayed basis. EMMI will also publish transparency indicators on a monthly basis including aggregate volume, and the frequency of each of the methodology level used.

7. Periodic review of the methodology

7.1. Assessment of Underlying Market and Methodology

54. Given the definition of the Underlying Interest in Paragraph 1, the “Underlying Market” of Euribor is defined as the unsecured wholesale euro bank funding market, where wholesale has the similar meaning as in Paragraph 19.
- BMR 11, 1(a)**
BMR 11, 2(c)
BMR 11, 3(a)
BMR 12, 2(a) 55. As part of the Euribor Data Integrity Program, EMMI prepares a quarterly report on the Underlying Market, using data collected directly from Euribor Panel Banks and complemented with other sources, most notably the Money Market Statistical Reporting (“MMSR”) dataset of the European Central Bank (“ECB”). This enables an

analysis of the activity, liquidity, size and representativeness of the input data collected from the Panel Banks.

- BMR 12, 1(c)**
BMR 13, 1(b)
RTS 13, 3.1
56. In addition to the quarterly reporting, EMMI performs an annual assessment of the Euribor methodology. This entails a data collection exercise, where Panel Banks are required to report all data in the unsecured segment of the euro money market. This exercise enables the analysis of the effects of including currently ineligible instrument types, counterparty sectors or adjusting the methodology parameters, such as the maturity windows or eligible settlement conventions.
- BMR 13, 1(b)**
RTS 13, 3.1
57. In conjunction with the annual assessment of EMMI, the Euribor Oversight Committee performs a review of the benchmark's definition and methodology at least annually, and makes recommendations to EMMI's Governing Bodies (as per the Euribor Oversight Committee Terms of Reference).

7.2. Criteria for Implementing Changes to the Methodology

- BMR 11, 4**
RTS 13, 2.1(k)
58. Based on the assessment above, EMMI will decide annually on any changes to the Euribor methodology. Potential changes include, but are not limited to, changes to the eligibility of different input data, changes to the formulaic calculation mechanisms of Level 2, changes to the methodology parameters (for instance the Spread Adjustment Factor and Market Adjustment Factor of Level 2) or hierarchy of the input data or the calculation methodologies.
- BMR 11, 4**
RTS 13, 2.1(c)
RTS 13, 2.1(k)
59. The objective of any change to the methodology is to ensure that the input data and methodology represent the market and economic reality Euribor seeks to measure. Further objectives are to ensure the reliance on actual transactions in the calculation of Euribor to the greatest extent possible, while ensuring that the benchmark remains reflective of the Underlying Interest, responsive to events and developments in the Underlying Market and that the methodology itself does not contribute to artificial volatility that does not stem from market events.
60. Where a proposed change to the methodology would constitute a material change to the benchmark, EMMI will follow the due process set out in the Euribor Consultation Policy. The Euribor Oversight Committee ultimately defines what constitutes a material change of the benchmark.
- BMR 11, 4**
RTS 13, 3.1(c)
61. Any proposed changes to the methodology are overseen, monitored and approved for implementation by the Euribor Oversight Committee and the guiding principles are as set out in the EMMI Benchmarks Changes and Cessation Policy.