Euribor

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Euribor overview

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Euribor’s underlying interest

*Euribor[1] is the rate at which **wholesale** funds in **euro** could be obtained by **credit institutions** in current and former European Union and European Free Trade Association countries in the **unsecured** money market.*

Credit institutions: *Euribor rates are calculated based on contributions made by a panel of nineteen credit institutions called ‘Panel Banks’, which are all active participants in this market. They have been selected with the objective to ensure that Euribor® is representative of its underlying market*

Unsecured: *Unsecured refers to a debt or obligation that is not backed by any sort of collateral*

Wholesale: *Other than banks, it involves other financial institutions such as money market funds, insurance companies, pension funds, general government and others[2]*

Euro: *Only transactions exclusively directly denominated in euro are eligible*

1. Euribor® is published every TARGET2 day, at or shortly after 11:00 CET for each of its tenors.
2. Please refer to the Euribor benchmark determination methodology for more details

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Current Euribor hybrid methodology

Level 1	Submission based solely on transactions in the underlying interest at the Defined Tenor from the prior TARGET day, using a formulaic approach provided by EMMI.

Level 2	Submission based on transactions in the underlying interest across the money market maturity spectrum and from recent TARGET days, using a defined range of formulaic calculation techniques provided by EMMI.	Level 2.1	Adjusted linear interpolation from adjacent Defined Tenors.
		Level 2.2	Transactions at non-Defined Tenors.
		Level. 2.3	Eligible transactions from prior dates.

Level 3	Submission based on additional transactions in the underlying interest, excluded from Level 1 and Level 2 submissions, and/or other data from a range of markets closely related to the unsecured euro money market, using a combination of modelling techniques and/or the Panel Bank's judgment.

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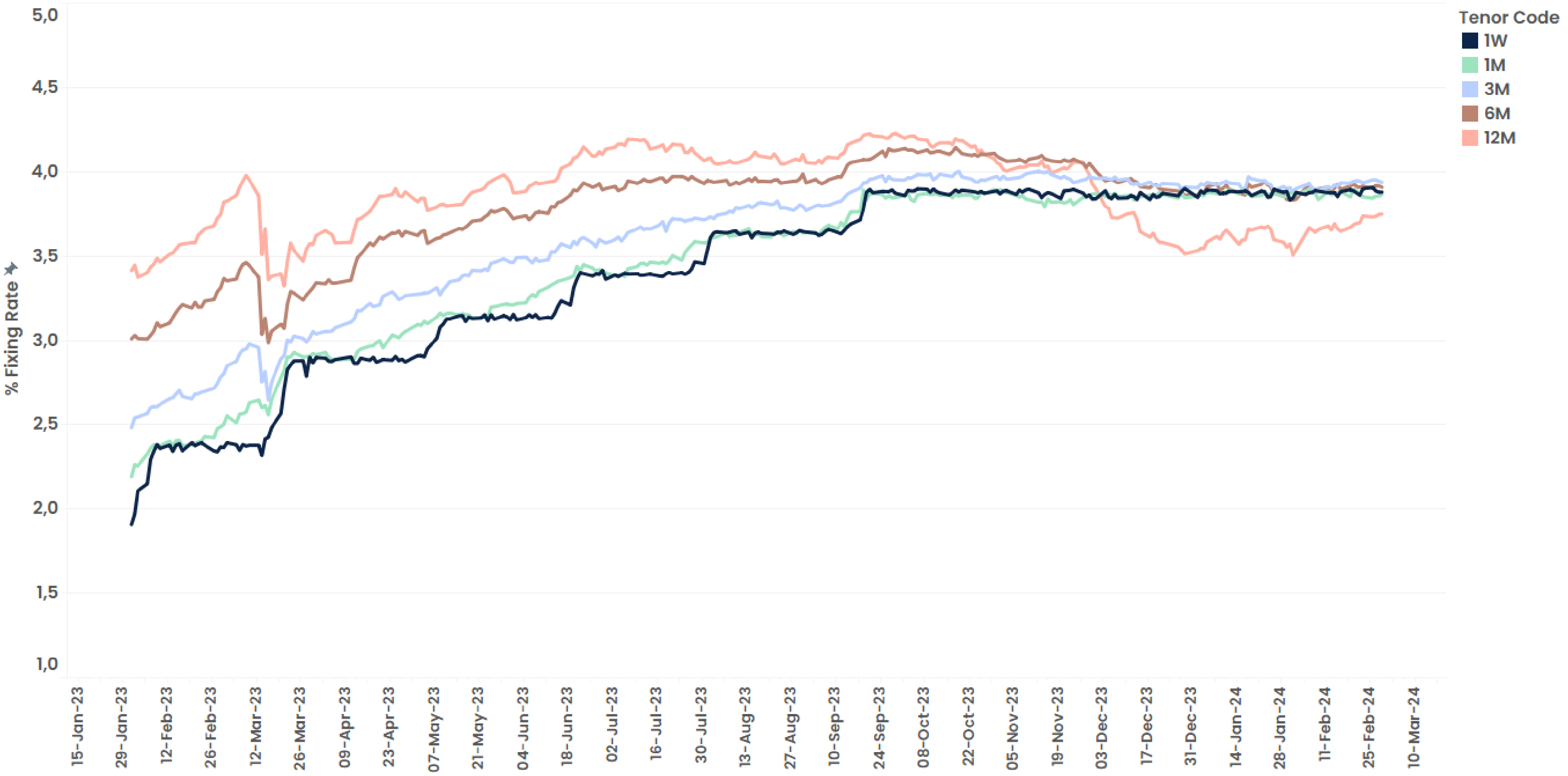
Euribor rates



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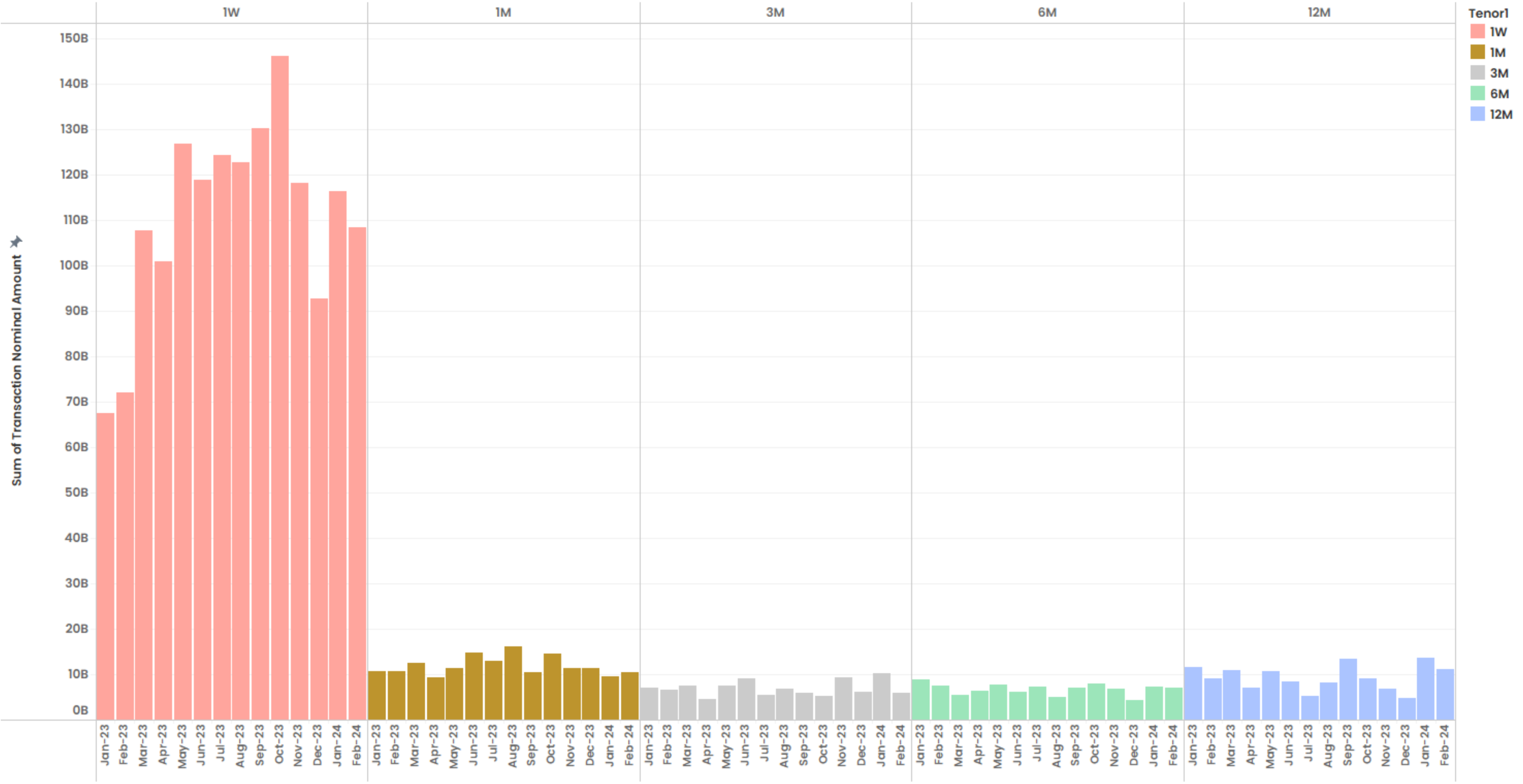
Euribor underlying volume



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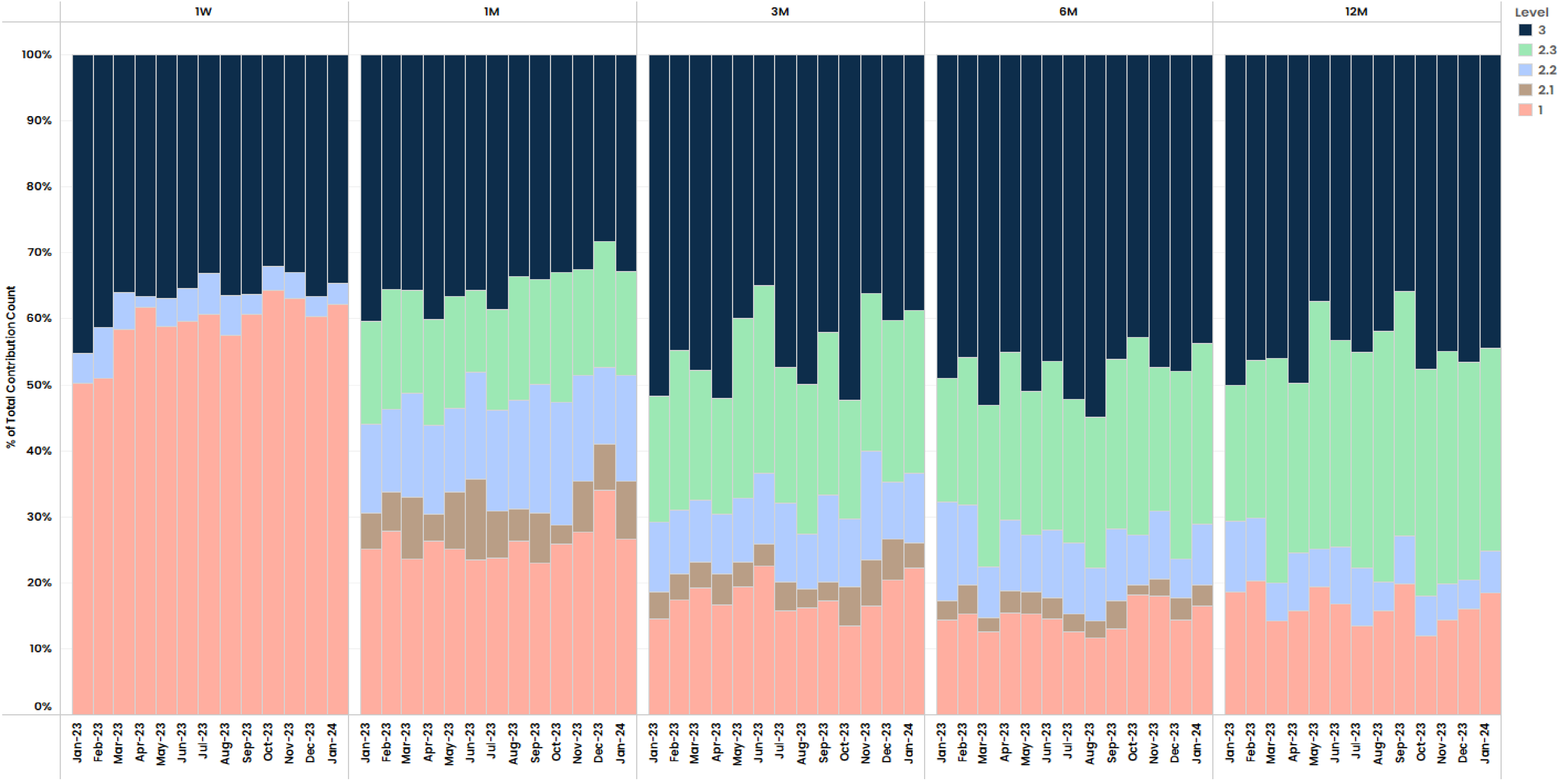
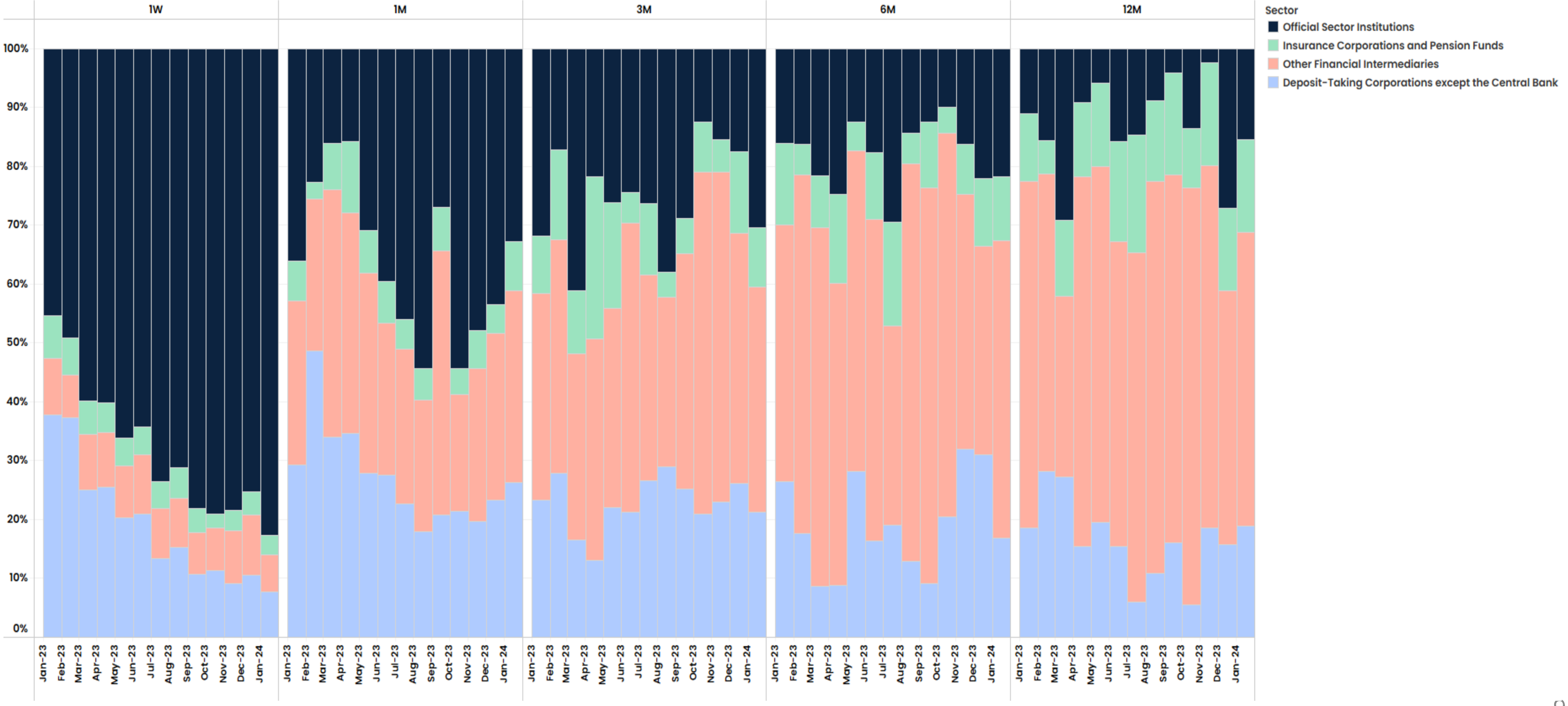
Euribor levels decomposition



Euribor counterparty sector decomposition



Timeline

- <u>February 2019</u>: **EMMI launched a Public Consultation for the Euribor Hybrid methodology**, as an evolution of the previous quote-based methodology.

- The public consultation resulted in the adoption of the current hybrid methodology.

- <u>End of 2021</u>: **EMMI explored the possibility of reformulating some of the methodology's levels in the waterfall approach** and, as a by-product, discontinuing the recourse to Panel Banks' model-based contribution approach (Level 3) from the Euribor calculation.

    - The discontinuation of Level 3 will **eliminate the entry and periodic costs and burden for the Euribor Panel Banks**.
    - It should provide an opportunity for the **enlargement of the Euribor Panel**.

- <u>November 2022</u>: **EMMI published for the first time Efterm, a forward-looking €STR-based term benchmark calculated for five maturities.**

- <u>June 2023</u>: **EMMI selected a final candidate methodology to enhance the one in place** which foresees the change of Level 2.3 and the discontinuation of Level 3.

- <u>October 2023:</u> EMMI lunched the consultation paper containing the proposed changes to Euribor methodology

- <u>March 2024</u>: EMMI published the public consultation feedback

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Euribor Waterfall methodology – What will change?

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Euribor Waterfall Methodology

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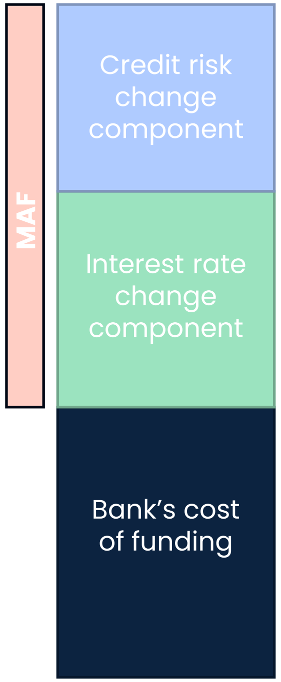
Level 2.3 Methodology

Level 2.3 Methodology



Proxy for: changes in the perceived credit risk in the economy.
Calculation: daily change of the Euribor rate/Efterm term spreads.

Proxy for: changes in the interest "risk-free" rate curve.
Calculation: daily change of the Efterm term rates.

Proxy for: rate at which the Panel Bank borrowed funds in the unsecured market.
Calculation: previous day Panel Bank's contribution rate subject to two Qualifying Criterion (the criteria do not apply to Level 2.3 contributions).

Two Qualifying Criteria - Logic

- The increase in the number of eligible Levels that may act as anchor for the determination of a Level 2.3 contribution **must be accompanied by some controls that guarantee the representativeness of the 'Bank's cost of funding' component**.

- By introducing these controls, **EMMI will prevent the perpetuation of one-off anecdotic market-driven outlier rate behaviour, but at the same time allow sudden change in the bank's cost of funding to be mirrored in the benchmark.** EMMI introduced controls based on the:

  1. Panel Bank transaction rates **dispersion**.

  2. Panel Bank transaction **volume**.

Level 2.3 Methodology – two Qualifying Criterion

The increase in the number of eligible Levels for Level 2.3 must be accompanied by some controls that guarantee the representativeness of this 'Bank's cost of funding' component.

1. Dynamic rate threshold test

2. Volume threshold test

1. At times, transaction-driven contributions may be substantially different compared to what a panel bank used to contribute in the past; this test limits the perpetuation of one-off anecdotic market-driven outlier rate behavior.

2. It allows single sizable transactions to overturn the negative verdict of the dynamic threshold test. These transactions are regarded to reflect genuine changes in an individual Panel Bank's appetite for funds.

Level 2.3 Methodology - Lookback

In case the previous day's Panel Bank's contribution under Level 1, Level 2.1 or Level 2.2 does not successfully pass either of the two tests :

the enhanced Level 2.3 methodology looks back to *older* Level 1 and Level 2 contributions reversed-chronologically, until it encounters a contribution that was either

- Performed at Level 2.3; or
- Performed at Level 1, Level 2.1, or Level 2.2 and successfully passes either of the two Qualifying Criterion described above.

The corresponding MAF will be calculated to reflect moves from the date of this qualifying rate (say T-n) and T-1: the interest rate change component will be obtained as the sum of day-to-day interest rate changes between T-1 and T-n. The credit rate change component will be calculated according to the same reasoning.

Credit risk change component – Additional control

The credit risk change component is null if no Panel Bank in a specific day and tenor submits transaction-based contributions (Level 1, 2.1 or 2.2). If at least 1 Panel Bank submits a transaction-based contribution, the credit risk change component is calculated as described in the Euribor public consultation.

This function as a backstop to the formula in case of no underlying market activities for Euribor.

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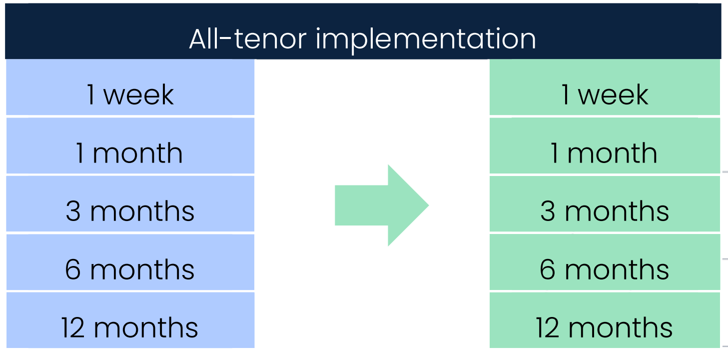
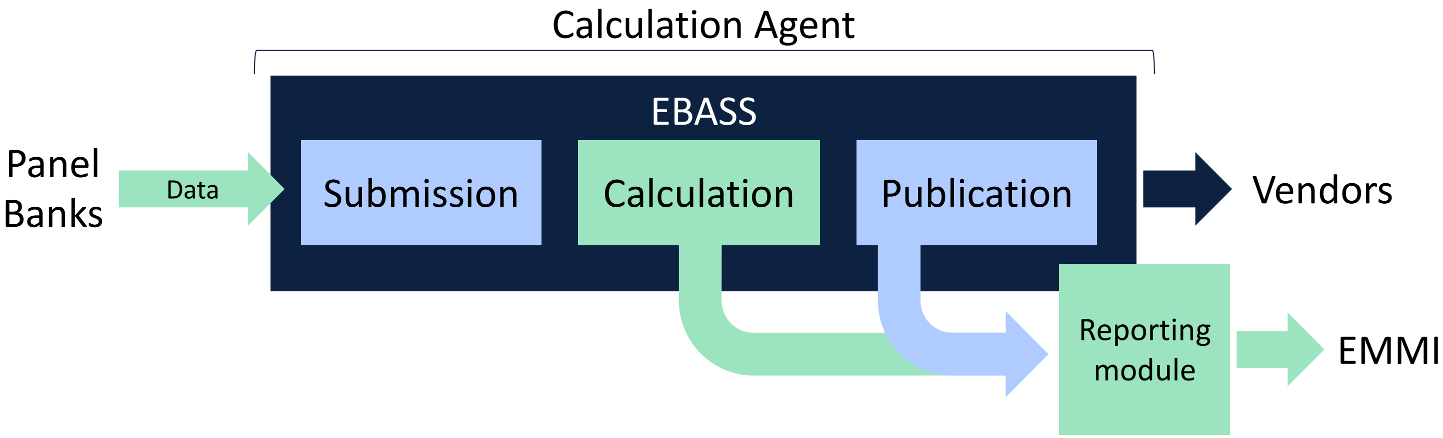
Phase in

New Panel Bank Phase in

- **All tenor implementation:** when a panel bank is phased into the new methodology this is done for all Euribor's tenors

- Once a panel bank application and approval process is finalized and the governance framework is in place, a panel bank becomes part of the Euribor panel





Governance framework

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Updated Governance Framework

The Euribor Governance Framework consist of the following Documents:

- Code of Obligation of Panel Banks
- Benchmark Determination Methodology
- Governance Code of Conduct
- Benchmark Statement

EMMI has reviewed and updated the Governance Framework to align with the changes to the methodology.

This has removed obligations for Panel Banks regarding the previous Level 3, for example, Panel Banks are no longer required to develop and maintain their Level 3 methodology, as well as their policies and procedures in place for deriving Level 3 contributions.

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Q&A