Education | Interest Rate Benchmarks - TERM €STR

Term €STR

Answering questions on Euro rate reform and regulatory expectations

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FTSE RUSSELL
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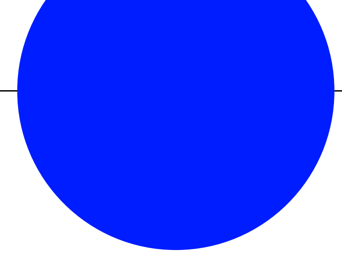
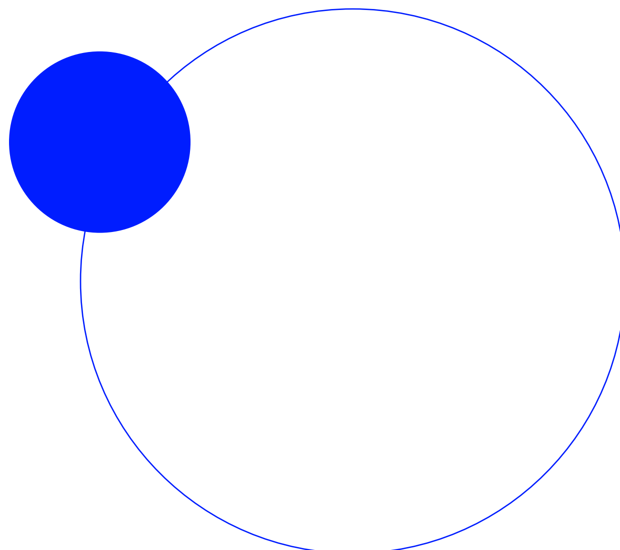


Executive summary

The need for interest rate reforms led to the complete decommission of LIBOR in 2023. Working groups came together around Euro interest rates, and the industry responded with new, more robust offerings, but with no clear end date, there are still questions about what is expected.



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Why do I need to know about benchmark rate reform?

Interest rate benchmarks underpin a wide range of financial instruments and contracts, including derivatives, bonds, money market instruments, loans and mortgages. How benchmarks are designed affects not only financial market participants but also businesses, households, investors and savers.

From the 1980s onwards, most interest rate benchmarks were based on the rates at which banks lent to each other in the wholesale market. These benchmarks, such as LIBOR, were written into a variety of financial contracts. However, during the last decade this type of benchmark came under intense scrutiny and criticism.

It emerged in 2012 that benchmarks based on interbank offered rates ("IBOR benchmarks") had been manipulated for years by some of the banks contributing to the benchmark-setting process. The revelations led to a wave of fines, lawsuits and regulatory actions.

In the aftermath of the so-called LIBOR scandal, regulators undertook a wholesale review of the way benchmarks are set, with the Financial Stability Board (FSB) coordinating global reform efforts.

In July 2014 the FSB issued two fundamental recommendations: strengthening existing benchmarks, and developing alternative, nearly risk-free rates ("RFRs").

By comparison with IBOR benchmarks, RFRs (which are based on wholesale overnight interest rates) have minimal exposure to bank credit or a term liquidity premium.

The FSB said that RFRs should be anchored in observable transactions, wherever feasible, and should be robust even in the face of market dislocation. The regulatory body also said that RFRs should minimise the opportunities for manipulation.

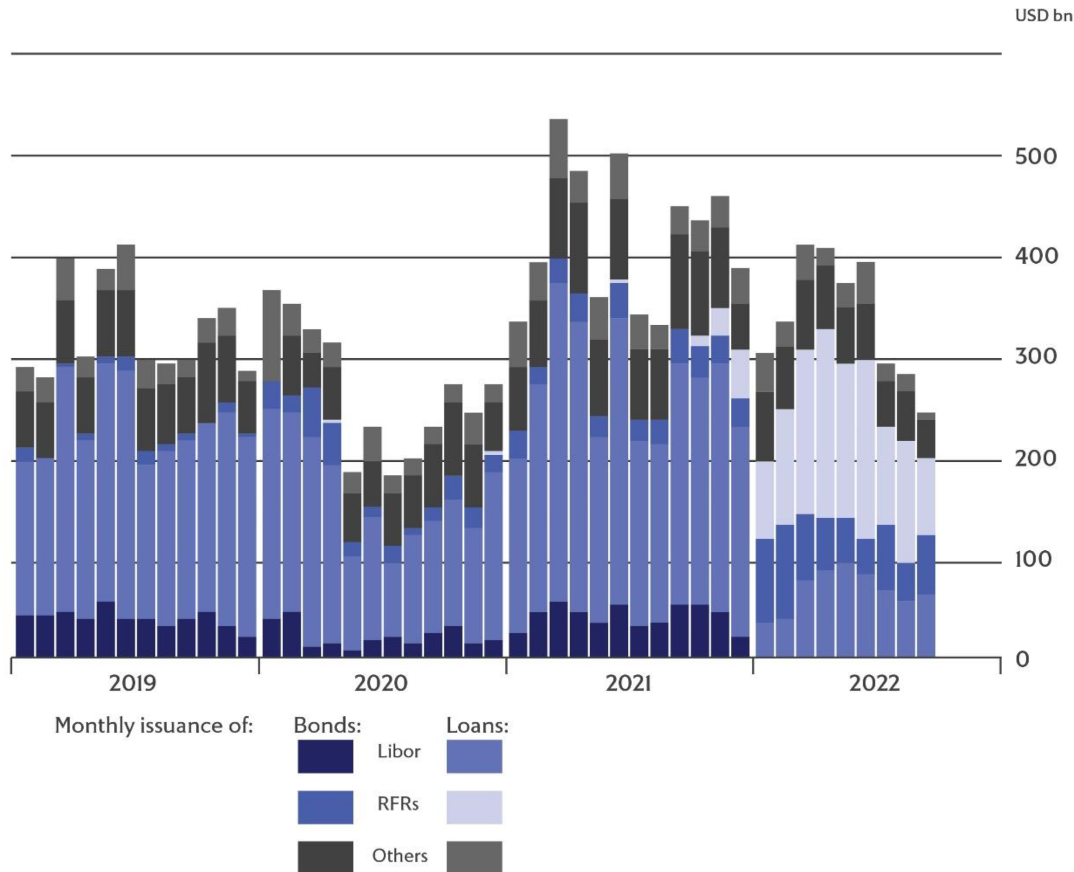
These proposed reforms addressed other shortcomings in IBOR benchmarks: following the 2008 financial crisis, banks' funding switched towards a higher proportion of collateralised borrowing, meaning that IBOR markets became less liquid.

Following the FSB recommendations, public/private working groups started working on identifying the most suitable risk-free rates within each currency area. These groups were usually hosted and chaired by local central banks and securities market regulators.

Ten years later, overnight RFRs have largely replaced IBOR as the interest rate benchmarks in major global currencies. For example, following the discontinuation of the publication of official LIBOR rates in several major currencies at the end of 2021[1], almost all bonds and most loans started referencing RFRs rather than IBOR (see Figure 1).

[1] For example, in the UK. See Transition from LIBOR to risk-free rates | Bank of England

Figure 1: Fixed income instruments switching from IBOR to RFRs



Source: BIS Quarterly Review, December 2022.

Not all markets have abandoned IBOR benchmarks, however. After reforms to its methodology, in 2019 EURIBOR®[2] was deemed compliant with the European Union's Benchmark Regulation and the rate can therefore continue to be used for existing and new contracts and instruments[3]. However, EURIBOR®-based contracts still need a fallback interest rate benchmark (see below).

In the words of the Bank for International Settlements (BIS)[4], the importance of the transition from IBOR benchmarks to a new set of overnight risk-free rates (RFRs) cannot be overstated.

"The [benchmark rate] reform process constitutes a major intervention for both industry and regulators, as it is akin to surgery on the pumping heart of the financial system," the BIS said.

[2] EURIBOR® is a registered trademark of The European Money Markets Institute (EMMI) and remains the property of EMMI. Use of EURIBOR® does not indicate any relationship, sponsorship, or endorsement between FTSE and EMMI. All references to EURIBOR® are to merely identify the corresponding reference interest rates.

[3] See Authorisation of EURIBOR® under the Benchmark Regulation (europa.eu).

[4] BIS quarterly review, October 2019.

What is €STR, the euro risk-free rate (RFR)?

In 2018, the European Central Bank (ECB), together with the Belgian Financial Services and Markets Authority (FSMA), the European Securities and Markets Authority (ESMA) and the European Commission, set up a working group of market participants to identify and recommend a euro risk-free rate that could serve as an alternative to EONIA and EURIBOR®, the prevailing interest rate benchmarks at the time.

In the same year, the working group recommended that the (overnight) euro short-term rate (called "€STR") be used as the risk-free rate for the euro area. €STR has been published daily (excluding weekends and holidays) since 2 October 2019.

Who calculates €STR and what are the inputs?

€STR reflects the wholesale euro unsecured overnight borrowing costs of banks located in the euro area. It is calculated by the European Central Bank (ECB).

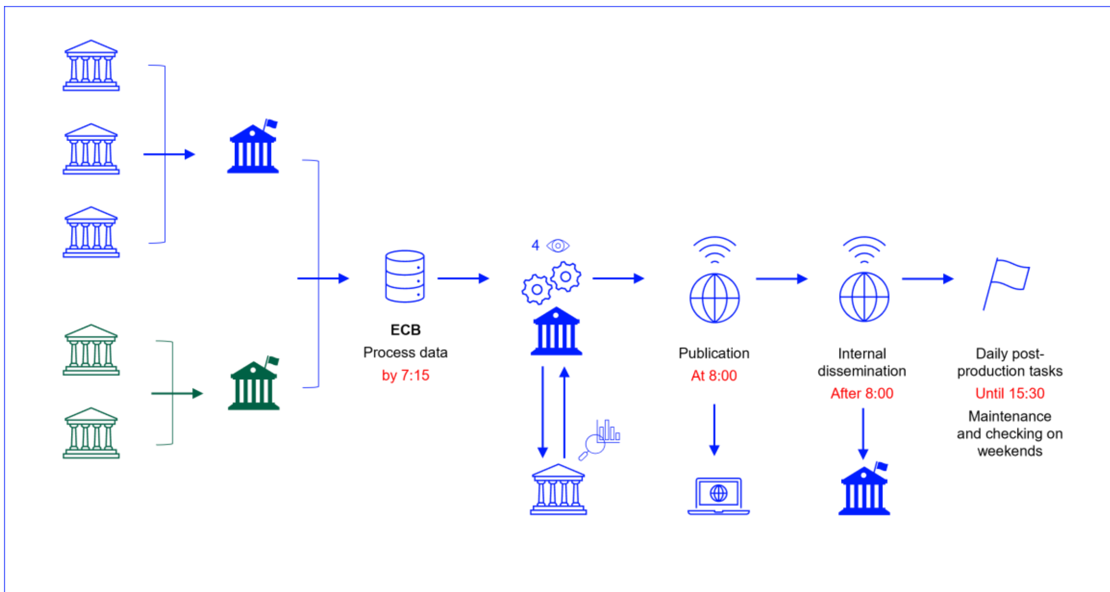
The ECB publishes €STR on each TARGET2 business day, based on overnight transactions conducted and settled on the previous TARGET2 business day. It uses transactions which are deemed to have been executed at arm's length and it is thus representative of prevailing market rates.

The inputs to €STR are money market transactions reported daily to the ECB by more than 40 banks operating in the wholesale euro interest rate markets.

There are contingency procedures for calculating €STR if there is a lack of data, the inputs are too concentrated or if systems break down.

The contingency procedures are triggered if the number of reporting banks is less than 20, or if five banks account for 75% or more of the total volume of transactions.

Figure 2: €STR determination process



Source: ECB economic bulletin, April 2022.

Are risk-free rates based on collateralised or uncollateralised lending?

By contrast with IBOR benchmarks, which were based on offered rates in the (unsecured) interbank lending market, overnight RFRs are a mixture of secured (collateralised) and unsecured (uncollateralised) lending rates. Within individual currencies, RFRs have been chosen to be robust and anchored in active, liquid underlying markets.

For example, the US Secured Overnight Financing Rate (SOFR) is based on US dollar repo transactions collateralised by US Treasury bonds, and the Swiss Average Rate Overnight (SARON) is based on Swiss franc repo transactions backed by general collateral.

By contrast, the Euro Short-Term rate (€STR), the Sterling Overnight Index Average (SONIA) and the Tokyo Overnight Average rate (SONA) are unsecured interest rates.

Figure 3: Design of selected RFRs

	€STR [Euro Short-Term Rate]	**SARON** [Swiss Average Rate Overnight]	**SOFR** [Secured Overnight Financing Rate]	**SONIA** [Sterling Overnight Index Average], reformed	**TONA** [Tokyo Overnight Average rate]
Currency	EUR	CHF	USD	GBP	JPY
Administrator	European Central Bank	SIX Swiss Exchange	Federal Reserve Bank of New York	Bank of England	Bank of Japan
Underlying market segment	Unsecured money market	Secured interbank money market	Secured money market	Unsecured money market	Unsecured money market
Tenor	Overnight	Overnight	Overnight	Overnight	Overnight
Publication	Since Oct 2019	Since Aug 2009	Since Apr 2018	Since Apr 2018*	Since 1993

* In reformed version (prior to reform, since 1997)

Source: Deutsche Bundesbank Monthly Report, March 2020.

What are the principal differences between RFRs and IBOR benchmarks?

IBOR benchmarks measured interbank lending rates over set terms (typically, 1, 3, 6, and 12 months into the future). These rates therefore included a credit spread to reflect the credit risk associated with lending to the bank quoting the rate.

By contrast, RFRs like €STR are overnight rates and embed little or no credit risk premium.

And while IBOR benchmarks are forward-looking (they reflect the rates for borrowing today for a set term into the future), RFRs are “backward-looking”: they are based on past transactions and are published at the end of the overnight borrowing period.

What are “forward-looking” or “Term” RFRs?

Forward-looking Term RFRs provide an indicative, forward-looking measurement of risk-free rates. They are typically calculated using quotes and/or transactions from RFR derivatives.

Like IBOR benchmarks, Term RFRs therefore incorporate future interest rate expectations. However, unlike IBOR benchmarks, Term RFRs do not include any interbank credit risk premium.

How does FTSE Russell calculate Term €STR?

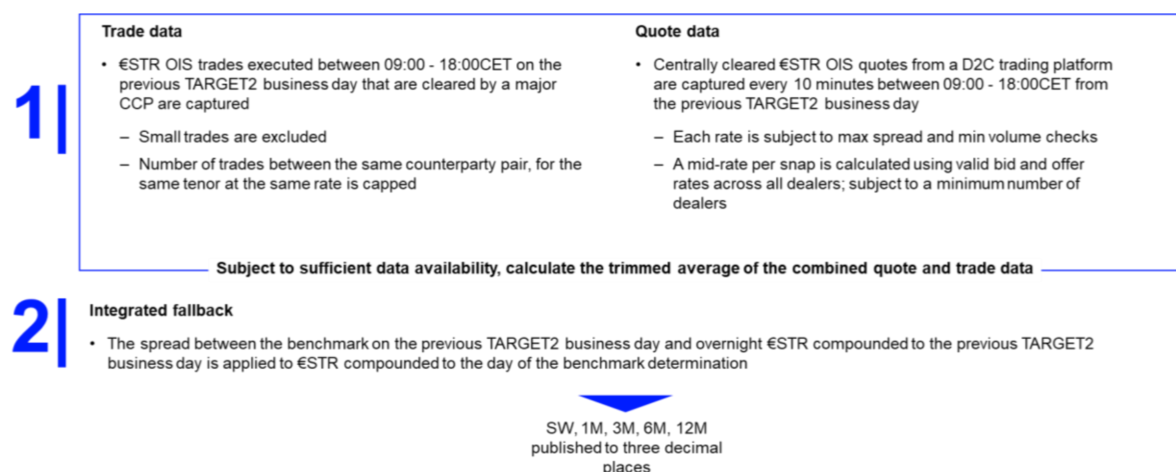
FTSE Term €STR is a forward-looking, risk-free rate available in spot-week, one-month, three-month, six-month and 12-month tenors, denominated in euros and published at or around 11:00CET on each TARGET2 business day.

Executed trades and streaming quotes are sourced from LCH and Tradeweb, respectively, for the previous TARGET2 business day between 09:00 and 18:00 CET. Both datasets are subject to quality criteria, such as minimum volume checks.

For executed trade data, the number of trades between the same counterparty pair is capped. A snapshot of quote data is taken every 10 minutes and a mid-rate is calculated, as long as a minimum number of dealers is present. Before the rate is published, the top 20% and bottom 20% of trades are removed, with the remaining values averaged.

If there are insufficient trade and quote data to calculate Term €STR, a fallback methodology is applied. The input data for the integrated fallback level are compounded overnight €STR and historical benchmark values.

Figure 4: Overview of FTSE Term €STR methodology



Source: FTSE Russell.

What is distinctive about the FTSE Russell approach to Term €STR?

In 2014, the FSB said that the new risk-free interest rate benchmarks should be anchored in observable transactions, robust even in the face of market dislocation and should minimise the opportunities for manipulation.

The FTSE Term €STR benchmark meets all these requirements by drawing its data from two of the largest market infrastructure providers—Tradeweb and LCH SwapClear.

Tradeweb is a leading fixed income, derivatives and ETF electronic trading platform for institutional, wholesale and retail investors and dealers, with total trading volume in excess of $40trn a month[5].

LCH SwapClear is the only truly global clearing house for over-the-counter ("OTC") interest rate swaps ("IRS") and has cleared over 60 million OTC IRS (more than 50% of the market) and compressed over $6,500trn in gross notional exposure[6]. The service also clears over 90% of the total cleared IRS market and over 98% of the euro Overnight Index Swap ("OIS") market.

Input data for the calculation of Level 1 FTSE Term €STR comprises:

- Committed (i.e., executable) quotes for spot starting €STR OIS contracts taken from Tradeweb, and
- Rates for transacted spot starting €STR OIS contracts taken from LCH SwapClear

Together, these design elements help future-proof the financial contracts written by users of FTSE Term €STR.

What are fallback rates and why do we need them?

LIBOR rates were used as reference benchmarks in a wide range of financial instruments. Some of these may have had a very long maturity (for example, in the case of long-dated interest rate swaps) or even no maturity at all (for example, in the case of perpetual bonds).

In many cases, the legal documentation supporting these instruments would have included fallback provisions for the temporary unavailability of the reference rate. However, typically, these provisions would not have anticipated the termination of the reference rate or its future disappearance.

The effective cessation of LIBOR during the last few years therefore required the amendment of a large volume of legacy financial contracts. In many cases, the amended contracts had to include an adjustment for credit and term spreads (given the difference between LIBOR benchmarks and the new RFRs).

Under the European Benchmark Regulation, which came into effect in early 2018, there is now a formal requirement for fallback provisions to be included in euro-based cash contracts.

[5] Source: Tradeweb, as at January 2024.
[6] Source: LCH SwapClear.

Supervised entities must produce and maintain robust written plans setting out the actions that they would take if a benchmark materially changes or ceases to be provided. And where feasible and appropriate, such plans shall nominate one or several alternative benchmarks that could be referenced to substitute the benchmarks no longer provided, indicating why such benchmarks would be suitable alternatives.

For contracts that continue to use EURIBOR® as a benchmark, the working group on euro risk-free rates has recommended that a fallback benchmark should be based on either a backward-looking or forward-looking €STR. This could be the compounded historic €STR or a term €STR (a forward-looking risk-free rate based on the industry's expectations of where €STR will be in the future).

Who should use Term €STR?

A forward-looking term €STR was recommended by the working group on euro risk free rates for a range of cash products, such as:

- Retail and SME loans and mortgages
- Trade finance products
- Export and emerging market finance products (for which counterparties prefer to know the interest rates and amounts in advance)

The working group on euro risk-free rates has also said that forward-looking term €STR fallbacks can be suitable for some corporate lending products and securitisations.

How does Term €STR help meet the challenges of benchmark rate reform?

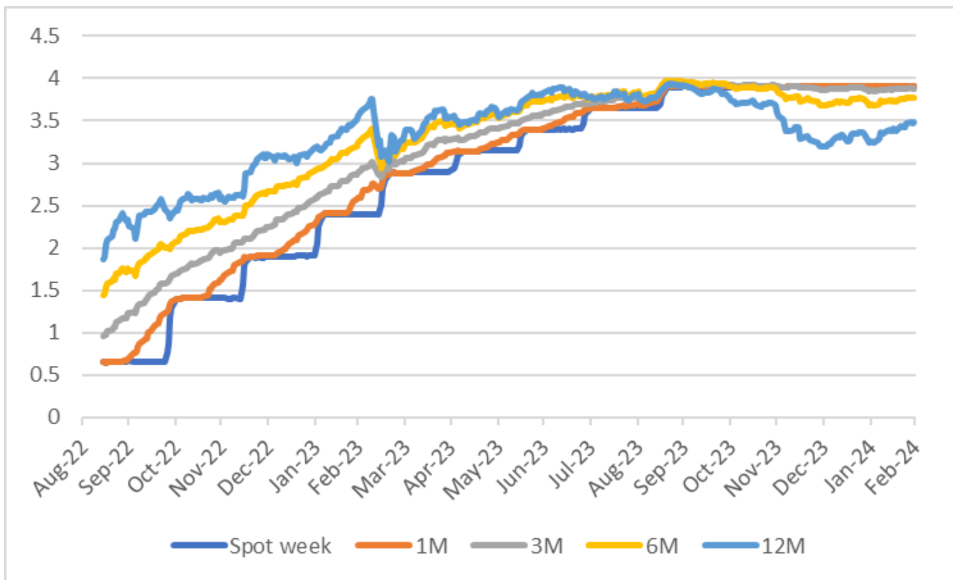
The last decade's work on benchmark interest rate reform has centred on making benchmarks reliable, accurate and—as far as possible—immune to attempts at potential manipulation.

The specification of a range of nearly risk-free rates has helped anchor benchmarks in observable transactions from a broad cross-section of market participants.

However, as they are based on overnight transactions, RFRs do not meet the needs of financial market participants who need to know future interest rates.

By creating a forward-looking Term €STR, whose inputs are derived from observable transactions, FTSE Russell is helping meet the need for a robust, forward-looking term structure for use in a wide range of cash products.

Figure 5: Historical performance of FTSE Term €STR (%)



Source: FTSE Russell, 13/9/2022-28/02/2024. Past performance is not a guide to future performance.

Why switch now to Term €STR?

The European Benchmark Regulation requires supervised users of EURIBOR® to produce and maintain robust written plans setting out the actions that they would take if the benchmark materially changes or ceases to be provided.

The working group on euro risk-free rates encourages market participants to implement robust fallbacks and recommends the use of forward-looking term €STR in a range of cash products as the first level in a waterfall for such fallbacks.

The Loan Market Association (LMA) has published an updated exposure draft for strengthening EURIBOR® fallbacks using Term €STR.

FTSE Term €STR is a regulatory compliant benchmark available for immediate production use.

Switching now to Term €STR can help enhance legal certainty and compliance with the European Benchmark Regulation, as well as preparing for the possible future discontinuation of legacy benchmarks.

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