Q&A by the working group on

euro risk-free rates

Frequently Asked Questions

17 October 2019

Contents

1 General benchmark rate questions

1.1 What are benchmark rates?

Interest rate benchmarks - also known as reference rates or just benchmark rates - are regularly updated interest rates that are publicly accessible. They are a useful basis for all kinds of financial contracts such as mortgages, bank overdrafts, and other more complex financial transactions.

Major reference interest rates play a pivotal role in the global financial system. They are widely used in contracts for derivatives, loans and securities. They are also used by market participants to value financial instruments and by investment funds as benchmarks for assessing their performance, e.g. equity and other indices. As benchmark rates provide an accurate reflection of relevant factors and have a governance framework which ensures their integrity, their use reduces negotiation costs, enhances transparency and improves market liquidity. This means that benchmark rates play a key role in the financial system, the banking system and the economy overall.

Benchmark rates are calculated by an independent body, most often to reflect the cost of borrowing money in a given market. For example, they might reflect how much it costs for banks to borrow from each other. Alternatively they might reflect how much it costs banks to obtain funds from other sources, such as pension funds, insurance companies and money market funds.

1.2 Why are benchmark rates important?

They are widely used across our economy

Benchmark rates are widely used by individuals and organisations throughout the economic system. For example, banks use them when lending to individuals or corporate clients.

A bank might agree to lend money to a company at an agreed interest rate that is set at a particular benchmark rate plus 2% – meaning that the company would pay interest of 2% more than the current benchmark rate. So, the cost of the loan goes up if the benchmark rate goes up, and it goes down if the benchmark rate drops. In this case, the benchmark can be a relatively simple, reliable, independent reference for all parties involved in the transaction.

Companies, banks and other organisations also use benchmark rates to value items on their balance sheets – in other words these rates make it easier for an accountant to work out how much organisations (more specifically the financial assets that they own) are ultimately worth.

Benchmark rates are also used in more complex financial transactions, such as the issuance of securities with variable rates, options, forward contracts and swaps. For instance, an interest rate swap is, in broad terms, a transaction involving two parties where each party pays interest to the other, at a fixed or floating rate. The two most common cases being where one party pays interest at a floating rate and the other at a fixed rate, or where both pay a floating rate on two different indices. In swaps like these, the benchmark rate may determine at least one of the interest flows being exchanged. This creates transparency for all parties involved, brings some standardisation to the agreement and, as a result, makes it easier for all parties to negotiate.

Other uses of benchmark rates include (but are not limited to): calculating overdraft penalties on cash accounts, calculating interest on some retail deposits, and the agreement of interest on retail mortgages and loans.

Benchmark rates help central banks to do their job

Benchmark rates can also inform the work done by central banks. The ECB, for example, can refer to benchmark rates in its work to keep prices stable in the euro area. If a benchmark rate properly reflects the rates at which banks lend and borrow, it can help the ECB better understand the functioning of financial markets and the availability of money in the euro area. This can inform monetary policy decisions: if you know how easy it is for banks to access money, you can estimate how readily those same banks will be able to pass that money on in the form of loans to businesses and people. And all of this ultimately feeds into price levels.

Also, knowing the current benchmark rates enables the ECB to monitor the practical impact of monetary policy decisions. If the ECB decides to raise or lower interest rates, for example, it can track the effects of this by looking at changes in benchmark rates for the euro.

1.3 Why are benchmark rates undergoing reforms and what exactly does this entail?

Benchmark rates are useful as long as they are considered reliable and unbiased – ideally they should be calculated in a transparent manner, and the rates should be easily and publicly available. If a contract is based on a reliable benchmark rate, neither party can influence the agreed rate of interest. This means that a dependable benchmark rate can ensure that the value of a contract remains impartial and indisputable.

Given the economic importance of benchmark rates, it is critical that their reliability is ensured by clear governance and transparent methodologies.

With this in mind, European benchmark rates are currently undergoing significant reforms. Much of this reform process is driven by the introduction of the EU Benchmarks Regulation (BMR), which was published in 2016 and came into force in January 2018.

In 2017 the ECB decided to develop an overnight risk-free rate. This development process resulted in the creation of the euro short-term rate (€STR), a new benchmark rate that has become available since 2 October 2019.

1.4 What are the most widely used European benchmark rates?

EONIA

This is the current overnight benchmark rate for the euro. The private sector working group on euro risk-free rates has recommended that market participants gradually replace EONIA with the new euro short-term rate (€STR) which started on 2 October 2019.

Until 2 October 2019, EONIA was calculated by the ECB on behalf of the European Money Markets Institute (EMMI), a not-for-profit organisation based in Brussels which administers EONIA. It has traditionally been calculated as a weighted average of the interest rates on overnight unsecured lending between banks. EMMI recently modified the calculation methodology of EONIA following the recommendation of the working group, and after broad public consultation.

Since 2 October 2019, the date on which the €STR became available, EONIA is determined as the €STR plus a fixed spread of 8.5 bps. This change in EONIA's methodology shall facilitate the market's transition away from EONIA to the €STR. EMMI announced[1] that it will provide EONIA under the recalibrated methodology up until 3 January 2022, the date on which EONIA will be discontinued. This date should act as an incentive for the market to fully adopt the €STR as EONIA's replacement.

EURIBOR

EURIBOR is an unsecured market benchmark rate calculated for several maturities (one week, and one, three, six and twelve months). It is administered by the European Money Markets Institute (EMMI). In order to bring the benchmark into compliance with the EU Benchmark Regulation (BMR), EMMI has clarified the underlying interest of EURIBOR as the rate at which banks in the EU and in the European Free Trade Association (EFTA) countries could obtain wholesale funds in euro in the unsecured money market. EMMI is gradually implementing a new calculation methodology for EURIBOR – the so called "hybrid methodology". This calculation method is supported by transactions to the greatest extent possible and relies on other related market pricing sources when necessary. On 3 July 2019 EMMI was granted the authorisation and administration of EURIBOR by the Belgian Financial Services and Markets Authority (FSMA) under Article 34 (critical benchmark administrator) of the EU Benchmarks regulation (EU BMR).

1 https://www.emmi-benchmarks.eu/assets/files/D0194C-2019%20EONIA_consultation_feedback_press_release.pdf

2 Questions on the euro short-term rate (€STR)

2.1 What is the €STR?

The €STR is a new overnight rate produced by the ECB that will replace EONIA. It is a rate which reflects the wholesale euro unsecured overnight borrowing costs of euro area banks. The rate is published for each TARGET2 business day based on transactions conducted and settled on the previous day (reporting date T) with a maturity date of T+1 and which are deemed to be executed at arm's length and thereby reflect market rates in an unbiased way.

The ECB is the administrator of the €STR and has overall responsibility for providing the rate.

The €STR is exclusively based on borrowing transactions in euro conducted with financial counterparties that banks report in accordance with the MMSR (Money Market Statistical Reporting) regulation. It is calculated using overnight unsecured fixed-rate deposit transactions over € 1 million.

In 2018 the private-sector working group on euro risk-free rates recommended replacing EONIA with the €STR, taking into account feedback from the market. This working group is now supporting the market with the transition to the €STR.

2.2 What makes the €STR robust?

The €STR is designed to reflect how much a bank must pay when borrowing money overnight from various financial counterparties without providing collateral (this is sometimes referred to as 'unsecured'). These counterparties can include banks, money market funds, investment or pension funds and other financial actors, including central banks.

This means it has a wider scope than EONIA used to have, which only looked at trades between banks. Furthermore, in contrast to EONIA, the data on real transactions used by the ECB to calculate the €STR are provided by a larger number of banks (currently 50 financial institutions vs. 28 for EONIA, with 20 to 40 bn in transactions, compared with around 4 bn for EONIA). This increased scope increases its robustness, and helps to make the €STR a dependable reflection of the price at which money is being borrowed on an unsecured basis across the euro area.

2.3 When did publication of the €STR start?

The ECB started publishing the €STR on 2 October 2019, reflecting trading activity on 1 October 2019. The rate will be published on every TARGET2 business day at 8:00 CET. If errors are detected following standard publication that affect the published €STR by more than 2 basis points, the €STR is revised and republished on the same day at 9:00 CET.

2.4 Why is the €STR only published the next day? What are the constraints preventing earlier publication of the rate?

The €STR is based exclusively on transaction-by-transaction data reported in accordance with the MMSR Regulation. The MMSR Regulation specifies that data must be transmitted once per day to the ECB between 18:00 CET on the trade date and 07:00 CET on the first TARGET2 settlement day after the trade date. The complete dataset is therefore only available for the computation of the €STR after 07:00 CET on the following TARGET2 day.

2.5 What measures are being taken by the ECB to ensure the timely publication of the rate and to ensure that certain trades, which may potentially be erroneous, do not influence the €STR?

In order to ensure timely publication, the publication process is highly automated, using algorithms to automatically filter out trades that deviate from usual patterns. Such trades, however, can be re-integrated upon confirmation by the reporting banks.

2.6 How is the €STR identified? Does it have an ISIN?

The identifiers for the euro short-term rate are:

ISIN: EU000A2X2A25

German WKN: A2X2A2

FISN: ECB/EUR EURO SHORT-TERM RATE IR

2.7 Why is the €STR based on unsecured market transactions, while the secured market may have provided a broader base?

The ECB decided to develop an unsecured rate, instead of a secured rate, for a number of reasons. First, the €STR is intended to complement and serve as an alternative to existing critical benchmark rates such as the euro overnight index average (EONIA), which reflect the unsecured money market. In this respect, the €STR should have features that would make it comparable to these rates. Second, the European repo market has a number of unique characteristics related to:

- the motivation for entering into a trade
- the difficulty of differentiating between general collateral and special collateral if the aim is primarily to measure the price of cash, and
- the type of collateral, which would affect the formation of the final rate of a repo transaction.

For example, the price of a repo can vary considerably depending on the availability and use of collateral and the credit rating of the issuers of the collateral. Furthermore, the share of general collateral versus special collateral and the degree of "specialness" vary significantly over time, which reflects the respective countries' issuance cycle in the absence of a homogeneous European collateral market and the influence of certain reporting dates, such as year-end reporting. As a result, it would be very challenging to develop a rate that could be expected to have broad euro area coverage while providing meaningful, consistent prices in the underlying transactions at the same time. Moreover, when comparing similar notions based on secured transactions to determine the price of overnight cash (only general collateral trades, with the same overnight tenor as the €STR), money market statistical reporting (MMSR) data show that the daily average overnight general collateral repo volume in 2017 (excluding "specials"), as traded by the 52 reporting agents, would have amounted to around €60 billion. This is higher than, but not fundamentally different from, the volumes captured in the unsecured market by the €STR, although pricing remains subject to significant fluctuations on reporting dates.

Finally, there are already a number of existing repo benchmarks, which the ECB welcomes as the availability of more benchmarks will allow users to choose the most suitable one for their needs.

2.8 What is the main reason for extending the scope of the €STR beyond the interbank market?

The broader scope of the €STR is intended to respond to the developments of the wholesale market in recent years. More specifically, the share of the interbank market in the wholesale market became smaller owing to a reassessment of counterparty risks, changing regulations and liquidity conditions. However, banks developed significant money market activity with other entities, such as money market funds, insurance companies and other financial corporations. For that reason, all of these counterparties play an important role in the wholesale funding mix of banks and are therefore considered relevant for determining wholesale borrowing costs.

Nevertheless, and as mentioned in the first public consultation on developing a euro unsecured overnight interest rate, other counterparty sectors, such as governments and non-financial corporations, will not be taken into account in the €STR in order to reduce the influence of possible idiosyncratic factors on the final rate.

2.9 Isn't there a risk that, with a broad scope, the €STR may not be able to adequately capture changes in market rates, especially if the €STR is based on transactions executed with entities outside the euro area and with no access to the Eurosystem monetary policy operations?

The broad scope of the €STR guarantees that the rate is a fair reflection of the overnight borrowing cost for banks in the wholesale market, in which not only banks but also a number of other different entities interact. Some of these entities may not have access to the Eurosystem monetary policy operations (because they are non-banks or are located outside the euro area), which means that the rates of the Eurosystem facilities will not strictly serve as a lower or upper bound for the rate of their transactions. As a result, such transactions may be conducted at a rate below the deposit facility rate

or above the marginal lending facility rate. The €STR will capture this market reality. For example, in conditions of abundant excess liquidity, the €STR would be expected to be below the deposit facility rate. The position of the rate in relation to the Eurosystem policy rates, however, does not mean that the rate will be unable to respond to changes in the policy rates. In fact, since the €STR reflects a liquid market with multiple participants - and, therefore, competitive pricing - these prices are expected to follow the direction of the policy rates.

2.10 Why are transactions with non-euro area counterparties not excluded from the calculation of the €STR?

The €STR is intended to be a borrowing rate, which means that it is more representative if it captures trades with all significant counterparties in the wholesale market, including international counterparties. Furthermore, excluding transactions with non-euro area counterparties would not be sufficient to ensure that the only eligible transactions are those conducted with counterparties that have access to the Eurosystem facilities. If that were the intention, the scope of the ECB rate would have to be reduced to only the interbank market, where counterparties are banks with access to the ECB facilities. This, however, would result in a lack of data and, consequently, the final rate might not be considered robust.

2.11 Why are only money market deposits used for the calculation of the €STR, while there may be significant turnover in other instruments, e.g. call accounts and issuance of short term paper?

The selection of eligible instruments for the €STR was presented in the first ECB public consultation on developing an unsecured overnight interest rate; it was argued that only money market deposits should be used for the computation of the €STR, because deposits are standardised products with easily understandable pricing rules that ensure the consistency of the rate. As shown in the second ECB public consultation, there is sufficient data on deposit transactions to produce a reliable daily benchmark interest rate.

Call accounts as captured by the MMSR have been analysed from three perspectives:

- contribution to data sufficiency
- level of standardisation (homogeneous product type with pricing and understanding of the rate)
- rate behaviour (level and volatility in line with market conditions)

With regard to data sufficiency, including call accounts would have increased the volume underlying the computation of the rate by around €10 billion on average, which may have supported their inclusion. However, call accounts would have improved neither the country representativeness of the rate nor the concentration, given that call accounts are used in very few jurisdictions, Germany being one example.

With regard to the level of standardisation, including call accounts would reduce the clarity of the envisaged scope (deposits) and make the rate more vulnerable to idiosyncrasies as discussed in the

first public consultation. Indeed, the definition of call accounts is quite vague owing to the various non-harmonised legal frameworks in the euro area for this financial product. The definition includes savings accounts, which are also defined in a relatively broad manner in the MMSR Reporting Instructions.

With regard to rate behaviour, the rates of call accounts as captured by the MMSR appear quite "sticky". Data suggests that including call accounts would have been likely to reduce the responsiveness of the €STR to ECB policy rate changes. This observation was even clearer at individual reporting agent level. Rates often remained at exactly the same levels for extended periods of time, suggesting the rates were not renegotiated in the market, as otherwise there would have been daily fluctuations.

Finally, short-term paper as reported under the MMSR was also analysed. However, the very limited volumes captured by the MMSR and the quite volatile rate behaviour were seen as reasons not to include short-term paper in the computation of the €STR at this stage. The regular methodological reviews which will be performed by the ECB will assess the scope of MMSR transactions supporting the €STR, and analyse whether methodological changes are required should market conditions change.

2.12 Which banks are reporting under MMSR?

The banks reporting MMSR data on which the €STR is based are listed on the ECB's website.

2.13 Are the current 50 MMSR banks sufficient to ensure that the €STR is representative?

The money market statistical reporting (MMSR) sample currently covers the 50 largest banks in the euro area in terms of balance sheet size at the time of selection. The 50 reporting banks are spread across ten euro area countries (Belgium, Germany, Ireland, Greece, Spain, France, Italy, Netherlands, Austria and Finland).

With regard to the possible impact of an expansion of the reporting population, the analysis on data sufficiency conducted in the context of the second ECB public consultation and earlier evidence from the ECB's Euro Money Market Surveys suggest that the unsecured money market tends to be a concentrated market, as also shown in the first ECB public consultation.

2.14 What is the status of the MMSR reporting banks, and will the launch of the €STR lead to any changes in their obligations?

The legal status of the reporting banks as MMSR reporting agents will not change following the release of the €STR. The €STR will be based exclusively on the statistical information on transactions reported to the ECB or the NCBs (National Central Banks) under the MMSR.

The reporting banks will continue to have obligations pursuant to the MMSR Regulation and the overall ECB statistical framework. Amendments to the MMSR Regulation will follow the established

rules and procedures and, where required, will be announced publicly well in advance and will involve consultation with the European Commission.

2.15 The data sufficiency policy seems quite strict: should frequent contingency situations linked to data insufficiency be expected?

The thresholds ensure that the €STR will always be published on the basis of data provided by a sufficient number of banks, although none of those banks would have a too large influence on the final rate.

The pre-€STR shows that there would have been very few cases of data insufficiency in recent years.

2.16 What happens if the contingency situation is repeated?

Any change in market dynamics that leads to deterioration in market liquidity would need to be considered in a regular or ad-hoc reassessment of the methodology of the rate.

2.17 Have you considered a volume-based trigger for applying the contingency formula?

A volume-based trigger was considered but ultimately not deemed desirable. As explained in the second ECB public consultation, day-to-day fluctuations in volume can be considered part of how markets function. Such changes could relate to calendar effects or local holidays in the various euro area countries. MMSR data show that, even on days with reduced volumes, those volumes are generated by a fairly large number of reporting banks with no additional concentration of activity; therefore, a rate calculation based on lower volumes could be seen as robust and unbiased.

2.18 The €STR is computed using 25% trimming – isn't this too high and doesn't this reduce the representativeness of the rate since half of the transactions are taken out of the computation?

In the second ECB public consultation, a number of respondents expressed concern that the proposed trimming value of 25% would be too high and could undermine the rate's representativeness. However, the trimming value does not affect the rate representativeness, and in fact improves the stability and resilience of the €STR.

Regarding the representativeness, the trimmed mean – like the arithmetic mean and the median – is a measure of the central tendency of the distribution of rates, and existing MMSR data confirm that the characteristics of the distribution of rates are such that the trimmed mean is an appropriate measure of this central tendency.

Moreover, trimming is used to reduce the impact of significant outliers on the computation of the €STR; the threshold of 25% was found in the Second public consultation to be close to optimal in

reducing the day-to-day variability of the rate while ensuring a broad calculation basis. The difference in the trimmed mean between trimming at 25% and at 10% is very limited, amounting to only around 0.1 basis points on average, while the 25% trimming shows less day-to-day volatility and, consequently, is the choice for the €STR.

3 General questions about the working group on euro risk-free rates and its governance

3.1 What exactly is the working group on euro risk-free rates and what does it do?

The working group on euro risk-free rates was established[2] to identify and recommend risk-free rates that could serve as a basis for an alternative to the current benchmarks used in a variety of financial instruments and contracts in the euro area, such as the euro overnight index average (EONIA) and the euro interbank offered rate (EURIBOR). It is a private-sector working group; the ECB provides the secretariat and attends as an observer only. Similar private sector groups exist across jurisdictions to guide market participants in the use of alternative rates and the transition, if necessary.

3.2 How was/is the composition of the working group and the subgroups determined?

The working group on euro risk-free rates is made up of 21 credit institutions as voting members, five institutions as non-voting members and two institutions as invitees. Firms that volunteered were selected by the four public institutions (ECB, European Commission, ESMA and FSMA) that have observer status in the group. The selection was based on criteria such as motivation and commitment to dedicate time and resources to the group, representativeness and geographical distribution. Individual working group representatives are appointed by their member firms.

The composition of the subgroups is more diverse and also captures asset managers, clearing houses, trade and user associations, and corporate representatives. The selection is made based on the applicants' motivations and the specific expertise they can bring on the topic, and is made by the subgroup's lead institution, the ECB Secretariat, the working group's lead institution and the other public institutions. Participation is balanced against the need to keep the subgroups at a manageable size. Assignment to subgroups is mostly based on the applicant's interest and expertise.

3.3 How does the working group take decisions?

Decisions and recommendations of the working group should be reached by consensus, if possible, or otherwise by a two-thirds majority where necessary. For voting and decision-making, each of the 21 voting member has one vote. Observers are not eligible to vote.

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2 https://www.ecb.europa.eu/paym/initiatives/interest_rate_benchmarks/WG_euro_risk-free_rates/shared/pdf/2017_11_29_terms_of_reference.pdf

3.4 Can I still become a member of the working group or any of the subgroups?

Yes, the subgroups are still open to new members. You can follow the procedure indicated on the ECB website (see box on the ''Participation in the substructures of the working group'') and return your application form to the secretariat for the working group on euro risk-free rates.

3.5 How do decisions or recommendations of the working group translate into actions by the private sector? Are decisions of the working group binding?

Decisions or recommendations by the working group are not binding for the private sector. It is up to financial market participants to prepare themselves for changes in benchmark rates and the working groups recommendations are meant to help financial market participants in the transition.

3.6 What are the key deliverables of the working group?

EONIA - €STR

- The recommendation of the €STR as the euro risk-free rate, following a public consultation and a formal vote: the €STR will replace EONIA (in view of its non-compliance with the EU Benchmarks Regulation) and serve as a basis for EURIBOR fallbacks.
- The recommendation of a transition path from EONIA to the €STR, following a public consultation and a formal vote, for the EONIA administrator, EMMI, to consider the recalibration of EONIA's methodology to the €STR plus a fixed spread until its discontinuation on 3 January 2022.
- The recent publication of recommendations, adopted after a public consultation, on the changes to legacy and new contracts referencing EONIA (EONIA legal action plan).
- Recommendations and guidance regarding the practical implementation of the switch from EONIA to the €STR (IT impact, settlement issues, change in discounting regime, compensation mechanism, …), as well as the accounting impact of the transition to the €STR.

EURIBOR

- The working group is working on the necessary fallbacks for EURIBOR in line with the BMR requirements. So far, the working group has worked on forward-looking fallback methodologies as a possible approach to fallbacks based on the future €STR derivative market.
- In the meantime, backward-looking methodologies, using the compounding of the realised €STR, are also being explored as potential approaches for EURIBOR fallbacks. The methodologies to capture a credit spread will also be reviewed for embedding in such fallbacks, if deemed necessary. The use cases for these fallbacks will be analysed in the months to come.

3.7 What are the recommendations of the working group on euro risk-free rates in the EONIA to €STR legal action plan?

Whenever feasible and appropriate, market participants, should consider avoiding entering into new contracts referencing EONIA from 2 October 2019 onwards, particularly new contracts maturing after 31 December 2021 as EONIA will cease to exist after that date. For existing contracts referencing EONIA and maturing after December 2021, market participants should consider replacing EONIA as the primary rate as soon as possible or embed robust fallback clauses. In those cases where new contracts still reference EONIA and mature after December 2021, or fall within the scope of the EU Benchmarks Regulation (BMR), market participants should include robust fallback provisions. The working group recommends the €STR plus a fixed spread of 8.5 basis points as the EONIA fallback rate.

Additionally, for the purpose of enhancing transparency, while not strictly necessary, new contracts signed before October 2019 ideally included a clarification that the EONIA methodology was expected to change as of 2 October 2019 and that references in contracts to EONIA shall be construed as references to EONIA as changed, unless otherwise agreed by the parties. Following the public consultation on the legal action plan and the feedback received from the market, the working group is also providing two templates for EONIA discontinuation fallback language for new cash products; market participants may use the wording and tailor it to take into account the terms and conditions for each particular asset class and the legal requirements of each governing law and relevant European jurisdiction.

Press release and detail of the WG recommendation can be found on the ECB website :

Press release
https://www.ecb.europa.eu/press/pr/date/2019/html/ecb.pr190716~0383b60ab0.en.html

Detail of recommendations -
https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.eurostr_eonia_legal_action_plan_20190716.en.pdf

For further information see the following documents:

- The working group recommendations
  https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.eurostr_eonia_legal_action_plan_20190716.en.pdf
- The public consultation:
  https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.consultation_details_201905.en.pdf
- The summary of responses to the public consultation:
  https://www.ecb.europa.eu/paym/pdf/cons/euro_risk-free_rates/ecb.summaryofresponses01_201906.en.pdf

4 Transition issues

4.1 Will the underlying interest of the reformed benchmarks change, and are any amendments required to legacy EONIA and EURIBOR contracts?

According to their administrator, the recalibrated EONIA and EURIBOR under their new methodologies will continue to measure the same underlying interest as the former EONIA and EURIBOR calculated under their respective legacy methodologies. Therefore, even if elements of the benchmark are further developed or amended, this in itself should not require a change in legacy contracts using EONIA and/or EURIBOR since the underlying interest is the same.

However, in relation to EONIA, the foregoing will only apply until the last day when EONIA will be calculated (i.e., 3 January 2022). Therefore, legacy EONIA contracts that expire after 2021 will have to be amended before that date for another reason, namely to include fallback rates or to replace EONIA as the primary rate.

Legacy EONIA contracts should also be reviewed to check that agreements accurately reflect the change in publication time of EONIA after 2 October 2019 (from the evening of day T to the morning of T+1), as agreed between the parties.

In any case, Article 28 (2) of the BMR requires all supervised entities using benchmarks to have robust fallback provisions for all their contracts concluded after 1 January 2018, and prior to January 2018 where practicable and on a best-effort basis. Legacy contracts might need to be amended accordingly[3].

4.2 Why wasn't there a simple switch from EONIA to the €STR?

While both EONIA (before its recalibration) and the €STR rely on transactions from the overnight unsecured money market segment, there are differences in their methodologies and the data used for their calculation, and they do not typically have the same numerical value. Therefore, any direct or pure succession of EONIA by the €STR would have resulted in a change in valuation of transactions and contracts tied to the overnight rate. However, the correlation and difference between the two benchmarks has been relatively stable since the start of 2017; this is why, to ensure a smooth transition, the calculation method of EONIA has changed as of 02/10/2019, and became a recalibrated EONIA consisting of the €STR plus a fixed spread.

4.3 How will the switch from EONIA to the €STR happen?

The switch from EONIA to the €STR will take place in two steps:

[3] See: https://www.esma.europa.eu/sites/default/files/library/esma70-145-114_qas_on_bmr.pdf

First, the methodology for EONIA was recalibrated to become ''dependent'' on the €STR. This means that since 02/10/2019 (the date of the first €STR publication), the EONIA methodology changed from being based on the contributions of a panel of banks to become equal to €STR plus a fixed spread of 8.5 basis points. This change in methodology was necessary as its administrator announced[4] that, under the legacy calculation method, compliance with the EU BMR by January 2020 could not be guaranteed.

Second, the market will transition from this "€STR-dependent EONIA'' to the €STR, some time on or before January 3, 2022, which is the date of EONIA discontinuation by its administrator.

4.4 What will happen if market participants don't adjust to the change to EONIA's changed publication time which started on Oct 2nd 2019?

Depending on the market participants' specific situation, this can e.g. lead to the usage of a wrong EONIA T+1 interest rate, possible problems in your IT system environment and create a situation of non-fulfilment of market participants' specific regulatory guidelines in your country. Immediate action is therefore necessary. For further information see Report by the working group on euro risk-free rates on the impact of the transition from EONIA to the €STR on cash and derivatives products.

4.5 What are the practical consequences of the EONIA recalibration?

Despite the launch of the €STR, EONIA will continue to exist during a transition period under a new methodology that ties it directly to the €STR, so that EONIA can be used in existing contracts for a limited period (until December 2021) to allow for a smooth transition from EONIA to the €STR.

Since 2 October 2019 EONIA is calculated by applying a fixed spread of 8.5 basis points to the €STR. As a consequence, EONIA, like the €STR, then refers to transactions that occurred on the previous business day.

The fixed spread of 8.5 basis points was calculated by the ECB on the basis of a methodology recommended by the working group on euro risk-free rates based on its broad support during consultation, and accepted by EMMI. It is based on a simple average of the EONIA-pre-€STR spread between 17 April 2018 and 16 April 2019, with a 15% trimming mechanism. For simplicity, the recalibration date was set to the first day of the €STR publication. All reasons motivating this transition path are set out on the ECB website (see Report on the transition from EONIA to the euro short term rate). As a consequence of its dependence on the €STR, the publication time of EONIA moved from "T" (19.00 CET, reflecting the transactions of the day T) to "T+1" (publication on T+1 at or shortly after 9.15 am CET, i.e. the day after the transactions took place).

[4] https://www.emmi-benchmarks.eu/EURIBOR-eonia-org/eonia-review.html

Monday 30 September 2019	Tuesday 1 October 2019	Wednesday 2 October 2019
Day before move	Day of move	Day after move
T_{M-1}	T_M	T_{M+1}
EONIA is calculated under the **current** methodology.	No EONIA rate is published	EONIA is calculated under the **recalibrated** methodology.
Published at or shortly after 7:00 p.m. CET		Published at or shortly after 9:15 a.m. CET
EONIA published on day T_{M-1} reflects the market on day T_{M-1}.		EONIA published on day T_{M+1} reflects the market on day T_M.

4.6 Is there any recommendation as to what history to use for charting the new €STR rate effective October 2, 2019? Can the pre-€STR be used for this?

The pre-€STR was calculated using the same methods as defined for the €STR and was based on data including all revisions in terms of cancellations, corrections and amendments submitted by reporting agents at the time of calculating the rate. The regular releases also included revisions to previously published data. In addition to the data, the releases included charts illustrating key features of the pre-€STR rate.

4.7 How should the industry cope with the late availability of the rate and the ensuing potential problems in same-day settlements of €STR-based contracts?

Market participants may approach the T+1 publication of €STR and EONIA (since 2 Oct 2019) in the following ways:

1) Agree with counterparties to use the latest available rate. This would be the rate published on T applicable to transactions that occurred on T-1. Using the latest available rate may also be stated as using a 1-day lag or a 1-day lookback.

2) Introduce a 1-day payment delay. Transactions could be settled on a T+2 basis. For money market participants, this would entail a one-day difference between notional and interest payment dates.

4.8 Why isn't the recalibrated EONIA (€STR + fixed spread) maintained after 31/12/2021?

The sole purpose of having a recalibrated EONIA that is linked to the €STR is to facilitate a full transition to the €STR. Maintaining the recalibrated EONIA beyond that point would defeat this purpose.

4.9 Will there be any valuation change caused by the transition to the €STR and how do you expect financial institutions to capture it?

The valuation of various financial instruments depends on EONIA as it is used as a benchmark for various financial products and as the collateral rate in both centrally cleared and bilaterally collateralized derivatives. Furthermore, derivatives referencing EONIA (e.g. EUR overnight index swaps) are commonly used to derive the discounting curve for valuation purposes. The €STR will replace EONIA for these purposes during the transition. In order to complete the transition, financial institutions are required to adapt their framework of interest rate curves, so that the €STR and the €STR (discounting) curve will replace EONIA and the EONIA (discounting) curve.

Whilst compensation mechanisms are anticipated in the transition from EONIA to €STR, financial institutions should consider the risk of price and valuation changes throughout this transition and the corresponding effects on financial accounting.

The fixed spread between EONIA recalibrated and the €STR will help to simplify the compensation mechanisms when transitioning from EONIA recalibrated to the €STR.

4.10 How could discounting be aligned to avoid valuation differences such as collateral differences?

Regarding the transition period until EONIA is discontinued on 3 January 2022, the working group recommends that central counterparty clearing houses (CCPs) align their discounting switch dates as much as possible to transition from an EONIA discounting regime to a €STR discounting regime, and set the discounting switch date as early as possible, preferably towards the end of the second quarter of 2020.

Concerning the switch from EONIA to the €STR discounting regime, the working group on euro risk-free rates has published a report (Report by the working group on euro risk-free rates on the impact of the transition from EONIA to the €STR on cash and derivatives products) recommending a big-bang approach for CCPs as far as possible (switch dates should be very close if not the same) first, and then roll out to the bilateral market in a phased approach.

4.11 What is the relationship between clean discounting and the remuneration of collateral under a CSA? In the course of the transition,

can you be in a situation where you would remunerate your collateral with EONIA and your derivative would be valued with the €STR?

Collateral remuneration through initial and variation margin calls for cleared derivatives and through CSAs is mostly in cash, calculated using EONIA. The working group encourages market participants to make all reasonable efforts to transition from an EONIA discounting regime to a €STR clean discounting regime for both legacy and new trades with all their counterparties.

Regarding the transition period until EONIA is discontinued on 3 January 2022, the working group recommends that central counterparty clearing houses (CCPs) align their discounting switch dates as much as possible to transition from an EONIA discounting regime to a €STR clean discounting regime, and set the discounting switch date as early as possible, preferably towards the end of the second quarter of 2020. For bilateral credit support annexes (CSAs), a phased approach is recommended to cater for individual discounting/compensation considerations. Market participants are encouraged to start this process as early as possible. The working group recognises the need to communicate these changes in an effective manner in order to achieve a successful transition.

5 Questions on fallback rates

5.1 Why are fallback rates important?

Fallback rates serve as insurance against the temporary or permanent cessation of a benchmark rate. Without a fallback to a benchmark rate, a party tied to a contract which references that benchmark rate could potentially dispute any action taken in response to the unavailability of the referenced benchmark rate.

In line with the EU Benchmark Regulation (BMR), the working group recommends that market participants enhance the robustness of fallback language in new contracts. Continuing to enter into new contracts referencing EONIA or EURIBOR without more robust fallback provisions may increase the risk to the financial system. For further information:
https://www.ecb.europa.eu/pub/pdf/other/ecb.sg3guidingprinciples201901.en.pdf

5.2 What fallback rate will be used for the €STR?

The fallback for the €STR has not yet been determined. The working group on euro risk-free rates is planning to deliver some guidance on this fallback in the course of the next months.

5.3 What fallback rate will be used for EONIA?

The working group recommended the €STR plus the spread (defined as the spread between the €STR and EONIA based on the methodology recommended by the working group and calculated by the ECB as 8.5 basis points) as the EONIA fallback rate for all products and purposes.

5.4 What fallback rate will be used for EURIBOR?

All supervised entities in the EU, other than administrators, are required to produce and maintain robust written plans setting out the actions that they would take in the event that a benchmark they are using materially changes or ceases to be provided. Supervised entities are required to reflect such plans in the contractual relationship with all clients in all contracts entered after 1 January 2018 and, where practicable and on a best-effort basis, in contracts entered into prior to 1 January 2018.

The working group is currently assessing possible fallback rates for EURIBOR and mechanisms for their incorporation. More precisely, the working group has worked on fallback rates to EURIBOR, to which a credit spread (not included in the rate itself) will have to be added to represent liquidity risk.

Regarding the production of fallback rates for EURIBOR: first, it is worth noting that they should use the €STR as a basis, and can be constructed in roughly two ways: either on a forward-looking basis, i.e. based on the future €STR derivative market, and hence capturing interest-rate expectations; or, based on backward-looking methodologies, which are basically compounding methodologies of the €STR. The working group on euro risk-free rates has published its preferred approach as regards

forward-looking methodologies, and suggested that EURIBOR fallbacks may be built based on the committed quote-based methodologies of the future €STR OIS market, once the latter is established. The working group is now analysing backward-looking methodologies in order to make a recommendation as regards the preferred methodology, as well as various methodologies to capture a credit spread, for possible embedding in such EURIBOR fallbacks if deemed necessary. Once these methodological preferences are clarified, the working group will discuss the use cases for such fallbacks and see what financial products they are best suited for, taking into account international developments and consistency across products, to the extent that it is feasible. The working group will then make a recommendation on EURIBOR fallbacks to market participants.

On the legal mechanisms to integrate these fallbacks into EURIBOR contracts, both new and legacy, the working group is also working on a EURIBOR legal action plan to try to guide market participants in their contract amendments.

5.5 What is the fallback language/provision? How relevant is it for ensuring a smooth transition?

In this context, "fallback language" refers to the legal provisions in a contract that apply if the product's underlying benchmark rate is discontinued or becomes unavailable. The FSB's Official Sector Steering Group (OSSG) has recommended that market participants both understand their contractual fallback arrangements and ensure that those arrangements are robust enough to prevent potentially serious market disruptions in an index cessation event. Because an interest rate like EURIBOR is widely used, its permanent cessation without viable fallback language in contracts would cause considerable disruption to financial markets. It would also impair the normal functioning of a variety of markets, including business and consumer lending.

5.6 What should market participants do to strengthen fallback language in derivatives?

Market participants should consider following the guidance and recommendations from industry organisations, such as ISDA, and the relevant private sector working groups in various jurisdictions. For example, ISDA has already prepared a Benchmark Supplement to address the need for fallback provisions as required in the BMR, which can already be used. Furthermore, ISDA is working on introducing fallbacks directly in their 2006 definitions and also on protocols to facilitate the implementation of fall backs in legacy contracts. This work spans across currencies and follows the guidance of the official sector as represented by the FSB's Official Sector Steering Group.

5.7 What should market participants do to strengthen fallback language in cash products?

The working group has produced recommendations in this respect for the EONIA to €STR transition and these can be found here:

https://www.ecb.europa.eu/pub/pdf/other/ecb.wgeurorfr_impacttransitioneoniaeurostrcashderivativesproducts~d917dffb84.en.pdf

With regard to fallbacks to EURIBOR, the working group is in the process of producing a EURIBOR legal action plan which will have recommendations in respect of strengthening fallback language. However, the working group has already produced guiding principles for fallbacks to EURIBOR which give some guidance to market participants in this respect.

6 Development of term rates and derivative markets

6.1 Will the working group recommend term rates based on the €STR which could serve as fallback to EURIBOR?

Fallback rates are required for EURIBOR-linked contracts, and since the €STR was chosen as the euro ''risk-free rate'', it will serve as a basis to build these ''term rates'' which will be used as EURIBOR fallbacks (see section D).

The working group has already recommended a preferred forward-looking methodology using the future €STR-based OIS firm quotes observed in trading venues to build term rates based on the €STR as a fallback for EURIBOR linked contracts. The working group has yet to work on possible backward-looking methodologies that could be used for some EURIBOR-linked products. The working group will also recommend the most appropriate EURIBOR fallback methodology for each financial product.

6.2 Have you considered €STR-based OIS fixings as term rates ?

When it comes to forward-looking methodologies, the working group on euro risk-free rates has recommended using €STR OIS firm quotes provided continuously on MTFs/Regulated Trading Venues, but not €STR-based OIS fixings.

6.3 How are derivatives master agreements affected by this reform?

With regard to OTC derivatives, the working group on euro risk-free rates intends to recommend that market participants consider using and/or amending, where necessary, existing master agreements and standard documentation to embed robust fallbacks in new contracts, such as the ISDA Benchmarks Supplement developed by ISDA. There is also the ISDA Benchmarks Supplement Protocol to apply its Supplement for legacy transactions,

For other European local master agreements, the working group also encourages ISDA to consider producing amendment templates for such legacy trades; otherwise, sponsors would be encouraged to adopt alternative protocols produced by the industry.

The working group welcomes statements and/or clarifications from competent European and Member States' authorities, as appropriate, to clarify that the clarifications to be made in contracts

and amendments to legacy agreements do not require the application of the margin and clearing requirements and do not trigger other additional regulatory/legal obligations.