



EUROPEAN CENTRAL BANK

EUROSYSTEM

First ECB public consultation on developing a euro unsecured overnight interest rate

November 2017



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Introduction

On 21 September 2017 the European Central Bank (ECB) announced that it would develop a euro unsecured overnight interest rate based on data already available to the Eurosystem. The interest rate, which would be produced before 2020, would complement existing benchmark rates produced by the private sector and serve as a backstop reference rate. This interest rate would be based entirely on transactions in euro that are reported by banks in the ECB's money market statistical reporting (MMSR).

In recent years the ECB has closely followed and played an active role in the reform of benchmark rates. The engagement of the ECB in this field is consistent with the tasks conveyed upon it by its Statute. It fulfils a dual purpose and is linked to the implementation of monetary policy and its transmission, along with the monitoring of risks to the financial system. Benchmark rates play an important anchoring role in contracts in financial markets and perform a pivotal role in the operationalisation and monitoring of the transmission of the ECB's monetary policy. The absence of a reliable private benchmark could thus have an adverse impact on the monetary policy transmission mechanism and repercussions for the stability of the financial system.

The ECB will develop a new overnight interest rate, with a view to production before 2020. During the time until then, the ECB will engage in transparent communication involving public consultations. Over the next two years the ECB will define which economic reality the new rate intends to measure, develop the calculation methodology and test the robustness of the rate. In designing the new overnight rate, the ECB aims to be consistent with the international standards set by the International Organization of Securities Commissions (IOSCO) on financial benchmarks.

This is the first consultation in the process. It seeks feedback from market participants on the high-level features of a new unsecured overnight interest rate. It also aims to collect the views of stakeholders regarding the main features and the timing of the publication of the new rate. Responses to this consultation should be sent to ECB-overnight-rate@ecb.europa.eu by [12 January 2018]. A summary of the replies will be published.

This public consultation document is structured in two major parts. Part A consists of three sections. The first section focuses on money market activity. In view of the potential use of the ECB rate as a benchmark, the section first reviews the IOSCO recommendation that a benchmark should be based on an active market and thereby assesses the appropriateness of the unsecured money market in terms of it being an active market, looking at its liquidity, size and concentration. The second section of Part A reviews the current use of unsecured overnight benchmark rates, which are of systemic importance and, as such, of relevance to financial stability. As the ECB has announced that the new rate will be based on the MMSR data, the third section of Part A considers in greater detail the possible use of such data for the

design of the new rate. More specifically, it sets out the features of the MMSR and evaluates possible ECB rate design factors based on the MMSR data. This includes an evaluation of the activity in the various segments of the unsecured money market, as well as of market concentration aspects. Against this background, Part B of the document contains the consultation questions related to the design factors and the timing of the rate's publication.

PART A

Overview of the unsecured money market

The first part of this document outlines the factors that the ECB considered in assessing the feasibility of a new unsecured overnight rate.

1 Activity in the unsecured euro money market

According to the IOSCO principles, a benchmark should be based on an active market. Trading volumes, the number of reporting banks and the number of transactions underlying the calculation of a reference rate should be sufficient to ensure that the market segment has a reliable price discovery mechanism. Liquidity, market size and concentration are among the relevant benchmark design features identified by IOSCO and they will be reviewed in this part.

The ECB intends to base the unsecured overnight rate on transaction information collected on the basis of the MMSR Regulation.¹ Reporting in accordance with the MMSR Regulation started in mid-2016, which therefore only covers a relatively short time frame. Therefore, with a view to assessing money market activity as well as the representativeness of MMSR data, these data are complemented with data covering a longer time horizon, such as Euro Money Market Survey (EMMS) data and TARGET2 data.

1.1 Liquidity developments in various money market segments

This section reviews the liquidity of unsecured money markets and the implications for the design of an unsecured overnight interest rate.

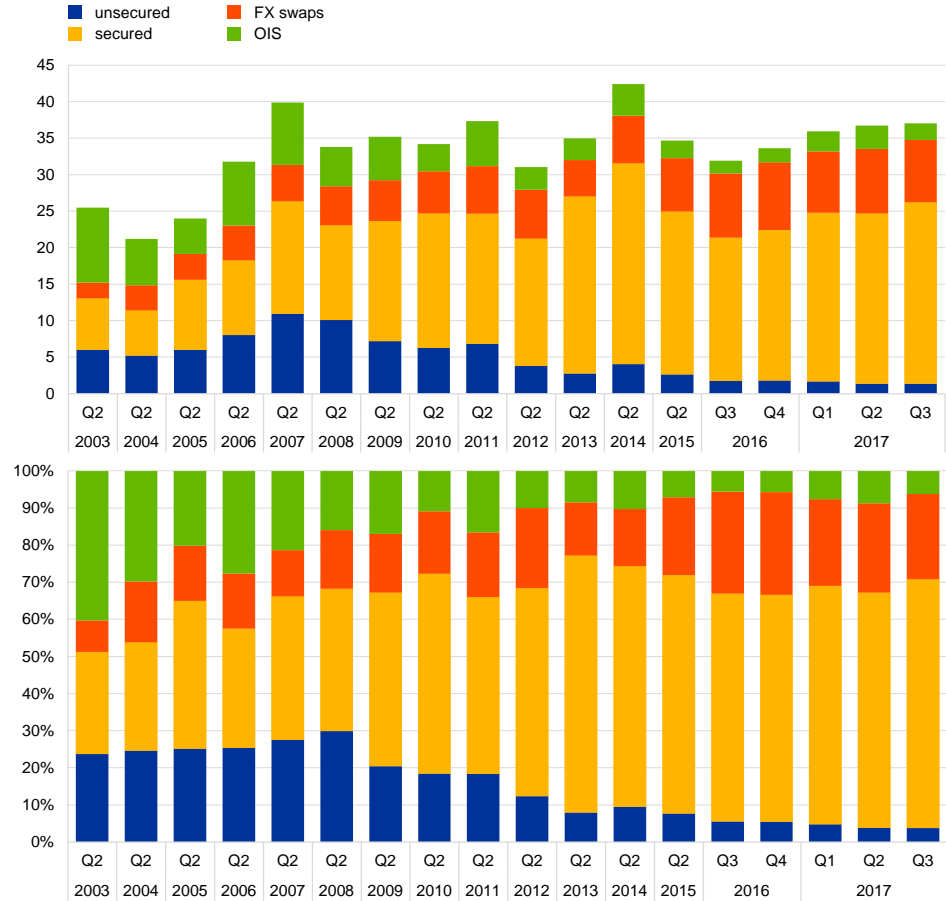
The unsecured market has seen a decline in trading volumes over the past decade, while other money market segments have grown (see Chart 1). Time series show that the unsecured market has been on a declining trend since a peak in activity during the period 2007-08. Since the financial crisis, the combination of new regulations, excess liquidity and risk aversion has led to a decline in turnover in this market which now seems to have bottomed out.

¹ [Regulation \(EU\) No 1333/2014 of the European Central Bank of 26 November 2014 concerning statistics on the money markets \(ECB/2014/48\)](#), OJ L 359, 16.12.2014, p. 97 (referred to in this document as the “MMSR Regulation”).

Chart 1

Trading volumes in various money market segments since 2003

(€billions, percentages)



Sources: EMMS and MMSR data.

Notes: Based on a common sample of 38 banks. OIS stands for overnight index swaps.

Overall, volumes in the unsecured market are low. However, MMSR data show that the bulk of the unsecured money market activity remains concentrated in the overnight segment. Average daily overnight unsecured activity amounts to around €55 billion or 50% of total borrowing turnover in all instruments and with all counterparty types. Therefore, from the perspective of market liquidity, the unsecured market can be used as the underlying market for an IOSCO-compliant interest rate based on overnight transactions.

1.2 Size of the unsecured overnight money market using TARGET2 data²

In order to assess the size of the market, transaction-level data on bank-to-bank payments settled in the TARGET2 system provide the opportunity to infer money market trading volumes. It should be noted that the TARGET2 dataset only allows conclusions to be drawn for the interbank market, but it has the advantage of providing the widest coverage of this market as it is built upon all payments settled in central bank money.³ In addition, this dataset goes back to June 2008 and therefore covers a much longer time period than the MMSR data, which are only available since mid-2016. The derivation of interbank unsecured transactions is based on a modified version of the Furfine algorithm.⁴ In brief, the algorithm identifies transactions between TARGET2 participants where a round amount is sent on one day and the next day a slightly different amount is returned. Transactions involving central bank accounts and intragroup transactions are discarded. The interest rate on the loan is calculated based on the difference between the outgoing amount and the repayment amount. According to the TARGET2 dataset, 346 banks were involved in the overnight borrowing market and 390 banks in the overnight lending market in 2014. This number has since decreased and in 2017 so far only 225 banks have participated in the interbank market on the borrowing side, while 232 banks have participated on the lending side. Money market volumes have also considerably decreased: in September 2017 the average daily volumes stood at approximately €9 billion, which represents only 34% of the average daily volume at the beginning of 2014.

The interbank money market borrowing and lending rates⁵ for euro area banks, as derived from TARGET2 data, range between the rate on the ECB's main refinancing operations and the ECB's deposit facility rate. With the increase in excess liquidity since the start of the expanded asset purchase programme (APP), these rates have been driven closer to the deposit facility rate. Moreover, both rates have occasionally breached since mid-2016 the floor imposed by the deposit facility rate (see Chart 2). Although the two rates move closely together, the euro area borrowing rate is typically below the euro area lending rate and the absolute difference can vary between 0 and 10 basis points. The average of the difference between the euro area borrowing rate and the euro area lending rate over the

² The results based on TARGET2 data that are included in this document were prepared by a member of one of the user groups with access to TARGET2 data in accordance with Article 1(2) of Decision ECB/2010/9 of 29 July 2010 on access to and use of certain TARGET2 data. The ECB and the Market Infrastructure and Payments Committee have checked the results against the rules for guaranteeing the confidentiality of transaction-level data imposed by the former Payment and Settlement Systems Committee pursuant to Article 1(4) of the above-mentioned Decision.

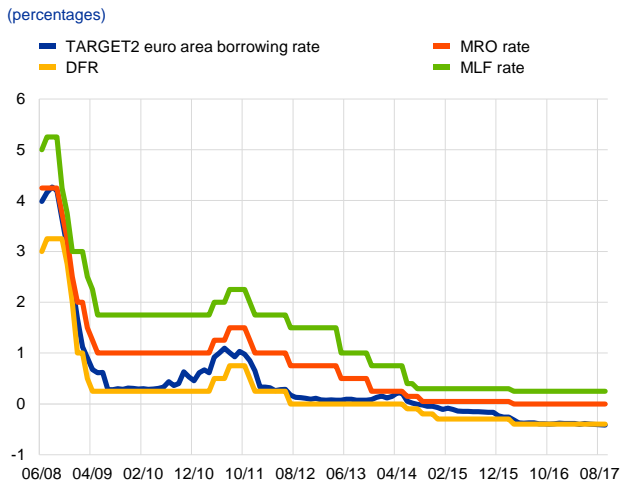
³ TARGET2 data are used as a comparison tool in this document. MMSR data, covering a wider set of counterparties, will be used for the computation of the rate in line with the ECB press release of 21 September 2017.

⁴ Details can be found in Frutos, J. C., Garcia-de-Andoain, C., Heider, F. and Papsdorf, P., "Stressed interbank markets: evidence from the European financial and sovereign debt crisis", *Working Paper Series*, No 1925, ECB, 2016. Note that given that these transactions are identified based on an algorithm, they are subject to Type 1 errors, i.e. some of the inferred transactions are not in fact unsecured money market transactions, and Type 2 errors, i.e. the algorithm may fail to identify all unsecured money market transactions.

⁵ Rates derived from TARGET2 data are calculated as volume-weighted averages.

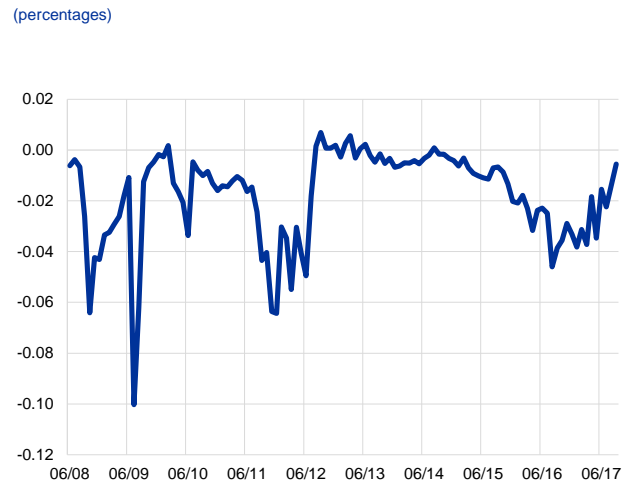
available time span stands at -2 basis points. The differences are particularly large during the financial and sovereign debt crisis, and during the APP (see Chart 3).

Chart 2
TARGET2 euro area borrowing rate and the key ECB interest rates



Sources: ECB, TARGET2 data and ECB calculations.
 Notes: Monthly frequency, monthly rates represent averages of daily rates. The TARGET2 euro area borrowing rate represents the volume-weighted borrowing rate of euro area banks, as derived from the TARGET2 overnight money market dataset. The TARGET2 euro area lending rate moves closely together with the TARGET2 euro area borrowing rate and is not depicted for visual clarity. DFR stands for deposit facility rate, MRO rate stands for main refinancing operation rate and MLF rate stands for marginal lending facility rate.

Chart 3
Spread between TARGET2 euro area interbank borrowing and lending rates



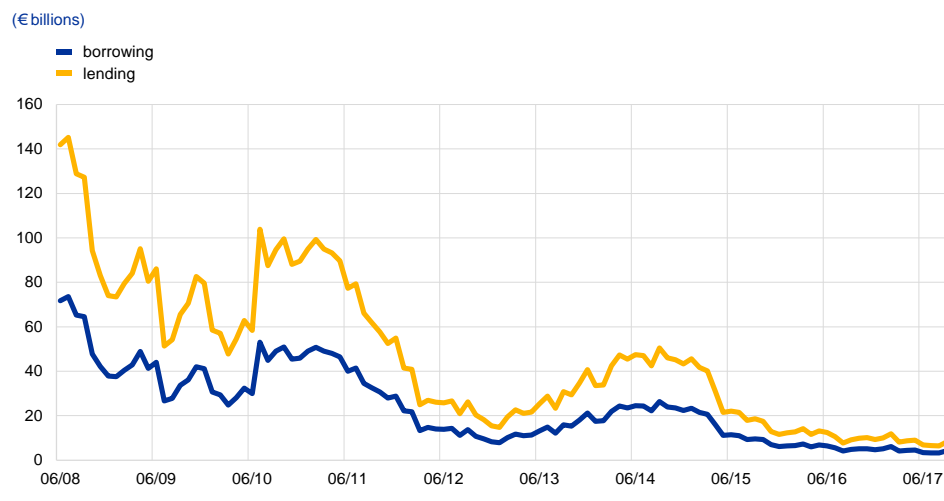
Sources: ECB, TARGET2 data and ECB calculations.
 Notes: Monthly frequency, monthly rates represent averages of daily rates. Rates are calculated as volume-weighted averages.

Euro area money market volumes, derived from TARGET2 information, have declined with the APP, but they seem to have stabilised over the past year.

Unsecured overnight money market volumes stood on average at €6 billion on the lending side and €4 billion on the borrowing side in September 2017 (see Chart 4). These data cover euro area lending and borrowing transactions that are concluded by euro area banks with other euro area banks, as well as with non-euro area banks.

Chart 4

Euro area banks' unsecured overnight borrowing and lending volumes as derived from TARGET2 data



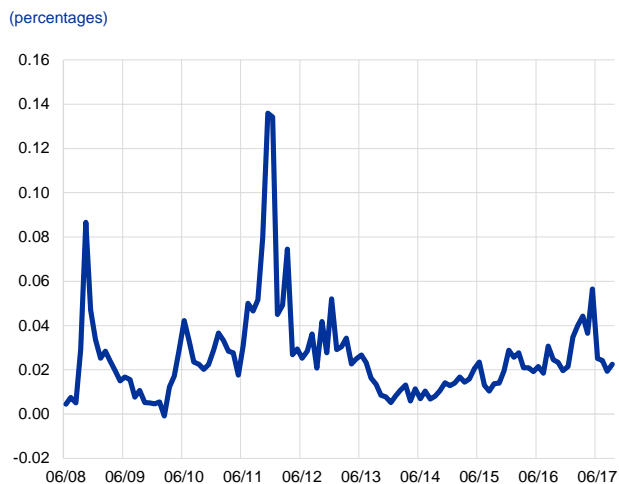
Average unsecured overnight interest rates for MMSR banks (“MMSR rates”) and for all euro area banks (“euro area rates”), both derived from the TARGET2 money market dataset, move closely together.⁶ Nevertheless, the MMSR rates are mostly below the euro area rates (see Chart 5 and Chart 6). On the borrowing side, the difference is on average 3 basis points, varying between 0 and 14 basis points. On the lending side, the differences are somewhat smaller, as the average stands at 1 basis point, but the differences still vary between -3 and 11 basis points. For both sets of rates, the differences are larger during the financial and sovereign debt crisis and during the APP.

The MMSR reporting agents are only partially representative of the euro area interbank money market. MMSR banks' volumes captured in TARGET2 data represent on average approximately 62% of the euro area interbank borrowing market and 24% of the euro area interbank lending market. The volumes of MMSR banks captured in TARGET2 data also provide information on differences in coverage at a country level. For some countries, an under-representation or an over-representation of banks in the MMSR is noticeable compared with TARGET2 data.

⁶ Both sets of rates are derived from the TARGET2 money market dataset; the euro area aggregate represents the transactions of all TARGET2 banks located in the euro area, while the MMSR aggregate relates to the TARGET2 transactions of the MMSR reporting agents.

Chart 5

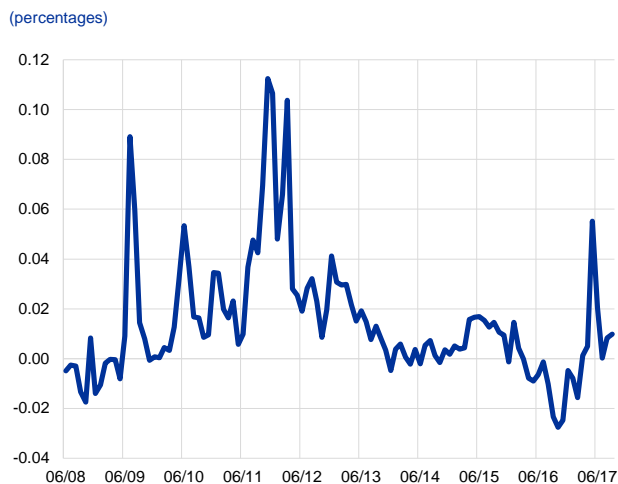
Spread between TARGET2 euro area and MMSR borrowing rates



Sources: TARGET2, MMSR data and ECB calculations.
Notes: Both sets of rates are derived from the TARGET2 money market dataset. The euro area aggregate represents the transactions of TARGET2 banks located in the euro area, while the MMSR aggregate relates to the TARGET2 transactions of the MMSR reporting agents.

Chart 6

Spread between TARGET2 euro area and MMSR lending rates



Sources: TARGET2, MMSR data and ECB calculations.
Notes: Both sets of rates are derived from the TARGET2 money market dataset. The euro area aggregate represents the transactions of TARGET2 banks located in the euro area, while the MMSR aggregate relates to the TARGET2 transactions of the MMSR reporting agents.

1.3 Concentration of the unsecured and other money market segments

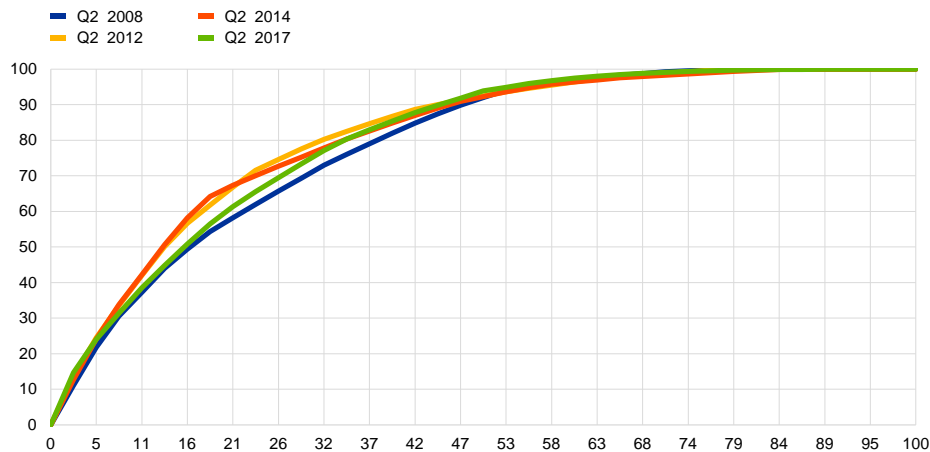
IOSCO recommends analysing the concentration in the market underlying a reference rate, as a concentrated distribution of trading among market participants may raise concerns that such a rate can be manipulated easily. By contrast, a lower market concentration effectively limits the influence of single market participants on a benchmark rate.

Comparing the concentration of the unsecured money market with that of the largest money market segment – the secured one – provides a basis to evaluate this IOSCO criterion. Chart 7 and Chart 8 depict the Lorenz curve – a visual representation of concentration – for the secured and unsecured market segments. The sample consists of 38 banks and comprises those banks that were reporting both in the EMMS and the MMSR. Based on this sample, the repo market, which is considered to be a large and liquid market, became more concentrated during the financial and sovereign debt crisis. But by 2017 the concentration had fallen back to levels comparable to pre-crisis times. A different situation is visible in the unsecured money market segment. Since the onset of the crisis, the concentration has gradually increased. However, it is worth noting that the unsecured money market stood in 2008 at a much lower concentration level than the repo market. For example, in 2008, 50% of the reporting banks accounted for about 85% of the volume in the unsecured segment, while 50% of the reporting banks in the repo market represented about 95% of the volume. In 2017, 50% of the reporting banks represented a similar share of the volume in both markets.

Chart 7

Concentration in the secured market

(x-axis: percentage of the reporting banks; y-axis: percentage of the volume)

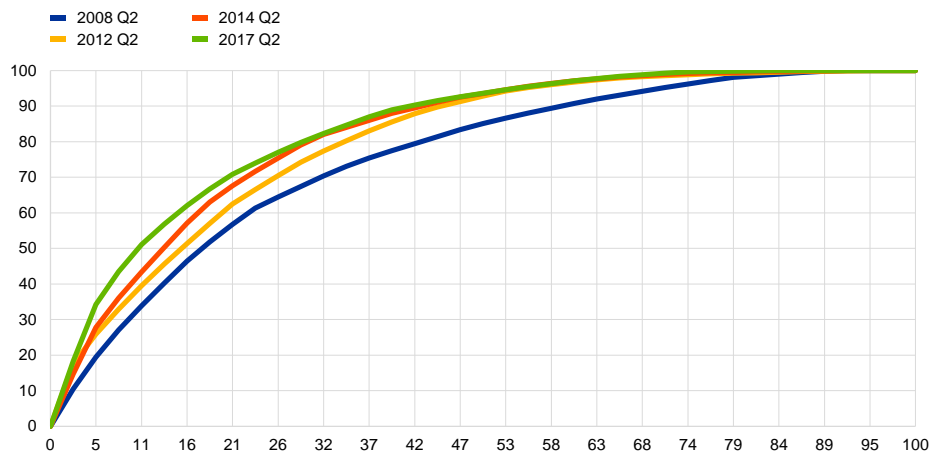


Sources: EMMS data, MMSR data and ECB calculations.
Note: Concentration is based on all tenors and combines borrowing and lending.

Chart 8

Concentration in the unsecured market

(x-axis: percentage of the reporting banks; y-axis: percentage of the volume)



Sources: EMMS data, MMSR data and ECB calculations.
Note: Concentration is based on all tenors and combines borrowing and lending.

To conclude, **the concentration in the unsecured money market has somewhat increased over the last years, although the pace of increase seems to have slowed recently. The concentration that can be observed seems not to warrant concerns and is comparable to that of the largest money market segment (the secured one).**

2 Current use and role of unsecured overnight benchmark rates

To shed light on the possible future uses of a new ECB unsecured overnight rate, this section reviews the current use of existing unsecured overnight benchmark rates (e.g. the euro overnight index average or EONIA).

An overnight benchmark rate is used by a wide array of stakeholders for various purposes. It can be used to price variable rate transactions in the financial industry, as well as retail banking products, or in a number of processes that influence the daily activities of market professionals.

2.1 Use by financial professionals

EONIA swaps were an important product prior to the crisis, when proprietary trade was common. Their use has somewhat declined since then due to decreased hedging, lower interest rate speculation and changes in liquidity conditions. Instead, banks are increasingly relying on futures contracts for hedging purposes. Despite the shift in money market activity from unsecured to secured transactions, the unsecured overnight rate continues to anchor the overnight index swap (OIS) curve. Changes in OIS rates are correlated with changes in sovereign and corporate bond yields, indicating a clear transmission of changes in the unsecured overnight rate to market-based funding costs.⁷

Repo desks can quote **repos** as a fixed rate, or as a variable rate versus EONIA. For French government bonds, the market convention is to quote repo rates as a spread versus EONIA. In addition, some clients of repo desks such as bank treasurers or buy-side players value the possibility to engage in variable rate repos, as the operation is then directly comparable to the unsecured market conditions, which removes interest rate risk. However, banks can of course enter into a swap in order to eliminate the interest rate risk on a fixed rate repo. A number of securities lending transactions are also conducted on a variable rate basis versus EONIA.

For **commercial paper** or certificates of deposit as well, practices can vary across countries. However, in some large markets the reference to an overnight reference rate for the issuance of variable rate paper is widely used.

⁷ See, for example, De Santis, R. and Stein, M., "Correlation changes between the risk-free rate and sovereign yields of euro area countries", *Working Paper Series*, No 1979, ECB, November 2016.

2.2 Internal reporting, accounting, valuation and account remuneration

EONIA is used as a **risk-free reference rate for risk and valuation calculations and internal pricing** between business areas within banks. It is therefore used in back or middle offices as a reference for a wide range of internal tasks, or by asset-liability management functions for regular valuation exercises.

It is also widely used to **remunerate clients' accounts**, ranging from current accounts to savings books, or to remunerate cash collateral placed with central clearers in several countries.

2.3 Use in retail banking contracts

Unsecured rates also play a pivotal role as reference rates for bank loans to households and firms. Currently, banks predominantly use term unsecured rates as reference rates for loans, while EONIA is less used as a reference (it is currently used as a reference for the remuneration of savings accounts, for example).

3 Use of MMSR data for the design of an unsecured overnight rate

This section reviews the use of MMSR data as an input for the design of the unsecured overnight rate. Particular emphasis is placed both on data sufficiency considerations and on the representativeness of a prospective benchmark interest rate (i.e. the ability to measure the funding costs of euro area banks). The ECB's new rate will be launched on the basis of the current 52 MMSR reporting banks. As indicated by the Q&As accompanying the press release of 21 September 2017, a decision will be taken on any possible additional reporting banks before the end of 2018.

3.1 Overview of the unsecured overnight money market captured by MMSR

The MMSR dataset covers a much broader set of counterparties for borrowing transactions than for lending transactions. The MMSR Regulation requires 52 large euro area banks to report wholesale borrowing from all sectors.⁸ Lending transactions have to be reported only if the counterparty is another credit institution. Table 1 summarises these reporting requirements.

Table 1
MMSR reporting scope

Available information	Borrowing by 52 reporting agents from...			Lending by 52 reporting agents to...		
	Credit institutions	Other financials	NFCs + govts	Credit institutions	Other financials	NFCs + govts
MMSR	•	•	•	•	-	-

Source: MMSR.

Note: The counterparty sectors NFCs and govts refer to non-financial corporations and governments.

For the design of an interest rate published on a daily basis, knowledge of the daily distribution of volumes and the number of reporting agents is fundamental. Sufficiently high volumes ensure the economic significance of the transactions within the selected scope. A high number of active reporting agents

⁸ See the [MMSR Regulation](#). According to this Regulation, reporting agents report to the ECB or the relevant national central bank: (a) all borrowing using the instruments defined in the MMSR Regulation, which are denominated in euro with a maturity of up to and including one year (defined as transactions with a maturity date of not more than 397 days after the trade date), of the reporting agent from other monetary financial institutions (MFIs), other financial intermediaries (OFIs), insurance corporations, pension funds, general government or central banks for investment purposes as well as from non-financial corporations classified as "wholesale" according to the Basel III LCR framework; and (b) all lending to other credit institutions with a maturity of up to and including one year (defined as transactions with a maturity date of not more than 397 days after the trade date) via unsecured deposits or via the purchase from the issuing credit institutions of commercial paper, certificates of deposit, floating rate notes and other debt securities with a maturity of up to one year. For more details, see the [ECB's website](#).

might reduce the volatility of the final unsecured overnight rate, muting idiosyncratic contributions.

Data availability for borrowing transactions is higher than that for lending transactions. MMSR data show that the number of active reporting agents each day is, on average, higher for borrowing (23 banks) than for lending via deposits (12 banks), although the selection is restricted to interbank transactions. The minimum number of reporting banks, based on the same criteria, is 15 and 5 banks, respectively, which also indicates that banks are more active on the borrowing side than on the lending side. However, daily average turnover in interbank borrowing (around €9.0 billion) is slightly below that in interbank lending (around €10.5 billion), which is consistent with the analysis based on TARGET2 data discussed above. Including borrowing transactions with a broader range of financial counterparties (see section below) would enable the design of an even more representative interest rate. Daily contributions from a larger set of reporting agents including financial corporations would imply larger volumes of up to around €32 billion per day, i.e. three times larger than interbank borrowing or lending activity. Even the minimum volume of daily borrowing from financial institutions using deposits (around €7.0 billion) is comparable to the average volumes reported in the interbank market.

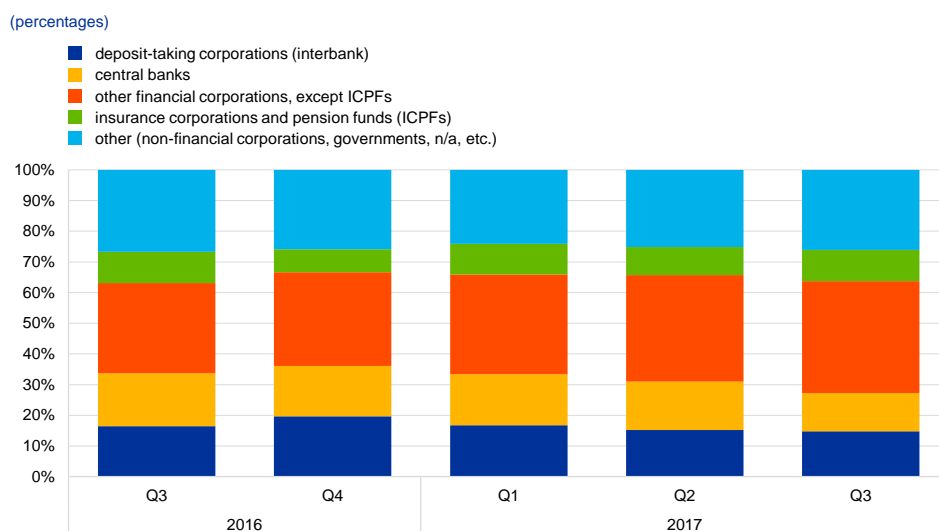
For the daily production of a rate, particular attention has to be paid to the stability of the volume distribution. The fact that in the interbank market the mean (around €3.0 billion for deposits) exceeds the median (around €2.7 billion) for lending can be attributed to certain spikes in volumes. Expanding the scope to borrowing trades with financial sector counterparties increases the daily number of transactions and volumes considerably. This would reduce potential distortions that might result from a change in a single bank's (reporting) behaviour which is not linked to a fundamental change in the overall market.

3.2 Borrowing transactions with an extended set of counterparties

Basing an unsecured overnight interest rate on borrowing rather than lending transactions would reflect the cost of bank funding in the unsecured overnight segment. This section therefore studies the borrowing transactions more closely and seeks to describe the overall composition of bank funding in the money market. Chart 9 shows the overall quarterly MMSR borrowing volume of all reporting agents. Each bar is split into the contributions of certain counterparty sectors to the overall funding composition of the reporting banks. The distribution among sectors remains largely stable over time and larger fluctuations in overall turnover can be partly attributed to the lower number of TARGET2 business days within a certain quarter.

Chart 9

Total borrowing volume by counterparty sector



Source: MMSR.

Notes: The financial corporations sector is split into "deposit-taking corporations (interbank)", "central banks", "other financial corporations, except ICPFs" and "insurance corporations and pension funds (ICPFs)". The aggregate sector "other financial corporations, except ICPFs" includes the European System of Accounts (ESA) sectors "other financial intermediaries, except ICPFs", "non-MMF investment funds", "money market funds (MMFs)", "financial auxiliaries" and "captive financial institutions and money lenders". The aggregate sector "insurance corporations and pension funds (ICPFs)" consists of the ESA sectors "insurance corporations (ICs)" and "pension funds (PFs)".

While continuing to provide a substantial contribution, unsecured interbank funding has not been the main component of total unsecured overnight borrowing in the recent past. Transactions with other financial corporations (including undertakings located outside the euro area) represent a sizeable portion of overall unsecured borrowing as well.

3.3 Concentration of the unsecured overnight market in the MMSR sample

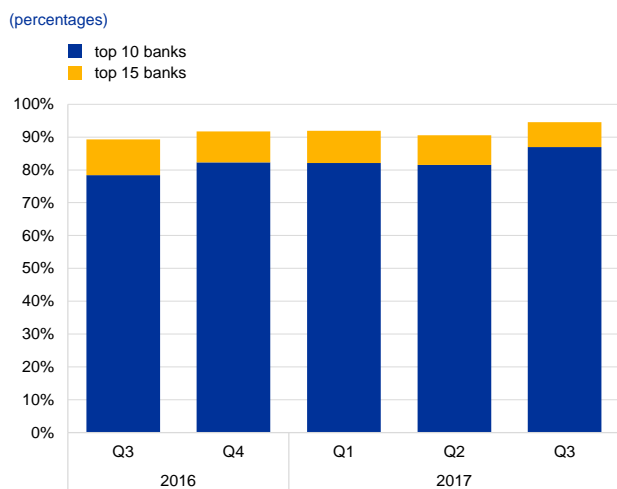
While Section 1.3 analysed the level of concentration of the unsecured money market in comparison to the largest money market segment (the secured one), this section aims to **assess market concentration in the unsecured overnight market using the entire MMSR population**. Lower market concentration effectively limits the influence of single market participants on the overall market price (benchmark rate) and ensures the representativeness of the interest rate for a broader set of the reporting population.⁹

The top 10 banks generate between 80% and 85% of interbank borrowing turnover (see Chart 10) and roughly 95% of interbank lending turnover (see Chart 11). Among the top 10 and top 15 banks, unsecured interbank borrowing tends to be less concentrated than lending, too.

⁹ In a market with many participants, moderate to high overall market concentration ensures that it is possible to capture a large proportion of the market using a reasonably sized reporting population.

Chart 10

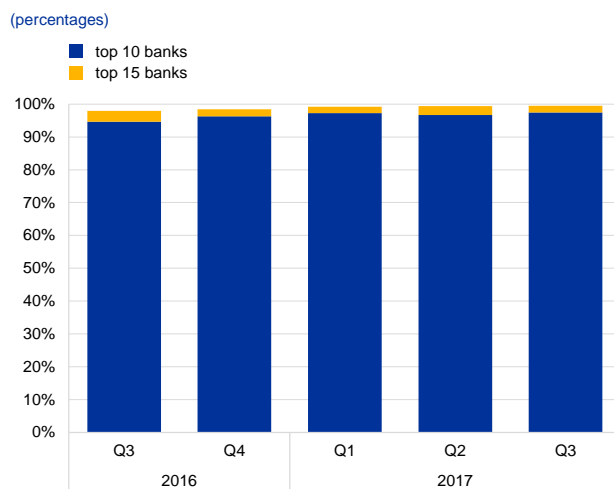
Concentration of volumes of interbank borrowing



Source: MMSR.

Chart 11

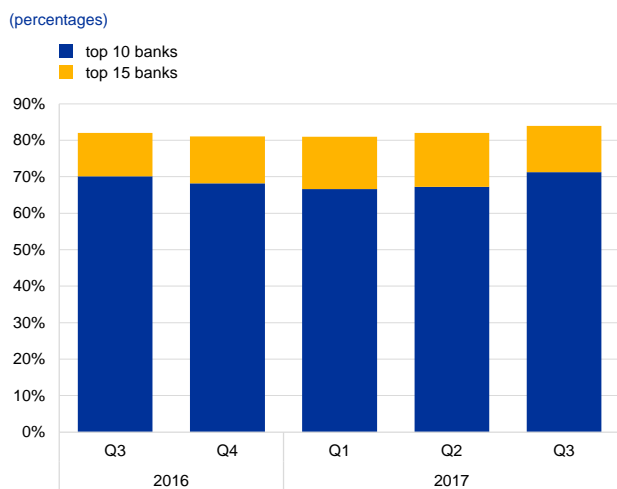
Concentration of volumes of interbank lending



Source: MMSR.

Chart 12

Concentration of volumes of borrowing from financial corporations



Source: MMSR.

Extending the scope of the analysis to a broader set of counterparties reduces concentration (see Chart 12). The top 10 banks account for around 70% of the borrowing transactions of MMSR banks with financial corporations (this includes interbank borrowing transactions). Furthermore, there are significant contributions in terms of volumes from outside the top 15 banks.

PART B

Consultation on the ECB's approach to the design of the interest rate

Taking into account the overview of the market characteristics in the previous sections, **the following part of the document addresses issues related to the design of a new benchmark interest rate and seeks input from the public.**

4 Definition of underlying interest

The IOSCO principles stipulate that a benchmark should be designed in such a way that it can provide an accurate and reliable representation of the economic reality it intends to measure (i.e. the underlying interest). As already announced, the ECB rate will represent the **unsecured money market** in the very short tenor (i.e. **overnight**). The following additional components are put forward following the preceding analysis:

- the rate should be representative of the euro area (implying also some geographical diversity of the scope);
- the rate should reflect banks' borrowing costs;
- the rate should be published on every TARGET2 business day;
- the rate should be based on arm's length transactions,¹⁰ thereby reflecting prevailing market conditions in an unbiased way.

The underlying interest for the new overnight benchmark rate may therefore be defined as follows:

The [new ECB unsecured overnight rate]¹¹ is a rate which reflects the euro overnight funding costs of euro area banks. The rate is published daily on the basis of transactions deemed to be executed at arm's length.

Question 1

Does the suggested definition of underlying interest provide a relevant basis for the rate to be generally accepted by the public as a reference rate?

¹⁰ An arm's length transaction is a transaction in which the buyer and seller act independently and have no relationship with each other. Both parties to the transaction act in their own interest and are not subject to any pressure from the other party.

¹¹ The name is yet to be decided.

5 Scope of the ECB interest rate

The following explores each of the fundamental points with regard to the scope of the interest rate which may be used as a benchmark.

5.1 Borrowing cost

Lending and borrowing rates contain credit risk components. An interbank lending rate is subject to fluctuations regarding the counterparties that a bank would accept, based on internal credit risk policies, and to general rating cycles. The credit risk component integrated in a lending rate is subject to the reporting agents' internal policies and is not easily identifiable. Moreover, owing to the unknown internal policy component in a lending rate, the interpretation of such a rate appears complex. A cost of funding measure that reflects how banks obtain funds from a wider set of counterparties, i.e. a borrowing rate, also integrates a credit risk component. As with the lending side, the credit risk component on the borrowing side may also be subject to rating downgrades and upgrade cycles. However, the credit risk component can be inferred from the credit risk characteristics of the reporting banks. This allows for an interpretation of the credit risk component which influences the price at which reporting banks fund their daily liquidity needs.

Furthermore, it can be argued that even the IBOR (interbank offered rate) benchmarks were meant to capture the cost of funds from the outset, even if their calculation methodology initially referred to the lending side (this is because the IBORs have been purely interbank indices, i.e. the lending rate of one bank is the borrowing rate of another). This is also clearly illustrated in the recent reforms of the major IBOR benchmarks, the proposed methodologies for which reflect the funding cost of banks.¹²

Finally, as illustrated in Section 3 of Part A, **borrowing transactions allow for a coverage of trades with a much more diverse set of counterparties, also geographically.** This also allows a greater number of the reporting agents to contribute daily to the computation of the interest rate, as the borrowing transactions are more frequent than the lending transactions in the MMSR sample. This leads to lower concentration and ultimately contributes to a more robust interest rate computation. It is essential that for the production of a reliable interest rate which may be used as a benchmark, the selected scope is such that the daily volumes are large enough to ensure the economic significance of the underlying transactions and that a fairly large number of reporting agents contribute transaction data for the computation on a daily basis. For this reason, the MMSR borrowing data seem to

¹² The British Bankers' Association changed the LIBOR in 1998 from a rate at which the submitter believed a prime bank would be offered deposits in the market to a rate at which the panel bank itself could borrow funds, while in the EURIBOR reform process the shift to the borrowing side has been widely accepted (see *Consultative Position Paper on the Evolution of Euribor*, European Money Markets Institute, October 2015).

provide sufficient input for the computation of a reference rate, as they provide not only reassurance in terms of the quantity of transactions, but also depth of coverage.

Question 2

1. Do you agree that a rate reflecting banks' daily funding costs would provide a meaningful reference in financial contracts, including derivatives, and also for valuation purposes?
 2. Please describe the contracts and types of valuations to which you would potentially apply the rate. Are there types of financial contracts for which it would provide a suitable reference? Are there other types for which it would not provide a meaningful reference?
-

5.2 Arm's length transactions

IOSCO principle 7 on data sufficiency indicates that the data used for the computation of a benchmark should “be anchored by observable transactions entered into at arm's length between buyers and sellers in the market for the Interest the Benchmark measures in order for it to function as a credible indicator of prices, rates, indices or values”. This would imply that both parties in the transaction act in their own self-interest and should not be subject to any pressure or compulsion from the other party. For that reason, the choice of transactions – and more specifically the choice of eligible counterparty sectors – for the computation of the interest rate is essential. Beyond the consideration of arm's length transactions, one should also take into account the possibility that the rates of some transactions may be influenced by special relationships (e.g. offering a deposit to a corporate client may simply be part of a wider package of services and the pricing may therefore consider other business lines) or local regulations/limitations.

The MMSR dataset covers a considerable number of counterparty sectors.

Some groups of counterparties should be considered carefully before being included in the scope of the interest rate precisely in view of additional, idiosyncratic factors that may be affecting the price of their transactions. As described in Section 3 of Part A, the MMSR reporting banks report their money market unsecured borrowing from other banks, other financial institutions (non-banks), general government and large non-financial corporations (i.e. considered as wholesale counterparties).

- For example, it should be considered whether reported transactions conducted with **general government** (e.g. a bank accepting a deposit from the government) are influenced by local practices or regulations. This may be the case as accepting deposits from governmental institutions may be regulated and furthermore these regulations may vary from country to country. In addition, some banks, by virtue of their business model or even establishment, may rely on funding from the government, e.g. those with the aim of extending loans to small and medium-sized enterprises. This may result in very different pricing from country to country or from bank to bank. Such pricing may also deviate

from general market trends and, for that reason, such transactions may be excluded ex ante from the interest rate that may be used as a benchmark as they would not reflect “genuine” market moves.

- Similar questions apply to the transactions of banks with **non-financial corporations**. While some of the trades may indeed be executed at competitive rates, it has to be recognised that receiving funds from corporates may be only one component of the bank-customer relationship and, for that reason, the rate of such a transaction may deviate from the “genuine” competitive market rate. Moreover, in some jurisdictions the pricing of such deposits may also be affected by regulations, which set floors or caps on the rates. As observed in the MMSR data, the rates on transactions with corporates tend to be much stickier than the rates on transactions with other counterparties, which may indeed point to the existence of specific legislation or banking practices in some jurisdictions. Still, despite the above-mentioned caveats, it remains to be investigated whether large transactions with non-financial corporates have a different pricing structure to smaller corporate transactions, which would be aligned with the pricing of funds received from financial counterparties.
- By contrast, transactions with **other banks and financial institutions** seem to provide homogeneous rate information and clear market trends. As seen in Section 3 of Part A, the transactions with financial institutions seem to account for a major share of the overnight borrowing mix and, as such, may provide a relevant and, more importantly, representative sample of the funding of banks. In addition, each of the reporting agents seems to trade with a diverse group of financial institutions (i.e. different investment funds, central banks in their reserve management, other banks), which over time may provide a solid basis for the computation of the interest rate even if market structure changes and the significance of a separate group of counterparties diminishes or increases. For example, if interbank activity were to gain significance in the future, an interest rate relying on a broader set of counterparties would be able to reflect this.

Question 3

1. Do you agree that the borrowing costs of banks in their transactions with financial institutions, including banks, provide a good basis for the computation of a meaningful interest rate aimed at measuring banks' cost of funding?
 2. Do you agree that transactions with counterparties such as general government or non-financial corporations are in general not a suitable component of an interest rate based on arm's length transactions?
 3. In relation to the above question, do you consider it useful to apply a size threshold above which transactions with non-financial corporations can be considered as arm's length transactions and as not being influenced by specific factors, and that it would be worthwhile further investigating their use as an input to the new interest rate?
-

The MMSR dataset also covers different types of instruments, the suitability of which needs to be reviewed. In the unsecured market, MMSR collects information on transactions executed by means of the following money market instruments: deposits, call accounts¹³ and short-term paper. Each of these instruments, however, has different characteristics and a varying level of standardisation across countries and reporting agents.

- **Short-term securities** are characterised by very low volumes in the overnight tenor, while exhibiting some volatile rate features. Further investigation regarding this instrument type will be conducted in the next steps of the methodological work.
- The pricing of **call accounts** can be very different from country to country and also across banks depending on the traditions in the respective banking system and at the respective counterparties, and may differ from the pricing of deposits. In this respect, a call account transaction in the interbank market may not always have the same characteristics as a call account transaction with a corporation or a call account transaction with a non-bank financial institution.
- **Deposit transactions**, by contrast, may be seen as fairly standardised across jurisdictions, especially if these deposit transactions are executed with professional counterparties, such as other banks or other financial institutions. Internal practices within institutions may also guarantee an explicit process of price discovery, e.g. the practice of obtaining a minimum number of quotes before entering into a transaction. This would ensure that the rates on deposit transactions, as compared with those on call account transactions, reflect “genuine” market moves in a more timely way and to a greater extent.

Deposit transactions are an instrument used by the majority of reporting banks, while call accounts are used less frequently and only by a small number of reporting agents. Therefore, basing an interest rate that may be used as a benchmark on deposit transactions only would ensure that the majority of the reporting agents participate in the daily computation of the rate.

Question 4

1. Would you agree that money market deposits are the only instruments on which the new rate should be based?
 2. If you consider that other segments of the unsecured money market should be covered, which should these be and why?
-

¹³ A call account is a cash account with daily changes in the applicable interest rate, giving rise to interest payments or calculations at regular intervals, and a notice period to withdraw money.

5.3 Publication time

The daily publication time will have to take into account, on the one hand, various constraints (technical and regulatory) and, on the other hand, the requirements related to the usage of the new published rate.

5.3.1 Technical constraints

The MMSR data collection, on which the new rate will be based, takes place through overnight processes among the reporting banks. The time required to collect the data from the various market segments varies, depending on which systems are involved. The collection times reflect both the counterparties involved (central treasury trading systems for interbank business, and other systems for business conducted with other financial counterparties or non-financial counterparties) and the products involved (essentially call accounts, often related more to the network of branches in charge of the various clients).

5.3.2 Regulatory framework

The MMSR Regulation specifies in Article 4 on timeliness that: “Data collected from reporting agents selected pursuant to Article 2(2) shall be transmitted once per day to the ECB between 6 p.m. on the trade date and 7 a.m. CET on the first TARGET2 settlement day after the trade date.”

This legal specification leaves the door open to a wide dispersion of data availability. In accordance with this requirement, data are sent by the reporting agents to the various national central banks in charge of the data collection and to the ECB for the banks reporting directly to the ECB. The information is, in a final step, centralised, re-checked and enriched in the systems of the ECB for final analytical usage.

5.3.3 Usage of the rate and the link to the publication time

The current unsecured overnight benchmark rate that is the most commonly used (i.e. EONIA) is published at the end of the trading session, at around 18:45.

Section 2 of Part A reviews the various uses of the current unsecured overnight reference rate. Regarding the sensitivity of the various uses of such a rate to its publication time, the following can be stated:

- **Repo desks** can use the current overnight reference rate in order to price their trades, as soon as cash bond markets open the day after (i.e. between 08:00 and 09:00), on a variable rate basis referenced to the EONIA of the day before.
- **Derivatives markets** can start to use the current overnight rate when the trading session begins at around 08:00, allowing hedging activities to start once the cash market opens for trading.

- Other **internal valuation processes** within banks, money market funds and various segments of the asset management industry (for example for variable rate short-term securities) can however also be sensitive to the timeliness of the rate publication; these valuation processes relate to the computation of end-of-day valuations or the determination of the price at which investors can sell their shares in money market funds.
- The use of an unsecured overnight benchmark rate in **retail products** appears to be the least sensitive of the various usages to the exact publication time of an overnight benchmark rate.

While a publication time similar to that of EONIA would allow the rate's usage as soon as markets open the day after, the constraints outlined above would likely result in a later publication time, after the current reception deadline of 07:00 CET, after which quality checking, enrichment and calculation would need to occur. As a result, without a change in the regulation, the publication could only occur in the morning of the following day some time after 09:00 CET. Publication at 09:00 CET or earlier would require a change in the current timeliness of reporting under the MMSR Regulation.

In order to balance the considerations related to technical and regulatory aspects with the usage requirements, the following questions are relevant:

Question 5

1. In the case of publication at 09:00 CET in the morning of the following day, how would this publication timing impact the usage of the published rate?
 2. If the published rate were to be required earlier than 09:00 CET, at what time would it be required and for which purposes?
 3. What is the latest publication time, after which the interest rate would lose its value from the perspective of users? Could you explain in more detail for which usage(s) and why?
-

Question 6

Are there other high-level features or issues which should be taken into account and have not been sufficiently covered by the previous questions?

Conventions used in the tables

“-” data do not exist/data are not applicable

“.” data are not yet available

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