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Consultation 4: The fixing process

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Introduction

This fourth consultation from the Working Group for Alternative Reference Rates (AGAR) raises questions about the fixing process. In this context, the fixing process means the calculation method used to obtain a reference rate every day. This method must create transparency in relation to how the interest rate is set to ensure a stable and credible reference rate. Some parts of this process cannot be finalised until an administrator has been appointed and the system as a whole is ready. This could include how different forms of backup routines should be designed to avoid missed publications.

The Working Group would appreciate comments on this consultation and answers to the questions posed. Comments on the consultation and answers should be sent to the Bankers' Association at: info@swedishbankers.se before 9 December. Please send questions about this consultation to jonny.sylven@swedishbankers.se.

General on the fixing process

The Working Group has considered how other working groups that have already started publishing alternative reference rates have organised their fixing processes. The ambition has primarily been to imitate what has been done in other countries so

that users recognize the process. Additionally, the development of the fixing process for Stibor has been used to develop the process for the new Swedish alternative reference rate.

Certain features are recurring in currency areas where unsecured transactions have been used as supporting data for the new interest rate. Sweden has chosen a definition of the interest rate which is similar to the definitions used in the UK, Euroland and Denmark. AGAR has therefore mainly looked at these areas for inspiration.

The model is based on the premise that a few banks are reporting banks. These banks accept deposits, and the transactions that lead to the deposits and meet the requirements in the definition are reported to an administrator. Transactions can be reported until a few hours before the interest rate is published, usually on the morning of the day following the transaction date. The subject matter of regulation in this context is which banks should be reporting banks, what is required of these banks, when new banks can be included, and when banks should no longer be allowed to continue reporting. It may also be reasonable to regulate the procedure of voluntary exits. If the reporting is required by an authority, central bank, special rules apply to reporting.

The transactions themselves must meet specific requirements set out in the definition. The definition is general, but the transactions are usually transferred using automated systems that require precise definitions of counterparties, type of debt, etc. These must be specified in the regulatory framework.

It is important to have control functions for this system. If reporting is part of regulatory reporting, standardized control functions can be used. However, there must also be functions for action if anything goes wrong. These should also be designed so that the errors can be detected before publication. If the errors are detected, there must also be procedures for action. Control procedures must be in place both for the reporting banks and the administrator. In general, there should also be backup procedures to take care of situations in case of errors. Where incorrect reporting is detected after publication, there are usually refixing procedures, i.e. the fixing is repeated. It is also possible that communication between reporting banks and the administrator fails, that an individual bank is unable to report, or that the administrator cannot accept the contributions in a conventional manner. Backup procedures must be in place for all these situations.

There are usually three areas that need to be regulated when the fixing is calculated:

- Trimming the number of transactions: various methods exist to remove the transactions with the highest and lowest interest rates, respectively. This method is used mainly to reduce the possibility of manipulation and has been

used for Ibors (including Stibor) and now also for the alternative reference rates. One effect of removing the highest and lowest interest rates is that volatility ought to decrease. This area is described in detail below.

- Calculation of fixing: Usually, the fixing is calculated as a volume-weighted average of the remaining interest rates following trimming. There is no reason for Sweden to deviate from this.
- Exemption rules: In relation to reference rates based on transactions, there are often rules on how to calculate the interest rate if supporting data for traditional calculation of the interest rate is insufficient. Sweden will also have such rules, described in detail below.

Once the calculation of the interest rate has taken place, it is published. How and when this should be done, as well as the procedures for dealing with this also form part of the fixing process. It has become evident that in countries where alternative reference rates have been introduced, publication has contained not only data on the interest rate, but also data on the underlying transaction volume, whether alternative calculation methods have been used, etc. Below is a description of what we propose should be reported in Sweden.

Details on certain aspects of the fixing process

Publication and deadlines

It has become a standard that the new alternative reference rates are published in the morning the trading day following the transactions upon which the interest rates are based. Based on what is standard abroad, the Swedish alternative reference rate should be published at 9 a.m. on the day following the transactions. This time has been selected also based on when the markets open in Sweden.

Publication should be through normal channels such as Bloomberg, Reuters and the like, and by the administrator. The details of the procedure will be clarified after the administrator has been appointed.

The fixing is proposed to be based on transactions that occurred the day before publication. This means that banks can submit transactions for the period from 7 a.m. on the day before the publication until 7 a.m. on the day of publication. Studies have showed that the vast majority of all transactions that meet the requirements of the definition take place during business hours, which is not the case for the more global currencies, where transactions take place, to a greater extent, 24 hours a day.

The following information is proposed to be published together with the publication of the interest rate every day:

- The current interest rate expressed with three decimals

- Number of transactions on which the calculation is based, before trimming
- Daily turnover before trimming
- Number of banks that have contributed at least one transaction
- Current calculation method. It should always be indicated whether the ordinary method or the exemption rule has been used.

Regardless of the magnitude of security checks introduced in the fixing process, there is still a probability that errors will arise. Errors that can arise are that the wrong transactions are submitted to the administrator, that not all transactions are submitted to the administrator, that transactions that do not meet the criteria are submitted or that the administrator processes the transactions incorrectly. If errors are detected before 11 a.m. and where the error caused an error of three or more points in the fixing, a refixing should take place without any other considerations. This is proposed to take place at 12 noon. This means that errors detected after 11 a.m. will never lead to a refixing. If the error does not affect the fixing by three points or more, no refixing will take place either. The refixing must be calculated according to the exact same rules as for ordinary fixing in regard of trimming and exemption rules. The interest rate determined by refixing must apply as a reference rate for the current date in the same way as an ordinary fixing.

Less frequently, some kind of compilation of errors will be reported. This may relate to errors that did not prompt a refixing.

Questions

1. Do you think there is an alternative, better timing for publication?
2. Does the content of the proposed daily publication appear to be what you are interested in, or do you think anything should be removed or added?
3. Do you think that the refixing regulations are relevant to the Swedish market and in line with what applies to other reference rates?

Trimming

Trimming is proposed to take place so that transactions corresponding to 25% of turnover are removed. The removal is done by aggregating the turnover of each unique interest rate, and turnover equivalent to 12.5 percent of the highest interest rates and 12.5 percent of the lowest interest rates is removed. The average of the remaining 75 percent of that turnover is then calculated.

A review of the series of transactions collected from 1 December 2015 – 30 August 2019 shows that the changes in the interest rate level are marginal most of the time. The trimming is significant at year-ends as well as

on a few other occasions where the deviation in reported interest rates was greater than normal.

In the UK and Euroland, the trimming removes 50% of turnover. The daily turnover on which these interest rates are based amounts to the equivalent of around SEK 340 billion for Euroland and SEK 500 billion for the UK. The daily turnover of the transactions that Sweden intends to base its interest rate on has been approximately SEK 25 billion. There are currently no problems with removing 50% of the supporting data since a reassuring amount of transactions would remain. However, the regulatory framework must be designed for situations where the financial system may be under stress and where the system lacks overliquidity, which it currently does not. Therefore, a more cautious approach to trimming is selected.

Questions

4. Do you think that this trimming of the time series will lead to increased confidence in the interest rate compared with having no trimming?
5. Do you have alternative suggestions?

Exemption rules

The exemption rules are intended to reduce the risk that an interest rate cannot be published. In other currency areas, the rules have consisted of conditions and rules on how to calculate the interest rate in case of an exemption. The Working Group sees no reason to change this in any way.

The condition is usually designed so that if the supporting data is insufficient, the exemption rule shall apply. In currency areas with very extensive supporting data where the number of banks that provide the supporting data is too small, the exemption rule may also be used.

The Working Group proposes that the daily turnover be used to measure the minimum size of the supporting data. In addition, the reporting must originate from at least three banks. The condition for the use of an exemption rule is therefore that pre-trimming daily sales should be below 2 billion or that there are fewer than three banks reporting. If the exemption rule is used, no trimming should take place.

The countries that base their alternative interest rate on unsecured transactions have designed various ways of calculating the interest rate. There is therefore no uniform standard that can be used. Below, the Working Group describes two models that could be used as exemption rules in Sweden. The Working Group can see pros and cons with both sets of rules and therefore requests views on which of the models would be most appropriate for Sweden.

Model 1: The BoE model

In this version of the exemption rule, the interest rate is calculated as the current repo rate, plus an unweighted spread average of the alternative reference rate for the last five publishing days and the repo rate for the same days. The highest and lowest spread is removed from the average calculation. This is a rule that has advantages in a situation of financial stress where the central bank changes the reference rate. However, the rule is less appropriate if it is to be applied to weak supporting data as at the last trading day of the year. On that day, historical interest rates are much lower than the rest of the days of the year. If this exemption rule were to be applied on that day, the interest rate would be significantly higher than if the normal calculation rule were used. The outcomes could vary by several percentage points.

Model 2: ECB model

In this model, if the supporting data is too weak one day, the most recently published interest rate is weighted so that the supporting data is upweighted to the minimum approved level of turnover (2 billion) and the minimum number of reporting banks (three). This involves the following, with calculation examples:

- If turnover is less than 2 billion
If the number of banks is three or more, but turnover is only 1.5 billion, for example, the most recently published interest rate on the previous day must be included in the calculation. The interest rate from the previous publication is then weighted in as 25 percent ($= (2 \text{ billion} - 1.5 \text{ billion}) / 2 \text{ billion}$) and the interest rate for the current day as 75 percent ($= 1.5 \text{ billion} / 2 \text{ billion}$). The weighted interest rate is the fixing for the day.
- If the number of banks is less than three
If turnover is 2 billion or more, but the number of reporting banks is, for example, two, the most recently published interest rate on the previous day must be included in the calculation. The interest rate from the previous publication is then weighted in as 1/3 (equivalent to 1 missing bank) and the interest rate for the current day as 2/3 (corresponding to 2 reporting banks). The weighted interest rate is the fixing for the day.
- If both the turnover and number of banks is too small
If turnover on the relevant day is 1.5 billion and the number of reporting banks is only two, the fixing for the day is calculated in two stages. At step 1, the method above is applied to calculate the interest rate with respect to volume. At step 2, the fixing is then calculated by weighting the interest rate resulting from stage 1 with regard to the number of reporting banks.

The above method is illustrated below with an example.

Most recent fixing	-0.30%
Today's contribution	
Bank A	-0.28%, 0.4 billion
Bank B	-0.26%, 1.1 billion
Calculations	
Step 1	$-0,28 * \frac{0,4}{2} - 0,26 * \frac{1,1}{2} - 0,30 * \frac{0,5}{2} = -0,274$
Step 2	$-0,274 * \frac{2}{3} - 0,30 * \frac{1}{3} = -0,283$
Today's fixing	-0.283%

Questions

6. Do you think that the exemption rule would reduce the need for contractual fallbacks and boost confidence in the reference rate?
7. Which of the proposed exemption rules (model 1 or 2) do you prefer?
8. Do you have suggestions for a different design of the exemption rule?

Calculation of fixing

The Working Group suggests that once the supporting data has been trimmed (see above), a volume-weighted average of the remaining transactions should be calculated. There will be no exemption rules other than those mentioned above in the event of a lack of supporting data. This means that the movements that take place in the interest rate at the end of the year will not be removed unless the supporting data is insufficient, and the exemption rule must be used. It is the Working Group's view that the interest rates that have been reported in the last trading days of recent years are relevant in relation to the level of interest in deposits on these days. Critics have argued that these spikes may affect the valuation of assets and liabilities for companies and wealth managers. It is the Working Group's firm opinion that valuation should not be carried out with an O/N interest rate. If possible, valuations can be made using an average (compounded) of an O/N interest rate over a longer coupon period, as is the case in other countries where the RFR has been introduced, in which case an individual day's listing matters less.

Questions

9. Do you think these interest calculation methods should apply?

Summary of questions

1. Do you think there is an alternative, better timing for publication?
2. Does the content of the proposed daily publication appear to be what you are interested in, or do you think anything should be removed or added?

3. Do you think that the refixing regulations are relevant and in line with what applies to other reference rates?
4. Do you think that the proposed trimming of the time series will lead to confidence in interest rates compared with having no trimming?
5. Do you have alternative suggestions?
6. Do you think that the first part of the exemption rule would reduce the need for contractual fallbacks and boost confidence in the reference rate?
7. Which of the proposed exemption rules (model 1 or 2) do you prefer?
8. Do you have suggestions for a different design of the exemption rule?
9. Do you think these interest calculation methods should apply?