

RULE FOR THE ADMINISTRATION OF SWESTR

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RESPONSIBLE MANAGER: Head of the Markets Department
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Rule for the administration of SWESTR

Content and purpose

This rule aims to clarify the roles of the Markets Department and Monetary Policy Department regarding the operationalisation of the Riksbank's responsibility as administrator of SWESTR as well as of average rates and index based on SWESTR.

The rule also establishes the design of the reference rate SWESTR, as well as of average rates and index based on SWESTR. The rule also contains provisions on how these reference values are to be determined and published.

Target group

The rule is aimed at staff members at the Markets Department in their performance of the tasks falling on the Riksbank in its role as administrator of SWESTR, average rates and index.

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1 Introduction

The Riksbank is the administrator for the transaction-based reference rate SWESTR and for average interest rates and index based on SWESTR.

The Riksbank shall provide values for SWESTR and for average rates and index based on SWESTR on each business day.

1.1 Underlying regulatory framework

Policy for transaction-based reference rate SWESTR (The Policy) and Terms and Conditions for RIX and Monetary Policy Instruments.

1.2 Definitions

The terms used in this rule have the same meaning as in the Policy with the exception that the term "SWESTR" in this rule refers only to the transaction-based reference rate SWESTR. Thus, use of the term "SWESTR" on its own in this rule does not refer to average rates and index based on SWESTR.

In addition to the terms defined in the Policy, the following definitions shall also apply:

Alternative calculation method – The calculation method for SWESTR that is to be used in the event that a normal calculation method cannot be used; see Section 3.5.

Business day – Day on which the RIX payment system is open for transactions, normally non-holiday weekdays (Monday-Friday).

Daily process – The daily process for determining and publishing SWESTR and average rates and index based on SWESTR, see Sections 3-5.

Accrual – Change in value due to return with a certain interest rate.

Normal calculation method – The calculation method for SWESTR that is to be used under normal circumstances; see Section 3.5.

Reporter – Monetary policy counterparty to the Riksbank, see *Terms and Conditions for RIX and Monetary Policy Instruments*, that every day reports data on their completed money market transactions with the Riksbank.

Trimming – Arranging the individual transactions in the transaction dataset according to their respective rate levels and then excluding symmetrical percentages of the total transaction volume with the lowest and highest rates from further calculations.

Validate - To confirm that the reported transaction data is correct.

Value day – Day to which the reference **value** refers. The value day for SWESTR is the day upon which the underlying transactions are executed. The value day for average rates and index corresponds to the publication day.

2 Roles and responsibilities

According to the Swedish Riksbank's Rules of Procedure and the Policy, the Markets Department is responsible for operationalising the Riksbank's role as administrator of SWESTR, average rates and index. This means that the Markets Department shall be responsible for the tasks that fall to the Riksbank as administrator, and that do not expressly fall to another department in accordance with the Rules of Procedure or the Policy. The work to operationalise the Riksbank's role as administrator shall be organised appropriately, with a clear allocation of responsibilities, well-defined descriptions of roles and detailed documentation. There shall also be procedures for identifying and managing conflicts of interest and documentation of this.

According to the Rules of Procedure, the Monetary Policy Department is responsible for coordinating and supporting the Riksbank's handling of statistics and data, including the Riksbank's own data collections. This means, inter alia, that the Monetary Policy Department will be responsible for carrying out the daily process for SWESTR according to Sections 3-5.

3 SWESTR – design and process of determination

The central provisions of the methodology and process for determining SWESTR are set down in this rule. The Head of the Markets Department shall, if necessary, decide on additional provisions regarding the daily process.

3.1 Underlying market

The underlying market for SWESTR is the overnight market in Swedish kronor. SWESTR shall reflect the activity on this market.

3.2 Transaction dataset

The data forming the basis for the calculation of SWESTR shall comprise the transaction reporting submitted by the Riksbank's monetary policy counterparties in accordance with the Riksbank's *Terms and Conditions for RIX and Monetary Policy Instruments*.

Transactions that meet the following requirements shall be included in the transaction dataset for SWESTR:

- lead to unsecured deposits received by the monetary policy counterparty,

- have an overnight maturity,
- have a volume of at least SEK 10 million, and
- are executed between the monetary policy counterparty and an agent belonging to one of the following counterparty categories:
 - banks and financial institutions (S122-S129),¹
 - non-financial companies (S11), or
 - the Swedish National Debt Office.

The breakdown into counterparty categories shall follow the standard of the European System of Accounts (ESA2010). The classification shall be based on information about the Legal Entity Identifier (LEI code) that monetary policy counterparties shall provide.²

3.3 Data processing ahead of calculation

3.3.1 Validation of transactions suspected of being incorrectly reported

To ensure the quality of the reported data forming the basis for the calculation of SWESTR, the Monetary Policy Department shall apply automatic checks aimed at identifying transactions suspected of being unintentionally and/or intentionally incorrectly reported. If a transaction is identified as potentially incorrect, it shall only be used in the calculation of SWESTR if the reporter in question validates that the transaction has been correctly reported.

The Head of the Markets Department shall decide on the design of these checks.

3.4 Robustness requirements

3.4.1 Robustness requirements

To ensure that the transaction dataset is robust and to reduce the risk of manipulation, the Monetary Policy Department shall apply the following requirements for robustness:

- the total transaction volume shall be at least SEK 2 billion,
- at least three reporters shall have reported transactions to the transaction dataset,
- no single reporter shall have reported more than 75 per cent of the total transaction volume.

¹ Intra-group transactions with the reporters shall not be included in the dataset for SWESTR. The terms 'group' and 'intra-group transaction' are defined as in Regulation ECB/2014/48.

² If the monetary policy counterparty cannot provide the LEI code for its counterparty, a sector code according to ESA2010 shall instead be specified. In these instances, the transaction shall be classified according to the sector code.

The robustness requirements refer to the transaction dataset before trimming in accordance with Section 3.5.1.

3.4.2 Choice of calculation method

If all requirements for robustness are fulfilled, the normal calculation method according to Section 3.5.2 shall be used. If any of the requirements for robustness are not fulfilled or if the transaction dataset is not available, for example due to technical error, an alternative calculation method according to Section 3.5.3 shall be used.

3.5 Calculation method

3.5.1 Trimming

In order to reduce the impact of any extreme values, the transaction dataset shall be trimmed before calculating SWESTR. A total of 25 per cent of the transaction volume shall be excluded from further calculations, allocated as follows:

- 12.5 per cent of the transaction volume with the lowest interest rates
- 12.5 per cent of the transaction volume with the highest interest rates

SWESTR shall thus be calculated based on the middle 75 per cent of the transaction volume in terms of the interest rates of the transactions.

3.5.2 Normal calculation method

Normal calculation method refers to a volume-weighted average of the interest rates in the trimmed dataset.

SWESTR with value day i shall be calculated using the following formula:

$$Swestr_i = \sum_{k=1}^{N_i} \frac{v_k}{V_i} r_k$$

where:

k = an index representing each transaction in the trimmed transaction dataset for value day i

N_i = the number of transactions in the trimmed transaction dataset for value date i

r_k = interest rate for transaction k

v_k = volume of transaction k

V_i = total transaction volume in the trimmed dataset for value date i

3.5.3 Alternative calculation method

An alternative calculation method shall be used if the current calculation base is not available, for example in case of technical error, or if the current transaction base is available but does not fulfil all robustness requirements. The following method implies that the previous value date's value will be used in case of days without transaction datasets, for example in case of technical error.

$$Swestr_i^{Alt} = R_i + \sum_{k=0}^1 \alpha_{i-k} (Swestr_{i-k} - R_{i-k})$$

Where:

i = an index representing the current value day for calculation.

k = an index representing each value date for SWESTR

$$Swestr_{i-k} = \begin{cases} Swestr_{i-k} \text{ calculated with normal calculation method, } k = 0 \\ \text{determined SWESTR value for value day } i - k, k > 0 \end{cases}$$

R_{i-k} = the Riksbank's policy rate for business day $i - k$

$\alpha_{i-k} = \frac{v_{i-k}}{V} \in [0,1]$ is the weight of each value

v_{i-k} = volume for value day $i - k$, see below how these are determined

$V = v_{i-1} + v_i$, total volume for the value days $i - 1$ and i

where v_i is the transaction volume for value day i while v_{i-1} is determined as follows:

v_{i-1} = weight after sequential weighing to fulfil the robustness requirements for value day i . The following sequence applies:

$$1. \quad v_{Rapp,i} = \begin{cases} v_i \left(\frac{3 - \text{Number of reporters}_i}{\text{Number of reporters}_i} \right), & 0 < \text{Number of reporters} < 3 \\ 0, & \text{Number of reporters} \geq 3 \end{cases}$$

$$2. \quad v_{Konc,i} = \begin{cases} \frac{4}{3} v_{Max,i} - (v_i + v_{Rapp,i}), & \frac{v_{Max,i}}{v_i + v_{Rapp,i}} > \frac{3}{4} \\ 0, & \frac{v_{Max,i}}{v_i + v_{Rapp,i}} \leq \frac{3}{4} \end{cases}$$

where $v_{Max,i}$ is the volume of the largest reporter value day i .

$$3. \quad v_{Vol,i} = \begin{cases} 2mdr - (v_i + v_{Rapp,i} + v_{Konc,i}), & v_i + v_{Rapp,i} + v_{Konc,i} < 2mdr \\ 0, & v_i + v_{Rapp,i} + v_{Konc,i} \geq 2mdr \end{cases}$$

$$v_{i-1} = v_{Rapp,i} + v_{Konc,i} + v_{Vol,i}$$

Special cases when no transactions exist, for example due to a technical error, $a_{i-1} = 1$ and $a_i = 0$ are set, i.e. we reuse the previous value date entry.

3.5.4 Special case for the first business day of the year

For i = the first business day of the year, $i - 1$ refers to the penultimate business day of the previous year.

3.6 Rounding

Any rounding of the calculated value for SWESTR shall be made as late as possible before determination and shall comply with established mathematical principles for rounding.³

3.7 Calculation

The Monetary Policy Department shall carry out the calculation of SWESTR at 08.30 (first calculation) ahead of regular publication according to Section 5.

The Monetary Policy Department shall carry out a calculation of SWESTR at 11.30 (second calculation) to ascertain whether the determination of a corrected SWESTR, according to Section 3.8, is appropriate.

After calculation, the Monetary Policy Department shall make a reasonable assessment of the calculation result in the light of the transaction dataset in question. If the calculation result is deemed to be manifestly unreasonable, SWESTR shall be determined using an alternative calculation method as described in Section 3.5.3.1.

3.8 Determination of a corrected SWESTR

If the difference between the calculation result at the second calculation and the value determined after the first calculation for SWESTR exceeds 0.02 percentage points, the Monetary Policy Department shall establish a corrected value for SWESTR. Such a corrected value may be relevant in the event of late reporting or validation of transaction data, or in the event of an earlier technical error or other type of administrator error.

A corrected SWESTR value shall replace the previous value as the determined value for SWESTR on the business day in question.

After the publication time of the corrected SWESTR pursuant to Section 5.2, no new value for SWESTR can be determined, regardless of new or changed transaction data.

3.9 Continuity

If the Monetary Policy Department has not published a value for SWESTR by latest 12.00 on the publication date, the value corresponding to the alternative calculation method in accordance with Section 3.5.3.1 and subsequently rounded in accordance with Section 3.5 shall apply.

³ Established mathematical principles refer to rounding away from zero, that is, 0.0055 is rounded to 0.006 and -0.0055 is rounded to -0.006.

3.10 *Transaction dataset report for SWESTR*

The Monetary Policy Department is to publish quarterly and with a lag the *Report on transaction dataset for SWESTR*.

This report shall include:

- information on how any changes in the transaction dataset, which have subsequently come to the Riksbank's attention, had affected the SWESTR values if the changes had been known when the respective SWESTR value was determined, and
- summary information on the composition of the transaction dataset in the form of its breakdown by the reporters' different counterparty categories, and by the sizes of the individual transactions.

The head of the Markets Department will decide on the further details of the report's content.

4 Average rates and index – design and process for determination

The central provisions of the methodology and the process for determining average rates and index based on SWESTR are set down in this rule. The Head of the Markets Department shall, if necessary, decide on additional provisions regarding the daily process.

4.1 Design and use

The Riksbank shall provide average rates and an index based on SWESTR. These shall be backward-looking and cumulative. They shall be based solely on the determined values for SWESTR and shall reflect a continuous accrual of SWESTR.

Average rates based on SWESTR shall be provided for the time periods of 1 week and 1, 2, 3 and 6 months. In addition, an index allows a simple calculation of an average rate for SWESTR over a period between any two business days.

4.2 Method of calculation and market conventions

4.2.1 Day count convention

The 360-day calculation convention shall be applied for average rates and index.

4.2.2 Average rates

The periods for average rates shall be determined backward-looking on the basis of the period's end date and the date of publication of the average rate.

The first day of the period for which an average rate is calculated is termed the period's starting date, $t = 0$. According to market convention, the interest rate is calculated from the period's starting date to its end date (exclusive).

In case the calculated starting date is not a business day:

- for the period 1 week, the adjustment principle (*standard*) *preceding business day* is applied, i.e. the starting date is brought forward to the immediately preceding business day,
- for other time periods, the adjustment principle *modified preceding business day* is applied, i.e. the starting date is brought forward to the immediately preceding business day, as long as this does not mean that the starting date is in another month, in which case the starting date is instead postponed.

The average rate with value date i shall be calculated using the following formula:

$$Genomsnittsränta_i = \left[\prod_{t=1}^i \left(1 + \frac{r_t \times n_t}{360} \right) - 1 \right] \times \frac{360}{d_c}$$

where:

t = an index representing each business day of the period beginning with $t = 0$ and ending with value date i

r_t = SWESTR value published on business day t , i.e. $r_t = Swestr_{t-1}$

n_t = number of calendar days for which rate r_t is applicable

d_c = number of calendar days in the interest period

n_t is generally 1, except for Mondays when it is 3, to take account of accrual over the weekend, or where adjustments are needed to take account of non-business days

4.2.3 Index

Index for SWESTR with value date i shall be calculated using the following formula:

$$Index_i = \begin{cases} 100, & \text{om } i = 0 \\ 100 \times \prod_{t=1}^i \left(1 + \frac{r_t \times n_t}{360} \right), & \text{om } i > 0 \end{cases}$$

where:

t = an index representing each business day since $t = 0$

r_t = SWESTR value published on business day t , i.e. $r_t = Swestr_{t-1}$

n_t = number of calendar days for which rate r_t is applicable

$t = 0$ refers to 1 September 2021

n_t is generally 1, except for Mondays when it is 3, to take account of accrual over the weekend, or where adjustments are needed to take account of non-business days

The average rate for a period from any business day x to any other business day y can be calculated using index values:

$$\left(\frac{Index_y}{Index_x} - 1\right) \times \frac{360}{d_c}$$

where:

d_c = number of calendar days in the interest period, i.e. $y - x$

$Index_i$ = SWESTR index with value date i

4.3 Rounding

Any rounding shall be done as late as possible before publication and shall follow established mathematical principles for rounding.⁴

4.4 Calculation

The Monetary Policy Department shall carry out the calculation of average rates and index after having made the calculation of SWESTR in accordance with Section 3.7 (“first calculation”). The calculated values for average rates and index are provisional until SWESTR has been published according to Section 5.2.

Any calculations of corrected average rates and index in accordance with Section 4.5 shall be made after a calculation in accordance with Section 3.7 (“second calculation”) has resulted in a corrected SWESTR value in accordance with Section 3.8. The calculated values for average rates and index are to be considered provisional until the corrected SWESTR has been published according to Section 5.2.

4.5 Determination of corrected average rates and index

Corrected values for average rates and index shall be determined only if a corrected value for SWESTR is determined in accordance with Section 3.8 or if errors in the previous calculation have been detected. In such cases, corrected values for average rates and index shall replace previously published values for these.

5 Publication

5.1 Publishing tools

The Monetary Policy Department shall publish SWESTR and average rates and index based on SWESTR in the application programming interface (API) provided by the

⁴ Established mathematical principles refer to rounding away from zero, that is, 0.0055 is rounded to 0.006 and -0.0055 is rounded to -0.006.

Riksbank for these purposes. Up-to-date information shall also be published on the Riksbank's website.

The Riksbank's website comprises an alternative publication channel if contingency routines need to be applied for publication.

5.2 Publication time

SWESTR shall be published every Swedish business day at 09.00. A possible corrected value for SWESTR shall be published at 12.00.

Average rates and index based on SWESTR shall be published every Swedish business day at 09.05. Any corrected values for average rates and index shall be published at 12.05.

5.3 Publication format

5.3.1 SWESTR

SWESTR shall be published as a percentage to three decimal places. The following information on the transaction dataset shall also be published for each SWESTR value:

- total volume (SEK million),
- number of transactions
- number of reporters that have reported transactions,
- the rate level at the upper trimming limit, as well as the rate level at the 87.5 percentile of the transaction volume (as a percentage to two decimal places), and
- the rate level at the lower trimming limit, as well as the rate level at the 12.5 percentile of the transaction volume (as a percentage to two decimal places).

The information published shall relate to the transaction dataset before trimming.

If a corrected value for SWESTR is determined, corrected information on the transaction dataset shall also be published. Information on the calculation method – alternative or normal – used shall also be provided. If an alternative calculation method has been used, summary information about the reason for this shall be published, but otherwise no information about the transaction dataset shall be published for the relevant value date.

5.3.2 Average rates and index

Average rates for SWESTR shall be published as a percentage to five decimal places. For each average rate, the starting date of the period to which the rate relates shall also be published.

Indices for SWESTR shall be published in decimal format to eight decimal places.

5.4 Value day

As its value date, SWESTR shall have the date on which the underlying transactions have been made and settled, and shall be published with a lag of one business day.

Average rates and index shall have the same value day as publication day.

5.5 Information for use and re-publication

The Riksbank shall publish information for use and re-publication of SWESTR, including average rates and index based on SWESTR, on the Riksbank's website. This shall include information on what applies when using SWESTR and when operators choose to re-publish SWESTR in their information systems and platforms.

The Head of the Markets Department shall decide on the more detailed design of this information.

6 Evaluation and follow-up

6.1 Annual evaluation

The Markets Department shall annually evaluate and follow up SWESTR to ensure that it meets the requirements of relevant and applicable IOSCO principles and that SWESTR is representative of the underlying market. At the same time, the Markets Department shall also follow up average rates and index based on SWESTR.

The Monetary Policy Department will assist the Markets Department with the evaluation.

The evaluation shall include:

- the definition of SWESTR,
- the design of average rates and index based on SWESTR,
- The process for determining SWESTR, average rates and index,
- the arrangements for the publication of SWESTR average rates and index,
- reporting requirements and the data collection process, and
- the organisation at the Markets Department and the Monetary Policy Department and the governance arrangements for SWESTR.

If the Markets Department's evaluation shows that there is a need to make changes in any of the above areas, the Markets Department shall provide the Executive Board with suggestions on how to implement them.

The evaluation according to this section is intended for the Riksbank's internal work and shall not be published.

6.2 Annual report for SWESTR

The Markets Department shall produce and publish an annual report on SWESTR for each calendar year. The annual report according to this section is intended for external stakeholders.

The Head of the Markets Department shall decide on the more precise details regarding of annual report.

6.3 SWESTR Advisory Group

The Markets Department shall be responsible for the SWESTR Advisory Group, which shall be used by the Markets Department as a channel for gathering information on the evaluations and follow-ups that the Markets Department shall make in accordance with this rule.

The group shall consist of representatives for users of SWESTR and representatives from participants who are active in the overnight market, as well as other relevant agents. Participation in the group shall be voluntary.

The head of the Markets Department shall decide on the detailed rules for the SWESTR Advisory Group, such as the organisations to be invited to participate and how the meetings are to be conducted.

6.4 Annual certification of compliance with the IOSCO principles

As the Policy makes clear, the Riksbank follows the applicable and relevant parts of the International Organization of Securities and Exchange Commission (IOSCO) principles for financial benchmarks.

The Markets Department shall annually evaluate whether the Riksbank complies with these principles and publish an annual certification on the Riksbank's website.⁵ The Monetary Policy Department will assist the Markets Department in the evaluation of the implementation of the daily process and the Head of the Monetary Policy Department will certify that the evaluation is accurate in this regard. The Head of the Financial Stability Department is responsible for ensuring that the content of the reconciliation regarding the oversight function is accurate and that the Riksbank complies with the principle on oversight.

⁵ Note that the evaluation referred to in this section is not the same as that referred to in Section 6.1, although the evaluation under Section 6.1 should be one of the bases for this evaluation.

7 Questions, comments and complaints

7.1 Questions and comments

The Markets Department shall provide a specific e-mail address for questions and comments on SWESTR, average rates and index.

7.2 Handling of complaints

The Markets Department is responsible for handling complaints about SWESTR, average rates and index. The Markets Department that these are examined in a prompt and independent manner. It shall be possible to submit complaints by e-mail and by physical letter.⁶

8 Reporting of irregularities with SWESTR

For reporting any irregularities regarding SWESTR, the internal whistle blower function provided by the Risk Division in the Corporate Services Department (AVS) shall be used.

9 Compliance

Within their remits, the head of each department is responsible for:

- introducing this rule
- regularly follow up compliance with this rule
- if necessary, inform the Executive Board of the follow-up on compliance with the rule and/or the work of the departments with SWESTR

10 Entry into force and transitional provisions

This rule will enter into force on 23 September 2024. The rule repeals the previous *Rule for the administration of SWESTR* (dnr 2023-01290), adopted on 23 December 2023.

⁶ The e-mail address for complaints shall not be the same as for questions and comments.

10.1 Transitional provisions

10.1.1 Annual report on SWESTR

The provision in Section 6.2 that the Markets Department shall produce an annual report for SWESTR applies for the first time to the annual report for the calendar year 2023.