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The Riksbank's role in providing a reference rate

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A consultation from the Riksbank, September 2019

This document presents the work of developing an alternative reference interest rate (reference rate) in Sweden and the reasons that make it appropriate for the Riksbank to be the actor that provides such a reference rate.

The aim of this consultation is to gather the opinions of other public authorities, financial institutions and other interested parties on the standpoints expressed. More specifically, the Riksbank is looking for opinions on the arguments used to suggest that the Riksbank would be an appropriate actor to provide a reference rate for the very shortest maturity in Swedish kronor.

Any comments on the arguments and standpoints presented in this consultation can be submitted to the Riksbank at remiss.referensranta@riksbank.se or sent to Sveriges riksbank, 103 37 Stockholm by no later than 15 November 2019.

A summary of responses to the consultation will be compiled and published on www.riksbank.se.

Thank you for your participation!

Summary

Reference rates fulfil a central and important function in the financial system. This applies not least to the reference rates known as 'IBORs' (Interbank Offered Rates). However, due to events connected to the financial crisis of 2007–2008 and the Libor scandal of 2012, confidence in these reference rates declined. Since this, the frameworks around reference rates have been reformed. New recommendations and requirements have been added, calculation methods for several IBORs have been reviewed and, around the world, work is under way to develop new, alternative reference rates. This consultation concerns the work of developing such a reference rate in Sweden.

The Riksbank is considering, over the course of 2020, calculating and publishing one or more overnight rates with the aim of better being able to assess the implementation of monetary policy.¹ One of the interest rates developed by the Riksbank could also act as an alternative reference rate in Swedish kronor.²

There are several reasons that make it appropriate for the Riksbank to calculate, publish and administer (hereafter referred to as provide) a reference rate. To start with, the Riksbank can contribute to the reliability and quality of the reference rate. It is also a cost-effective solution for society if the Riksbank carries out this task. In addition, the central banks of several other countries provide various types of reference rates for the shortest maturities.

¹ The rates to be calculated by the Riksbank will primarily be for the very shortest maturities, overnight (O/N) or tomorrow next (T/N). However, there will also be a possibility of following rates with slightly longer maturities too. An overnight rate is the rate paid by actors when they borrow from each other from one day to the next.

² More information on the work of collecting statistics for short-term money market rates and the publication of overnight rates can be found on the Riksbank's website. See Sveriges Riksbank (2019).

Reference rates in transformation

The emergence of reference rates

Reference rates fulfil a central and important function in the financial system. They are used by a number of different actors on the financial markets and make it possible to achieve a high degree of standardisation of the pricing of financial products. This applies not least to the reference rates known as 'IBORs' (Interbank Offered Rates). These rates form the basis of many financial contracts that are of central importance to the ability of banks and non-financial companies to manage risk. They are also of significance for the interest rates that households and companies have to pay.

There has long been a need for reference rates for financial contracts. This is because there are obvious gains to be made from standardised pricing in financial contracts with the use of a common benchmark. Until the 1970s, yields on treasury bills were used as reference rates for financial contracts. Later, these were replaced by rates reflecting the interest rates for loans between banks (IBORs). One distinguishing characteristic of these reference rates is that they have historically been based on bids between the banks and not on rates used in actual transactions.

The first reference rate was the UK reference rate known as the London Interbank Offered Rate (Libor), which was first calculated and published in the late 1970s. This was calculated and published in an informal manner and was based on the deposit and lending rates that banks with high credit quality specified in US dollars.³ At this time, frequent trading took place between the banks due to the banks' comprehensive use of interbank loans in their funding. The reference rate therefore acted as a kind of indicator of where market rates were at any specific point.

In Sweden, the foundations of the money market were first laid in 1984.⁴ As new financial instruments were developed and started to be used to an increasing extent, a shared and appropriate reference rate became necessary. The dominant banks on the Swedish money market therefore set up the Stockholm Interbank Offered Rate (Stibor) in 1986.⁵

The common interbank rate in the euro area, the Euro Interbank Offered Rate (Euribor), was created in conjunction with the introduction of the euro in 1999. Most European countries already had their own national reference rates that reflected each interbank market.⁶ These were gradually replaced and Euribor became the prevailing reference rate for interbank rates in euros.⁷

Since these reference rates were first established, major structural changes have taken place in the financial system. One such change is that the banks rely to a lesser extent upon the interbank market for their short-term funding but instead choose to issue bank certificates, for instance. As far as the Swedish banks are concerned, another change is that the proportion of funding in foreign currency has increased considerably. The background information used to determine the interbank rates has thus, in some cases, both changed and deteriorated since these rates emerged.

³ Such banks are in some cases known as prime banks.

⁴ The money market is the market for the trade with debt instruments with maturities up to one year.

⁵ For more information on the emergence of Stibor, see Sveriges Riksbank (2012) and Sveriges Riksbank (2014).

⁶ See EBF and ACI (2009) for a short history and EBF (1998) for a list of previous national reference rates for the interbank market.

⁷ The reference rate Eonia (Euro Overnight Index Average) is also used in Europe. Eonia emerged at the same time as Euribor in 1999.

Reduced confidence in reference rates and international work on reforms

During the financial crisis of 2007–2008, liquidity in unsecured interbank loans deteriorated considerably, particularly for loans with longer maturities. With this, the ability of reference rates to reflect the prevailing market conditions started to be questioned. Confidence in the reference rates thereby started to be undermined. In 2012, the Libor scandal was also exposed, in which a number of banks manipulated their Libor bids for the gain of the bank or the personal gain of its employees. Several banks were fined and forced to pay high amounts in penalties as a consequence of this manipulation.⁸ Confidence in the reference rates thereby decreased even further and, as a consequence of these events, a comprehensive review of reference rates began around the world. This included both the introduction of new principles and recommendations by several international standard setters and the implementation of a broad review of several IBORs.

In light of this, the *International Organization of Securities Commissions (IOSCO)* issued a report in 2013 that included 19 principles for financial benchmarks.⁹ These principles were drawn up to increase the reliability of reference rates and contribute to improved governance, transparency and quality in the setting of reference rates.

The same year, the *Financial Stability Board (FSB)* was tasked with reviewing existing interest rate benchmarks and the coordination of ongoing national review work. As part of this work, the FSB concluded that there was a need to develop reference rates that better reflect the underlying market, that are harder to manipulate and that remain robust in periods of financial stress. The FSB gave two main recommendations in the report that was subsequently published:¹⁰

- *Existing reference rates (IBORs) need to be strengthened.* The meaning of this recommendation was that the existing reference rates should be based on actual transaction data as far as possible, instead of just being based on bids. This recommendation was also followed by changes to the frameworks for several major IBORs.¹¹
- *New alternative reference rates should be developed.* The aim of this recommendation was to develop alternatives to the existing reference rates. The FSB anticipated a world with many different types of reference rates, in which these new reference rates would exist in parallel with and complement the already existing reference rates. This consultation focuses on this work of developing an alternative reference rate for the Swedish market (more information on this process can be found in later sections).

Initiatives were also taken on the EU level to strengthen the framework for reference rates. This work resulted in the Benchmarks Regulation (BMR), which entered into force on 1 January 2018.¹² The BMR places requirements on the administrators of reference rates via demands for improved governance and control of processes surrounding the setting of reference rates. European reference rates must be adjusted to the new regulation by no later than 31 December 2019 if they are to continue to be used in financial contracts.¹³

⁸ The first bank to be fined was Barclays Bank, which was sentenced on 27 June 2012 to pay around USD 300 million by the US Commodity Futures Trading Commission (CFTC), the US Department of Justice and the UK supervisory authority of the time. Later, Deutsche Bank was forced to pay USD 2.5 billion to a number of public authorities, which was the greatest single fine.

⁹ See IOSCO (2013).

¹⁰ See FSB (2014).

¹¹ For further information on the work of reforming IBORs, see FSB (2018).

¹² Regulation (EU) 2016/1011 of the European Parliament and of the Council.

¹³ However, according to a press release from the European Commission, the adaptation period for all critical benchmarks, including Stibor, has been extended to 31 December 2021. See European Commission (2019).

New alternative reference rates take shape

In light of the FSB's second recommendation, comprehensive international work began on the development of alternative reference rates. For all that, this work proceeded very slowly after the FSB published its recommendations. The situation changed, however, after Andrew Bailey, CEO of the UK Financial Conduct Authority (FCA) announced on 27 July 2017 that the authority would no longer persuade or compel banks to contribute to Libor after 2021. This statement was seen as the end of Libor and it forced a faster development of alternative reference rates, above all in those countries using Libor as a reference rate.¹⁴ See Table 1 below for examples of alternative reference rates developed in other countries and currency areas.

Tabell 1. Examples of alternative reference rates

Country/area	Old rate	New reference rate	Administrator	Definition	Launch
EU	Eonia	Euro short-term rate (€str)	European Central Bank (ECB)	Borrowing rate, O/N, unsecured	2 October 2019
United Kingdom	GBP Libor	Sterling overnight index average (Sonia)	Bank of England	Borrowing rate, O/N, unsecured	Originally: March 1997 Reformed rate: 23 April 2018
United States	USD Libor	Secured overnight financing rate (Sofr)	Federal Reserve Bank of NY	Borrowing rate, O/N, secured	3 April 2018
Japan	JPY Libor & Tibor	Tokyo overnight average rate (Tona)	Bank of Japan	Brokered rate, O/N, unsecured	July 1985 in its first version
Canada	Cdor & Corra	Enhanced Corra	Bank of Canada	Inter-dealer rate, O/N, secured	1997 in its first version
Switzerland	CHF Libor	Saron	SIX exchange	Rate from trading platform, O/N, secured	25 August 2009

The work to develop an alternative reference rate in Sweden

The Swedish Bankers' Association has taken the initiative for a Swedish working group

Work to develop an alternative reference rate is also ongoing in Sweden. On the initiative of the Swedish Bankers' Association, the *Working group for alternative interest rates (AGAR)* was created in December 2018. The purpose of the working group is to "develop proposals for and recommend an alternative reference rate that can replace or complement all Stibor's maturities and develop alternatives for an appropriate administrator/appropriate administrators".¹⁵ The Stibor banks take part in the working group as members while the Riksbank, Finansinspektionen, the Swedish National Debt Office and the Swedish Bankers'

¹⁴ Libor is set in five currencies: CHF, EUR, GBP, JPY and USD. These are also the countries that have come furthest in the work of developing alternative reference rates.

¹⁵ For more information about the AGAR's work and deliveries, please see Working group for alternative interest rates (2019a).

Association participate as observers.¹⁶ In addition, the Swedish Bankers' Association administrates the working group's activities.

The working group shall deliver a number of recommendations during the course of 2019. One of these is to recommend a definition of an appropriate alternative reference rate for the shortest maturity. After a public consultation, the working group published a decision on 11 June 2019 to recommend the following definition for an alternative reference rate in Sweden:

- Maturity: overnight (O/N)
- The reference rate should be based on unsecured transactions that the reporting bank makes with the Swedish National Debt Office, banks and financial institutions.
- The transactions shall lead to borrowing at the reporting bank.¹⁷

The working group's future assignment also includes: the construction of a more detailed calculation method for the recommended rate; give proposals for rates on longer maturities if the working group considers it necessary; and propose how the transition to the recommended rate can take place.

The Riksbank's work on developing transaction-based overnight rates

The Riksbank has the responsibility for monetary policy.¹⁸ The monetary policy transmission mechanism consists of many different channels but a central starting point in the Riksbank's work is the ability to measure and monitor the overnight rate, which is the very shortest interest rate. It is from this rate that changes in monetary policy then spread to other maturities and types of contracts.

The Riksbank already runs a project aimed at enabling a better evaluation of the implementation of monetary policy and obtaining better information on which transactions that are made on the short-term money market in Swedish krona.¹⁹ The aim of the project is to develop methods and system support to be able to not only calculate but also publish one or more overnight rates.²⁰ This rate/these rates will be calculated based on reported transactions from the monetary policy counterparties. To enable this, the monetary policy counterparties shall report transaction data to the Riksbank as from the beginning of October 2019, in accordance with the updated *Terms and Conditions for RIX and Monetary Policy Instruments*.

The Riksbank's ongoing work to calculate and publish such interest rates is not unique. Central banks in other countries also publish interest rates that are used to evaluate monetary policy. For example, the Federal Reserve Bank of New York (FED NY) in the United States publishes several different interest rates aimed at gaining greater insight into how the money markets function and in so doing be able to evaluate how efficiently monetary policy has been implemented.²¹ The interest rates published by FED NY also work as official reference rates, for example the Sofr rate (see Table 1). In some cases, the reference rate is also used as the operative objective for monetary policy. For example the Swiss central bank has the objective of keeping the Saron reference rate close to a certain level.²²

¹⁶The Stibor banks are Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SBAB Bank, SEB and Swedbank.

¹⁷ For more information about the consultation, please see The Working Group for Alternative Reference Rates (2019b). For more information about the decision, please see The Working Group for Alternative Interest Rates (2019c).

¹⁸ Chapter 1, Article 2, second paragraph of the Sveriges Riksbank Act (1988:1385).

¹⁹ Under Chapter 6, Article 2 of the Sveriges Riksbank Act, the Riksbank shall follow developments on the foreign exchange and credit markets and implement necessary monetary policy measures.

²⁰ Under Chapter 6, Article 4, second paragraph of the Sveriges Riksbank Act, the Riksbank shall make public data that is of interest for the assessment of the conditions on the credit and foreign exchange markets. Through this, those who are active on these markets can obtain guidance in their trading (see Government Bill 1986/87:143 p 83).

²¹ The Federal Reserve publishes several different reference rates: Effective Federal Funds Rate (EFFR), Overnight Bank Funding Rate (OBFR), Broad General Collateral Rate (BGCR), Tri-Party General Collateral Rate (TGCR) and Secured Overnight Financing Rate (SOFR).

²² Swiss national bank (2019).

The Riksbank plans to be able to calculate and publish one or many overnight rates during the course of 2020. One of the rates being developed by the Riksbank on the very shortest maturity could also be used as an alternative reference rate on the Swedish market. To be able to assess which rate best reflects the conditions on the overnight market, the Riksbank is studying the analyses performed around the world with regard to this issue. This applies not least to AGAR's work that has also resulted in concrete recommendations on how an alternative reference rate can be designed in Sweden. Table 2 describes examples of rates that the Riksbank could develop based on the data collected.

Tabell 2. Examples of rates that the Riksbank can calculate

<i>Rate</i>	<i>Collateral</i>	<i>Borrowing/Lending</i>	<i>Report submitters</i>	<i>Counterparty basis</i>	<i>Currency</i>
<i>Example 1</i>	Unsecured	Borrowing	Monetary policy counterparties (20)	Swedish National Debt Office, banks, financial institutions	SEK
<i>Example 2</i>	Secured	Borrowing	Monetary policy counterparties (20)	Swedish National Debt Office, banks, financial institutions, non-financial corporations	SEK
<i>Example 3</i>	Unsecured	Lending	Monetary policy counterparties (20)	Banks	SEK
<i>More examples</i>	Different combinations or selections of the above examples: maturities from O/N up to ten days, both unsecured and secured transactions, both borrowing and lending, and a selection of different counterparties.				

There are several reasons why it is appropriate for the Riksbank to provide a reference rate

Over the past decade, several flaws in the frameworks for reference rates have come to light and partly rectified. During this process, the Riksbank, like other central banks, has asked itself whether there should be at least one reference rate provided by an independent actor.

The Riksbank is considering calculating and publishing one or more overnight rates during the course of 2020. The Riksbank's primary objective with this is to better be able to evaluate the implementation of monetary policy. But one of these rates could also work as an alternative reference rate in Swedish krona. There are several reasons for why it is appropriate for a central bank, in this case the Riksbank, to provide a reference rate. These reasons are presented below.

The Riksbank can contribute to the reliability and quality of the reference rate

Reference rates fulfil an important function on the financial markets. Credible, robust and relevant reference rates make it possible to standardise financial products to a high degree. These rates do not only benefit the financial sector but also benefit both households and companies. Reference rates reduce the costs of drafting financial contracts. They also reduce the complexity on the financial markets and allow less informed actors to participate to a greater extent without the costs becoming too high.

Experiences from the last financial crisis show that the market has not always been able to provide reference rates in a satisfactory manner. There is therefore reason for the public sector, in this case the Riksbank, to contribute by providing a reference rate. The Riksbank could thereby also contribute to the reliability and quality of the reference rate.

In the current situation, there are no plans to cease publication of the current Swedish reference rate, Stibor. But regardless of whether the intended new reference rate will replace or just complement Stibor in the long run, it will probably have a critical function in the financial system. Thereby, it will also be of considerable value for the general public, just like Stibor is today.

The Riksbank providing a reference rate is a cost-effective solution for society

Since the Riksbank, as from the beginning of October 2019, will collect the information required to calculate and publish one or more interest rates, the use of one of these rates as a reference rate on the Swedish market is a cost-effective solution.

The central banks that currently provide reference rates evaluate themselves in accordance with the previously mentioned IOSCO principles, something which the Riksbank would also have the intention of doing. A number of organisational requirements are attached to the IOSCO principles. For example, several risk and control functions are required. Several of these functions are something that the Riksbank already has in place and can derive economies of scale from.

However, it is not entirely certain that the cost of providing a reference rate shall be financed by public funds. By providing a reference rate, the Riksbank would be performing a task that is currently funded by the financial sector (in the form of the cost for administrating and publishing Stibor). If the new reference rate were instead to be provided by a private actor, they would probably charge for the task. Other central banks that provide reference rates have chosen different paths. For example, Bank of England charges the financial sector a license fee for doing so. Bank of Canada, on the other hand, considers the reference rate it provides to be a public good and does not charge for the task. There are several reasons and arguments for charging a fee, or not charging a fee, for providing a reference rate. The Riksbank will also have to decide on this in its future work. In the current situation, the Riksbank does not have legal support to charge a fee for providing a reference rate but has requested legal support to ensure that the possibility exists in the future.

In several other countries, it is the central bank that provides the new reference rate

Several other central banks have taken on the responsibility to provide the rate or rates that are intended to work as alternative reference rates. This applies not least to the European Central Bank, Bank of England, Federal Reserve Bank of New York, Bank of Japan and Bank of Canada (see Table 1). In some cases, these central banks have also taken a leading role in the work on developing the new reference rates. In other cases, the central bank had already provided different types of interest rates and instead updated the methodology for an existing rate and uses this as an alternative reference rate. The task of providing different types of rates is hence neither new nor unfamiliar for a central bank. That the central bank provides a reference rate can also affect the credibility of the reference rate in a positive manner.

A common denominator for the new reference rates is that they only exist on the very shortest maturity, overnight (O/N). A major, outstanding issue internationally is therefore how longer maturities are to be developed and which actor should provide these. This is also an issue that will be discussed in the Swedish working group AGAR going forward.

There are reputational risks associated with providing reference rates

Reference rates are very important for the functioning of the financial system. A reference rate must therefore be correct, it must not have been manipulated and it must be able to be published in time every day. If the Riksbank is responsible for providing a reference rate and a situation arises in which the rate is shown to be incorrect or is not possible to publish, this would pose a reputational risk in practice. This reputational risk consists of the Riksbank being perceived in this scenario as having failed in its task to provide a reliable reference rate.

The way forward

The Riksbank's aim is for reference rates on the Swedish financial markets to enjoy a high level of confidence. Both actors on the financial markets and the general public should be able to rely on the pricing of financial contracts taking place in a fair and transparent way. This is of considerable importance in order to enable well-functioning financial markets and efficient interest rate setting.

As described above, the Riksbank is considering calculating and publishing one or more overnight rates during the course of 2020. One of these rates could also work as a reference rate in Swedish krona. Several steps are required, however, before a reference rate that is ready for publication by the Riksbank comes into question. On condition that the Riksbank takes a decision to take on this responsibility, the intended process looks as follows (approximate time plan in brackets):

- Decision to provide a reference rate (turn of the year 2019/2020)
- Decision on the rate's final design, after consultation with the market via the Working group for alternative interest rates (early spring 2020)
- Setting-up of IT systems, operative routines and functions and routines for internal audit and control of the reference rate (spring 2020)
- Publication of a provisional reference rate, a test period in which the market has the opportunity to prepare themselves for using the rate (first half of 2020)
- Publication of the final reference rate (second half of 2020)

Work on reference rates will also continue at an international level in the period ahead. Many new reference rates are already being published but a number of issues are still outstanding. One major outstanding issue is how to develop rates for longer maturities. This is also an issue that will be discussed in the Swedish working group AGAR going forward.

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