

The operational framework for the implementation of monetary policy in Sweden is able to steer and stabilise the overnight rate using relatively simple means. Experience from the latest financial crisis also shows that the framework is flexible and can be used to manage extraordinary situations. However, an important lesson from the crisis is that new measures require some preparation. To ensure that the Riksbank has the systems, routines and knowledge required to also be able to rapidly manage crises in the future, the Riksbank's toolkit needs to be complemented by, for example, bond portfolios in Swedish kronor.

The operational framework for the implementation of monetary policy and experience of the financial crisis

Heidi Elmér, Peter Sellin and Per Åsberg Sommar

The authors work at the Monetary Policy Department and the Financial Stability Department.

The operational framework for the implementation of monetary policy plays a central role for the Riksbank's ability to attain the inflation target.¹ In practice, the Riksbank steers the overnight rate, that is the interest rate on loans between the banks overnight. In this Economic Commentary we briefly discuss the instruments that the Riksbank has in its toolkit to steer the overnight rate and how well the framework does what it is designed to do. We find that the framework is simple and transparent and that it can perform its main task, that is to steer and stabilise the overnight rate, using relatively limited means. Experience from the financial crisis also shows that the framework is flexible and can be used to manage extraordinary situations. One lesson is, however, that it is important to ensure that the Riksbank is well prepared to be able to implement extraordinary measures in the future too. In this context, there may be a need to add to the Riksbank's toolkit.

The Riksbank's current operational framework for the implementation of monetary policy has been in place since 1994 and is designed so that the overnight rate is steered towards the level of the repo rate determined by the Executive Board of the Riksbank. The level of the repo rate is determined by the Executive Board at its monetary policy meetings, which are held six times a year. In practice, the Riksbank thus steers the market's overnight rate, that is the interest rate on overnight loans between the banks. Changes in the overnight rate propagate to other interest rates with longer maturities and finally reach the interest rates charged to households and companies. Changing the repo rate first affects interest rate formation in the economy and then demand, production and inflation. The Riksbank also publishes a repo-rate path, that is a forecast of the future level of the repo rate that is compatible with the inflation target. In this way, the Riksbank can also attempt to influence expectations about future repo rates and help to steer interest rate formation in the economy at longer maturities. It is this chain of the effects of repo-rate changes on the economy as a whole that is usually referred to as the monetary policy transmission mechanism.

The core of the framework – the overnight market

The reason why the Riksbank has chosen the overnight rate as its operational target is basically that the Riksbank can determine the terms and conditions for overnight deposits and lending for the banks that participate in the Riksbank's central payment system, RIX.

The banks make a large number of payments in Swedish kronor in the RIX system every day on behalf of themselves and their customers.² During the course of the day, temporary liquidity deficits and surpluses arise in the banks' RIX accounts when the banks' deposits and payments do not match timewise and when unforeseen payments must be made during the day. The banking system is balanced at the end of every

1. According to the Sveriges Riksbank Act, the objective of the Riksbank is to maintain price stability. The Riksbank has interpreted this to mean that the inflation target should be 2 per cent per year.

2. Credit institutions, clearing organisations, securities companies and the Swedish National Debt Office may participate in the Riksbank's payment system.

day, which means that the banks even out their deficits and surpluses. In the first instance the banks do this between themselves on the overnight market by means of overnight loans. However, a bank can also deposit money overnight with the Riksbank or borrow against collateral using the so-called standing facilities where the lending rate is equal to the repo rate plus 0.75 percentage points and the deposit rate is equal to the repo rate minus 0.75 percentage points.³ These interest rates conditions create an incentive for the banks to come to an agreement with each other on an overnight rate that lies within the corridor formed by the Riksbank's deposit and lending rates. The Riksbank thus in practice sets the conditions governing the overnight market.

Open market operations stabilise the overnight market

Although the banks have strong incentives to agree on an overnight rate that falls within the interest rate corridor, there is no guarantee that this rate will be close to the repo rate. This is because the width of the corridor, that is 1.5 percentage points, may lead to significant fluctuations in the interest rate from one day to the next depending on the result of the negotiations between the banks.⁴ In order to reduce the risk of major fluctuations and to ensure that the overnight rate is close to the repo rate, the Riksbank regularly conducts open market operations. The interest rate conditions in the standing facilities are thus important parameters in the Riksbank's operational framework, while the aim of the open market operations is to stabilise the overnight rate at a level as close to the repo rate as possible.

So how does the Riksbank stabilise the overnight rate in practice? At present, when the banking system has a liquidity surplus in relation to the Riksbank, the Riksbank needs to draw in this surplus using various market operations so that the balance of the banks' accounts at the end of the day is as close to zero as possible. The instruments that the Riksbank then uses are daily fine-tuning transactions and weekly issues of Riksbank certificates. The fine-tuning transactions mean that at the end of the day the banks can deposit liquidity with the Riksbank overnight at the repo rate minus 0.10 percentage points. Alternatively, the banks can invest in the Riksbank certificates, which are issued at the repo rate with a maturity of one week. The total sum in these draining operations is limited to the banking systems total liquidity surplus. This is because in the first instance the Riksbank wants the banks to even out their liquidity positions between themselves as far as possible and only come to the Riksbank with whatever is left over. If the banking system instead has a deficit, which was the case prior to 2008, the Riksbank adds liquidity using weekly monetary policy repos or daily fine-tuning transactions in the form of overnight loans against collateral.⁵

Figure 1 shows that in the period from October 2007 to the end of February 2012, the overnight rate remained relatively stable within the range of a 0.10 percentage point deviation from the repo rate.⁶ From this point of view, the operational framework has performed its task of implementing monetary policy in a simple, transparent and efficient way. However, in order to evaluate how well-adjusted the framework is, the Riksbank also needs to consider whether it can effectively manage disruptions to the financial system.

The Riksbank's framework permits great flexibility

What the Riksbank is allowed to do is ultimately regulated by the Sveriges Riksbank Act, which gives the Riksbank a great deal of flexibility to implement a wide range of monetary policy measures. Above we have described the main operations that the Riksbank uses to steer liquidity in the banking system: fine-tuning transactions and

3. Only credit institutions that are monetary policy counterparties can use the Riksbank's standing facilities.

4. Since the new framework came into operation on 1 June 1994, the width of the corridor has been 150 basis points, with two exceptions. Between 11 August 1994 and 12 April 1995 the corridor was 200 basis points wide and between 20 April 2009 and 7 July 2010 it was 100 basis points wide.

5. In a repo, the Riksbank purchases acceptable securities from a monetary policy counterpart at the same time as this counterpart undertakes to repurchase corresponding securities for a predetermined price a week later. The difference between the selling price and the repurchase price is determined by the Riksbank's repo rate.

6. In the period 2009–2010, when the Riksbank lent large sums in kronor to the banks, the overnight rate was pushed down to the level of the fine-tuning rate. As the banking system was able to invest its liquidity surplus in the fine-tuning operations, the downward pressure on the overnight rate was limited to a maximum of 0.10 percentage points below the repo rate. There were also a number of days on which the overnight rate deviated from the repo rate by more than 0.10 percentage points. This occurred in the autumn of 2008 just before the Riksbank took extraordinary measures in the form of extra loans to the banks and when the final loans fell due in October 2010.

the issue of Riksbank certificates or, alternatively, monetary policy repos. According to the Riksbank's regulations for RIX and monetary policy instruments, the Riksbank can also use FX swaps or direct purchases and sales of securities.⁷ However, in practice only a few instruments are used to implement monetary policy.

Although the Riksbank has only used a few different types of market operation in recent years, this has not always been the case. In the 1990s, for example, the Riksbank had a portfolio of Swedish securities. The value of this portfolio peaked at approximately SEK 150 billion in the early 1990s and was around SEK 25 billion at the end of the decade. Initially this portfolio of domestic securities was mainly used to affect interest rates at different maturities. However, at the end of the 1990s it was mainly used for market maintenance purposes, which meant that the Riksbank provided a repo facility in Swedish securities to the market participants. The portfolio then largely consisted of government bonds and a smaller holding of treasury bills and mortgage bonds.

In 2001, the market-maintaining repo facility was transferred to the Swedish National Debt Office along with the portfolio. It is the Debt Office's role to maintain the Swedish government bond market and the assessment at the time was that a domestic securities portfolio at the Riksbank would not perform any significant monetary policy function. However, this conclusion was based on the assumption that it is sufficient for a central bank to be able to steer the overnight rate as changes in short interest rates then spread to rates with longer maturities and this transmission is stable and predictable. But the financial crisis of 2008–2009 demonstrated that increased risk premiums can quickly undermine the transmission from short to long rates. Some securities markets also ceased to function during the crisis. It may therefore be worthwhile for the Riksbank to be able to act on systemically-important securities markets with the aim of either safeguarding financial stability or contributing to a more effective transmission mechanism.

Extraordinary measures – part of the operational framework during the crisis

During the financial crisis, the Riksbank, under the existing regulations, implemented a number of changes in the operational framework. For instance, like many other central banks, the Riksbank took a number of extraordinary measures. These included lending banks large sums in Swedish kronor and US dollars against collateral with the aim of managing the negative effects of the crisis on the liquidity of the banking system. The Riksbank also widened the circle of counterparties so that more credit institutions could get access to the Riksbank's lending in Swedish kronor. The institutions were also able to use a wider range of securities as collateral for these loans.


In the autumn of 2008, the National Debt Office, following consultation with the Riksbank, also took market-maintenance measures by supplying the market with large quantities of treasury bills.⁸ The Debt Office used the revenues from this to purchase covered bonds with a resale agreement.⁹ These measures helped to reduce the acute stress that had arisen on the market for covered bonds and that had seriously undermined the functioning of this market. The Riksbank's extraordinary loans with, among other things, covered bonds as collateral further improved the functioning of the market.

The primary aim of some of the measures implemented in Sweden during the crisis was to promote the functioning of the financial markets, but they also helped to improve the monetary policy transmission mechanism from the policy rate to the interest rates charged to households and companies. For monetary policy reasons, the banks were also given the opportunity to borrow kronor from the Riksbank for approximately a year at a low and fixed interest rate. The Riksbank offered these loans in a situation in which the repo rate had approached zero, and thus in practice reached

7. Sveriges Riksbank, Terms and conditions for RIX and monetary policy instruments

8. Treasury bills totalling over SEK 200 billion were issued and the outstanding stock amounted at most to SEK 120 billion.

9. The Debt Office conducted repo transactions with the banks which entailed the Debt Office investing its surplus in loans to the banks with covered bonds as collateral. The loans had the same maturity as the issued treasury bills.



its lower limit, at the same time as the assessment of the Executive Board was that complementary measures were needed to stimulate the economy and attain the inflation target.

Other central banks took similar extraordinary measures. However, unlike many other central banks, the Riksbank did not purchase securities as a crisis measure, although the alternative of purchasing debt securities such as government bonds or covered bonds was also investigated and discussed at the Riksbank.¹⁰ The assessment of the Executive Board was, however, that other tools were more appropriate to manage the situation at that time.

We need to complement the toolkit ...

The Riksbank's operational framework has demonstrated that it is flexible and able to manage the need for extraordinary measures such as those that arose during the crisis. The final outstanding extraordinary loan in Swedish kronor matured in January 2011, which means that the Riksbank has returned to a normal operational mode with a few monetary policy tools. However, experience from the financial crisis shows how important it is that the Riksbank is prepared to quickly take appropriate extraordinary measures.

But all the changes and new measures incorporated into the framework need to be prepared before they can be implemented in practice, which also became evident during the recent financial crisis. It was necessary, for example, to revise both legal agreements with external counterparties and the Riksbank's internal regulations.

New and extraordinary measures may also place different demands on the Riksbank's internal technical systems than the operations conducted in normal times. This means that it may be necessary to develop new routines and processes in the organisation. It is thus an advantage if the Riksbank has an infrastructure in place in normal times so that the need for a long period of preparation is reduced in a situation in which there is a need to carry out extraordinary measures quickly. Ensuring that the Riksbank is ready to deal with a crisis is therefore a part of good risk management even under normal conditions.

Consequently, the Riksbank needs to add to its toolkit. It is, for example, unusual for a central bank not to have a portfolio of assets in its own currency. Already before the financial crisis began, other central banks held bonds in their own currency. They thus had an infrastructure in place that enabled them at very short notice to take extraordinary measures in a situation where this was deemed necessary.

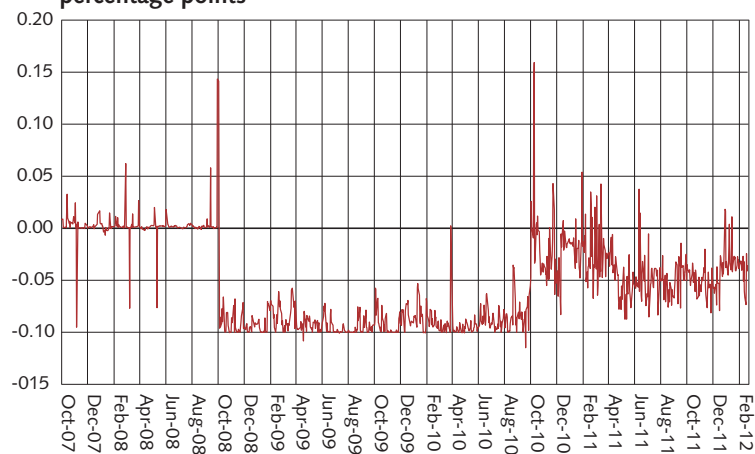
... with a bond portfolio in Swedish kronor

The Riksbank's operational framework for the implementation of monetary policy has demonstrated that it works well in both normal conditions and in situations like the recent financial crisis. But this does not mean that it will be possible to manage a potential future crisis in the same way and with the same tools. The Riksbank is therefore now reviewing how to further improve preparedness in the framework in order to be able to deal with future crises that may require different measures. Acquiring a bond portfolio in Swedish kronor once again could ensure that the Riksbank has the systems, routines and knowledge needed to be able to take extraordinary measures at short notice in the future. Under normal conditions, however, the holding and management of such a bond portfolio by the Riksbank should not be seen as signs that the Riksbank intends to intervene in the market for monetary policy purposes. To avoid the portfolio affecting interest rate formation or sending undesired monetary policy signals it should therefore be limited in size and managed transparently.

10. See the minutes of the Executive Board's monetary policy meeting on 20 April 2009.

Figure

Figure 1. The overnight rate's deviation from repo rate, percentage points



Source: The Riksbank.

References

Eklund, Johanna and Åsberg Sommar, Per (2011) "The Swedish market for balancing liquidity between the banks overnight 2007–2010", *Sveriges Riksbank Economic Review*, 2011:1. Sveriges Riksbank.

Mitlid, Kerstin and Vesterlund, Magnus (2001) "Steering interest rates in monetary policy – how does it work?" *Sveriges Riksbank Economic Review* 2001:1

Nessén, Marianne, Sellin, Peter and Åsberg Sommar, Per (2011) "The framework for the implementation of monetary policy, the Riksbank's balance sheet and the financial crisis", *Economic Commentary*, no. 1, Sveriges Riksbank.

Sellin, Peter and Åsberg Sommar, Per (2012), "The Riksbank's operational framework for the implementation of monetary policy – a review", *Sveriges Riksbank Economic Review*, 2012:2 (to be published in May 2012).

Sveriges Riksbank (2011), "Terms and conditions for RIX and monetary policy instruments", August 2011.