

Stefan Ingves: Policy rate setting and the monetary policy steering system

Speech by Mr Stefan Ingves, Governor of the Sveriges Riksbank, at Handelsbanken, Stockholm, 28 April 2008.

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During the autumn and spring the international financial markets have been marked by considerable uncertainty and turmoil. The situation has caused several central banks to take extraordinary measures, while for instance the Riksbank has not seen any reason to do so. One reason why central banks have acted differently is that the financial crisis has affected different countries to differing degrees. In Sweden we have not observed any major problems as a result of the financial crisis. This is linked to the fact that Swedish banks have not been exposed to the US subprime market to any great extent. Nor has there been any distrust of Swedish banks, which have a good capacity to deal with unexpected negative events. Ultimately, it is a question of a broad view that Swedish banks do not have problems. Another reason why central banks have acted differently is the differences in monetary policy steering systems between countries. It is therefore important to create an understanding of how the Swedish monetary policy steering system works.

In my speech today I will talk about monetary policy from the production of the background material for making a decision until the decision has been implemented. I will focus on how an interest rate decision is put into practice. Less than a week ago we members of the Riksbank's Executive Board decided to hold the repo rate unchanged at 4.25 per cent. What does this mean? How can we steer the short-term interest rate and thereby affect inflationary pressures in the economy?

I shall begin with the formulation of the inflation target and then describe how the repo rate affects inflation. After that I will talk about the background material for monetary policy decisions. I will then go through the Riksbank's monetary policy steering system, that is, how a decision on the repo rate is actually put into practice. Finally, I will mention a few words about the financial turmoil and why there has not been reason for the Riksbank to take any special measures, although the financial developments are of course one of many factors affecting our assessments of inflation and resource utilisation. I shall also partly use our most recent interest rate decision as an example.

Inflation shall be low and stable

The Riksbank's statutory objective is to maintain price stability. We have specified this as an explicit inflation target according to which the annual change in the consumer price index, CPI, is to be 2 per cent. In addition, we have formulated a tolerance interval around the target of plus/minus 1 percentage point. The tolerance interval marks both the fact that monetary policy cannot achieve the target exactly all of the time and the fact that excessive deviations cannot be accepted if the target is to remain credible. To further enhance clarity, monetary policy is guided by a principle according to which the aim is normally to bring inflation back to target within two years after a deviation has occurred. The two-year horizon makes it possible to bring back inflation to the target gradually and in this way to avoid excessive fluctuations in the real economy. The target horizon thus allows flexibility in monetary policy, while helping to anchor inflation expectations.

The policy rate's path to inflation takes time

The Riksbank's target is to maintain a low and stable level of inflation. We can influence inflation by means of our steering interest rate, the repo rate. Through the steering system, the Riksbank aims to keep the shortest market rate, the overnight rate, close to the repo rate. The overnight rate in turn affects the interest rates faced by the general public, and thereby activity and prices in the economy. So, the repo rate expresses the level at which the Riksbank wants the overnight rate to lie. Interest rates with a slightly longer duration, for instance 3 months, are determined in the financial markets, partly by expectations of what the repo rate will be on average during this period. Banks' lending rates to households and companies and interest rates on securities with different durations are affected therefore by both the actual and expected repo rate. In the slightly longer term there is greater uncertainty and it may be difficult to form an opinion of the future repo rate. The long-term inflation expectations then play an important role. Here we can mainly have an effect by conducting a credible monetary policy. Long-term interest rates are also affected by the economic outlook and by long-term growth.

The level of the repo rate is set so that inflation will be close to the target within a couple of years at the same time as inflation and the real economy should not show excessive fluctuations. What is known as the transmission mechanism is often described in terms of the different channels through which the repo rate has an effect on the real economy and inflation; the interest rate channel, the credit channel and the exchange rate channel.

According to the "interest rate channel", higher interest rates normally make it more attractive to save. A higher interest rate also means that it becomes more expensive for companies to finance investments, and for households to borrow for consumption. The "credit channel" describes how monetary policy's impact on the economy can be reinforced by companies' and households' credit ratings declining when interest rates are higher. Households and companies find it more difficult to borrow money. All in all, a higher repo rate dampens household consumption and corporate investment and thereby also total demand in the economy. This in turn means that production growth slackens and resource utilisation is lower. Prices and wages then rise at a slower rate. The "exchange rate channel" describes how monetary policy affects the value of the currency. Normally, an increase in the repo rate leads to a strengthening of the krona. This is partly because Swedish assets appear more attractive than investments in other currencies. A stronger exchange rate affects inflation directly in that imported goods will become cheaper. Inflation is also dampened indirectly in that foreign goods become cheaper than domestically-produced goods. This leads to a rise in imports and a decline in exports. Lower demand for domestic goods contributes to a reduction in resource utilisation and dampens inflationary pressures. In addition, inflation expectations are important to how companies set prices and to wage formation, and thereby to inflation. If everyone trusts that inflation will remain low, the companies do not need to change their prices so often, and employees do not need to increase their wage demands. This makes it easier for the Riksbank to achieve the inflation target.

Some of these mechanisms act on inflation fairly quickly, while others take longer to have an effect. Empirical research indicates that a change in the repo rate has its greatest impact on inflation after one to two years. This means that the Riksbank must base its actions on forecasts of what direction inflation will take. Such assessments are made six times a year, prior to the monetary policy meetings, and they function as a basis for the interest rate decisions.

Forward-looking information to base decisions on

The work on producing background material for the decision begins with an analysis of the new statistics and new events that have occurred both in the Swedish economy and abroad. Using this as a base, an assessment is made of international economic activity and inflation prospects, and a review of developments in the financial markets. International economic

activity affects the assessment of Swedish exports, while international price movements affect pricing of the goods and services imported to Sweden. After this a forecast is made of economic activity and inflation in Sweden. The Riksbank uses a combination of assessments made by sector experts and results from several models in its forecasting work. The information is weighed together to form a main forecast for how inflation, the repo rate and the economy as a whole will develop. In addition, various alternative scenarios are produced, which illustrate how the course of events is affected by other assumptions regarding central variables, for instance, productivity growth or international economic activity. Gradually a monetary policy report is pieced together. This is an extensive process, where the Executive Board and officials from the Monetary Policy Department regularly discuss and take a stance on different alternative forecasts. Prior to the monetary policy meetings that do not coincide with the publication of a Monetary Policy Report, the forecasting work is carried out in a similar manner. Since last winter a "Monetary Policy Update" is published on these occasions, a report which contains a more limited number of forecasts.

On the basis of the work described above, the Executive Board establishes its majority view of what is considered a well-balanced monetary policy, giving consideration to inflation and the developments in the real economy during the forecast period. Last Wednesday we published the first Monetary Policy Update of the year. We observed in this report that the financial turmoil has persisted since the monetary policy meeting in February. It has contributed to subduing households' and companies' expectations for the future in many countries. At the same time, energy and food prices have risen more than expected. All in all, this means that international economic activity is showing weaker development than the Riksbank had earlier anticipated. Economic activity is still good in Sweden, with high growth in consumption and employment. Exports have also shown good growth. The weaker international economic activity will contribute to a slowdown in the Swedish economy. Rising energy and food prices mean that inflation is high and it is expected to be slightly higher next year than was forecast in February.

As before, the Riksbank has to take into account different counteracting factors. On the one hand, inflation is still high, as are inflation expectations. On the other hand, the increasingly weak international economic activity will have an effect on Swedish growth and inflation.

Given this, we decided at the monetary policy meeting last Tuesday to hold the repo rate unchanged at 4.25 per cent. The repo rate path remains the same as in February. A repo rate of around 4.25 per cent over the coming year will contribute to bringing inflation back towards the target of 2 per cent a couple of years ahead and contribute to a balanced development in production and employment. However, there is still considerable uncertainty regarding the economic outlook and inflation prospects.

Conditions for the Riksbank's monetary policy steering system

How is an interest rate decision put into practice? What actually happens when the Executive Board decides that the repo rate should be raised, cut or held unchanged? This can best be answered with a description of how our system works.

Like many other central banks, the Riksbank aims its monetary policy at steering the shortest market rate, the overnight rate. This can be done in many different ways. We have a system where we decide the conditions for the banks' deposits and loans with the Riksbank. The Riksbank supplies a payment system, RIX, which manages payments in Swedish krona. A payment system is an infrastructure that makes it possible to forward payments from one bank to another, and thus payments from households' and companies' accounts in one bank to the recipient's account in another bank. RIX consists of an account system where each of the participating banks has its own account in which payments between the banks are booked. By determining the conditions for the banks' deposits in and borrowing from the RIX system, the Riksbank can affect the overnight rate, that is the interest on overnight loans between the banks.

Deposit and lending rates set the limits for the overnight rate

When the payment system closes for the day and trade between the banks in the overnight market has been concluded, the banks' accounts in RIX must be in balance. This means that the banks must finance their deficits or invest their surpluses. The banks have two alternatives for achieving this. They can either balance their respective deficits and surpluses against one another on the overnight market, or they can use the Riksbank's deposit and lending facility. The latter means that they can deposit in or borrow from the Riksbank overnight at interest rates published in advance. These are known as the deposit and lending rates, which are 0.75 percentage points below and above the repo rate respectively. This difference creates an incentive for the banks to firstly borrow from and deposit funds with each other at a rate of interest in this so-called interest rate corridor. One could thus say that the deposit and lending rates set the limits for the overnight rate.

How does the Riksbank ensure that the overnight rate is stable?

But we do not leave it at that. The facilities ensure that the overnight rate remains within the corridor. But the Riksbank also wants the overnight rate to be stable and close to the repo rate, which is in the middle of the interest rate corridor. In other words, we want the overnight rate to be predictable and not to fluctuate within the corridor.

The reason why the overnight rate can vary is that the bank system as a whole may have a need to borrow or invest. This means that one or more banks may have a minus or plus in their accounts in RIX at the end of the day, even after adjustments on the overnight market. Without any other alternative, this would mean that banks with a deficit would have to borrow from the Riksbank at the lending rate, and banks with a surplus would have to invest at the deposit rate. The effect would be an overnight rate that varies within the corridor. To prevent this, the Riksbank accommodates the bank system's total borrowing or investment requirement every week at the repo rate. We thus make sure that the bank system as a whole firstly borrows or deposits at the repo rate, and thus minimise the banks' need to use the standing facilities. At the same time, we signal the level at which the Executive Board wants the overnight rate to lie in the coming week. In recent years the bank system as a whole has needed to borrow from the Riksbank. Whether the bank system needs to borrow or deposit funds at the Riksbank has no significance, however, for the Riksbank's capacity to steer the overnight rate.

The fact that the bank system as a whole has a borrowing requirement with the Riksbank means that we lend funds to the banks. This weekly loan transaction can be described in two stages.

In the *first stage*, the traders at the Riksbank make a forecast of the bank system's borrowing requirement in the coming week. This involves making an assessment of the payments or flows that occur between the Riksbank and the banks, and affects the bank system's total borrowing requirement with the Riksbank. The latter is an item in the Riksbank's balance sheet. The forecast of the bank system's borrowing requirement is therefore in practice a forecast of the most important changes in the Riksbank's balance sheet over the coming week. On the whole, there are two items in the Riksbank's balance sheet that are important in this context, one on the *liability side* and one on the asset side. On the liability side it is mainly changes in the general public's demand for banknotes and coins that needs to be estimated. The Riksbank has a monopoly on issuing new banknotes and coins. Issuing banknotes and coins can be compared with issuing securities and arises as a liability in our balance sheet. Changes in the general public's demand for banknotes and coins show a clear and stable seasonal pattern and are therefore relatively easy to forecast. On the asset side it is a question of changes in the gold and foreign currency reserve linked to the sale or purchase of foreign currencies. Such interventions are very rare and usually affected by our own decisions. Other items in the Riksbank's balance sheet only show small and predictable changes. The total of the estimated changes in the balance sheet corresponds to how much

the bank system's borrowing requirement is expected to change over the coming week. Compared with many other countries, it is easy to make forecasts of the Swedish bank system's borrowing or investment requirement. This is partly because the government transactions no longer go via the Riksbank, and there is very seldom a need to make currency interventions when one has a floating exchange rate.

In a *second stage*, the actual loan transaction is carried out by means of what is known as a repo. The monetary policy repo means that the bank system borrows money from the Riksbank against collateral, with an agreement to "repurchase" a week later. When the repo matures, the banks pay interest on the past week's loans, that is the repo rate. At the same time a new repo is carried out. The conditions for the repo are normally announced every Tuesday and the repo runs from Wednesday to Wednesday.

As the size of the repo transaction is based on a forecast of the borrowing requirement during the coming week, and the RIX accounts must be regulated daily, the bank system may nevertheless need to borrow or deposit in the standing facilities on individual days. If the amounts are large, this could risk leading to major fluctuations in the overnight rate. The Riksbank is therefore prepared on a daily basis to carry out what are known as fine-tuning operations. These operations involve meeting the bank system's borrowing or deposit requirement on a particular day at a rate of interest that is 10 basis points above or below the repo rate.

To summarise this relatively detailed outline, the Riksbank's monetary policy steering system means that the Riksbank, by supplying a payment system and lending and deposit facilities, confines the market's overnight rate within an interest rate corridor of 150 basis points. But it is through the weekly repo transaction and the daily fine-tuning operations that we ensure that the overnight rate is close to the repo rate. Following the most recent monetary policy decision, we want the overnight rate to be close to the repo rate of 4.25 per cent. In practice this means that this week's monetary policy repo will be carried out at a repo rate of 4.25 per cent.

Same objective but different systems

Many other countries also have the objective of steering the short market rate. However the systems used may differ. Many central banks apply an interest rate corridor, like the Riksbank, with the aim of keeping the short market rate in the centre of the corridor. This applies for instance to the Bank of England and the ECB. Like the Riksbank they carry out weekly repos at a particular interest rate, with the objective that the short market rate should be close to this. In addition, there is the possibility to carry out fine-tuning operations.

An important difference from the Riksbank is the application of a minimum reserve requirement. Like many other central banks, both the ECB and the Bank of England require that the banks on average during a certain period have a particular, predetermined amount in their accounts with the central bank. The banks receive interest on these funds, at a rate close or equal to the policy rate. As long as the banks on average fulfil the minimum reserve requirement, they can to some extent decide themselves when the deposits and withdrawals from the account will be made during the period. This means that the minimum reserve requirement can be used to even out temporary imbalances in the payment flows between the banks, and between the banks and the central bank. As long as the average minimum reserve requirement is met, there is usually no cost if a bank wishes to deposit more in its account at the beginning of a period, for instance. The bank can count on being able to invest any surplus remaining at the end of the period in the market at a rate close to the policy rate.

It is possible that the formulation of minimum reserve requirements can affect the need to stabilise the overnight rate in periods of financial turmoil. As it does not normally entail any additional cost, there may be an incentive for the banks to increase their deposits with the

central bank at the beginning of the minimum reserve period when there is great uncertainty in the interbank market. This can entail a reduction in supply and thus rising interest rates in the interbank market.

Recent developments

Since last summer, developments in the financial markets have been turbulent. The problems were triggered in the US subprime market, which caters to borrowers with low credit ratings. The problems actually began back in 2005 when rising interest rates affected many borrowers. When loans were renewed at new, higher interest rates the loan costs for these borrowers rose substantially. And when property prices fell, there was no scope to mortgage the house so householders could borrow their way out of their problems. Many borrowers could no longer make the interest and mortgage payments on their loans. This caused major loan losses for many mortgage institutions and a general unease among investors. The loans had moreover been repackaged into what are known as structured products and sold on to investors around the world. There was considerable uncertainty over who was actually holding the bad loans and the problems quickly spread around the world. The uncertainty increased over the summer when credit rating agencies downgraded many of these products. During the third quarter of last year several investment banks reported large write-downs as a result of the bad loans, and in connection with this uncertainty once again increased. In recent months the situation in the financial markets has been characterised by considerable uncertainty over future risks, large write-downs and funding problems for financial institutions.

The instability has led to a fear among the banks that they may face liquidity problems, that is, experience difficulty taking new loans when the old ones fall due for payment. It has also led to fears of an increased credit risk when lending to other banks. This means that the banks have preferred more liquid and risk-free investments, while more banks have experienced difficulties in financing themselves in the interbank market. As a result, government rates have been pushed down, while interbank rates have risen. We have seen this development in many large economies. The interbank markets have been much more volatile than normal. In many countries they have at times functioned poorly in the sense that there has been reluctance to lend money to some banks.

In some countries, such as the United Kingdom and the euro area, the considerable uncertainty has led banks to prefer to invest safely in the central bank instead of on the interbank market. This has also put upward pressure on interbank rates. Some central banks have thus experienced problems in keeping the overnight rate, the shortest interbank rate, at the target levels.

These events have led to several central banks taking different types of measures. To carry out their task of stabilising the overnight rate, the ECB and the Bank of England for instance, have been more active than normal in supplying and withdrawing liquidity through their open market operations. To reduce the pressure on the slightly longer interbank rates and to contribute to efficient markets for different durations, several central banks have also taken measures to increase the supply of loans with longer durations. In this context it is important to clarify that it has not always been a question of a net supply of liquidity. When liquidity is added in the slightly longer term, the ECB for instance has often restored the corresponding amount at shorter durations to avoid the overnight rate deviating too far from the policy rate. A further measure has been to accept more securities than before as collateral for its lending. The Bank of England has also cut its policy rate, but this was also linked to signs of weaker economic activity.

What has happened in Sweden?

In Sweden the interbank market has on the whole functioned smoothly. The financial turmoil has not expressed itself in an increased demand for investment in the Riksbank overnight or in an increased reluctance to lend on the interbank market. The overnight rate has remained stable around the repo rate. However, as in many other countries, Swedish interbank rates have risen. On the interbank market for loans from tomorrow until the day after, the interest rate has been higher than normal, and movements have been more volatile. But higher and more volatile interbank rates do not automatically mean that the banks will experience problems. Swedish banks have had good opportunities to obtain financing during the entire financial crisis, solvency is good and loan losses are currently small.

The fact that we have not seen any major problems in Sweden is of course linked to the fact that Swedish banks have not been exposed to any great extent to the US subprime market. Nor has there been any "distrust" of Swedish banks. Ultimately, it is a question of a broad view that Swedish banks do not have problems. The fact that the overnight rate has been stable around the repo rate may also be linked to the way in which our monetary policy steering system is constructed. An increased demand for deposits with the Riksbank would have been visible in that banks with surpluses would have put their money in their deposit accounts. The return on this is 75 basis points lower than the repo rate, and thus poorer than the overnight market. It would thus be expensive from day one. This differs from systems with an average minimum reserve requirement. There it is possible for a bank to deposit more in its minimum reserve account at the beginning of the period without any extra cost in the form of lower interest than the market rate. This difference in interest rate systems is reflected in the fact that the overnight rate tends to fluctuate slightly more in, for instance, the United Kingdom and the euro area than in Sweden, even under normal circumstances.

Thus, there has been no reason for Sweden to take measures to ensure the overnight market functions. The Riksbank's objective of stabilising the overnight rate has been achieved. At the same time, Swedish banks have had good opportunities to finance themselves.

On the other hand, the uncertainty in the financial markets could lead to monetary policy not affecting other market rates in the way we are used to. Ultimately, this could mean that monetary policy does not have the desired impact on economic activity and prices. At present we can see, for instance, that the uncertainty on the financial markets has probably contributed a restraining effect in addition to the actual monetary policy, which is reflected in a larger spread between the interbank rate and the expected monetary policy than normal. However, this is something we handle within the framework of how we conduct our monetary policy, by taking account of events in our decision-making base.

There has thus not been any reason for the Riksbank to take special measures from a monetary policy perspective. Nor has there been reason to take any measures on the basis of our other task, safeguarding financial stability. Swedish banks are profitable and financially strong, and therefore have good opportunities to manage unexpected negative events.

The role of central banks in times of financial turmoil

The role of central banks is to safeguard economic stability. We can do this best by focussing on achieving our objectives, that is, price stability and financial stability. However, the recent developments in the financial markets have illustrated the importance of increased cooperation both with other Swedish financial authorities and among countries' central banks. One important challenge is to manage financial crises which risk spreading across national borders. In December 2007 and March 2008 the Federal Reserve, the Bank of England and the ECB coordinated measures to meet the banks' needs of short-term financing. The Riksbank expressed its support for this action, although we did not consider it necessary to take corresponding measures in the Swedish financial system.

It is not self-evident what the role of the central bank should be when uncertainty and financial turmoil create problems in certain parts of the financial markets. The fact that central banks take measures to ensure the targeted interest rate is at the right level may appear reasonable. Similarly, we can observe that several central banks see arguments in favour of also influencing interest rates with a slightly longer duration.

But potential measures must be balanced against the risk that the interbank market will cease functioning more quickly if there are signs of financial turmoil in the future. There is also a risk that a temporary extension of the collateral a central bank accepts can reduce the banks' incentives to hold sufficient amounts of what are normally considered eligible assets. If the central bank takes over some of the functions of the shortest interbank market, there is also a risk that banks which are essentially creditworthy will suffer liquidity problems as the access to short-term financing in the interbank market will disappear. Although there is still the possibility to borrow from the central bank, collateral is required, while the interbank market usually provides loans without collateral.

Even though we have not needed to take a stand in these considerations in an emergency situation, we do of course discuss the issues and monitor developments closely.

Conclusion

The financial turmoil has meant that several central banks have had problems stabilising the overnight rate at the target levels. The uncertainty has also contributed at times to difficulties for some banks in obtaining funding on the interbank market. Several central banks have therefore taken measures beyond the normal to stabilise the overnight rate and to reduce the pressure on the slightly longer interbank rates.

In Sweden there has been no reason to take any extraordinary measures. The Swedish interbank market has on the whole functioned smoothly. This is partly because Swedish banks have not to any great extent been exposed to the US subprime market, and we have not seen any distrust of Swedish banks. Ultimately, it is a question of a broad view that Swedish banks do not have problems. Further, there is no incentive for Swedish banks to invest in the Riksbank's standing facilities instead of on the overnight market. One reason is that our monetary policy steering system is constructed so that it would immediately be more costly for the banks, unlike systems with average minimum reserve requirements. Let me here point out that my intention is not to say whether one system is better than another; I merely wish to illustrate that the differences in monetary policy steering systems may be one reason why central banks have acted differently.

Nor has there been reason to take measures, given the background of financial stability. Swedish banks are profitable and financially strong, and therefore have good opportunities to manage unexpected negative events.

However, as usual we are following developments closely. If there was a risk of problems arising that would make it difficult for the banks to conduct their operations and thereby endanger the system, the situation would be different. However, this is not the case today; we are continuing to observe the financial crisis largely from the outside.