

## ARTICLE – What usually happens when the repo rate is raised?

Monetary policy in Sweden and abroad has been expansionary for a long time. Assuming that the economy develops in a way that continues to support the prospects for inflation, the Executive Board deems that it will soon be appropriate to start raising the repo rate at a slow pace. Both market pricing and surveys among participants on the financial markets and households indicate expectations of rising interest rates. Consequently, financial conditions in Sweden are expected to successively become less expansionary. This article describes how the financial conditions have been affected in previous episodes when the repo rate has been raised. In earlier periods of interest rate rises in Sweden, the financial conditions have gradually become less expansionary and the rate raises have been closely followed by both market rates and interest rates for households and companies.

### Monetary policy affects the financial conditions in Sweden

The financial conditions are a summary of the state of the financial markets and the interest rates and conditions met by households and companies when they need to borrow or invest capital. The Riksbank's monetary policy has a direct impact on the financial conditions in Sweden. Using the repo rate, the Riksbank steers the risk-free short-term rate that forms the basis of interest rate formation in Sweden. The general level of interest rates therefore follows changes in the repo rate. The Riksbank also influences financial conditions in a broader sense, as market rates with longer maturities, equity prices and the exchange rate are sensitive, to varying degrees, to the level of the repo rate. As the financial markets are international to a great degree, international events also affect the financial conditions in Sweden.

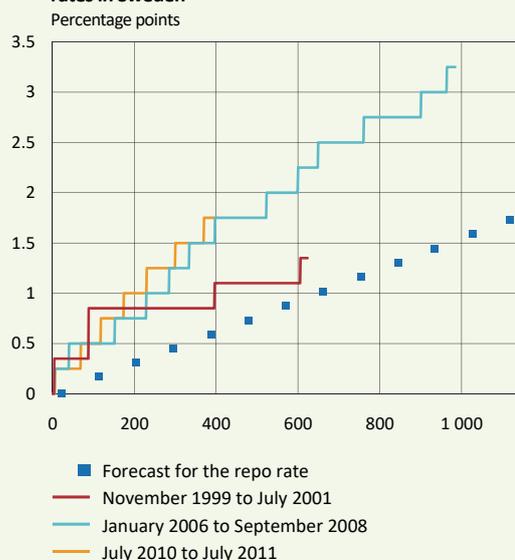
This article describes how the financial conditions in Sweden have been affected in previous episodes when the repo rate has been raised.

### Previous periods of rising rates in Sweden

Over the past 20 years, the repo rate has been raised on 26 occasions. In all cases except two, the repo rate has been raised in steps of 0.25 percentage points, with one increase normally being followed by further increases.<sup>7</sup> During this 20-year period, there have only been three longer periods of rising rates plus one very brief period in 2002.<sup>8</sup> Figure 2:11 shows how the repo rate has been raised in the three longer episodes of rising rates, together with the raises shown in the present forecast for the repo rate. Compared with the previous periods, the repo rate is expected to be raised at a

slower rate in the period ahead, by about 0.25 percentage points twice per year over the coming three years.

**Figure 2:11. Repo rate changes in periods of rising interest rates in Sweden**



Note. The horizontal axis specifies the number of weekdays after the first rise of the repo rate. The repo rate forecast refers to quarterly averages and the points are placed in the middle of each quarter. The first point is placed after 22 days, corresponding to the middle of the fourth quarter of 2018.

Source: The Riksbank

### The rate-rise period from November 1999 to July 2001

From November 1999 to July 2001, the repo rate was raised from 2.9 per cent to 4.25 per cent. This corresponds to a total raise of 1.35 percentage points (see Figure 2:11). During this rate-rise period, the Swedish two-year government bond yield initially rose but fell back as international monetary policy, particularly in the United States, was made more

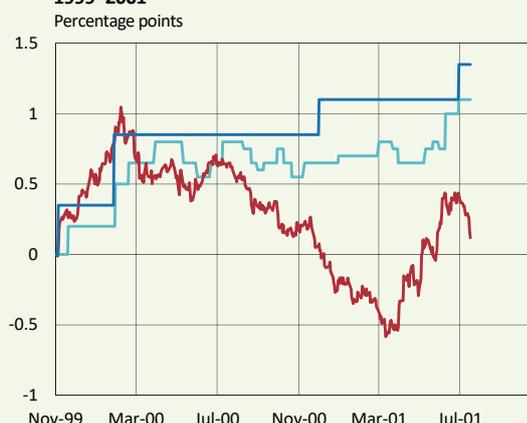
lower level of the repo rate since 1999 is thus due to the average level of each cut having been greater than the level of each raise.

<sup>7</sup> The exceptions were the raise in November 1999, which was 0.35 percentage points, and the raise in February 2000, which was 0.5 percentage points.

<sup>8</sup> Also when the repo rate is cut, the first cut tends to be followed by further ones. In addition, the number of raises and cuts is approximately the same. The successively

expansionary in early 2001. Over the entire rate-rise period, mortgage rates for households rose slightly less than the repo rate (see Figure 2:12). The effective exchange rate strengthened slightly at the start but weakened over the period as a whole.

**Figure 2:12. Change of repo rate, two-year government bond yield and short mortgage rate over the rate-rise period 1999–2001**



— Repo rate  
— Two-year government bond yield  
— Three-month mortgage rate, SBAB

Sources: SBAB, Macrobond and the Riksbank

#### **The rate-rise period from January 2006 to September 2008**

From January 2006 to September 2008, the repo rate was raised from 1.5 per cent to 4.75 per cent. This corresponds to a total raise of 3.25 percentage points (see Figure 2:11). The two-year bond yield followed this development for nearly two years. As with the previous rate-rise period, monetary policies in Sweden and abroad were out of step to some extent. The Riksbank raised its repo rate by more than the ECB raised its policy rate. The Federal Reserve started to cut its policy rate in September 2007, a little over a year and a half after the Riksbank started its rate rises. During this period, lending rates to both households and companies corresponded well with the repo rate and the mortgage rate increased in line with the repo rate (see Figure 2:13). The increase of lending rates in line with the repo rate indicates that banks and mortgage institutions held their lending margins relatively unchanged. The exchange rate strengthened at the start of the period in particular.

**Figure 2:13. Change of repo rate, two-year government bond yield and short mortgage rate over the rate-rise period 2006–2008**



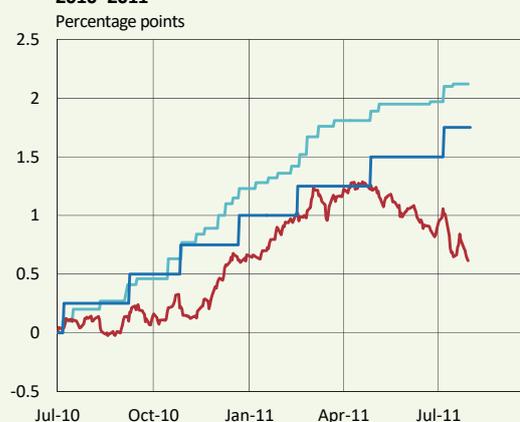
— Repo rate  
— Two-year government bond yield  
— Three-month mortgage rate, SBAB

Sources: SBAB, Macrobond and the Riksbank

#### **The rate-rise period from July 2010 to July 2011**

Between July 2010 and July 2011, the repo rate was raised from 0.25 per cent to 2.0 per cent, a total of 1.75 percentage points (see Figure 2:11). During this period, mortgage rates to households rose faster than the repo rate was raised (see Figure 2:14). This indicates that the banks were raising their lending margins.<sup>9</sup> Over this period, the major foreign central banks also held their policy rates relatively unchanged. The ECB certainly raised its policy rate by 0.5 percentage points, but this increase was reversed as the European sovereign debt crisis developed. Over the period, the krona appreciated against both the US dollar and the euro.

**Figure 2:14. Change of repo rate, two-year government bond yield and short mortgage rate over the rate-rise period 2010–2011**



— Repo rate  
— Two-year government bond yield  
— Three-month mortgage rate, SBAB

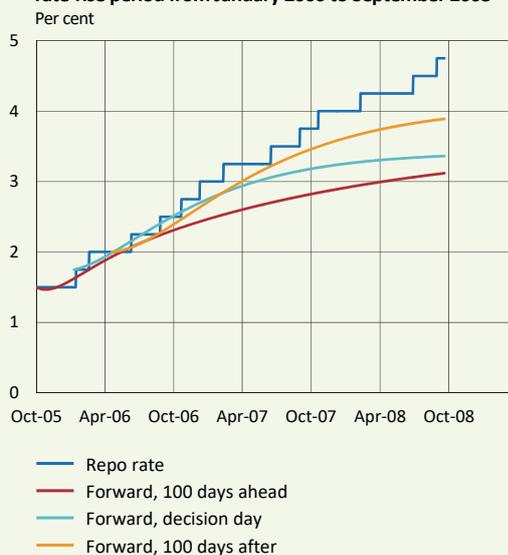
Sources: SBAB, Macrobond and the Riksbank

<sup>9</sup> See Finansinspektionen's quarterly review of the banks' margins on mortgages at the link <https://www.fi.se/sv/publicerat/statistik/bankernas-marginal-pa-bolan2/>

### Rate rises are usually expected

It is not unusual for market participants to adjust their expectations of the future repo rate as the repo rate continues to be raised. If expectations of the repo rate change, the financial conditions can also be expected to change. One common measure of the market's interest rate expectations is forward pricing.<sup>10</sup> Figure 2:15 shows expectations of the future repo rate according to forward pricing 100 days ahead of the first raise, on the day of the decision and 100 days after the first rise during the rate-rise period from January 2006 to September 2008.

**Figure 2:15. The repo rate and forward pricing during the rate-rise period from January 2006 to September 2008**



Source: The Riksbank

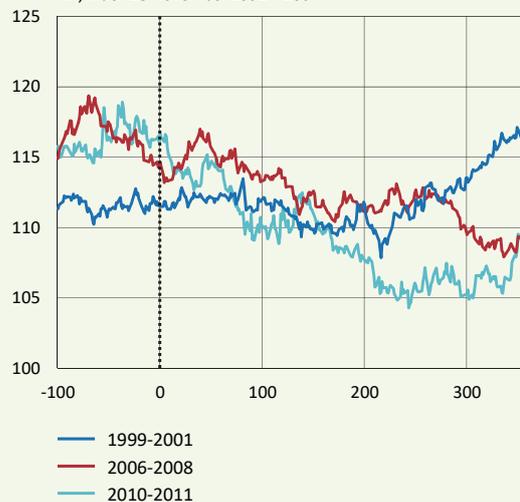
Over this period, the repo rate was raised more and over a longer time in comparison with the two other periods. However, the red line in Figure 2:15 indicates that the rises were already expected, to a significant extent, before the repo rate was raised for the first time. Over the period, the market participants also came to make successive upward revisions of their expectations of the future repo rate. However, these revisions did not lead to any dramatic changes of the financial conditions.

One important determinant for the Swedish krona is how expectations of Swedish monetary policy develop in relation to expectations of foreign central banks' monetary policies. The development of the exchange rate during the previous rate-rise periods indicates that the rate rises were expected. In Figure 2:16, it can be seen that the krona, in terms of the krona index KIX, was already strengthening before the first rate rise. Above all, this is clear in the two latest periods. Rate rises being wholly or partly expected is an important explanation for why the adjustment to less expansionary

financial conditions takes place gradually and in a predictable manner.

**Figure 2:16. The development of the krona exchange rate in periods of repo rate rises**

KIX, Index 18 November 1992 = 100



Note. The horizontal axis refers to the number of days from the first rate rise.

Source: The Riksbank

### Gradually rising level of interest rates in the period ahead

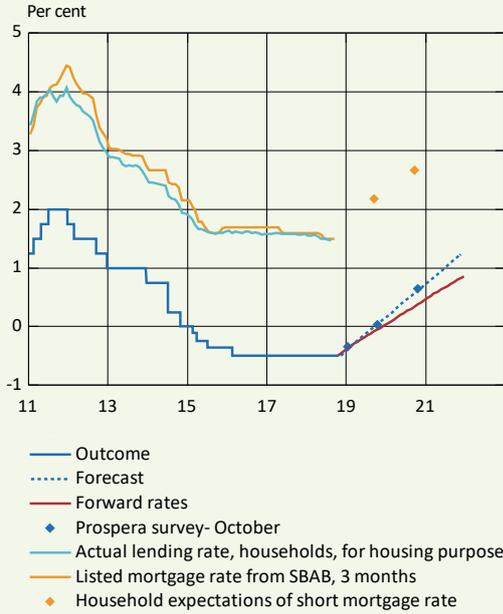
The Riksbank's repo rate path indicates an initial repo rate rise of 0.25 percentage points in the near term and then about two rises per year over the coming three-year period. The repo rate is expected to be about 0.7 per cent in two years, which is in line with surveys of market participants' expectations. Pricing on the Swedish fixed-income market indicates a repo rate level of around 0.4 per cent in two years' time (see Figure 2:17). Households also expect the level of interest rates to rise gradually over the coming years. According to a survey by the National Institute of Economic Research, households expect short-term mortgage rates to rise by just over 0.4 percentage points between autumn next year and autumn 2020. There is thus agreement that the level of interest rates will rise in the period ahead and that this will take place at a slower rate than in previous periods of interest rate rises.

Monetary policy has been highly expansionary for a long time, both in Sweden and abroad. In this sense, the current initial position differs from the initial position in the previous periods of rising rates. It therefore cannot be ruled out that rate rises will have a different effect on the financial conditions than previously. However, in several countries where the policy rate has been raised (the United States, United Kingdom, Canada, Czech Republic and Norway), developments have so far been in line with previous periods of rising rates. The Riksbank's forecast for the repo rate is also

<sup>10</sup>For a description of a method of calculating forward rates, see L.E.O. Svensson, "Estimating Forward Interest Rates with the Extended Nelson & Siegel Method" Sveriges Riksbank Quarterly Review no. 3, 1995, Sveriges Riksbank.

dependent on the economy and inflation developing as expected. If conditions for inflation change, monetary policy would also have to be adjusted.

**Figure 2:17. Repo rate, household and market expectations and lending rate to households**



Note. The forward rate refers to 19 October 2018 and is a measure of the expected repo rate. Survey responses show the mean value for money market participants on 10 October 2018. MFI's average lending rate is a volume-weighted average of rates for all maturities. Household expectations of the short mortgage rate are according to the Economic Tendency Survey for September.

Sources: Macrobond, TNS Sifo Prospera, Statistics Sweden, National Institute of Economic Research and the Riksbank