

Account of monetary policy

2021



Account of monetary policy in 2021

The Riksbank is an authority under the Riksdag, the Swedish Parliament, with responsibility for monetary policy in Sweden. Since 1999, the Riksbank has had an independent position with regard to the Riksdag and the Government. This means that the six members of the Executive Board decide on monetary policy issues without seeking or taking instructions. Nor may any other authority determine how the Riksbank should decide on issues concerning monetary policy.

The way in which the Riksbank carries out the delegated task is followed up in various ways by the Riksdag. For instance, every year the Riksdag Committee on Finance examines whether the General Council of the Riksbank and the Executive Board can be discharged from liability for their administration during the past year. Every year, the Riksdag Committee on Finance also examines and assesses the monetary policy conducted by the Riksbank during the preceding years. The Riksbank compiles and publishes material for this assessment.

The material compiled by the Riksbank is thus a basis for assessment - not an assessment in itself. On the other hand, this does not mean that it is merely a pure compilation of figures. The account also includes analyses of outcomes, forecasts and events as the Riksbank believes that those who evaluate monetary policy should have access to the Riksbank's interpretation of the material. It is then up to the Committee on Finance, and others who wish to assess the material, to concur with the Riksbank's conclusions or to make another interpretation.

Chapter 1 investigates target fulfilment in 2021, while Chapter 2 gives an account of the monetary policy conducted over the year. Chapter 3 analyses the accuracy of the forecasts made in 2020, while Chapter 4 reviews important monetary policy issues. The report also contains two in-depth articles, one on the effects of the Riksbank's asset purchases during the coronavirus pandemic and one on the Riksbank's development work.

The Executive Board made a decision on the Account of Monetary Policy in 2021 on 22 March 2022. The Account of monetary policy report may be downloaded in PDF format from the Riksbank's website, www.riksbank.se, where more information about the Riksbank can also be found.

Monetary policy in Sweden

Monetary Policy Strategy

- According to the Sveriges Riksbank Act, the objective for monetary policy is to maintain price stability. The Riksbank has defined this as a 2 per cent annual increase in the consumer price index with a fixed interest rate (the CPIF).
- At the same time as monetary policy is aimed at attaining the inflation target, it shall support the objectives of general economic policy for the purpose of attaining sustainable growth and a high level of employment. This is achieved by the Riksbank, in addition to stabilising inflation around the inflation target, endeavouring to stabilise production and employment around paths that are sustainable in the long term. The Riksbank therefore conducts what is generally referred to as flexible inflation targeting. This does not mean that the Riksbank neglects the fact that the inflation target is the overriding objective.
- It takes time before monetary policy has a full impact on inflation and the real economy. Monetary policy is therefore guided by forecasts for economic developments. The Riksbank publishes its own assessment of the future path for the repo rate. This repo-rate path is a forecast, not a promise.
- In connection with every monetary policy decision, the Executive Board makes an assessment of the repo-rate path needed, and any potential supplementary measures necessary, for monetary policy to be well balanced. The trade-off is normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy.
- There is no general answer to the question of how quickly the Riksbank aims to bring the inflation rate back to 2 per cent if it deviates from the target. A rapid return may in some situations have undesirable effects on production and employment, while a slow return may weaken confidence in the inflation target. The Riksbank's general ambition has been to adjust monetary policy so that inflation is expected to be fairly close to the target in two years' time.
- To illustrate the fact that inflation will not be exactly 2 per cent each month, a variation band is used that spans between 1 and 3 per cent, which captures around three quarters of the historical monthly outcomes of CPIF inflation. The Riksbank always strives for 2 per cent inflation, regardless of whether inflation is initially inside or outside the variation band.
- According to the Sveriges Riksbank Act, the Riksbank's tasks also include promoting a safe and efficient payment system. Risks linked to developments in the financial markets are taken into account in the monetary policy decisions. With regard to preventing an unbalanced development of asset prices and indebtedness, however, well-functioning regulation and effective supervision play a central role. Monetary policy only acts as a complement to these.
- In some situations, as in the financial crisis 2008–2009, the repo rate and the repo-rate path may need to be supplemented with other measures to promote financial stability and ensure that monetary policy is effective.
- The Riksbank endeavours to ensure that its communication is open, factual, comprehensible and up-to-date. This makes it easier for economic agents to make good economic decisions. It also makes it easier to evaluate monetary policy.

Decision-making process

The Executive Board of the Riksbank usually holds five monetary policy meetings per year at which it decides on monetary policy. A Monetary Policy Report is published in connection with these meetings. Approximately two weeks after each monetary policy meeting, the Riksbank publishes minutes from the meeting, in which it is possible to follow the discussion that led to the current decision and to see the arguments put forward by the different Executive Board members.

Presentation of monetary policy decision

The monetary policy decision is presented in a press release at 09.30 on the day following the monetary policy meeting. The press release also states how the individual members voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

Contents

| | | |
|-----|---|----|
| 1 | Target fulfilment | 5 |
| 1.1 | Economic developments and inflation 2021 | 5 |
| 2 | Monetary policy in 2021 | 15 |
| 2.1 | The Riksbank's forecasts and the monetary policy discussion | 15 |
| 2.2 | Monetary policy decisions in 2021 | 25 |
| 3 | The Riksbank's forecasts and monetary policy in recent years | 29 |
| 3.1 | The coronavirus crisis – severe economic downturn in a short period of time | 29 |
| 3.2 | GDP abroad was captured relatively well in the Riksbank's forecasts | 30 |
| 3.3 | Inflation abroad rose unexpectedly quickly in 2021 – strongly influenced by energy prices | 33 |
| 3.4 | Recovery in Swedish economy in line with Riksbank's forecasts | 35 |
| 3.5 | Inflation in Sweden rose faster than expected in 2021 | 38 |
| 3.6 | Monetary policy in 2020 contributed to stabilising inflation and the real economy | 40 |
| 4 | Important monetary policy issues | 42 |
| 4.1 | The purpose of the inflation target | 42 |
| 4.2 | The monetary policy debate | 45 |
| 4.3 | Questions for the future | 50 |
| | ARTICLE – The coronavirus crisis and the Riksbank's asset purchases | 56 |
| | ARTICLE – The Riksbank's development work | 72 |
| | CHART APPENDIX | 75 |

1 Target fulfilment

The coronavirus pandemic continued to have a marked impact on economic developments during 2021. The sharp fall in GDP from the start of the pandemic was recovered during the year and the employment rate rose to the same level as before the pandemic. CPIF inflation rose rapidly during the year, mainly due to higher energy prices. CPIF inflation was on average close to the target, but varied more than usual and stood at over 4 per cent at the end of the year. Several measures indicate that underlying inflation also rose in 2021, and at the end of the year the median of these measures was close to 2 per cent. During the year, monetary policy supported the economic recovery and inflation more persistently close to the target.

1.1 Economic developments and inflation 2021

The economic situation improved, but the pandemic continued to have an impact

The coronavirus pandemic and its consequences continued to impact global economic developments even in 2021. At the beginning of the year, the spread of infection in Sweden was high and economic activity was curbed by various restrictions to limit the spread of infection and to keep down the number of seriously ill. Vaccination against Covid-19 began at the start of 2021, and as more and more people were vaccinated, the spread of infection and the number of seriously ill patients decreased up to the summer (see figure 1). It was therefore possible to begin to withdraw the restrictions. However, the effect of the vaccines decreased relatively quickly and new variants of the virus led to increased spread of infection and new restrictions in many parts of the world during the autumn. At the same time, the economic consequences of the restrictions were judged to be smaller than at the beginning of the pandemic. When the omicron variant began to spread in December, new restrictions were introduced in Sweden at a similar level to spring 2021. The number of seriously ill patients increased slightly at the end of the year, but the Public Health Agency assessed that the omicron variant would not cause as serious an illness as previous variants of the virus, partly due to the extensive vaccination.

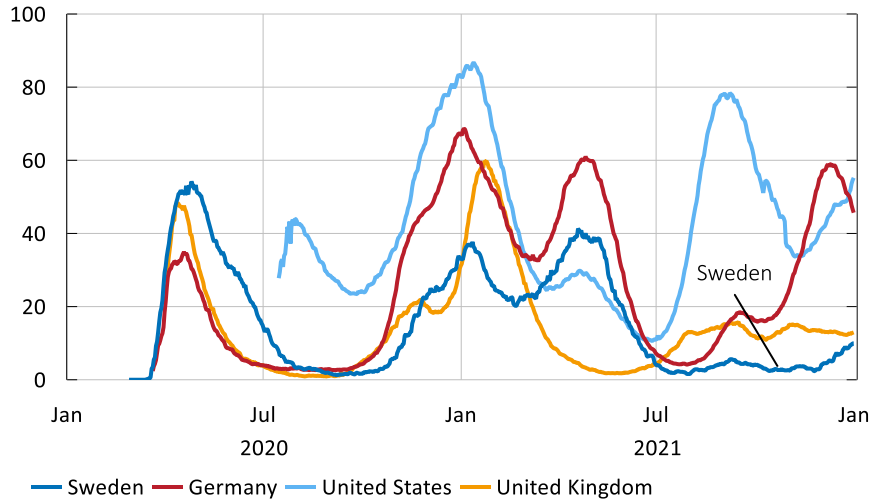
The sharp fall in GDP from the beginning of the pandemic was largely recovered at the end of the year, both in Sweden and abroad (see figure 2). Swedish GDP developed somewhat stronger than in the rest of the world and the recovery was faster than expected. At the end of 2021, Swedish GDP was higher than before the pandemic.

The pandemic affected economic activity in several ways. Demand for both goods and services increased during the year, but there was a shortage of input goods and

freight companies experienced problems adapting their supply to rapidly rising demand. These bottlenecks limited production capacity in the manufacturing industry. Service production was also affected by various bottlenecks.

Figure 1. Number of COVID-19 patients in intensive care

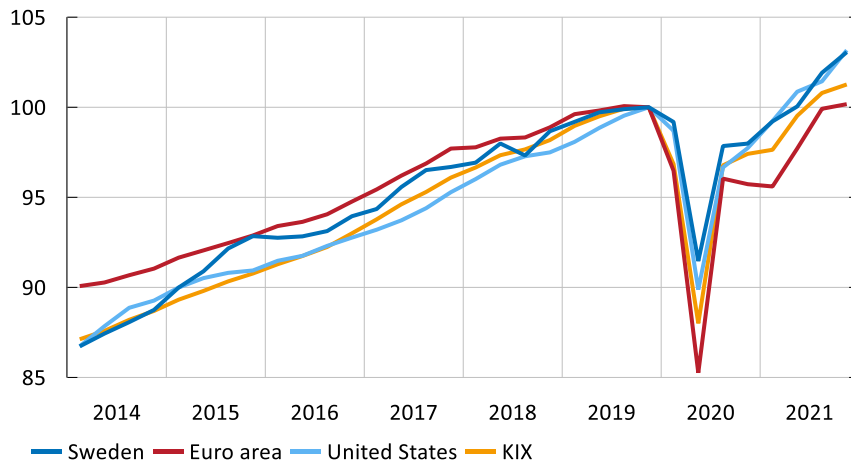
Per million inhabitants



Source: Our World in Data.

Figure 2. GDP in Sweden and abroad

Index, 2019 Q4 = 100, seasonally adjusted data



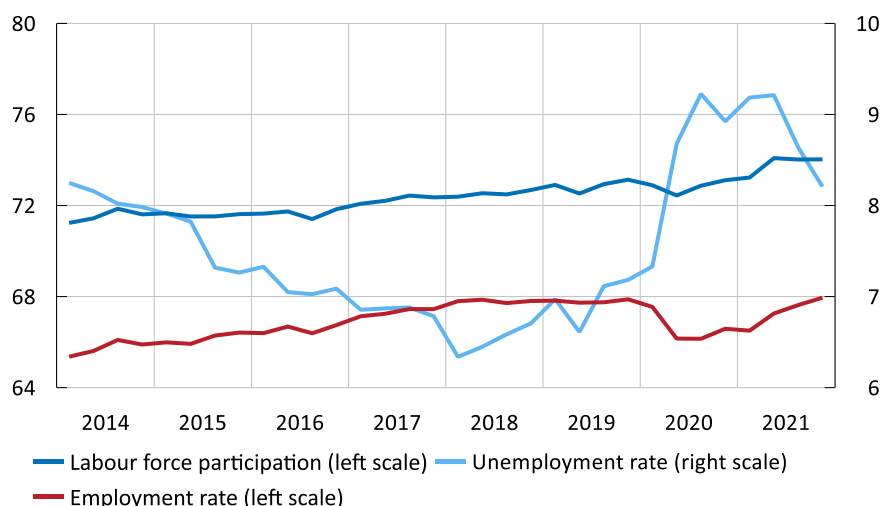
Note. The KIX is an aggregate of countries that are important for Sweden's international trade.

Sources: Bureau of Economic Analysis, Eurostat, national sources, Statistics Sweden and the Riksbank.

The increase in demand in the economy led to higher employment, and the employment rate recovered from the fall in 2020 (see figure 3).¹ However, there were still large differences in how far the recovery had progressed in various industries. The number of hours worked in the economy also rose rapidly. This was due to the increase in employment, to the fact that many employers ended their short-time work compensation schemes, and to a decline in sickness absence. Unemployment rate according to Statistics Sweden's Labour Force Survey (LFS) decreased in 2021, but remained at an elevated level as labour force participation was very high at the end of 2021. The fact that unemployment rate has not recovered more from the upturn at the beginning of the pandemic is partly due to the time series break in the LFS statistics.² According to the Swedish Public Employment Service measure, the unemployment rate decreased faster and was at a lower level at the end of the year than before the pandemic. The positive developments in the labour market in 2021 suggest that the pandemic has limited long-term effects on employment. However, the continued high level of long-term unemployment is a cause for concern.³

Figure 3. Labour force, employment and unemployment

Per cent of population and labour force respectively, 15–74 years



Note. Series are linked to adjust for the time series break in the LFS January 2021.

Source: Statistics Sweden.

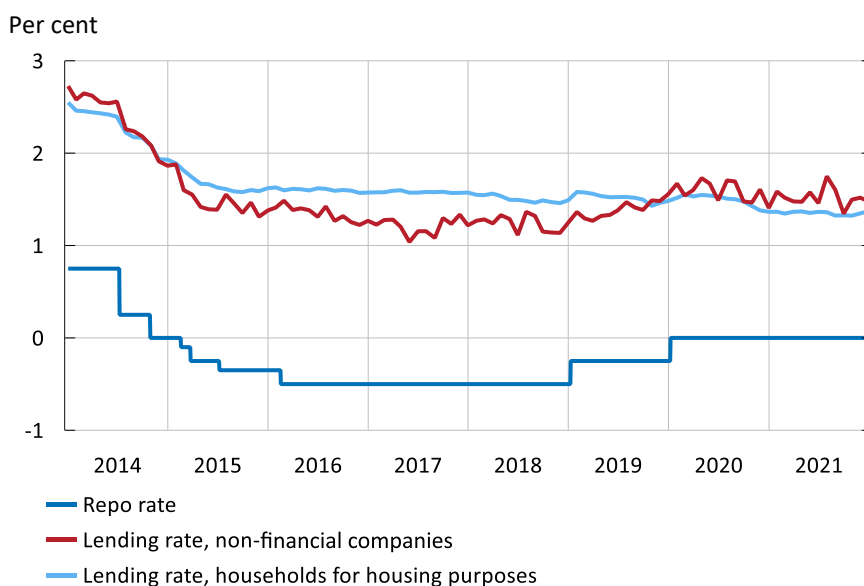
¹ In January 2021, the LFS was adapted to the EU's new directive for labour market statistics, which entailed a time series break in the survey. The adaptation entails several changes to the survey, including a narrower definition of who is considered to be employed. Moreover, Statistics Sweden switched to using employer's tax returns at individual level (PAYE) from the Swedish Tax Agency instead of register-based labour market statistics (RAMS) as an aid for its calculations. Statistics Sweden has published linked series to correct for the time series break, but comparisons before and after the time series break should be made with caution.

² The higher labour force participation is judged to be partly due to methodological changes in the LFS. As from January 2021, LFS asks "have you looked for or tried to find a job in the last 4 weeks?". Previously, the question was "have you looked for work in the last 4 weeks?". The change makes the concept broader. The order of the questions in the survey has also been changed. The Riksbank assesses that this has increased the potential labour force and raised the LFS measure of equilibrium unemployment. See also the fact box in the April 2021 *Monetary Policy Report* and the article "Changes in the LFS and the Riksbank's analysis of the labour market" in the *Monetary Policy Report*, February 2021, Sveriges Riksbank.

³ See C. Flodberg, I. Häkkinen Skans and P. Wasén (2022), "Long-term unemployment in the wake of the pandemic", *Economic Commentaries* No. 2, Sveriges Riksbank.

Continued expansionary economic policy during the year has alleviated the economic consequences of the pandemic and supported the recovery of economic activity. The Riksbank's measures have kept interest rates low for households and companies and ensured a functioning supply of credit (see figure 4). In this way, the Riksbank has contributed to good economic development and expansionary financial conditions. During autumn 2021, the financial conditions were judged to be so stable that the Riksbank could begin to phase out some of the crisis measures (see Chapter 2).

Figure 4. Repo rate and average lending rate to households and companies, new and renegotiated loans



Note. The lending rate is volume-weighted averages of monetary financial institutions' lending at all maturities.

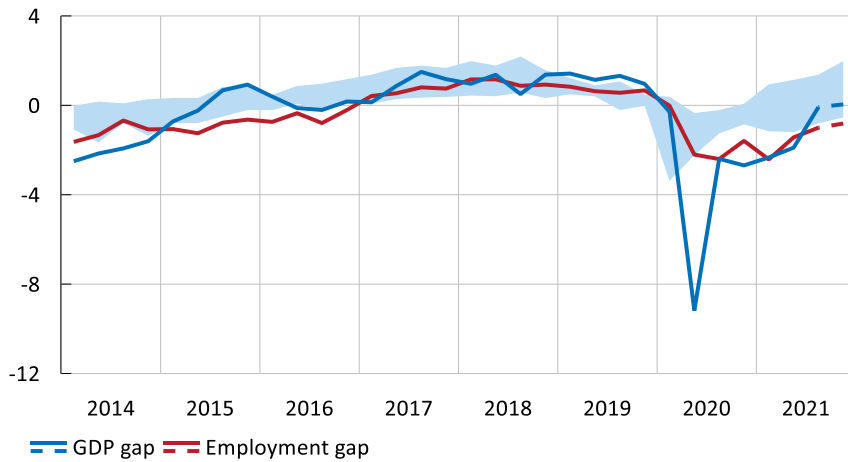
Sources: Statistics Sweden and the Riksbank.

Resource utilisation was about normal at the end of 2021

The level of activity in the economy can be summarised using various measures of resource utilisation. It is important for the Riksbank to try to form an idea of this, since resource utilisation affects how prices and wages develop. However, resource utilisation cannot be measured exactly and the Riksbank therefore makes an assessment based on a number of different indicators. Examples of these are measures of unemployment, capacity utilisation and labour shortages. The indicators show that resource utilisation increased in 2021 after having fallen sharply in the previous year (see figure 5). However, the spread between the various indicators was large. At the bottom of the span was unemployment according to LFS, which indicated that there was still considerable spare capacity in the labour market, and at the top were labour shortages in the business sector according to the Economic Tendency Survey. The Riksbank's assessment was that the GDP gap at the end of 2021 was close to zero, while the employment gap still showed lower than normal resource utilisation. The overall assessment was that resource utilisation was approximately normal at the end of 2021.

Figure 5. Measures of resource utilisation

Per cent and standard deviation respectively



Note. The gap relates to the deviation of GDP and employment from the Riksbank's estimated trends in the Monetary Policy Report, November 2021. The field shows the highest and lowest outcomes for standardised indicators of resource utilisation. Included series are: Inverted unemployment according to LFS, Inverted unemployment according to the Swedish Public Employment Service; Capacity utilisation in the industrial/manufacturing sector according to Statistics Sweden/the Economic Tendency Survey; Economic Tendency Survey series for the business sector on labour shortages, profitability assessment and demand.

Sources: Statistics Sweden and the Riksbank.

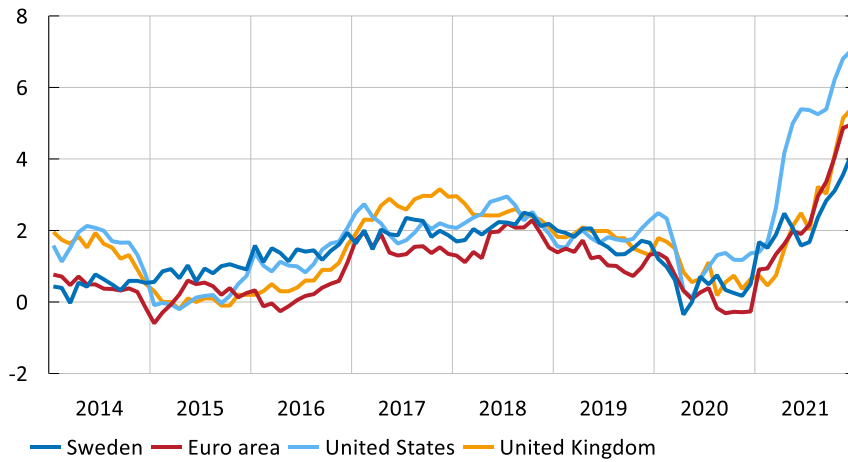
Rapidly rising consumer prices over the year

During the pandemic, inflation has fluctuated more than usual, both in Sweden and abroad. Inflation was low in 2020 but rose rapidly in 2021 (see figure 6). Inflation increased significantly more in the United States than in Sweden, and the United Kingdom and the euro area also had slightly higher inflation at the end of the year than Sweden. There are several common explanations for the increase in inflation in these countries, but also tangible differences, and the magnitude of the effects differs from country to country.⁴ Higher energy and food prices were an important explanation for the higher inflation in many countries. However, measures of underlying inflation, which ignore energy and volatile food prices, also rose sharply in some countries (see figure 7). Particularly in the United States and United Kingdom, prices for goods and prices in certain service sectors that were closed during the pandemic increased substantially. In the euro area, a large part of the overall price increase in 2021 was explained by higher energy prices, which in turn were reflected in higher prices for housing and transport.

⁴ See the article "Higher inflation – temporary or persistent?" in the *Monetary Policy Report*, November 2021, Sveriges Riksbank, for a description of inflation and the driving forces abroad.

Figure 6. Consumer prices in various countries and regions

Annual percentage change

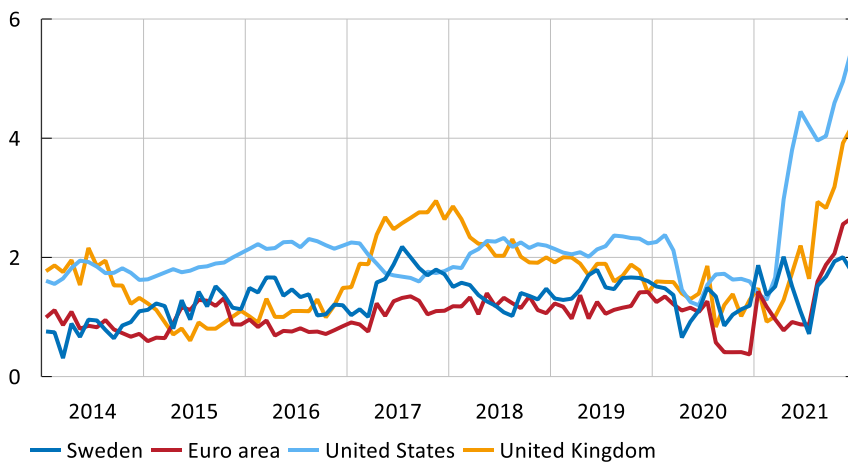


Note. Consumer prices refer to the CPIF for Sweden, the CPI for the United States and the United Kingdom and the HICP for the euro area.

Sources: Eurostat, ONS, Statistics Sweden, U.S. Bureau of Labor Statistics.

Figure 7. Underlying inflation in various countries and regions

Annual percentage change



Note. Underlying inflation refers to the CPIF excluding energy and food for Sweden, the HICP excluding energy and food for the euro area and the CPI excluding energy and food for the United States and United Kingdom.

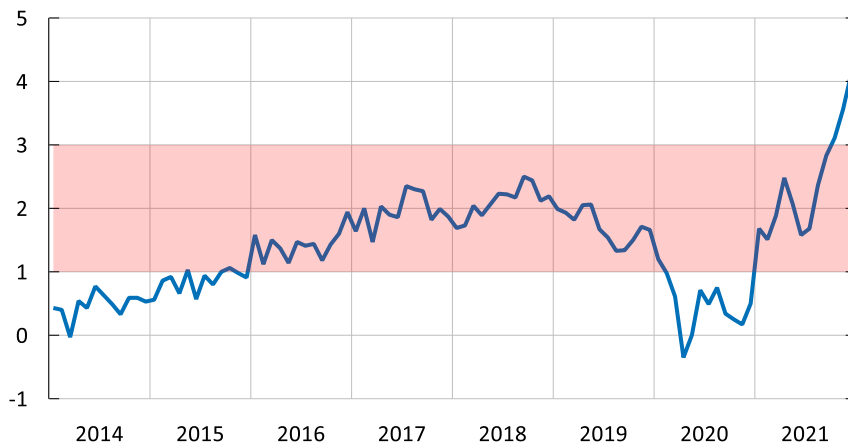
Sources: Eurostat, ONS, Statistics Sweden, U.S. Bureau of Labor Statistics.

In April 2020, CPIF inflation in Sweden bottomed out at -0.4 per cent, but it rose rapidly in 2021. On average, the CPIF increased by 2.4 per cent in 2021, but inflation was unusually high at the end of the year (see table 1 and figure 8). However, the CPIF excluding energy increased considerably less during the year and was on average 1.4 per cent (see figure 9). It is common for inflation to vary as a result of temporary changes in certain prices, such as volatile energy prices. The Riksbank also monitors alternative measures of inflation to better determine to what extent the changes in inflation are temporary. The median of several measures of underlying inflation, which exclude or

reduce the significance of strongly fluctuating prices, indicates that underlying inflation rose in 2021 and was close to the inflation target of 2 per cent (see table 1). To summarise, one can note that inflation varied more than usual in 2021, but that monetary policy contributed to good conditions for an inflation rate more persistently close to the inflation target. Given the extraordinary disturbances that the world economy has experienced during the pandemic, the target fulfilment should be considered acceptable.

Figure 8. CPIF and variation band

Annual percentage change



Note. The pink area shows the Riksbank's variation band and covers about three-quarters of the outcomes since January 1995. The variation band is a means of showing whether the deviation from the inflation target is unusually large.

Sources: Statistics Sweden and the Riksbank.

Table 1. Inflation according to different measures

Annual percentage change, annual average

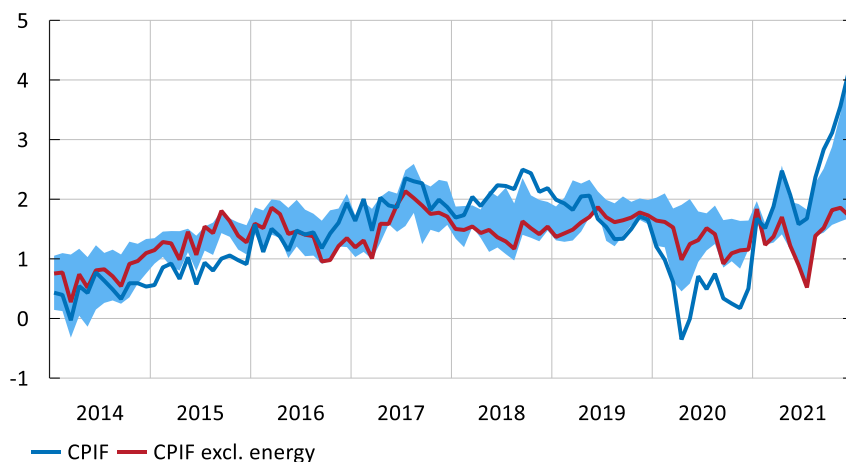
| | 2019 | 2020 | 2021 |
|-------------------------------|------|------|------|
| CPIF | 1.7 | 0.5 | 2.4 |
| CPIF excluding energy | 1.6 | 1.3 | 1.4 |
| Underlying inflation (median) | 1.8 | 1.4 | 1.8 |

Note. Underlying inflation refers to the median of a number of measures of underlying inflation. The measures included are the CPIF excluding energy, UND24, Trim85, the CPIF excluding energy and perishables, persistence-weighted inflation (CPIFPV), factors from principal component analysis (CPIFPC) and weighted mean inflation (Trim1). See <https://www.riksbank.se/en-gb/statistics/macro-indicators/underlying-inflation/> for further information.

Sources: Statistics Sweden and the Riksbank.

Figure 9. CPIF, CPIF excluding energy and underlying inflation

Annual percentage change



Note. The field shows the highest and lowest outcome among 7 different measures of underlying inflation: CPIF excluding energy, UND24, Trim85, CPIF excluding energy and perishables, persistence-weighted inflation (CPIFPV), factors from principal component analysis (CPIFPC) and weighted mean inflation (Trim1).

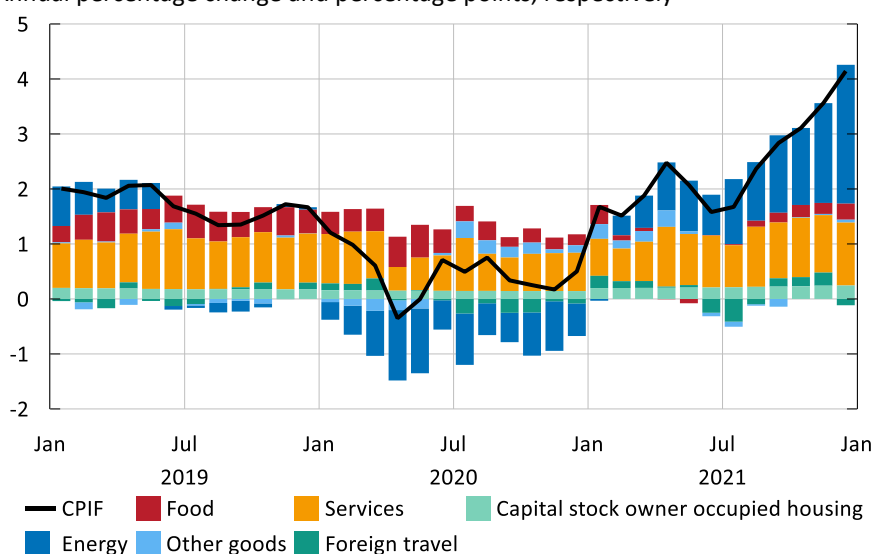
Sources: Statistics Sweden and the Riksbank.

The large variation in inflation in Sweden, and the rapid increase at the end of the year, were mainly due to rapidly rising energy prices. Electricity prices rose rapidly during the autumn as a result of unusually little wind, cold weather, shortages in the water reservoirs, increased demand for electricity and rising emissions trading prices. Electricity prices in southern Sweden were also affected by higher electricity prices in other European countries because the electricity markets are linked. European electricity prices rose sharply due to unexpectedly low supply of natural gas from Russia. The prices of other types of energy, such as oil, also increased rapidly during the year, as demand rose and stocks were unusually small. From dampening inflation in 2020, energy prices became the main reason for inflation to increase in 2021 (see table 2 and figure 10).

Reduced spread of infection and eased restrictions led to a rapid increase in demand during 2021. Most components of the CPIF, with the exception of food, increased more rapidly in price than they did on average between 2000 and 2020 (see table 2). The prices of services that could hardly be consumed in 2020, such as restaurant visits and various kinds of entertainment such as theatre, cinema and sports events, also increased relatively quickly in 2021. Producers had difficulty in meeting the high demand, and this, combined with a sharp rise in commodity and transport prices, led to an increase in producer prices. However, this did not affect consumer prices in Sweden to any great degree.

Figure 10. Contributions to CPI inflation

Annual percentage change and percentage points, respectively



Note. The bars illustrate each price group's contribution to the rate of increase in the CPIF over the past twelve months. The contributions can be interpreted as the annual rate of increase in each group multiplied by the group's weight in the CPIF. In 2021, the weights are as follows, in per cent: energy (7.1), food (18.5), other goods (27.8), services (42.8), foreign travel (0.5) and owner-occupied housing (contribution from the capital stock index) (3.4).

Sources: Statistics Sweden and the Riksbank.

Table 2. Development of the CPIF and its components

Annual percentage change, annual average

| | Weight (per cent) | 2000–2020 | 2020 | 2021 |
|-----------------------|-------------------|-----------|------|------|
| Services | 43 | 1.8 | 1.4 | 2.2 |
| Goods excluding foods | 28 | -0.4 | 0.1 | 0.2 |
| Food | 19 | 1.9 | 2.1 | 0.6 |
| Energy | 7 | 3.2 | -9.7 | 17.0 |
| Capital stock | 3 | 5.3 | 5.6 | 5.9 |
| CPIF | 100 | 1.5 | 0.5 | 2.4 |

Note. The weights are those applying for 2021.

Source: Statistics Sweden.

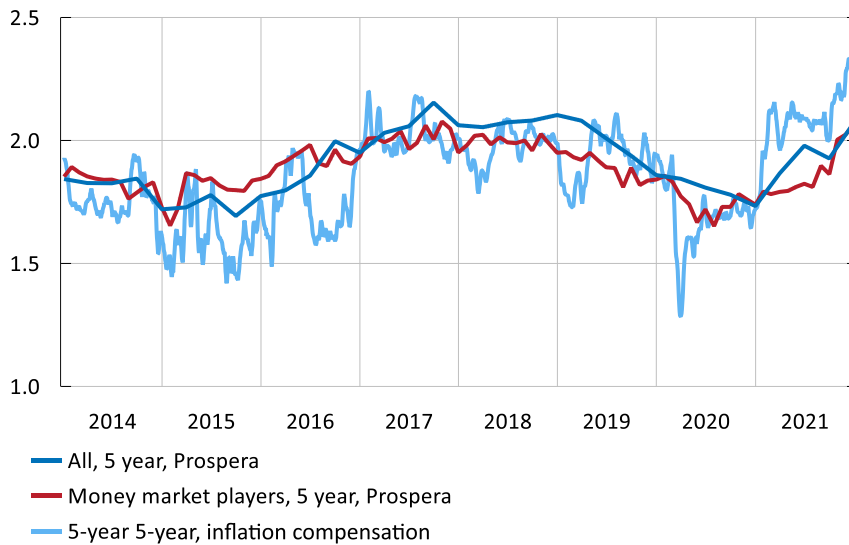
Long-term inflation expectations close to 2 per cent

Monetary policy is aimed at stabilising inflation around the inflation target. The aim is to create stability and predictability in price setting and wage formation and to contribute to favourable economic development in Sweden. To make it possible to attain the target, it is important that economic agents have confidence that the Riksbank will eventually bring inflation back to the target with the help of monetary policy. That various measures of long-term inflation expectations are close to the target is a sign that economic agents have such confidence in monetary policy.

At the start of the pandemic, long-term inflation expectations fell slightly but started to recover fairly quickly. In the wake of the upturn in inflation in 2021, expectations have continued to rise. The long-term expectations measured using the market pricing of various financial contracts were just over 2 per cent during the year (see figure 11).⁵ According to survey measurements, long-term inflation expectations rose to 2 per cent during the year. The overall picture is that long-term inflation expectations were firmly anchored close to 2 per cent.

Figure 11. Long-term inflation expectations

Per cent



Note. The inflation compensation refers to a 5-year period starting in 5 years' time, calculated from bond yields (7-day moving average). Both inflation compensation and expectations from Prospera refer to the CPI.

Sources: Kantar Sifo Prospera and the Riksbank.

⁵ The market-based measures are not necessarily pure measures of expectations, as they also reflect different market conditions. This could explain why these measures sometimes differ from the survey-based measures.

2 Monetary policy in 2021

The rate of inflation measured as the CPIF fluctuated more than usual in 2021 and at the end of the year inflation was moreover higher than expected. This development was mainly due to energy prices, which rose rapidly at times, but whose effects on inflation the Riksbank judged to be temporary. Monetary policy and the monetary policy discussion focused on bringing inflation back more permanently to the target of 2 per cent, on supporting the economic recovery and analysing how the rise in energy prices could affect inflation. The comprehensive asset purchase programme launched by the Riksbank in 2020 was pursued during 2021. However, some lending facilities that were launched during the pandemic were closed and the requirements for the collateral the banks have to provide when borrowing from the Riksbank were restored. The repo rate remained at zero per cent over the entire year.

2.1 The Riksbank's forecasts and the monetary policy discussion

Economic developments in 2021 were slightly stronger than the Riksbank's forecasts indicated at the beginning of the year, and the GDP forecast was revised upwards over the course of the year. The rate of inflation measured as the CPIF was unexpectedly high during the second half of the year. This meant that the inflation forecast in September was revised upwards relatively much compared to the forecast in July. Unemployment was slightly higher in the first half of the year than was forecast at the beginning of the year, but in the second half it declined in line with the forecasts. In conclusion, the forecasts were, therefore, approximately as expected, except for inflation, which was unexpectedly high.

The monetary policy discussion over the year focused mainly on bringing inflation back more permanently to 2 per cent, supporting economic recovery and understanding how the rise in energy prices would affect inflation.

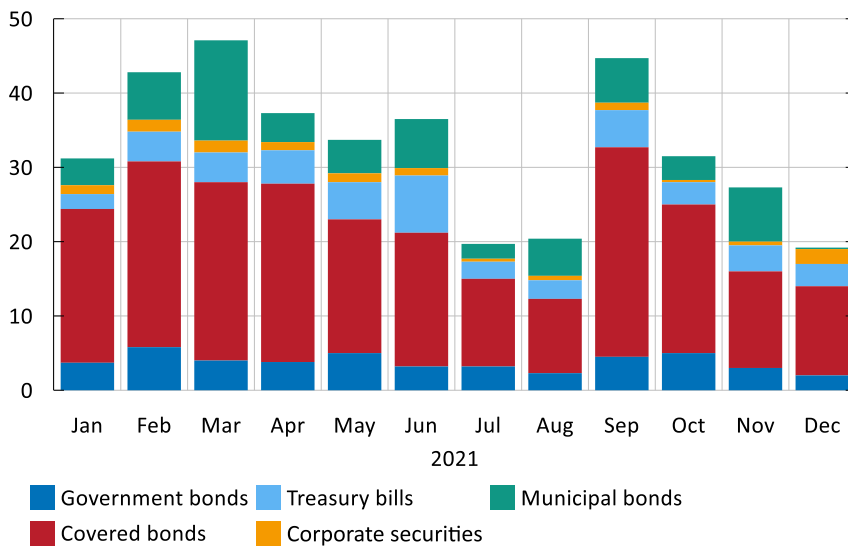
The Riksbank made a first decision on the purchase of securities in response to the pandemic on 16 March 2020. In this decision, the Riksbank set a framework for purchases totalling up to SEK 300 billion until December 2020. In June and November 2020, the Riksbank adjusted the framework for the programme and extended it to ensure that the economy would receive long-term and sufficiently extensive support. All in all, the framework was extended so that purchases could be made up to SEK 700 billion until the end of December 2021. The programme included purchases of Swedish treasury bills and government bonds, bonds issued by Swedish municipalities and regions and Kommuninvest i Sverige AB (municipal bonds), covered bonds issued

by Swedish institutions and bonds and commercial paper issued by Swedish non-financial corporations.⁶

Figure 12 shows the purchases of securities for each month in 2021 and figure 13 shows how the balance sheets of the Riksbank and other major central banks have increased as a result of the purchases of securities during the pandemic.

Figure 12. The Riksbank's purchases of securities in 2021

Nominal amounts, SEK billion



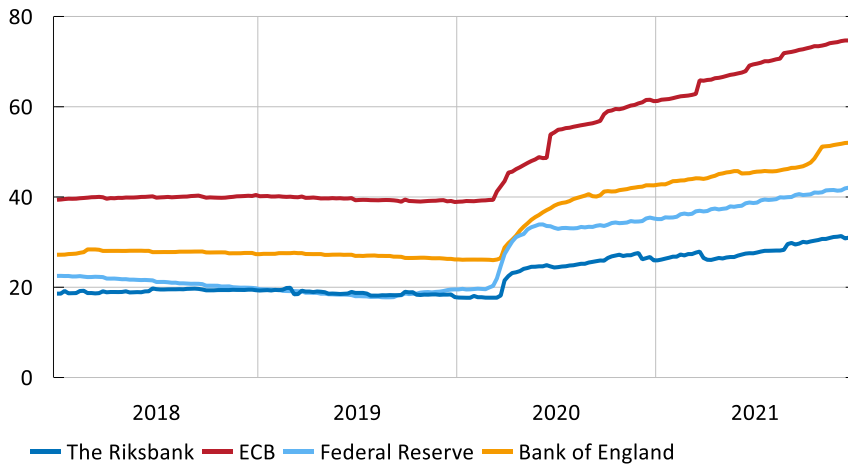
Note. Corporate securities refers to bonds and certificates issued by Swedish non-financial corporations.

Source: The Riksbank.

⁶ For a more detailed description of the purchases of securities during the pandemic, see the section entitled "The coronavirus crisis and the Riksbank's asset purchases".

Figure 13. Central banks' balance sheet totals

Per cent of GDP



Note. GDP is calculated as the sum of the present quarter and the three previous quarters.
Sources: Bank of England, ECB, Federal Reserve, national sources, Statistics Sweden and the Riksbank.

Swedish economy more resilient in the second wave of the pandemic

At the end of 2020, several countries suffered a second wave of high spread of infection and several restrictions were reintroduced in many places. This wave also affected Sweden, although the effect on the economy was not as great as during the first wave. For a large part of the services sector, the situation was nevertheless precarious, despite the extensive economic policy measures that had been put in place.

In the **February Monetary Policy Report**, it was judged that the division between the services sector and the manufacturing sector would last for a long time, but that overall resource utilisation in the economy would normalise in 2022. In the coming years, GDP was expected to increase by an average of just over 3 per cent.

The labour market was resistant to the second wave of the pandemic and a more marked improvement was expected during the second half of 2021. However, unemployment was not expected to return to pre-crisis levels until the end of the forecast period.

Inflation had been volatile in 2020 and was also under pressure from falling energy prices. The volatility was expected to continue in 2021, partly due to fluctuations in energy prices, but also due to measurement problems and changes in consumption patterns. Company costs were judged to increase gradually more rapidly, in line with the recovery. This created the conditions for an upturn in inflation and the forecast indicated an inflation rate close to 2 per cent towards the end of the forecast period. This was also in line with long-term inflation expectations, which were remarkably stable and close to 2 per cent in 2021 (see Chapter 1).

At the **monetary policy meeting in February**, the Executive Board noted that the Swedish economy was now more resilient than before and that the extensive

economic policy support measures had been very important in achieving this. However, future developments were judged to remain uncertain and it was pointed out that the pandemic was not over. To support the recovery and make inflation rise toward the target, monetary policy needed to be sustainable and expansionary, with low interest rates for a long time. The Executive Board was unanimous at the monetary policy meeting with regard to leaving the repo rate unchanged at zero per cent and on how asset purchases should be distributed during the second quarter of 2021. There was also a plan to use the envelope of SEK 700 billion during 2021 and after that to keep the asset holdings more or less unchanged during 2022. The repo rate was expected to remain at zero per cent for the entire forecast period.

Continued recovery during spring and summer

During the spring, the economic recovery continued around the world. Increasing numbers of people were vaccinated and, thanks to significant fiscal and monetary policy support, conditions were good for demand to return rapidly once restrictions were eased. However, developments remained uncertain and the pace of recovery varied between sectors and countries.

In Sweden, the economy had become slightly stronger than was forecast in February. In the **April Monetary Policy Report** the recovery was therefore judged to be somewhat faster than before and overall economic activity was now expected to approach more normal levels at the end of the year. Developments in the labour market were more difficult to interpret, as there is a time series break in Statistics Sweden's official statistics.⁷ However, indicators and supplementary statistics suggested that the development of the labour market was in line with the Riksbank's earlier forecasts and the prospects for continued improvement looked good.

The somewhat stronger resource utilisation meant only marginal revisions to the inflation forecast. Cost pressures were still low and continued expansionary monetary policy was needed to increase this. It was estimated that it would take until the end of the forecast period before inflation stabilised close to 2 per cent.

The **monetary policy meeting in April** discussed the varying degree of recovery between different sectors and countries, and also within different groups on the labour market. The service industries were still burdened by the restrictions and a precondition for production in these industries picking up again was the vaccination programme against Covid-19. The Executive Board also pointed out that there could be major fluctuations in inflation in the coming year as a result of the pandemic and the volatile energy prices, and that it was important that longer-term inflation expectations remained stable at 2 per cent.

Continued expansionary monetary policy was judged to be important over the coming years to support the economy and bring inflation close to the target more permanently. The Executive Board was unanimous in leaving the repo rate unchanged at zero per cent and on the distribution of asset purchases during the second quarter of

⁷ See the fact box in the April 2021 *Monetary Policy Report* and the article "Changes in the LFS and the Riksbank's analysis of the labour market" in the *Monetary Policy Report*, February 2021, Sveriges Riksbank.

2021. Several members stressed the importance of, as announced, utilising the entire envelope of SEK 700 billion for asset purchases in 2021 and after that keeping the holdings more or less unchanged over next year. This was to avoid the risk of an unwanted tightening of financial conditions.

Monetary policy needed to remain expansionary

Outcomes and indicators at the beginning of the summer implied that the economy – with the help of comprehensive economic policy support measures – had developed strongly. The recovery was even more rapid than earlier forecasts and the forecasts were therefore revised up slightly in the **July Monetary Policy Report**. Supported by expansionary economic policy, resource utilisation was expected to continue to rise and the economic situation was projected to be strong in the coming years.

Labour market developments were still difficult to interpret due to the time series break in Statistics Sweden's statistics. The overall picture from various statistical sources showed that the recovery in the number of employed persons had come to a halt in the first quarter, in line with the April forecast. Although unemployment according to the Swedish Public Employment Service's statistics had fallen since the previous summer, it remained high. However, forward-looking indicators indicated that the labour market situation would improve. Rising demand and company recruitment plans indicated that the spare capacity could be utilised relatively quickly going forward. The high growth enabled the forecast for unemployment to be revised down slightly.

Resource utilisation was still significantly lower than normal in those sectors negatively affected by the pandemic. For some groups entering and re-entering the labour market had become more difficult. While the differences were expected to remain for some time, even the industries and sectors most affected were largely judged to have recovered towards the end of the year, when the restrictions had been more significantly reduced.

Inflation continued to be volatile. The sharp fluctuations were largely due to energy prices, but even disregarding these, the fluctuations in CPIF inflation were relatively large, due to measurement problems and changes in consumption patterns. This development was expected to continue for the rest of the year. In addition, new consumption patterns during the pandemic had led to unusually large changes in the CPI weights.⁸ This had contributed to a higher rate of increase in service prices in early 2021, but it was now estimated that inflation would fall back in the summer months. Cost pressures were still moderate and it was expected to take until next year before inflation, against a backdrop of higher resource utilisation, were to rise more persistently. At the same time, however, the prices of input goods had continued to rise and the shortage of semiconductors remained a problem, but the rise in the price of freight, raw materials and input goods was judged to gradually subside. The impact on consumer prices from fluctuations in, for example, commodity prices is not normally

⁸ See the article "Changed consumption during the pandemic affects inflation" in *Monetary Policy Report*, February 2021, Sveriges Riksbank.

so large and prolonged. The fluctuations were therefore assessed to be only temporary and to have a moderate effect on consumer prices.

The Swedish krona, which affects inflation with a certain time-lag, strengthened for most of 2020 and was expected to dampen inflation in 2021. Important explanations for this included a high risk propensity and a strong development on the financial markets. However, the real exchange rate was still judged to be somewhat weaker than normal when account was taken of productivity in Sweden relative to the rest of the world. The exchange rate had been comparatively stable during the first half of 2021. In trade-weighted terms the krona was expected to remain at more or less the current level for the coming years.

At the **June monetary policy meeting**, the Executive Board judged, as before, that it would take a while longer before inflation was more permanently close to 2 per cent. However, the pandemic is not over, and new variants of the virus could create uncertainty, with the risk of setbacks. Large fluctuations in energy prices, as well as measurement problems and other factors affecting inflation were judged to be temporary.

Several board members noted that inflation was expected to be somewhat above the inflation target at the end of the forecast period, but considered that this was not an argument for making monetary policy less expansionary now. They stressed the importance of inflation expectations being firmly anchored in line with the inflation target and, bearing in mind that inflation has on average undershot the target for quite some time, it was possible that an inflation rate temporarily above 2 per cent could contribute to better anchoring.

All members agreed that monetary policy needed to be sustained in order for inflation to be persistently close to 2 per cent, and they supported the decision to keep the repo rate and repo rate path unchanged at zero per cent until the third quarter of 2024.

The risk spectrum for inflation became more balanced during the autumn

The vaccination rate had continued to rise during the summer and early autumn. In many countries and regions, various restrictions were further eased, although there were considerable differences in developments in different areas around the world. For instance, developments in the United States were worrying, which also meant that growth prospects for the US economy had cooled off slightly. Ahead of the **September Monetary Policy Report**, outcomes and indicators confirmed that the recovery in the Swedish economy remained strong. GDP and inflation had been higher than expected and the forecasts in the near future were revised upwards.

GDP growth was expected to pick up further during the third quarter, an assumption supported by Statistics Sweden's monthly GDP indicator, which implied that growth had been high in recent months. Later in the year, growth was expected to gradually slow down as the falls in consumption and investment were recovered. Indicators suggested a continued high demand for labour. Employment was therefore assessed to increase relatively rapidly during the second half of the year 2021, too. As the economic recovery continued, employment was expected to rise faster than the labour

force, and unemployment to fall back. Unemployment was judged to be around 7 per cent at the end of the forecast period.

The inflation forecast in September was revised upwards relatively much for the coming year compared with the forecast in July, mainly due to higher energy prices. The forecast indicated that inflation would be higher than 2 per cent in the coming year. Underlying inflation, which shows more of a trend, was weaker, however, and it was assessed to take a couple more years before CPIF inflation was more lastingly close to 2 per cent. All in all, this meant that the risk outlook for inflation was now more balanced.

Although the inflation forecast was just over 2 per cent towards the end of the forecast period, the Riksbank judged that there was reason to continue with an expansionary monetary policy. High energy prices and bottlenecks in production were expected to have a transitory effect on inflation, and unemployment remained high. The risks with reducing stimulation measures too early were still judged to be greater than the risks of retaining them too long. In recent decades, inflation has on average been below the target. If it were to overshoot the target for a time, this would help to more clearly anchor price and wage expectations in a way that is compatible with an inflation rate close to the target.

The Executive Board was unanimous at the **monetary policy meeting in September** on not changing the repo rate and maintaining the repo rate path at zero per cent until the third quarter of 2024. A few members discussed a rate path that could indicate a rate rise at the end of the forecast period.

The Executive Board decided to end some of the crisis measures taken by the Riksbank at the beginning of the pandemic. These included special loan facilities and also requirements for the collateral that the banks have to provide when borrowing from the Riksbank. More specifically, the programme for lending to banks to support corporate lending and the possibility for Swedish credit institutions under the supervision of Finansinspektionen to apply to become temporary monetary policy counterparties were concluded. These measures were implemented during an acute phase of the crisis to promote access to liquidity in the financial system, but for some time the demand for them had been low. At the same time, the Riksbank's decisions from 19 March 2020 and 10 March 2021 on amended limit rules for covered bonds as collateral for credit at the Riksbank were revoked. The restrictions that applied prior to the pandemic thus became effective again.

Rising consumer prices a challenge for monetary policy

During the autumn, the spread of infection increased in many places and some restrictions were re-introduced. However, the sharp fall in GDP during the start of the pandemic was mainly recovered. The conditions for continued strong economic activity over the next few years were deemed in the **November Monetary Policy Report** to be favourable – both in Sweden and abroad. Economic policy continued to be expansionary and, in many regions, households were saving more than prior to the pandemic, providing scope to increase consumption. In countries that are important for

Sweden's international trade, confidence among companies and households was high on the whole and the high level of demand meant that world trade was expected to continue growing. The revisions to the economic outlook were minor, particularly for the Swedish economy. The new information since the previous Monetary Policy Report supported the picture of an increase in price pressure. Supply problems were expected to become a little larger and slightly more persistent and thus to lead to a slightly higher rate of price increase in 2022 and 2023.

As in the previous forecast, the rise in inflation was judged to be temporary and to fall back in 2022. The main reason for this was that energy prices were not expected to increase as rapidly in the future. A gradually better balance between supply and demand was expected to contribute to falling inflation. Monetary policy affects the economy with a time lag and should therefore disregard such temporary changes in inflation.

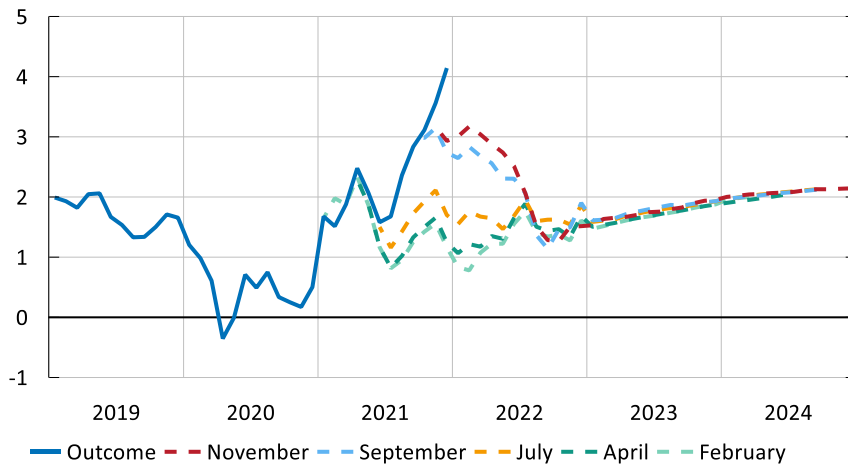
At the **monetary policy meeting in November**, the Executive Board discussed the drivers of inflation and whether the higher inflation rate was temporary or more permanent. It was noted that according to the forecast, CPIF inflation would fall back to a fairly low level in 2022, when the contribution from energy prices was judged to decline and the balance between supply and demand improved. A more lasting rise in cost pressures was needed for inflation to be more permanently close to the inflation target, and the financial conditions therefore needed to remain expansionary.

The Executive Board was unanimous in the decision to retain the repo rate unchanged at zero per cent and to purchase bonds during the first quarter of 2022 to compensate for principal payments. The forecast for the repo rate indicated an increase in the latter part of 2024. The forecast for asset holdings was that they would remain roughly unchanged through 2022 and gradually decline thereafter. Some Executive Board members expressed different nuances regarding the asset holdings, considering it likely that the purchases will be tapered further in 2022.

The following figures (figure 14 to 19) show the forecasts for inflation, GDP, the exchange rate and unemployment that were important factors for monetary policy decisions in 2021, and the forecasts for the repo rate.

Figure 14. CPIF, forecasts 2021

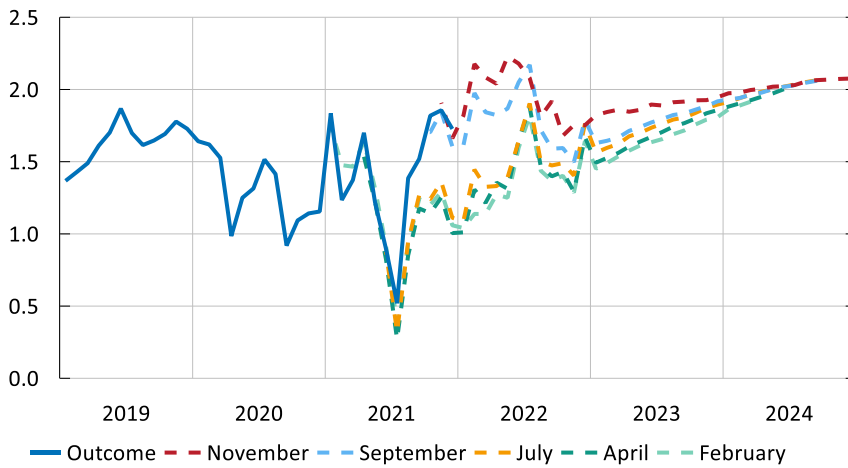
Annual percentage change



Sources: Statistics Sweden and the Riksbank.

Figure 15. CPIF excluding energy, forecasts 2021

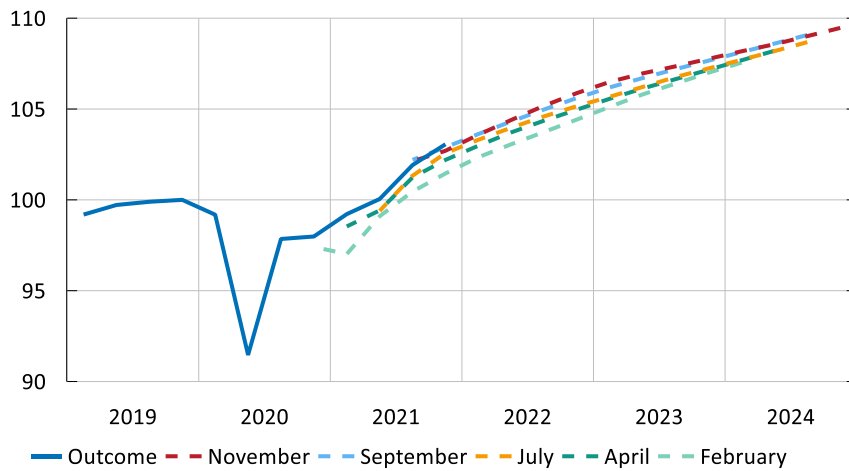
Annual percentage change



Sources: Statistics Sweden and the Riksbank.

Figure 16. GDP, forecasts 2021

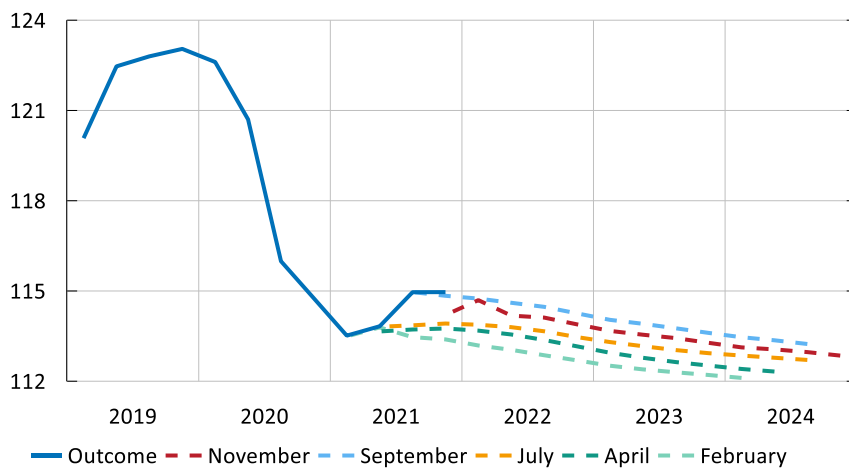
Index, 2019 Q4=100, seasonally adjusted data



Sources: Statistics Sweden and the Riksbank.

Figure 17. Nominal exchange rate, KIX, forecasts 2021

Index, 18 November 1992 = 100

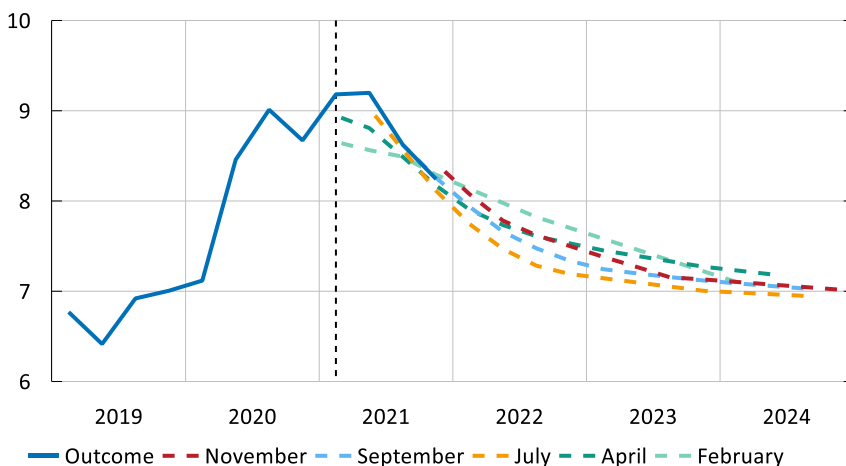


Note. The KIX (krona index) is a weighted average against currencies in the countries that are important for Sweden's international transactions.

Sources: National sources and the Riksbank.

Figure 18. Unemployment, forecasts 2021

Percentage of labour force, 15–74 years, seasonally adjusted data

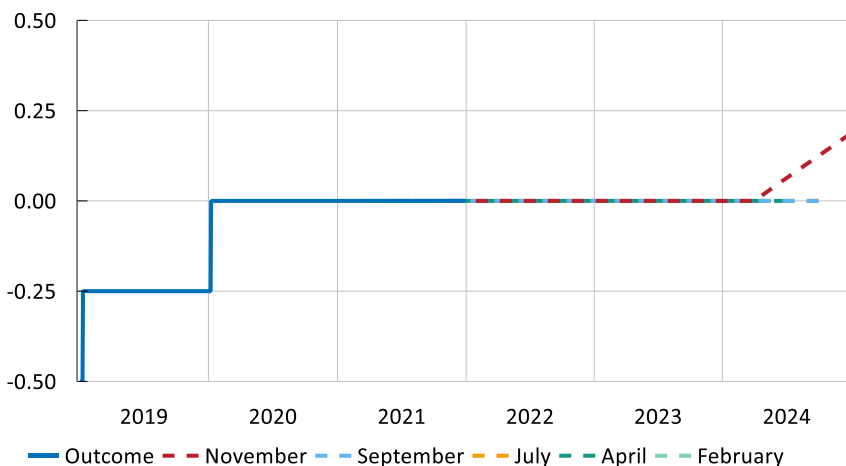


Note. The broken vertical line marks a time series break in the LFS in January 2021. For information on the time series break, see Chapter 1 in this account and the fact box in April 2021 Monetary Policy Report, as well as the article “Changes in the LFS and the Riksbank’s analysis of the labour market” in Monetary Policy Report, February 2021.

Sources: Statistics Sweden and the Riksbank.

Figure 19. Repo rate, forecasts 2021

Per cent



Note. Outcomes are daily rates and forecasts refer to quarterly averages. The interest rate paths in addition to November coincide with the path in February during the reported period.

Source: The Riksbank.

2.2 Monetary policy decisions in 2021

9 February. The Executive Board decided to hold the repo rate unchanged at zero per cent. Moreover, it was decided that the Riksbank within the scope of the asset purchase programme for monetary policy purposes for a total nominal amount of up to

SEK 700 billion – in addition to offering to purchase from monetary policy counterparties bonds issued in Swedish krona by Swedish non-financial corporations pursuant to the decisions on 30 June 2020 and 25 November 2020 – would between 1 April and 30 June 2021:

- (a) purchase Swedish nominal and real government bonds and the Swedish state's green bonds to a total nominal amount of SEK 12 billion,
- (b) purchase Swedish treasury bills to such a nominal total amount that the Riksbank's holding of treasury bills acquired within the scope of the purchase programme on 30 June 2021 amounts to SEK 20 billion,
- (c) purchase bonds issued by Swedish municipalities and regions and by Kommuninvest i Sverige AB for a nominal amount of SEK 15 billion, which may also include purchases of green municipal bonds,
- (d) purchase covered bonds issued by Swedish institutions to a nominal amount of SEK 60 billion,
- (e) offer to purchase from monetary policy counterparties commercial paper issued in Swedish krona by Swedish non-financial corporations to such a nominal amount that the Riksbank's holdings in commercial paper acquired within the scope of the purchase programme during the current purchase period do not at any one occasion exceed SEK 32 billion.

26 April. The Executive Board decided to hold the repo rate unchanged at zero per cent. The Riksbank also continued to purchase assets within the envelope of SEK 700 billion and to offer liquidity within all the programmes launched in 2020.

The Riksbank would, within the scope of the asset purchase programme for monetary policy purposes, to a nominal amount of up to SEK 700 billion, between 1 July and 30 September 2021:

- (a) purchase Swedish nominal and real government bonds and the Swedish state's green bonds to a total nominal amount of SEK 10 billion,
- (b) purchase Swedish treasury bills to such a nominal total amount that the Riksbank's holdings of treasury bills amount to SEK 20 billion,
- (c) purchase bonds issued by Swedish municipalities and regions and by Kommuninvest i Sverige AB for a nominal amount of SEK 13 billion, which may also include purchases of green municipal bonds,
- (d) purchase covered bonds issued in Swedish krona by Swedish credit institutions to a nominal amount of SEK 50 billion,
- (e) offer to purchase, from monetary policy counterparties, corporate bonds issued in Swedish krona by Swedish non-financial corporations to a nominal amount of SEK 2 billion,

(f) offer to purchase, from monetary policy counterparties, commercial paper issued in Swedish krona by Swedish non-financial corporations to such a nominal amount that the Riksbank's holdings of commercial paper acquired within the scope of the asset purchase programme at each time of purchase do not exceed SEK 32 billion.

As of 3 May 2021, the Riksbank would offer its monetary policy counterparties loans with a three-month or six-month maturity with full allocation within the framework of monthly market operations against a variable interest rate corresponding to the repo rate at the time.

30 June. The Executive Board decided to hold the repo rate unchanged at zero per cent. The Executive Board also decided that during the fourth quarter the Riksbank would buy bonds for an aggregate nominal amount of SEK 68.5 billion. This meant that the entire envelope for asset purchases of SEK 700 billion will be fully utilised up until the end of 2021.

The Riksbank would, within the scope of the asset purchase programme for monetary policy purposes, to a nominal amount of up to SEK 700 billion, between 1 October and 31 December 2021:

- (a) purchase Swedish nominal and real government bonds and the Swedish state's green bonds to a total nominal amount of SEK 10 billion,
- (b) purchase Swedish treasury bills to such a nominal total amount that the Riksbank's holdings of treasury bills amount to SEK 20 billion,
- (c) purchase bonds issued by Swedish municipalities and regions and by Kommuninvest i Sverige AB for a nominal amount of SEK 12.5 billion, which may also include purchases of green municipal bonds,
- (d) purchase covered bonds issued in Swedish krona by Swedish credit institutions to a nominal amount of SEK 45 billion,
- (e) purchase bonds issued in Swedish krona by Swedish non-financial corporations to a nominal amount of SEK 1 billion,
- (f) offer to purchase, from monetary policy counterparties, commercial paper issued in Swedish krona by Swedish non-financial corporations to such a nominal amount that the Riksbank's holdings of commercial paper acquired within the scope of the asset purchase programme at each time of purchase do not exceed SEK 32 billion.

20 September. The Executive Board decided to hold the repo rate unchanged at zero per cent. The asset purchases continued during the remainder of 2021, in line with earlier decisions.

The Executive Board also decided to close certain loan facilities launched during the pandemic and to restore at the turn of the year the requirements for collateral that the banks must provide in the case of loans from the Riksbank, that is, to terminate the programme for lending to banks to support corporate lending (UBF) with effect from 21 September 2021, to terminate the possibility for Swedish credit institutions

under the supervision of Finansinspektionen to apply to become temporary monetary policy counterparties as of 21 September 2021, to revoke the Riksbank's decisions of 19 March 2020 and 10 March 2021 on amended restrictions on covered bonds as collateral for credit with the Riksbank from 3 January 2022, which means that:

(a) the collateral value (the market value with a haircut) for covered bonds pledged as collateral for credit at the Riksbank may amount to a maximum of 60 per cent of the total collateral value for the collateral a counterparty pledges to the Riksbank,

(b) the collateral value for covered bonds issued by an individual issuer, or group of individual issuers, may amount to a maximum of 50 per cent of the total collateral value for covered bonds pledged as collateral,

(c) the Riksbank does not accept covered bonds issued by the counterparty, or by a party closely linked to the counterparty, as collateral for credit at the Riksbank. The Riksbank would cease offering three-month and six-month loans as from 21 September 2021.

24 November. The Executive Board decided to hold the repo rate unchanged at zero per cent, and to purchase bonds during the first quarter of 2022 to compensate for forthcoming principal payments in the Riksbank's asset holdings.

The Riksbank would between 1 January and 31 March 2022:

(a) purchase Swedish nominal and real government bonds and the Swedish state's green bonds to a total nominal amount of SEK 12 billion,

(b) purchase Swedish treasury bills to such a nominal total amount that the Riksbank's holdings of treasury bills is maintained at a level around SEK 20 billion,

(c) purchase bonds issued by Swedish municipalities and regions and by Kommuninvest i Sverige AB for a nominal amount of SEK 12 billion, which may also include purchases of green municipal bonds,

(d) purchase covered bonds issued in Swedish krona by Swedish credit institutions to a nominal amount of SEK 12 billion,

(e) purchase bonds issued in Swedish kronor by Swedish non-financial corporations for a nominal amount of SEK 1 billion, which may also include the purchase of green bonds.

3 The Riksbank's forecasts and monetary policy in recent years

Despite the great uncertainty that prevailed when the coronavirus pandemic broke out, the forecasts made by the Riksbank in 2020 for GDP in Sweden and abroad turned out to be relatively well in line with future developments. Behind this is the fact that the pandemic and the ensuing restrictions were longer than expected, although this was offset by the fact that the effects of the restrictions on the economy were less than expected. The most significant deviation from the Riksbank's forecasts was that inflation was clearly higher than expected towards the end of 2021. An important explanation for this was the rapid rise in energy prices, and underlying inflation was considerably closer to the Riksbank's forecasts. One criterion for assessing whether monetary policy has been well balanced is whether it is based on forecasts that appear reasonable in hindsight. All in all, the forecasts on which monetary policy was based in 2020 captured the future economic developments relatively well. In this way, monetary policy contributed to stabilising inflation and the real economy in Sweden.

3.1 The coronavirus crisis – severe economic downturn in a short period of time

Monetary policy affects inflation and the rest of the economy with a delay and is therefore based on forecasts. Normally, the Riksbank adapts monetary policy so that the forecast for CPIF inflation is close to the target a few years ahead. The impact of the pandemic on economic development was so great that monetary policy conducted in 2019 is not expected to have any significant effects on target attainment in 2021. This chapter therefore focuses on monetary policy in 2020 and the forecasts on which it was based. The forecasts made in February 2020 are also included as an illustration of the major economic effects of the pandemic.

Although monetary policy normally affects the economy with a time lag, it should be borne in mind that some effects of monetary policy may arise relatively quickly. This applies, for example, when changes in the exchange rate affect the prices of imported goods. The monetary policy conducted during 2021, described in more detail in Chapter 2, may therefore also have affected inflation to a certain extent during the same year. But that said, the rest of this chapter will focus on the Riksbank's forecasts and monetary policy in the previous year, 2020.

Most of the figures in this chapter show the actual development, together with the Riksbank's forecasts in 2020, for a number of key variables. The purpose of the figures

is to illustrate in a general manner the Riksbank's view of the future and compare it with the outcomes. Last year's account described in more detail the forecasts and reasons for monetary policy decisions in 2020.

February 2020 – the calm before the storm

The forecasts made in February 2020 have been used by the Riksbank as a reference point on many occasions to describe the effects of the pandemic on the economy. At that time, there was knowledge of the new coronavirus. However, the spread was largely concentrated to China, and the economic impact was very limited. The forecasted economic developments over the coming years seemed rather undramatic: The assessment was that, after a few years of high growth and strong economic activity, Sweden's economy would approach normal resource utilisation, while inflation would be slightly lower than the target in the short term and close to the target at the end of the forecast period (see figure 25, 27 and 28). The repo rate was expected to remain around zero per cent in the coming years (see figure 30).

The crisis hits

The coronavirus pandemic has had very serious consequences for people's health and well-being. Around the world, millions of people have died. However, the pandemic has also had very serious consequences for economic development. The dramatic fluctuations in the world economy that followed the outbreak of the pandemic are clearly shown in figure 20 and figure 25. Output abroad showed a very severe fall in a very short period of time, which also curbed inflation significantly. In Sweden, GDP fell very sharply, at the same time as unemployment rose rapidly and inflation fell. As a result of the pandemic, the Riksbank launched a number of different monetary policy measures, which were described in last year's account, and which are also described in more detail in the article "The coronavirus crisis and the Riksbank's asset purchases" in this account.

Quite soon after the acute phase of the pandemic there were signs that the economy in the rest of the world and Sweden would recover, at the same time as the fall in inflation slowed down. The following sections describe the forecasts made by the Riksbank during 2020 and how they related to developments thereafter.

3.2 GDP abroad was captured relatively well in the Riksbank's forecasts

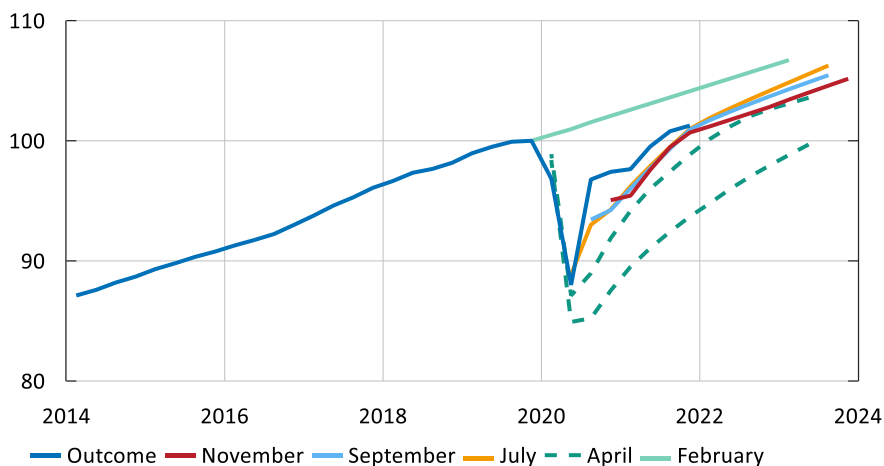
Sweden is a small, open economy, meaning that what happens abroad has considerable significance for what happens in Sweden. To describe this dependence on the outside world, the Riksbank weighs different countries together based on their significance for Sweden's foreign trade as it is calculated in the KIX index. Developments in the euro area are clearly the most significant, and these have a weight of almost 50 per cent in the index.

In the course of 2020, the Riksbank saw that conditions were in place for a relatively rapid recovery of GDP in the rest of the world, so that the course of the crisis could

show a typical 'V-shape' (see figure 20). Firstly, unlike the global financial crisis of 2008, for example, the crisis did not originate from structural weaknesses in the economy.⁹ Secondly, pandemics tend to be relatively short-lived, based on historical experience. But it was very uncertain when and how quickly the turnaround could take place.

Figure 20. GDP abroad, outcomes and forecasts

Index, 2019 Q4 = 100, seasonally adjusted data



Note. KIX-weighted GDP. KIX is an aggregate of the countries that are important to Sweden's international transactions. In April 2020, no forecast was published. Instead, two alternative scenarios were published.

Sources: National sources and the Riksbank.

The link between the pandemic and economic activity turned out to be weaker than expected

The Riksbank's assessments were based on a clear link between the restrictions in society and economic activity. When the spread of infection declined, the restrictions could be relaxed and economic recovery could begin. GDP growth abroad proved to be relatively well in line with the Riksbank's assessment, despite several waves of renewed spread of infection with subsequent restrictions in many countries (see figure 21).¹⁰

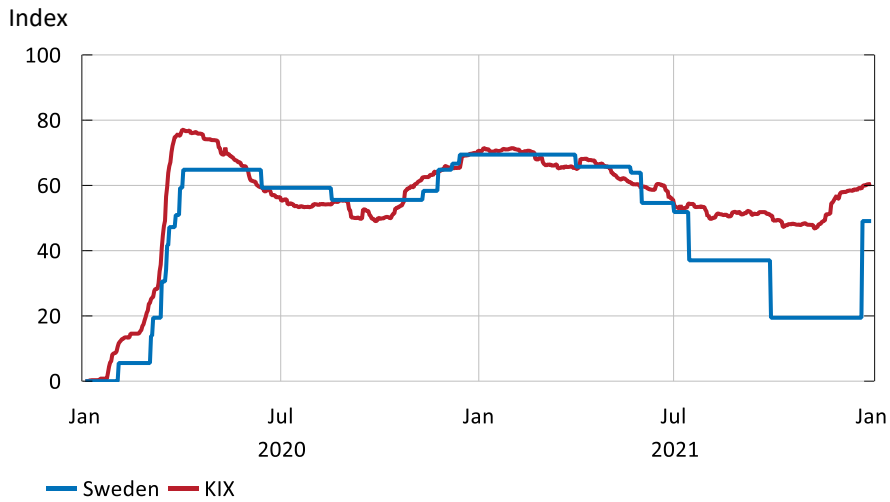
How should one interpret the fact that the recovery in the world's GDP was so well captured by the Riksbank's forecasts, given the considerable uncertainty prevailing? One explanation was the extensive measures implemented by governments, central banks and other authorities around the world, which provided valuable support for the recovery. But it also turned out that the negative effects of restrictions on the economy gradually became less as the actors learned to deal with limitations in society. An illustration of this is given in figure 22, which shows the correlation between

⁹ For a comparison between the financial crisis in 2008 and the coronavirus crisis, see "The Riksbank's measures during the coronavirus pandemic", article in *Financial Stability Report 2020:1*, Sveriges Riksbank.

¹⁰ Chapter 3 of the *Account of Monetary Policy 2020*, Sveriges Riksbank, described alternative scenarios for economic developments made in 2020. It appeared that although the spread of infection developed in line with the Riksbank's most pessimistic scenarios, GDP was in line with the most optimistic scenarios.

GDP and mobility in society for a number of countries in the first and second waves of the coronavirus in 2020. The correlation was not at all as strong during the second wave, which is an indication that the restrictions did not slow down economic activity as much.

Figure 21. Degree of government restrictions to reduce the spread of Covid-19.

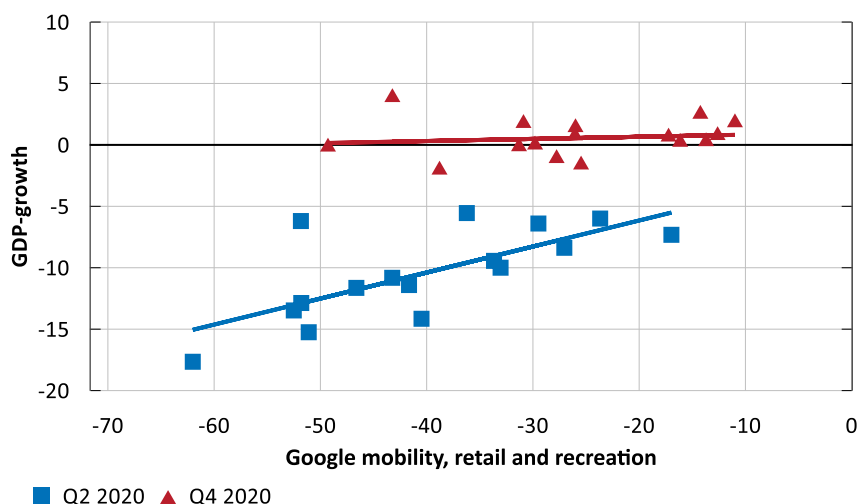


Note. The index measures the extent of measures to combat the spread of COVID-19. The index consists of nine components that describe different types of restrictions, school closures, travel bans, etc. Each component usually has a three-point scale corresponding to “no measures”, “some kind of instruction” and “a ban”. The index corresponds to the average of all components. KIX-weighted refers here to an aggregate of 31 countries that are important for Sweden’s international trade for 2021.

Sources: Oxford COVID-19 Government Response Tracker (OxCGRT) and the Riksbank.

Figure 22. Correlation between mobility in society and GDP

Percentage change compared with the previous quarter



Note. The figure shows the correlation between the quarterly change in Google data for retail and recreation and GDP for a large number of countries in the second and fourth quarters of 2020.

Sources: Google mobility, national sources and Statistics Sweden.

All in all, the forecasts for international GDP must be regarded as relatively accurate, given the great uncertainty that prevailed when they were made (see figure 20). The picture that the rapid fall in GDP would be followed by a strong recovery was broadly correct.

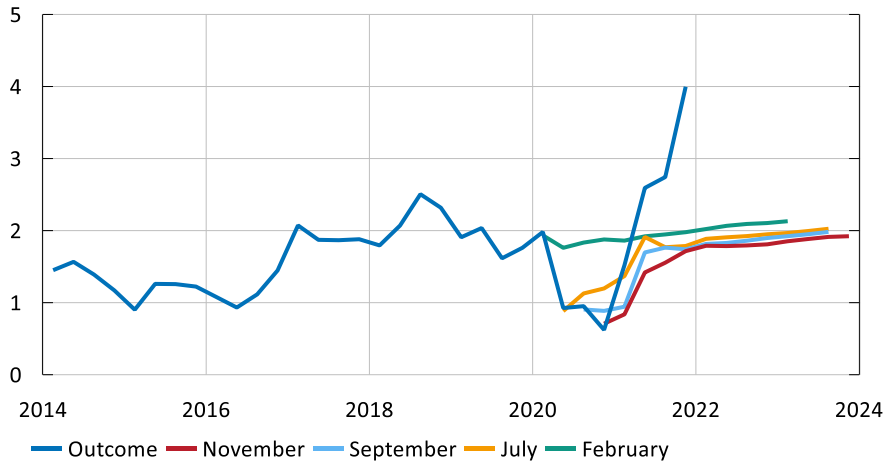
3.3 Inflation abroad rose unexpectedly quickly in 2021 – strongly influenced by energy prices

In 2020, the Riksbank expected inflation abroad to increase after the initial downturn, in line with the economic recovery. In connection with this, energy prices were also expected to start rising again, following the major fall at the start of the pandemic. Although developments over a period were well captured by the Riksbank's forecasts made in 2020, international inflation was clearly higher than expected toward the end of 2021 (see figure 23). A very strong rise in energy prices contributed to inflation in the second half of 2021 reaching the highest level in several decades in many countries. In countries such as the United States and the United Kingdom, underlying inflation also rose sharply, which indicated a broad spread of price increases.¹¹

¹¹ Chapter 1 gives a more detailed description of inflation in 2021.

Figure 23. Inflation abroad, outcome and forecasts

KIX-weighted, annual percentage change



Note. KIX is an aggregate of the countries that are important to Sweden's international transactions.

Sources: National sources and the Riksbank.

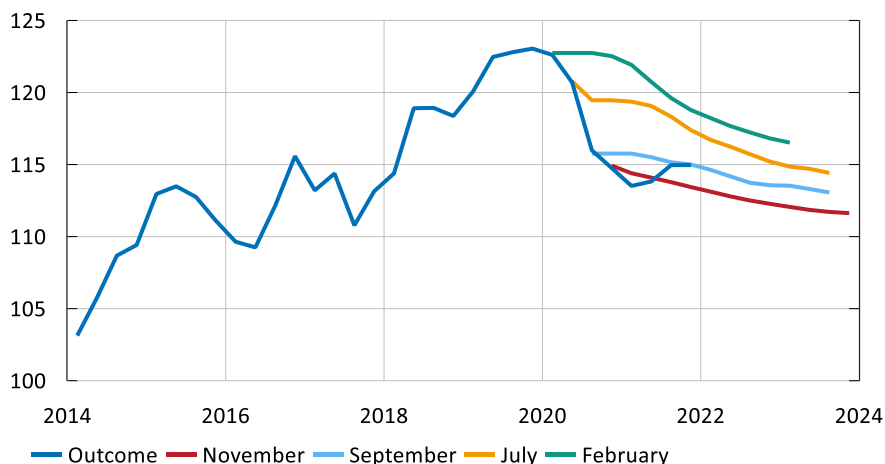
The krona strengthened when financial unrest eased off – in line with the Riksbank's assessment

A link between inflation abroad and in Sweden is the development of the Swedish krona exchange rate. As the krona is a small currency on the world market, it usually weakens in connection with economic crises. However, the weakening in connection with the outbreak of the coronavirus crisis was short-lived and limited, from a historical perspective. When the initial financial turmoil in March-April 2020 had eased, the krona strengthened again and the Riksbank's forecasts indicated that the strengthening would continue (see figure 24). The forecasts produced by the Riksbank generally imply a gradual adjustment to a long-term level during the forecast period.¹² Although the strengthening in 2020 was somewhat stronger than expected, the overall assessment that the krona would strengthen after the most intense phase of the crisis proved to be relatively well in line with future developments.

¹² See the article "The Riksbank's exchange rate forecasts" in the *Account of Monetary Policy 2019*, Sveriges Riksbank, for a detailed description of the Riksbank's thinking regarding exchange rate forecasts.

Figure 24. Nominal exchange rate, KIX, outcome and forecasts

Index, 18 November 1992=100



Note. The KIX (krona index) is a weighted average of the krona exchange rate against currencies in countries that are important for Sweden's international transactions. A higher value indicates a weaker exchange rate.

Source: The Riksbank.

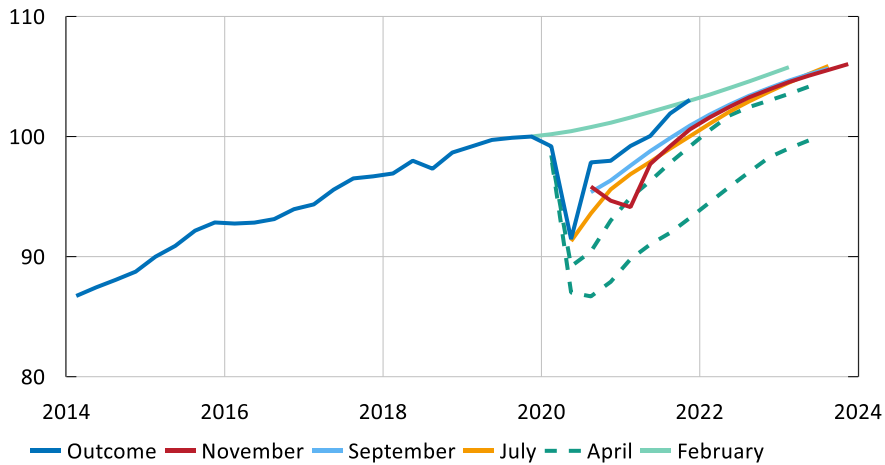
3.4 Recovery in Swedish economy in line with Riksbank's forecasts

Since the coronavirus crisis had in many ways impacted the world's economies at the same time and in a similar manner, there were good reasons to expect a recovery in Swedish production in roughly the same way as in other countries (see figure 20). Given that the grip of the pandemic gradually eased, there was therefore reason to expect a 'V' form in GDP in Sweden as well (see figure 25). However, there were a couple of factors that indicated the downturn would not be as deep in the Swedish economy. Firstly, the restrictions in Sweden during the first wave of the coronavirus were not as extensive as in many other countries. Secondly, the tourism industry accounts for a relatively small part of the Swedish economy compared with countries in southern Europe, for example.¹³

¹³ See Y. Akkaya, C-J Belfrage, V. Corbo and P. Di Casola (2020), "GDP development in Sweden relative to other countries in the wake of Covid-19", *Economic Commentaries* no. 5, 2020, Sveriges Riksbank.

Figure 25. GDP, outcomes and forecasts

Index, 2019 Q4=100, seasonally adjusted data



Note. In April 2020, no forecast was published. Instead, two alternative scenarios were published.

Sources: Statistics Sweden and the Riksbank.

As in the rest of the world, the link between restrictions and economic activity became weaker than expected

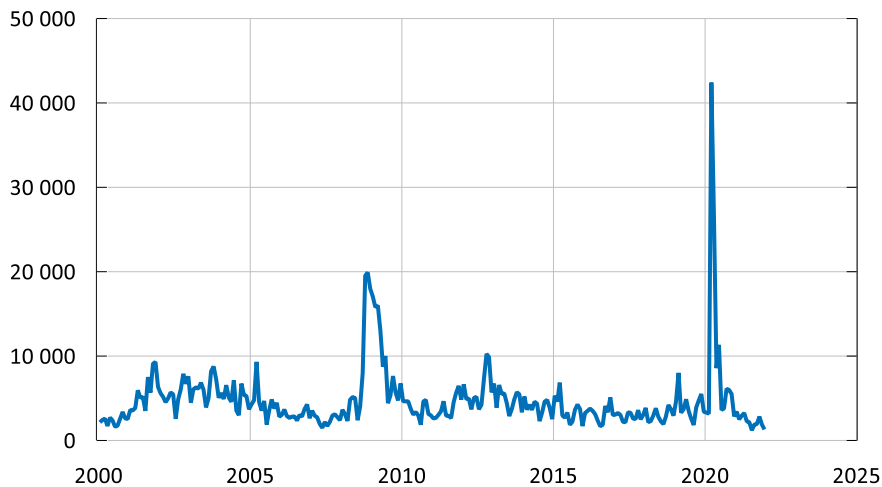
As in the rest of the world, the course of the pandemic was clearly linked to the continued economic developments. However, the Swedish economy continued to grow, despite several new waves of infection and ensuing restrictions (see figure 21 and figure 25). The explanations were, as in the rest of the world, that support from economic policy had contributed strongly to the recovery, while economic agents were increasingly better at managing the constraints imposed by the restrictions. This reduced the negative effects on the economy.

Improvement in the Swedish labour market captured in the Riksbank's assessments

Labour market developments usually lag behind GDP, but in the first half of 2020, the deterioration in the Swedish labour market appeared extremely fast, as in the rest of the world. The number of redundancy notices rose to historically high levels, well above those in the global financial crisis in 2008, which led the Riksbank to fear a sharp rise in unemployment (see figure 26).

Figure 26. Redundancy notices

Number per month



Source: Swedish Public Employment Service.

Thanks to extensive economic policy measures, including the government's short-time work support scheme, the fall in the demand for labour could be largely handled via short-term lay-offs. The increase in the number of redundancy notices was therefore very short-lived. The rise in unemployment was thus not as high as feared, although it nevertheless rose rapidly in a historical comparison (see figure 27). However, the Riksbank predicted that the labour market in Sweden would strengthen as production turned around. Therefore, the forecasts made in 2020 indicated that unemployment would fall back after some time (see figure 27). The developments that followed in 2021 were actually stronger than in the Riksbank's assessments.

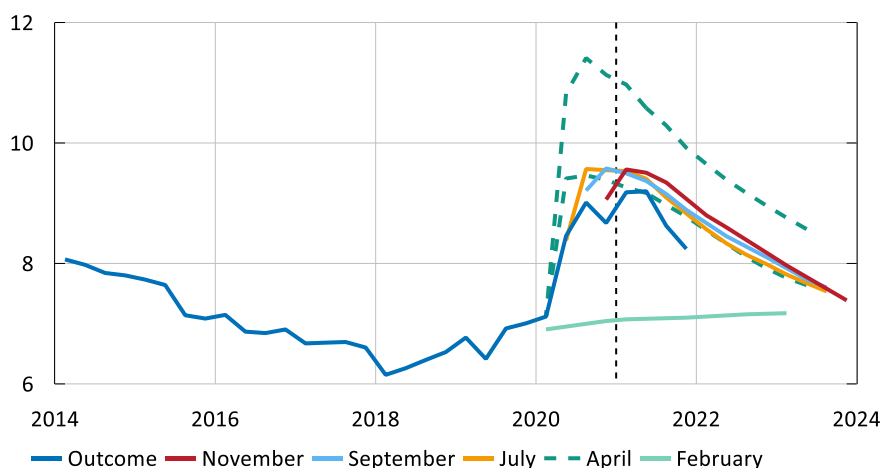
Evaluation hampered by measurement problems

An assessment of the Riksbank's judgements of future unemployment is made considerably more difficult by the fact that Statistics Sweden made changes to its Labour Force Survey (LFS) during the period, which affects official labour market statistics. The Swedish public employment service's statistics on unemployment have therefore become an even more important complement to the LFS statistics in the Riksbank's analyses of the Swedish labour market.¹⁴

¹⁴ See Chapter 1 in this account and the fact box in the April 2021 *Monetary Policy Report* and the article "Changes in the LFS and the Riksbank's analysis of the labour market" in the *Monetary Policy Report*, February 2021, Sveriges Riksbank.

Figure 27. Unemployment, outcomes and forecasts

Percentage of labour force, 15–74 years, seasonally-adjusted data



Note. In April 2020, no forecast was published. Instead, two alternative scenarios were published. The broken vertical line marks a time series break in the LFS in January 2021. For information on the time series break, see Chapter 1 in this account and the fact box in April 2021 Monetary Policy Report, as well as the article “Changes in the LFS and the Riksbank’s analysis of the labour market” in Monetary Policy Report, February 2021.

Sources: Statistics Sweden and the Riksbank.

3.5 Inflation in Sweden rose faster than expected in 2021

There was reason to believe that many of the factors holding back Swedish inflation in 2020 would decline in strength, in line with the general economic recovery. This is why the Riksbank judged that inflation would rise gradually. The driving forces behind inflation in Sweden were largely the same as in the rest of the world. However, there were many uncertain factors in the assessment, including the large fluctuations in household consumption patterns that made it difficult to measure inflation correctly.¹⁵ Despite this, the recovery in the inflation rate was relatively well captured by the forecasts made by the Riksbank in 2020 (see figure 28). However, an unexpectedly large increase in inflation occurred during the second half of 2021. As described earlier, it was also possible to observe this in several other countries during the period, but what drove the development differed in part between the different countries. For Sweden it was above all higher energy prices that affected inflation.

High CPIF inflation towards the end of 2021 mainly due to energy prices

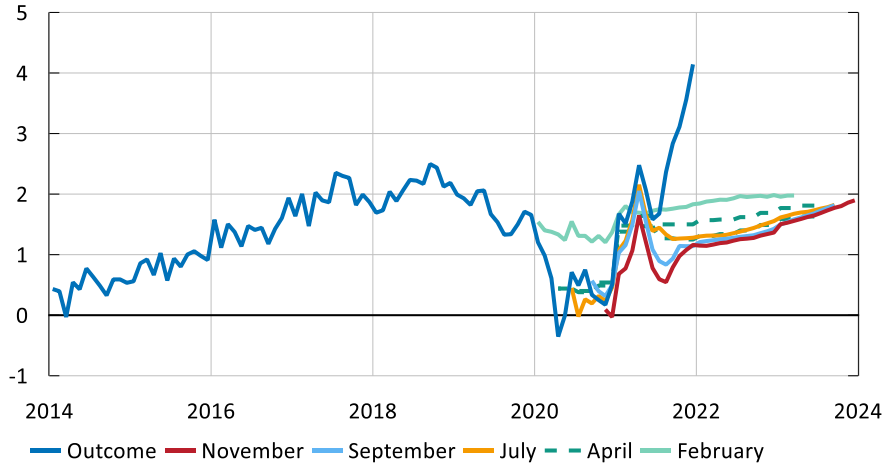
The sharp rise in energy prices caused inflation in Sweden to rise rapidly, from below 2 per cent in July to over 4 per cent in December. This trend surprised both the Riksbank and other analysts, and inflation was clearly higher than expected (see figure 28). The fact that energy prices drove a large part of the development can be seen clearly by comparing the inflation forecasts made in 2020 and the actual development according to the CPIF excluding energy (see figure 29). Although inflation measured in

¹⁵ See the article “Changed consumption during the pandemic affects inflation” in *Monetary Policy Report*, February 2021, Sveriges Riksbank.

this way was also unexpectedly high at the end of 2021, it was considerably closer to the Riksbank's forecasts made in 2020.

Figure 28. CPIF, outcomes and forecasts

Annual percentage change

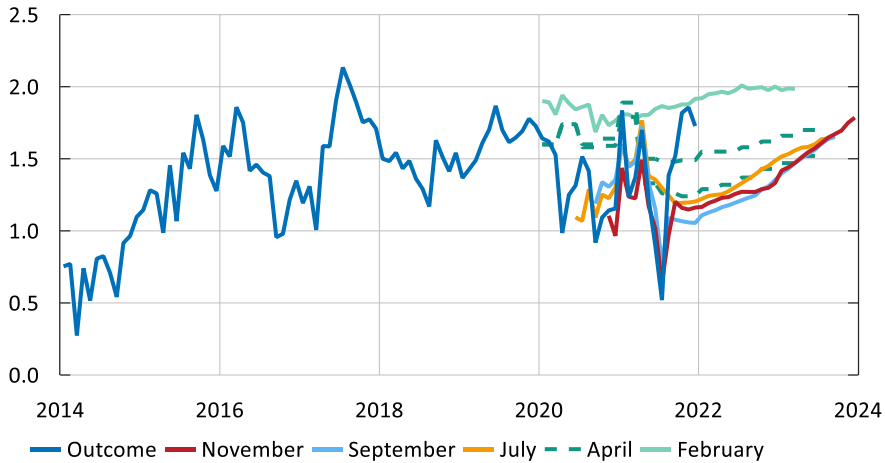


Note. In April 2020, no forecast was published. Instead, two alternative scenarios were published.

Sources: Statistics Sweden and the Riksbank.

Figure 29. CPIF excluding energy, outcomes and forecasts

Annual percentage change



Note. In April 2020, no forecast was published. Instead, two alternative scenarios were published.

Sources: Statistics Sweden and the Riksbank.

3.6 Monetary policy in 2020 contributed to stabilising inflation and the real economy

How economic development would appear once the coronavirus crisis had broken out was very uncertain. All in all, it can nevertheless be said that the assessments of future economic developments made by the Riksbank in 2020 – a 'V-shaped' development of GDP in the rest of the world and Sweden, a gradual strengthening of the krona exchange rate and a rising Swedish inflation rate – appear to be broadly reasonable with hindsight.

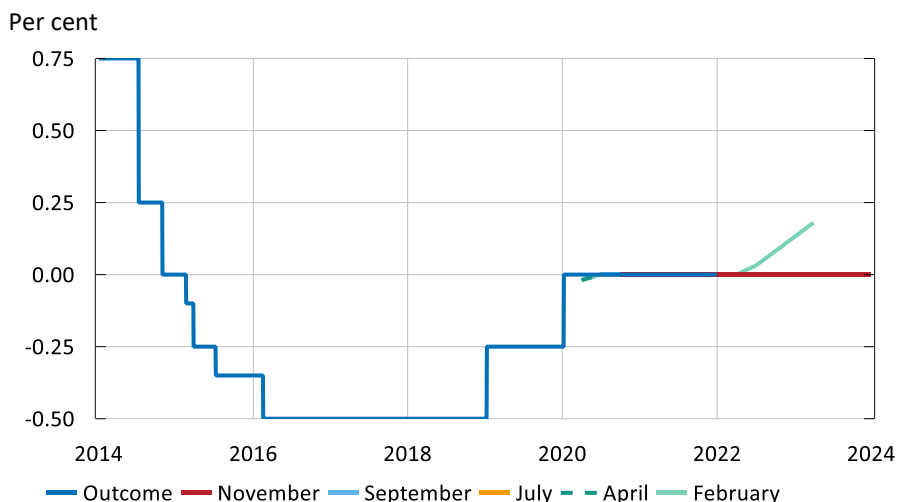
The relationship between the development of the pandemic and economic activity was weaker than the Riksbank had expected. This explains that the deviations between the forecasts and the outcomes for GDP in the rest of the world and Sweden were relatively small, despite the fact that the spread of infection and the associated restrictions developed more disadvantageously than expected.

A clear discrepancy between the Riksbank's forecasts and the future outcomes relates to the sharp rise in inflation that appeared in much of the world, as in Sweden, during the second half of 2021. However, in Sweden in particular, the rise was largely driven by energy prices, which is reflected in the fact that underlying inflation, measured as the CPIF excluding energy, was considerably closer to the Riksbank's forecasts made in 2020.

It may seem surprising that the repo rate forecast made just before the pandemic broke out – in February 2020 – proved to be exactly in line with the future outcome of the repo rate, given the dramatic economic developments that followed (see figure 30). But there are three important factors behind this observation. Firstly, the Riksbank introduced many other monetary policy measures at the beginning of the pandemic, which contributed to making monetary policy more expansionary.¹⁶ Secondly, the nature of the crisis – in which many restrictions prevented parts of household consumption – meant that a cut in the repo rate was not judged to have the same positive effect on demand as otherwise. Thirdly, the repo rate was already at zero and could not be cut very much, even if it had been considered appropriate.

¹⁶ See the article "The coronavirus crisis and the Riksbank's asset purchases".

Figure 30. Repo rate, outcomes and forecasts



Note. Outcomes are daily rates and forecasts refer to quarterly averages. In April 2020, no forecast was published. Instead, a scenario for the repo rate one year ahead was published.

Source: The Riksbank.

The Riksbank's monetary policy response to the crisis took shape in close connection with its outbreak, at extraordinary monetary policy meetings and in a turbulent economic environment where it was not possible to make conventional forecasts for the Swedish economy.¹⁷ The measures were in the nature of emergency crisis management and were ultimately aimed at ensuring the granting of credit in the economy, maintaining the low level of interest rates to households and businesses and limiting the risk of a financial crisis, which would have further exacerbated the situation in the real economy. Relatively soon, monetary policy returned to following normal decision-making processes and was based on economic forecasts.

One criterion for determining whether monetary policy has been well balanced is whether the forecasts on which it is based have been shown to correspond with the outcomes. One overall assessment is that macroeconomic developments in 2021 were broadly in line with the forecasts made by the Riksbank during 2020, although the link between the pandemic, restrictions and economic activity did not follow an expected pattern. The strong rise in inflation toward the end of 2021 was mainly due to an increase in energy prices, which was a very difficult development to predict in 2020.¹⁸ Underlying inflation measured as the CPIF excluding energy was considerably closer to the forecasts at the end of 2021.

Monetary policy in 2020 was thus based on forecasts that proved with hindsight to have been broadly reasonable. An overall assessment is therefore that monetary policy had the intended effect and contributed to stabilising inflation and the real economy in Sweden.

¹⁷ Between 12 March and 21 April 2020, the Riksbank held five extraordinary monetary policy meetings.

¹⁸ For a discussion of the reasons for the rise in energy prices in 2021, see Chapter 1 and "Higher inflation – temporary or persistent?", article in *the Monetary Policy Report*, November 2021, Sveriges Riksbank.

4 Important monetary policy issues

The Riksbank's primary monetary policy task is securing confidence in the inflation target. One reason why this is so important is that it is a necessary condition for monetary policy also in the future to be able to counteract economic downturns with the aid of policy rate cuts. The external monetary policy debate during the year concerned, among other things, the purchase of private securities, the distributional effects of monetary policy and the need for a change in the roles of monetary policy and fiscal policy. Examples of other issues that are important to analyse are how the new Sveriges Riksbank Act will affect the Riksbank's way of working, how monetary policy and other policy areas should best interact and what consequences climate transition could have for monetary policy.

4.1 The purpose of the inflation target

The main task of monetary policy is to maintain confidence in the inflation target of 2 per cent. There is broad political support for this target and it can be regarded as one of Sweden's general economic objectives.¹⁹ The objective does not entail inflation always being at exactly 2 per cent. This is not possible, as there are constant changes in the economy that make inflation vary in a way that cannot be predicted with sufficient precision, or counteracted in the short term. The important thing is that households and companies have confidence that deviations from the target will not last too long.

Common expectations contribute to favourable economic development

The primary purpose of an inflation target is to act as a benchmark for price setting and wage formation in the economy – it becomes what is usually called a nominal anchor. When inflation does not vary so much and economic agents have a common view of how prices will develop in the future, it becomes easier to plan for the long term. This, in turn, improves the possibility of achieving a favourable economic development with good, stable growth.

There are good economic reasons for having a target of 2 per cent and not lower. One reason is that it is becoming more difficult to distribute resources in the economy efficiently via wage formation when average inflation is too low. The reason for this is that, in practice, it is difficult to cut nominal wages. If inflation is low and nominal wages cannot be lowered, then it becomes difficult to adjust relative wages between

¹⁹ For a more detailed review of the role played by the political system in the introduction of the inflation target and the political support the target has had since then, see Chapter 4 in *Account of Monetary Policy 2019*, Sveriges Riksbank.

different professions, companies and sectors. This makes it more difficult to attract labour to the parts of the economy where they would be of best use. This can ultimately lead to both higher unemployment and poorer productivity growth.

The inflation target creates scope to counteract economic downturns

In recent years another function of the inflation target has become increasingly clear: That the inflation target is maintained is a necessary condition for monetary policy to be able to counteract economic downturns with the aid of interest rate cuts.

The essential problem is that general, global real interest rates have fallen and are now historically low. In the terminology of economics, the global real equilibrium rate has fallen. Driving forces behind this development often highlighted include demographic factors and high global savings, that is, conditions that monetary policy cannot influence.²⁰ The low real interest rates mean that all interest rates, including central banks' policy rates, have fallen in parallel and are now on average at historically-low levels.²¹

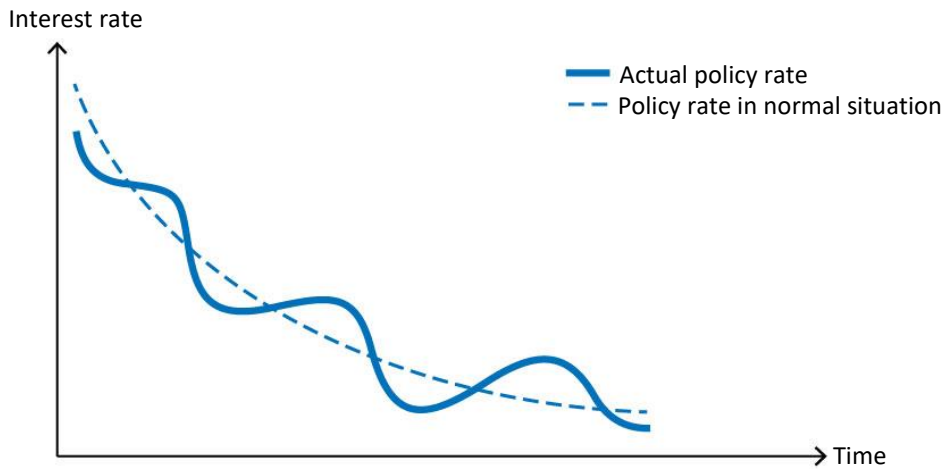
Figure 31 provides a schematic illustration of how the conditions for monetary policy have thus changed. The broken line shows the policy rate in a normal situation, or the average, that has followed the real interest rate downwards. In economics, the dotted line is often called the neutral policy rate. When central banks conduct monetary policy via the policy rate, they change it in a way that can be illustrated with the solid line. A rate lower than the normal rate stimulates demand and inflation, while a rate that is higher has the opposite effect.

It is widely thought that central banks determine the general interest rate in the economy, and that the current low interest rates are only due to the expansionary monetary policy of the central banks. However, the general interest rate is thus essentially determined by factors over which the central banks have no influence. The central banks set their policy rates in relation to this underlying general interest rate.

²⁰ See, for instance, H. Lundvall (2020), "What is driving the global trend towards lower real interest rates?" *Economic Review* no. 1, Sveriges Riksbank.

²¹ Compared with the situation a few decades ago, inflation is also lower, which has meant that nominal interest rates have fallen, in addition to what is entailed in the decline in real interest rates.

Figure 31. When general interest rates fall, the policy rate needs to follow



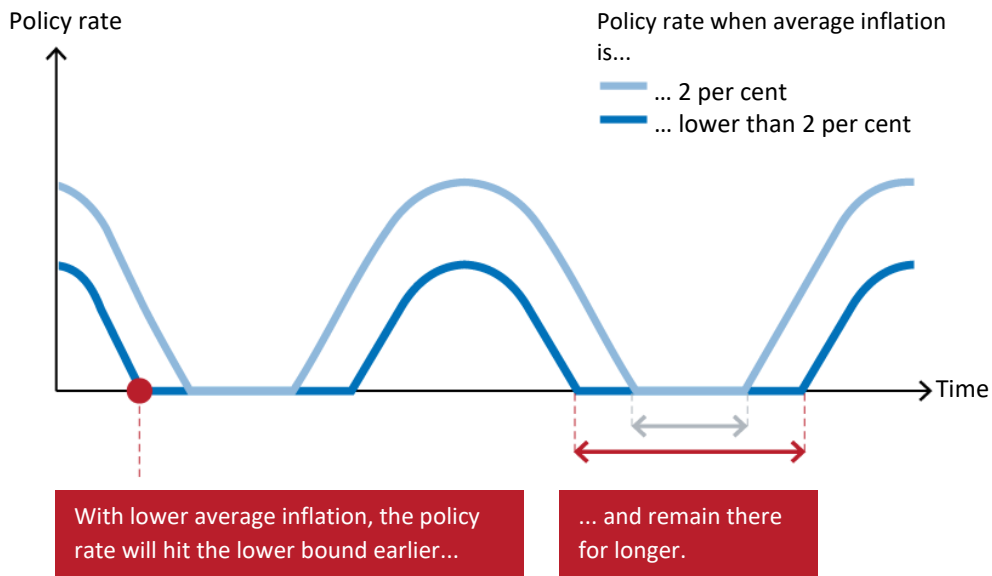
Source: The Riksbank.

As the neutral interest rate is currently at a historically low level, the central bank's policy rate needs to be very low to have an expansionary effect. This is why the policy rates in many countries are currently at or close to a lower bound for the nominal interest rate. A key circumstance here is that the average nominal rate level (regardless of whether it is central bank policy rates or general global interest rates) is affected by how high inflation is on average. If average inflation is very low, say close to zero, instead of being on the target of 2 per cent on average, interest rates will also, on average, be about 2 percentage points lower.²²

This in turn means that if inflation and inflation expectations were to fall and remain below the target for a long time, the scope to cut interest rates would also decline (see figure 32). The policy rate will then hit its lower bound sooner, meaning it cannot be cut further, and needs to remain there for a longer period of time. It will thus become even more difficult to make monetary policy as expansionary as it would need to be to counteract economic recessions. These fears are part of the reason behind the changes in strategy made by the US Federal Reserve in August 2020, and the European Central Bank, ECB, in July 2021.

²² This correlation is described by what is known as the Fisher equation, named after the American economist, Irving Fisher, who is famous for, among other things, his work on the theory of interest and debt deflation during the first decades of the 20th century. The Fisher equation is normally expressed as $i = r + \pi$, where i is the nominal interest rate, r the real interest rate and π (expected) inflation.

Figure 32. More difficult to conduct expansionary monetary policy with lower average interest than the target



Source: The Riksbank.

Recently, inflation has risen around the world (see the section “The high inflation rate during the year” below) and in many places inflation is now above the target. In the short term, the risk of inflation being permanently below the target has thus declined.

One factor that would increase the scope for monetary policy action would be if the real global interest rate situation were to rise. This would cause the policy rate in a normal situation, the broken line in figure 31, to turn upwards and the distance to the policy rate’s lower bound would increase. However, most of the research indicates that global real interest rates will remain low in a historical perspective for a long time to come, and may even fall further for some time to come.²³

4.2 The monetary policy debate

Important to bear in mind the purpose of the inflation target

During the year, the question of whether the Riksbank pursues an excessively expansionary policy has continued to be discussed, and various possible negative side effects of the policy have been highlighted. However, the criticism that has been made does not always take into account the fact that any side effects must be weighed

²³ For example, see A. Auclert, H. Malmberg, F. Mertens and M Rognlie (2021), “Demographics, wealth, and global imbalances in the twenty-first century”, *NBER Working Paper* 29161, 2021, and J. Platzer and M. Peruffo (2022), “Secular Drivers of the Natural Rate of Interest in the United States: A Quantitative Evaluation”, WP/22/30, International Monetary Fund. However, there is also research that indicates that demographic factors will contribute to real interest rates rising in the future, see C. Goodhart and M. Pradhan (2017), “Demographics will reverse three multi-decade global trends”, *BIS Working Papers* No. 656.

against the benefits of a credible inflation target, and that the side effects are sometimes not even a consequence of the monetary policy conducted but are due to the low global real interest rates.

It is, of course, possible to make the assessment that the credibility of the inflation target could have been maintained with a less expansionary policy, that the side effects are so great that the credibility of the target becomes less important or that the inflation target should be formulated differently. However, a prerequisite for a constructive discussion is that it is then clear which of these assessments the reasoning is based on.

One argument in the debate has been that the Riksbank attaches too much importance to the inflation target and ‘chases tenths of a per cent’ of inflation, especially since 2014 when monetary policy was changed in a more expansionary direction. But the purpose of the more expansionary policy has been to maintain confidence in the inflation target, for the reasons discussed in the previous section. In March 2014, the rate of increase in the CPIF was 0 per cent and the average in 2014–2021 was 1.4 per cent. With a less expansionary monetary policy, inflation would have been even lower during this period.

The high inflation rate during the year

In 2021, inflation rose rapidly around the world (see Chapter 1). This was largely due to a sharp rise in the prices of energy, raw materials, electronic components and transport. Some service prices also rose in pandemic-affected sectors when demand quickly started after the most acute phase of the pandemic.

Energy prices are volatile and the rapid rate of increase during the winter has led to high price levels. The assessment was that this part of the upturn in inflation was transitory and that inflation would slow down during 2022, when energy prices no longer push it up, and supply problems are resolved and demand becomes more normal.

However, there is also a risk that inflation expectations will be more tangibly affected and that inflation will as a result become more persistently high.²⁴ This risk is particularly pronounced in countries where inflation has risen substantially, such as in the United States, while it is probably lower in the euro area and Sweden, where the upturn in inflation is not as great. The consequences of the war in Ukraine could also be, through both the effects on energy prices and several other prices, that inflation both in Sweden and abroad will be even higher and more long lasting. There are now some indications that this will be the case, but the considerable uncertainty makes it difficult at present to draw any clear conclusions. How inflation ultimately develops depends on how monetary policy is adapted.

²⁴ For example, see the article “High energy prices – how will other consumer prices be affected?” in *Monetary Policy Report* February 2022, Sveriges Riksbank.

The distributional effects of monetary policy

One discussion that has continued over the year concerns the distributional effects of monetary policy. Some debaters believe that the Riksbank's monetary policy has increased inequality, mainly because it has raised asset prices such as shares and housing prices, which is assumed to have increased the spread of wealth.

One difficulty in studying the distribution of wealth is that, since the abolition of wealth tax in 2007, there are no longer any comprehensive statistics on the assets and liabilities of individuals. This makes it difficult to say how the distribution has changed since then.²⁵

Nevertheless, it seems that some conclusions can be drawn, at least in a slightly longer, international perspective. In many parts of the Western world, there has been roughly the same trend as in Sweden, with strong price increases in the housing and financial markets. Nevertheless, wealth inequality, measured as the richest households share of the wealth, appears to have changed only marginally in recent decades.²⁶ This is probably due to the fact that a large proportion of households own both housing and capital in pension funds and have therefore kept up well.²⁷ However, the distance to groups that do not own such assets has increased.

When discussing the distributional effects of monetary policy, it is important to bear in mind the developments described in section 4.1: Real interest rates around the world have been falling for a couple of decades and are now at historically low levels.²⁸ As long as the long-term real interest rates are low, policy rates will also remain low on average over the business cycle (see figure 31). Over the business cycle, the effects on the distribution of monetary policy as such should largely offset one another. Low real interest rates are probably an important explanation for why asset prices, seen in a slightly longer perspective, have risen and are currently high. This applies not least to housing prices. This means that these distributional effects are not fundamentally about monetary policy but about structural factors that have pushed interest rates down globally.

Redistribution policy is not normally a task for central banks; it is better managed within the framework of fiscal policy, where the measures can be targeted in a different way. Nevertheless, for the sake of argument it is useful to consider what the consequences would be if the central bank were to conduct a less expansionary monetary policy with the aim of achieving a more even distribution of wealth.

²⁵ A government inquiry has initiated an analysis of how such statistics could be collected again, see Dir. 2021:4, Statistik över hushållens tillgångar och skulder [Statistics on households' assets and liabilities].

²⁶ See, for example, D. Waldenström, "Perspektiv på den ekonomiska ojämlikheten i Sverige" (Perspectives on economic inequality in Sweden), *Ekonomisk Debatt* No. 4. The Riksbank's inquiry draws similar conclusions, see Chapter 18.10.3 of A new Sveriges Riksbank Act (SOU 2019:46). A review of the empirical literature is also provided in B. Andersson, M. Apel and I. Häkkinen Skans (2021), "10 questions and answers about the distributional effects of monetary policy", *Economic Commentaries* No. 11, Sveriges Riksbank.

²⁷ See, for example H. Ohlsson, "Hidden wealth", speech at the Swedish Trade Union Confederation, 12 April 2021, Sveriges Riksbank.

²⁸ See, for instance, H. Lundvall (2020), "What is driving the global trend towards lower real interest rates?" *Economic Review* no. 1, Sveriges Riksbank.

If the central bank raises the policy rate, asset prices could certainly be slowed down, even if the interest rate would probably need to be raised relatively substantially. However, this would come at the cost of lower demand in the economy and thus higher unemployment. Although the overall final result could be a more even distribution of wealth, the situation would, in practice, be worse for groups that are already weak. Such a policy would thus result in a more even *relative* distribution, but at the same time would make things worse for vulnerable groups in *absolute* terms.

Attempts to achieve a more even distribution would also risk overburdening monetary policy and could come into conflict with the objectives central banks already have, not least the objective of price stability. Since the financial crisis in 2008–2009, many central banks have had difficulty attaining their inflation targets. A tighter monetary policy with a view to achieving more even distribution would, apart from reducing employment, also dampen inflation further and make it even more difficult to attain the inflation target. The problems of such a development have been explained in Section 4.1: If inflation were to remain below target persistently, there would also be less scope to lower interest rates. The policy rate will then sooner hit its lower bound, where it cannot be cut further, and monetary policy would thus have greater difficulty in alleviating economic recessions that hit employment.

Asset purchases

During the year, the Riksbank's asset purchases have been discussed in the monetary policy debate. The discussion has primarily focused on the purchase of private securities, that is, covered bonds, corporate bonds and commercial paper. The Riksbank began buying such securities for the first time during the financial turmoil when the pandemic broke out in spring 2020.

Some debaters have been critical of the Riksbank's continued purchasing of private securities during 2021, partly because this is assumed to have contributed to further increases in house prices. There has also been a more general discussion about the appropriateness of purchasing private securities at all, partly because they are more risky than government securities, and partly because the purchases could affect the allocation of resources in the economy.

It is usually not very difficult to determine when there is reason to *start* buying private securities. As can be seen in the article “The coronavirus crisis and the Riksbank's asset purchases”, purchases began when the risk premiums for private securities had risen sharply in spring 2020. The purpose was to keep interest rates in general at a low level and contribute to an efficient supply of credit. The purchases were carried out in accordance with the principle of market neutrality and were thus not a way to provide support directly to individual companies.

It is more difficult to determine how long the purchases should continue and when the holdings should start to be phased out, and at what pace. The optimal would be for the purchases, when started, to dampen acute unrest in the financial markets, and to continue as long as they have a stabilising function, and that the holdings can finally be phased out without causing any noticeable effects.

One possibility would have been to stop purchasing private securities as soon as the most acute phase of the pandemic crisis appeared to be over and the markets had stabilised. But towards the end of 2020, the spread of infection increased again in a second wave. The Riksbank therefore decided to expand the purchases of securities and to extend them until 31 December 2021, to keep monetary policy expansionary. It was also still unclear in 2021 how the pandemic would develop. The Riksbank also took the view that, for reasons of confidence, there was a value in pursuing the plans communicated. To quickly close purchases in 2021 and instead start to reduce holdings could have made the policy fragmented if new problems had arisen and risked sowing doubts about the Riksbank's determination to counter similar situations in the future.

The purchases of private securities should be seen as a measure that was necessary in an exceptional situation and which, according to the Riksbank's assessment, needed to continue as long as the uncertainty about the future of the pandemic remained high. The Riksbank currently expects to keep the holding of securities approximately unchanged in 2022 and then gradually reduce them. There are therefore no differences of opinion that the increase in the Riksbank's balance sheet due to the purchases is to be regarded as temporary. However, there are differences of opinion as to how quickly normalisation should take place.

The market for covered bonds is the dominant part of the bond market in Sweden. The purchases of covered bonds contributed to keeping mortgage rates low during the pandemic, which was important to avoid repercussions on the housing market in an already uncertain situation.

Housing prices rose during the pandemic, despite the fact that mortgage rates remained largely unchanged. This indicates that developments were affected by other factors than the expansionary monetary policy.²⁹ In many other comparable countries, housing prices also rose, despite weak economic developments. Instead, the most important explanations probably have to do with the unusual economic effects of the pandemic. Widespread working from home probably sparked a desire among households for a larger home and led to a greater willingness to spend more money on their homes. The restrictions also meant that households made involuntary savings and this freed up scope for the consumption of housing. In addition, the negative effects of the crisis on the labour market did not have a major impact on households with permanent employment, and these households normally find it easier to obtain a mortgage.

Is there a need for a change of roles in macroeconomic policy?

During the year, the roles of monetary policy and fiscal policy in macroeconomic policy have also been discussed. A number of debaters raised the question of whether the fiscal policy framework should be modified and whether fiscal policy should begin

²⁹ See the article "Rapidly rising housing prices despite the coronavirus crisis" in *Monetary Policy Report*, April 2021, Sveriges Riksbank.

to play a more active role than has been the case in recent decades.³⁰ One reason for this is the problem raised in section 4.1, that is, the low global real interest rates have made it more difficult for monetary policy to stimulate the economy.

The low real interest rates have at the same time made it easier to conduct fiscal policy. It has become less costly to implement public investment and structural reforms that would make the economy work better in the long term. Moreover, if the economy is growing at a sufficiently high rate, public debt does not need to increase as a percentage of GDP.

In Sweden, there are good prospects for conducting a more active fiscal policy when the scope for monetary policy is limited, without jeopardizing the sustainability of public finances. The general government debt is low in an international comparison and there is a framework of strong institutions, a controlled budgetary process, and careful reviews and evaluations. The discussion on the role-sharing in macroeconomic policy is important and will most likely continue.

4.3 Questions for the future

Climate transition and monetary policy

One question that will become increasingly relevant going forward is how climate change will affect the conditions for the economy in general and thus monetary policy. Global warming entails new types of risk that also affect economic developments. This may be a case, for instance, of extreme weather such as droughts, flooding and hurricanes becoming more common, or that the effects of gradual warming lead to reduced harvests or rising sea levels.

Climate change as such may affect monetary policy.³¹ However, the necessary adjustment to slow down climate change – climate transition – may also have consequences for monetary policy.

Higher energy prices and the phasing out of old technology

An important part of the strategy to limit global warming is to increase the relative price of goods and services that cause greenhouse gas emissions, compared to goods and services that do not. In the short term, this may lead to higher prices for energy in general, and for products where energy is an important input.³² The world's energy supply comes largely from the burning of fossil fuels, such as coal. When the cost of this type of energy production increases, the price of energy generated without major emissions of greenhouse gases, such as hydroelectric power, can also increase. This is a consequence of the parts of the energy market trading in fossil fuels being largely

³⁰ The Riksbank's representatives have also raised this issue, see P. Jansson, "Is it time to review the division of roles in macroeconomic policy?", speech on 8 December 2021, Sveriges Riksbank.

³¹ See *Account of monetary policy 2020*, Sveriges Riksbank.

³² For example, see I. Schnabel, "Looking through higher energy prices? Monetary policy and the green transition", speech at "Climate and the Financial System" at the American Finance Association 2022 Virtual Annual Meeting, 8 January.

international and of the price being determined by the relationship between supply and demand. Swedish electricity production is largely fossil-free, but electricity is traded to a certain extent on a market integrated with the rest of Europe, where the element of fossil fuel in electricity production is usually larger.

As the prices of energy and energy-intensive products increase, there is a risk that this will also spread to other prices. This can lead to a broader increase in consumer prices, higher wage demands and rising inflation expectations.³³

When the costs of using technology based on fossil fuels increase, it will become less profitable and start to be phased out. The speed at which this happens depends on the rate at which it becomes more expensive to use. The dismantling of the old technology leads to a reduction in aggregate supply. This means that activity in the economy declines and that prices rise at the same time. If the initial increase in energy prices has already provided an inflation impulse that has started to take hold, the inflationary pressures may therefore be further reinforced.

Introduction of new technology

In due time, new technology will be introduced and replaced the old. Technological advances tend to focus on the parts where the most savings can be made, in this case, fossil energy. In the short term, and for a given production technology, it may be difficult to replace fossil energy with other types. In the longer term, when the technology also changes, the possibilities are significantly greater. Economic research indicates that the oil price shocks of the 1970s boosted technological advances with the aim of reducing the need for fossil energy.³⁴

Initially, investment in new technology will increase demand in the economy, which will push prices up. As the new technology is phased in and replaces the old, the long-term supply will increase, which dampens prices. One possibility is that the new technology will be introduced more or less in parallel with the phase-out of the old. If this is the case, the aggregate supply effect – the negative effect of the phase-out of the old technology and the positive effect of the introduction of the new – will be relatively small and have limited effects on inflation.

Greater effects when large countries transition?

In Sweden we have had energy and climate taxes for a long time, which have also been raised on various occasions. For example, a carbon tax was introduced in 1991. However, although energy prices have risen more rapidly over long periods than other prices, partly as a result of this, the rate of inflation measured by the CPIF has not

³³ See the article “High energy prices – how will other consumer prices be affected?” in *Monetary Policy Report* February 2022, Sveriges Riksbank.

³⁴ See J. Hassler, P. Krusell and C. Olovsson (2021), “Directed technical change as a response to natural-resource scarcity”, *Journal of Political Economy* vol. 129, No. 11, which also develops an intellectual framework on technological advances as the economy’s response to finite natural resources – ‘endogenous’ technological development.

been particularly high in the 2000s.³⁵ If anything, inflation has tended to be below the target of 2 per cent.

One explanation for this is that producers and consumers are constantly striving to produce and buy products and technology that save on the more expensive energy, such as ground-source heating and fuel-efficient cars, as this has been profitable for both parties. Energy-saving technological progress is thus a process that continuously goes on, albeit at a varying pace over time.

The future climate transition will lead to the burning of fossil fuels also becoming more expensive for larger countries that are of greater significance for the global economy and that, in many cases, are more dependent on them. The transition will also occur more or less simultaneously in several countries, over a relatively short period of time. This could mean that the effects on the world economy as a whole will be greater and more noticeable.

Trade-offs for monetary policy

It is reasonable to assume that energy prices will increase during the transition and that there will be negative effects on the aggregate supply of the economy when CO₂-intensive technologies are phased out. Investment in new technologies will have positive effects on demand, and as the new technologies are put into use, it will have positive effects on the aggregate supply. A possible scenario is that inflationary pressures will increase, particularly in the beginning of the transition process.³⁶

In this case, the main challenge for monetary policy will be to maintain confidence in the inflation target at as low a cost, in the form of lower demand, output and employment, as possible. A specific challenge is to try and determine the extent to which inflation will rise more persistently. If long-term inflation expectations do not rise, that is, if economic agents see the price increases as more transitory, it is easier for monetary policy to disregard them and refrain from counteracting them with tighter policy. Assessing how higher energy prices and negative supply effects affect inflation in the long term is not a new challenge, but something that monetary policy has always had to deal with from time to time. The analysis of how future climate change might affect the conditions for monetary policy will of course continue in Sweden and abroad.

Different policy areas need to interact

In a situation where interest rates are low and the policy rate cannot be cut further, it is particularly important to discuss and analyse how the interaction between monetary policy and other policy areas should be structured in order for the Swedish economy to develop in the best way. The allocation of roles between monetary policy

³⁵ During the 2000s, energy prices in the CPIF have increased by an average of 3.9 per cent per year, while the CPIF excluding energy has increased by 1.4 per cent.

³⁶ This is to be seen as a partial analysis focusing on possible effects from the climate change. At the same time, of course, other things can happen that affect inflation, but are not related to the transition.

and fiscal policy has already been mentioned. But it is also important to examine what interaction is needed between monetary policy and other policy areas.

Macroprudential policy, the financial regulatory framework and housing policy

Another important interaction is the one between monetary policy and the policy to maintain financial stability. The low level of interest rates is largely due to the historically low global real interest rates. This is also one of the explanations why various asset prices are high, even if the expansionary monetary policy has contributed to them rising further. If asset prices rise for too long in a way that is decoupled from developments in the rest of the economy, this can lead to financial imbalances and ultimately to a financial crisis.

There are many indications that global real interest rates will remain low for a fairly long time. Since real interest rates determine how much central banks can raise their policy rates, they too will remain low in a historical perspective, even when they have a tightening effect on the economy. The low real interest rates will thus continue to stimulate asset prices. In these circumstances, it is difficult for central banks to use the interest rate tool to counteract the risk of financial imbalances. This risk must therefore be managed by macroprudential policy and the financial regulatory framework. Here, for example, it is necessary to ensure that the banks are well-capitalised, that they manage their liquidity risks well and are thorough in their credit assessments.

Housing policy also plays an important role in this context. The fact that housing prices have risen substantially for so long is partly due to the Swedish housing market not functioning very well. There are a number of structural problems that have led to supply not staying in step with demand. These include weak competition in the construction sector, a small supply of land to build on, complex planning processes and a tax system that probably contributes to a lower than desirable mobility in the housing market. It is important to remedy these structural problems to attain a more balanced long-term development in prices on the housing market. The fact that housing prices rise when monetary policy needs to be expansionary in harder times, and inflation is lower than desirable is thus not the main problem.

Wage formation

Monetary policy and wage formation are in many ways dependent on one another. The social partners' inflation expectations are an important starting point in wage bargaining. With regard to monetary policy, the decisive factor is that the social partners believe that monetary policy will be conducted with the aim of attaining the inflation target. At the same time, the way that wages develop is very important for how cost pressures will develop. In this way, they affect the prospects for monetary policy to attain the inflation target. It is important for the long-term credibility of monetary policy that the inflation target can actually be attained. The interaction between monetary policy and wage formation is an important issue to analyse, for both the Riksbank and other authorities and institutions whose task is to contribute to the smooth functioning of the Swedish economy.

When the inflation target was introduced in the early 1990s, the ambition was to try to prevent inflation from rising trend-wise as a result of price and wage spirals. For about a decade, the problem has been the reverse and instead it has been about reducing the risk of a self-reinforcing process between prices and wages in the other direction, which makes inflation permanently settle at too low a level. If this were to be the case, monetary policy would have even less scope to counteract future economic downturns and recessions with the policy rate.

Lately, inflation has risen around the world and is well above the inflation target in many countries. The assessment made by Swedish forecasters has been that inflation will return towards the target relatively soon. However, there is considerable uncertainty and inflation will probably develop differently in different countries. What recent inflation developments nevertheless show is that inflation will not always be at the low side of the target, as has been the case in the past decade, but will sometimes also overshoot it. This may help to strengthen confidence in the objective of the social partners and economic operators in general, and prevent inflation from becoming entrenched at a level that is too low. It is, of course, the task of monetary policy to ensure that inflation is not persistently higher than the target.

A potential e-krona

The use of banknotes and coins is declining in society. At the same time, technological advances with regard to electronic money and payment methods are proceeding rapidly. Sweden is currently one of the countries where digital payments are increasing the fastest.

The Riksbank has the task to promote a safe and efficient payment system, a task that may be more difficult if cash is no longer used as a means of payment by the majority of households and companies in the future. In response to the diminishing role of cash, the Riksbank is investigating whether it is possible to issue a digital complement to cash, the e-krona.

An e-krona would offer the general public continued access to state money, issued by the Riksbank, but in digital form. As the e-krona would be digital, it would be better adapted to our digital society than cash is, and it could be used in situations where it is not possible to pay with cash today.

In many other countries, where cash is used to a greater extent, central banks are also investigating whether they should introduce a digital central bank currency. Digital central bank currencies will most likely be available in different parts of the world in the future, which Sweden needs to somehow address.

To test how an e-krona might look and function, the Riksbank has started a project, the e-krona pilot, to construct a possible technical platform for the e-krona. The objective of the project is for the Riksbank to learn more about how a technical solution for the e-krona could work. By testing this technical solution, the Riksbank will be able to learn more about the possibilities of the solution and also to use it as a basis for comparisons with other technical solutions and models for a possible e-krona.

A state-issued digital krona would affect the whole of society in various ways. The conditions for monetary policy may also be affected, depending on the design of the possible e-krona.³⁷ The question of whether or not Sweden should introduce an e-krona is ultimately a political decision. An inquiry is under way into the state's role in the payment market and the need for central bank money, which is expected to be complete no later than 22 November 2022.

The new Sveriges Riksbank Act

In May 2021, the Government decided to obtain the Council on Legislation's statement on a proposal for a new Sveriges Riksbank Act. In June 2021, the Council on Legislation issued its statement, which has since been taken into account by the Government in the bill submitted to the Riksdag at the beginning of November 2021.³⁸ The legislative proposals in the bill were based on the proposals made by the Parliamentary Riksbank Committee, with representatives of all political parties in the Riksdag, at the end of 2019. The bill also includes the constitutional proposals necessary for the new Sveriges Riksbank Act. It is proposed that the act should come into force on 1 January 2023.

The new act aims to delimit the Riksbank's objectives, tasks and powers in matters such as monetary policy, the financial system and means of payment, as well as how the Riksbank's responsibilities relate to each other and to the responsibilities of Finansinspektionen and the Swedish National Debt Office.

Examples of changes in relation to the current act are that the objective of monetary policy is defined as low and stable inflation, instead of the current formulation that the Riksbank should maintain price stability, and that the Riksbank, without prejudice to the price stability target, shall contribute to the balanced development of production and employment. The latter was something that was previously only apparent from the preliminary works for the current act. The level of the inflation target shall also be approved by the Riksdag, following a proposal from the Riksbank.

The Riksbank is now analysing what changes the new law might entail for the way the Riksbank will work.

³⁷ For a discussion on how an e-krona could affect the possibilities of conducting monetary policy and macroeconomic developments in general, see H. Armelius, P. Boel, C.A. Claussen and M. Nessén (2018), "The E-krona and the macroeconomy", *Economic Review* No 3, Sveriges Riksbank.

³⁸ "A new Sveriges Riksbank Act", Bill. 2021/22:41.

ARTICLE – The coronavirus crisis and the Riksbank's asset purchases

When the coronavirus pandemic broke out in the spring of 2020, the economic situation deteriorated rapidly, conditions on the financial markets worsened and prospects seemed very uncertain. In a short time, the Riksdag and the Government, the Riksbank and other authorities implemented a series of measures to prevent the economic downturn from becoming even deeper and to support the economy during the recovery. The Riksbank's programme for asset purchases formed part of the Riksbank's crisis management. This article describes the motives behind the purchases and summarises the experiences so far. Given the objective of the programme, the Riksbank's assessment is that the purchases have fulfilled their function and that they have contributed to limiting the harmful effects of the pandemic on the Swedish economy.

The coronavirus pandemic – an unusual crisis in several ways

Two years ago, in March 2020, the Riksdag Committee on Finance organised a hearing on monetary policy, as it usually does at that time of year. Although the hearing took place only one month after the publication of a new Monetary Policy Report, the Riksbank noted that the assessments in the report had already become irrelevant. The spread of the coronavirus that had taken place across the world since then had considerably aggravated the situation and the disease and measures to limit the spread of infection caused a drop in demand and disruptions on the supply side. It was clear that the Swedish economy would be affected, but how strongly and to which extent nobody knew at this point. Would production fall quickly and then rise as quickly, resulting in a graph shaped like a V? Or would it instead develop like a U or, in the worst case, an L?

Deep but short-lived economic downturn

Two years later, we do not have the final result as the pandemic is not quite over yet, but nevertheless we have a clear picture of its economic effects. When countries shut down large sections of society in the spring of 2020 in order to reduce the spread of infection, this led to a sharp drop in output and rising unemployment. In Sweden and the countries that are most important for Swedish trade, a recovery started in the

summer of 2020. Many of these countries saw a recovery from much or all of the decline in output in 2021, despite new waves of increased infection.³⁹

For Sweden, the level of GDP at the end of 2021 was in line with the Riksbank's forecast before the outbreak of the pandemic (see figure 25 Chapter 3). At the same time, unemployment in Sweden has receded and is approaching the pre-crisis level. Long-term inflation expectations, as well as underlying inflation, were around 2 per cent at the end of 2021.⁴⁰ So far, the economic damage caused by the crisis therefore seems to have been temporary, which is unusual, for example in comparison with the global financial crisis and, not least, the Swedish crisis of the 1990s.⁴¹ There are several explanations for this. Two important ones are the extensive economic policy support that was implemented in Sweden and around the world, and the COVID-19 vaccination programmes which were launched at the beginning of 2021.

The pandemic was the root cause of the crisis

One important difference between the coronavirus crisis and previous crises is that, this time, the root cause was a pandemic which, together with the measures to mitigate the spread of infection, caused an economic downturn, both through the demand and supply side of the economy, and through disruptions in the financial system. It also happened at the same time across large parts of the world. The economy was therefore affected by a shock that was difficult to relate to previous crises in modern time, as it differed in nature from previous shocks.⁴² This contributed to the great uncertainty over developments in both the short and long terms. The uncertainty was increased by the fact that the situation changed rapidly – too rapid for the economic indicators on which the Riksbank and others rely in normal times to provide a current picture.⁴³ It was therefore initially difficult to get to grips with the way in which the coronavirus crisis had affected the economy.

Active fiscal policy to weather the storm

It quickly became clear, however, that the consequences of the pandemic were major for the entire Swedish business sector, where certain branches of the trade and service sectors were affected particularly severely. Companies did not know how much their operations and employees would be affected and, for many of them, the question was whether operations could even continue. The number of redundancy notices rose to levels far beyond those seen in previous crises (see Figure 26 in Chapter 3). There was a great risk of waves of bankruptcies and redundancies. In order to help viable businesses overcome the crisis and avoid such a development, fiscal policy

³⁹ However, the recovery has been slower in other parts of the world, where many economies are still burdened by the pandemic.

⁴⁰ But due to rapidly rising energy prices, CPI inflation was significantly above 2 per cent; see Chapter 1.

⁴¹ However, the effects that can be measured in the economic statistics do not mention the great human suffering caused by the pandemic.

⁴² It is difficult to draw parallels with previous pandemics, given the major changes in society that have taken place since they occurred; see S. Laséen (2021), "How lasting are the economic consequences of pandemics? 220 years of Swedish experiences", *Economic Review* no. 2, Sveriges Riksbank.

⁴³ Inflation also became more difficult to measure, as the pandemic had a significant impact on household consumption patterns. See the article "Changed consumption during the pandemic affects inflation" in *Monetary Policy Report*, February 2021, Sveriges Riksbank.

needed to play a more active role than in previous crises. The Riksdag and the Government implemented a number of crisis measures with financial support for companies, including short-time work compensation schemes, reorientation support, support for individuals and strengthened safety nets for those who had lost their jobs.

Monetary policy in a new environment to prevent an even deeper downturn

The coronavirus crisis also brought new challenges for monetary policy in comparison with previous crises. Among other things, these challenges were linked to changes in the economic environment. For many central banks, including the Riksbank, the pandemic occurred in a situation where an expansionary monetary policy had been conducted over a long period in order to bring inflation up to the inflation targets. Policy rates were therefore low even before the crisis and several central banks had built up a portfolio of government bonds with the aim of further reducing the level of interest rates. Monetary policy in Sweden, as well as in other countries, also needed to relate to structural changes to the way companies and banks obtain funding (see next section) – changes with significance for the risks in the financial system and the way monetary policy can affect output, employment and inflation via the financial markets.

Another challenge for monetary policy was the great uncertainty as to how the pandemic and measures to mitigate the spread of infection would affect the economy. What measures were needed, how extensive should they be and how long would they be in place to make it easier for businesses and households to overcome the crisis? It was also of great importance to ensure that the situation was not aggravated by the spread of the crisis to the financial markets. The pandemic could then have caused an even deeper economic downturn. Several of the Riksbank's measures therefore also had pre-emptive features to prevent a severe credit crunch.

The importance of liquidity, continued lending and low interest rates

Even though the coronavirus crisis had unusual components, at the start of the pandemic it was fairly clear what the Riksbank's crisis management needed to focus on, although it was not possible to know in advance exactly what measures were required and how extensive they needed to be.

The financial lifeblood must be kept flowing

Something that often happens early in crises is that companies have shortages of liquid funds. When demand for companies' products and services falls sharply, their incomes decrease, making it more difficult to pay wages, for example. This, in turn, leads to more redundancy notices and layoffs. Companies therefore try to maintain their debt-servicing ability, among other means through the loan and credit possibili-

ties that companies have via customers, the banks and the issuing of their own securities. The shortage of liquid funds, and concern for such a shortage, thus creates high demand for credit, which creates stress in the financial markets.

Demand for loans increases among banks at the same time as it becomes increasingly uncertain whether companies are able to repay loans. As a result, the risk of losses on lending increases and the banks therefore tighten the terms for obtaining loans.⁴⁴ Moreover, the banks' own funding is inherently sensitive to shocks, as banks borrow money at short maturities but lend it for longer maturities. The banks' borrowing thus normally needs to be repaid before the bank recovers the money it lends. Uncertainty over the financial strength of companies and the poorer outlook mean that companies' equity values are falling and investors are more likely to seek relatively safe, more liquid assets. Interest rates in various financial markets rise in step with demands for compensation for holding higher-risk securities. Markets function less well and may, in some cases, cease to function. Stress on the financial markets thus increases as a result of tighter financial conditions.

Crises therefore involve a great risk that problems will arise in what is sometimes likened to the economy's blood circulation, that is, the flow of payments and credits. This may exacerbate the economic situation through a self-reinforcing spiral of worsening financial conditions and credit tightening, and it is therefore essential to prevent this happening. What the Riksbank can do, among other things, is to supply money to the financial system so that lending is not affected by a lack of liquidity. The structure of the system means that the Riksbank directs its actions toward the banks and the financial markets. However, the actual aim of the measures is to help keep lending to households and businesses going in order to mitigate the effects of the crisis.

The pass-through of monetary policy needs to be safeguarded

The Riksbank has the statutory task of maintaining price stability, which the Riksbank has specified as a target for inflation of 2 per cent. Monetary policy is adjusted so that the inflation target can be reached in the short term. One prerequisite for this is that the effect of monetary policy can spread through the financial markets and onward through the economy, including via the interest rates faced by companies and households, so that the policy ultimately has the intended effect on inflation.

However, when one or more of the financial markets is functioning less efficiently and uncertainty and risk premiums are pushing up market interest rates, the effect of monetary policy will be less or non-existent. The Riksbank then needs to take further measures to ensure that monetary policy reaches households and companies as planned – that the so-called transmission works. In this way, there is no contradiction between, on the one hand, striving to meet the inflation target and support the real

⁴⁴ The poorer prospects for companies also mean that, for accounting reasons, the banks need to allow for increased loan losses, which weakens their performance and risks slowing down credit granting.

economy, and, on the other, combating problems in various financial markets and ensuring that increased risk and uncertainty do not drive interest rate setting. The functioning of the transmission is a condition for achieving the inflation target.

Measures must be fit for purpose

In order to ensure the supply of liquidity and the transmission of monetary policy, the Riksbank's measures need to be adapted so that they can solve problems arising in the financial system. The Riksbank therefore needs to be prepared to shift or broaden its focus and consider new measures at the same pace as structural changes occur on the financial markets.

Traditionally, the Riksbank's focus has mainly been on the banks, partly because Swedish companies have mainly used bank loans to obtain funding. That is still the case. However, since the global financial crisis, companies, especially larger ones, have increasingly chosen to seek funding directly on the financial markets by issuing certificates and bonds. Wholesale funding now accounts for about one third of companies' loan financing, which, in terms of size, corresponds to just over a quarter of Swedish GDP. It is positive that companies have more options for financing. However, the market is still undeveloped and has a number of other characteristics that make it susceptible to shocks.⁴⁵ During the pandemic, there was therefore reason for the Riksbank not to focus its measures solely on the banks.

The Riksbank's asset purchases formed part of the crisis management

On 12 March 2020, two days after the hearing in the Committee on Finance, the Riksbank held an extraordinary monetary policy meeting and decided on the first crisis measure.⁴⁶ The Riksbank then considered that there was an imminent risk of a major credit crunch that would exacerbate the economic downturn and reduce the chances of meeting the inflation target. This meeting was followed by some twenty more monetary policy decisions, at meetings or per capsulam, in 2020 on measures to ensure the banks' ability to obtain funding, secure lending to companies and households, maintain the low level of interest rates for bank loans and securities borrowing and support the economy.⁴⁷

⁴⁵ Among other things, the market is concentrated to a few larger companies, and real estate companies account for almost half of the outstanding value of all corporate bonds issued. See also S. Wollert (2020), "Swedish corporate bonds during the coronavirus pandemic", *Staff Memo*, October, Sveriges Riksbank, and the article "The Swedish market for corporate bonds" in *Monetary Policy Report*, July 2020, Sveriges Riksbank.

⁴⁶ A programme for lending of up to SEK 500 billion to the banks for onward lending to companies.

⁴⁷ See *Account of Monetary Policy 2020* for details of the Riksbank's meetings in 2020 and the measures decided at each meeting. The decisions taken in 2021 are described in Chapter 2.

A broad combination of substantial measures was necessary

Most of the Riksbank's measures were launched in March and April 2020.⁴⁸ As the future was so uncertain, it was impossible to fine-tune measures and, as the situation was deteriorating quickly, it was not appropriate to apply one measure at a time and then wait for and evaluate the effects. As a precaution, to reduce uncertainty and to create stability, it was necessary to act quickly, broadly and on a large scale. The Riksbank therefore implemented a long series of measures in a short period of time to ensure that there was plenty of liquidity, that the transmission of monetary policy could function and that the level of interest rates could be kept down. An even larger and more lasting downturn in the economy could thereby be avoided, which was also positive for inflation prospects.

Acquisition of assets to maintain the effect of monetary policy and keep the level of interest rates down

The Riksbank's programme for the purchase of various securities was part of its crisis management and was designed to influence the financial markets widely. Purchases of government bonds, which have been part of the Riksbank's monetary policy since 2015, restrain the general level of interest rates and the longer-term interest rates in the economy. These purchases can also be a signal to the market that the Riksbank expects the repo rate to be kept low in the future. Lower government bond yields can also contribute to lowering the yields on higher risk bonds.⁴⁹ Purchases of municipal bonds can be seen as a complement to purchases of government bonds to affect longer market rates. Covered bonds, that is, bonds guaranteed by property and tenant-owned apartments, account for approximately 70 per cent of the total funding of Swedish banks' mortgage loans.⁵⁰ Rising premiums on these bonds, as at the beginning of the coronavirus crisis, may therefore affect lending, and the interest rates faced by households and companies rise. Purchases of covered bonds can lower the level of interest rates and funding costs for banks and thus support lending in the economy.

The purchase of corporate debt securities is an unusual measure for the Riksbank and other central banks and was carried out during the pandemic to stabilise the situation in markets affected by uncertainty and rising risk premiums. If the corporate bond market does not function, companies obtaining funding in this way, which are primarily large companies, will to a greater extent turn to the banks to borrow and thus risk choking off lending to smaller companies. Supporting the market for corporate debt securities will thus also make it possible to ease stress affecting other types of lending.

⁴⁸ Table 1 in the Appendix summarises the Riksbank's measures and the main purpose of each measure. See also the article "How the Riksbank's measures have worked during the corona crisis" in *Monetary Policy Report*, September 2020, Sveriges Riksbank.

⁴⁹ See J. Alsterlind, H. Erikson, M. Sandström and D. Vestin (2015), "How can government bond purchases make monetary policy more expansionary?", *Economic Commentaries*, no. 12, Sveriges Riksbank.

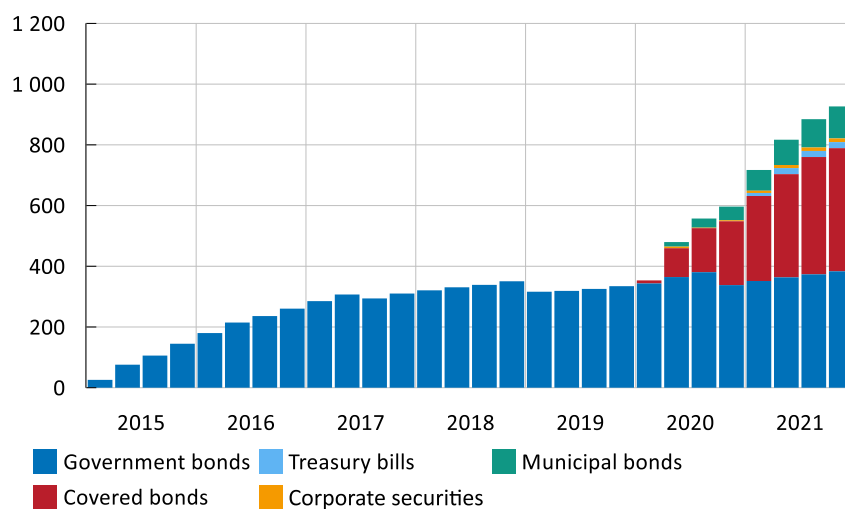
⁵⁰ See R. Eidstedt, D. Forsman and E. Ünlü (2020), "The funding of the major Swedish banks and its effect on household mortgage rates", *Economic Commentaries* no. 14, Sveriges Riksbank.

Decisions on the framework of the programme and on the purchase of individual securities

The Riksbank took its first decision on the asset purchase programme in response to the pandemic on 16 March 2020. In this decision, the Riksbank set a framework for purchases in a total of up to SEK 300 billion until December 2020.⁵¹ After supplementary decisions a couple of days later, the purchases comprised Swedish nominal and real government bonds, bonds issued by Swedish municipalities and regions and Kommuninvest i Sverige AB, covered bonds issued by Swedish institutions and bonds and commercial paper issued by Swedish non-financial corporations. Figure 33 shows the Riksbank's holdings of securities from the start of government bond purchases in 2015 to the end of the last quarter of 2021.⁵²

Figure 33. The Riksbank's holdings of securities

Nominal amounts, SEK billion

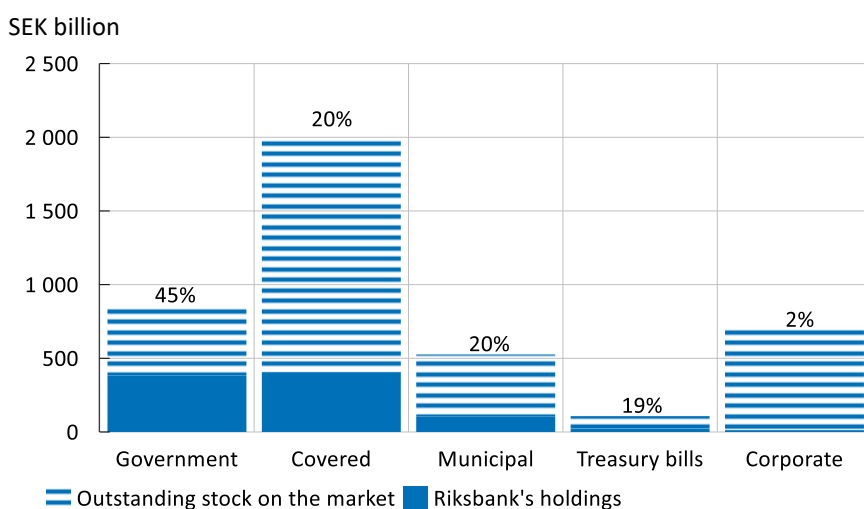


Note. Corporate securities refers to bonds and certificates issued by Swedish non-financial corporations.

Source: The Riksbank.

⁵¹ The framework amount for the pandemic programme and the purchases of government bonds made under the programme were in addition to the purchases made in 2020, which were decided upon before the pandemic.

⁵² More details on the Riksbank's asset purchases in practice are available in D. Hansson and J. Birging (2021), "The Riksbank's asset purchases during the coronavirus pandemic", *Economic Commentaries* no. 12, Sveriges Riksbank.

Figure 34. The Riksbank's holdings of securities compared with the outstanding stock on the market

Note. The diagram shows the Riksbank's holdings in government bonds, covered bonds, municipal bonds, treasury bills and corporate bonds compared with the total outstanding stock for each type of security in the Swedish market. The figures are shown in billions of Swedish kronor as of 31 December 2021. The holding as a share of the outstanding stock has been rounded to the nearest percentage point.

Sources: Statistics Sweden and the Riksbank.

After the initial purchases, the Riksbank established a system in which decisions were taken on the distribution and size of purchases of various securities under the programme for one quarter at a time. This provided the flexibility to adapt monetary policy and asset purchases continuously to the situation in the markets and the economic outlook and inflation prospects. In June and November 2020, the Riksbank also adjusted the framework for the programme and extended it to ensure that the economy would receive long-term and sufficiently extensive support. In total, the framework was extended so that purchases could be made for up to SEK 700 billion until the end of December 2021.⁵³ The Riksbank did not make any further changes to the framework in 2021 and the programme expired on 31 December 2021. As from the first quarter of 2022, the asset purchases made by the Riksbank have been focused solely on compensating for maturing securities.

Figure 34 shows the Riksbank's holdings of various securities at the end of December 2021 in relation to how much of the various securities were on the market. The Riksbank's holding of approximately 45 per cent of government bonds reflects the fact that the Riksbank also purchased government bonds before 2020. The purchase programme during the pandemic resulted in a holding of municipal bonds, covered bonds and treasury bills equivalent to about 20 per cent of the total outstanding stock of the respective securities. Purchases of corporate bonds and commercial paper were considerably smaller. At the end of 2021, the Riksbank owned just under 2 per cent of these bonds and no commercial paper.

⁵³ The decision in November meant that the purchase programme also included treasury bills and green government and municipal bonds to ensure an even broader impact on interest rates.

Developments in the spring of 2020

So far, this article has described the Riksbank's asset purchases during the crisis and their purpose. But what effects have the purchases had? One general observation is that the combination of measures implemented by the Riksdag, the Government, the Riksbank and other Swedish authorities, together with measures in other countries, succeeded in counteracting the turbulence that arose on the financial markets when the pandemic started. The shock to the economy caused by the pandemic was thus not aggravated via the financial markets. The Riksbank's measures, including asset purchases, contributed to this. However, it is difficult to identify the contribution made by any specific measure. It is also difficult to estimate the effect of a measure designed partly to **prevent** something from happening or getting worse – if the measure is successful, there is no worse outcome for comparison.

However, a notion of the effectiveness of the measures can be obtained by observing the development of lending and the financial markets during the coronavirus crisis, partly via different interest rates and credit stocks, and partly through the more subjective assessments of developments over the period made by companies and banks.⁵⁴

The rapid deterioration of credit conditions risked deepening the economic crisis

The spread of the coronavirus and the uncertainty over future developments increased during the winter of 2020, and the precarious situation of companies caused increasing concern in the financial markets. As figure 35 illustrates, the Swedish stock exchange, like stock exchanges around the world, began to fall sharply toward the end of February. Investors wanted to hold safe assets rather than high-risk assets, and this led to a sharp rise in risk premiums in March. This was reflected in the growing differences between the yields on higher risk bonds and the yield on government bonds that figure 36 shows.⁵⁵

Companies were finding it more difficult to obtain funding via commercial paper and corporate bonds, and, in parallel, Swedish banks were finding it more difficult to ensure their financing as, among other things, demand for their covered bonds was falling. The high pressure to sell higher risk bonds, particularly corporate debt securities but also covered bonds, became increasingly difficult to manage in the markets. There was a greater and greater difference between the price at which investors could

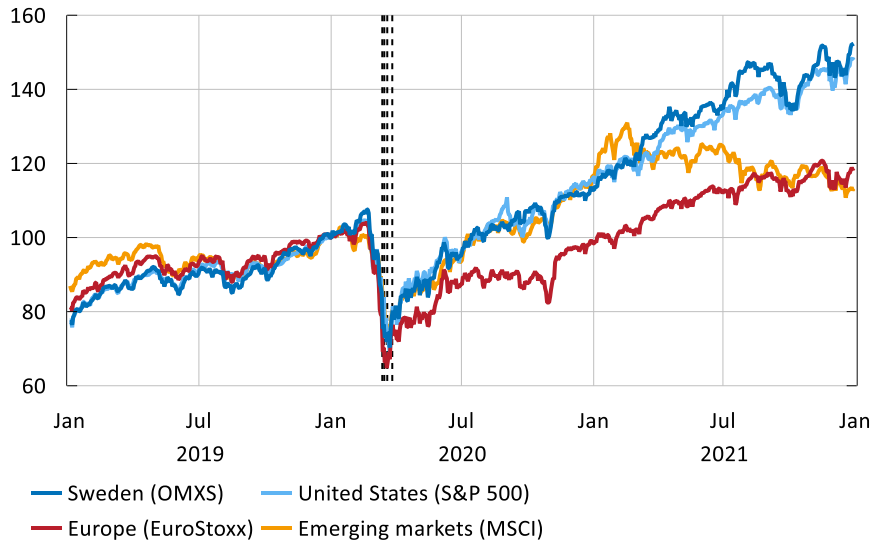
⁵⁴ A detailed chronological review of developments in the financial markets at the start of the pandemic and the measures implemented by the Riksbank and others can be found in P. Gustafsson and T. von Brömsen (2021), "Coronavirus pandemic: The Riksbank's measures and financial developments during spring and summer 2020", *Sveriges Riksbank Economic Review*, no. 1, Sveriges Riksbank. See also Chapter 3 of the final report of the Swedish coronavirus commission, "Sverige under pandemin" (Sweden during the pandemic), SOU 2022:10.

⁵⁵ Figures 34 and 35 illustrate developments in 2019–2021. Figures 1 and 2 in the Appendix only show the development of stock exchanges and yield spreads during the acute situation in March and April 2020. Figures 3 and 4 in the Appendix show how interest rates developed 2019–2021 and March–April 2020 respectively.

consider buying and the price at which corporate bond issuers wanted to sell.⁵⁶ For a period, no new corporate bonds were issued at all.

Figure 35. Equity market movements in local currency

Index, 3 January 2020=100



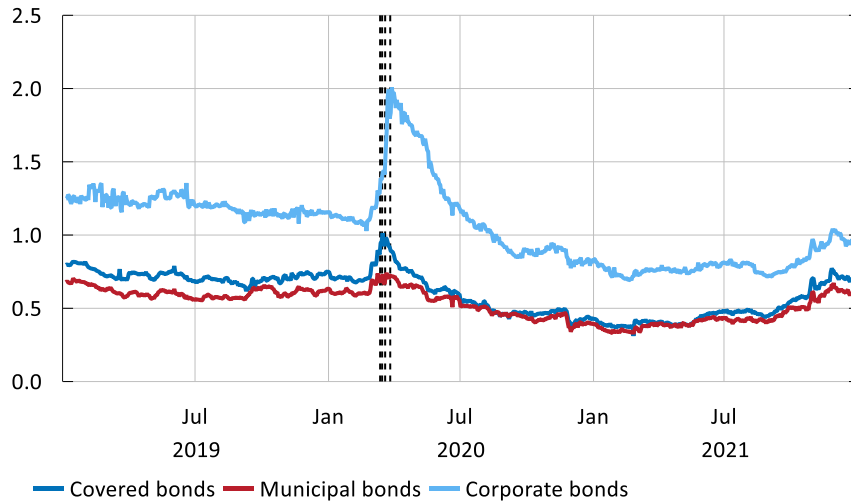
Note. Broken lines mark the Riksbank’s decisions on 12, 16, 19 and 26 March and the decision on 2020 June.

Source: Macrobond.

⁵⁶ See Figures 5 and 6 in the Appendix. More details concerning this development can be found in S. Wollert (2020), “Swedish corporate bonds during the coronavirus pandemic”, *Staff Memo*, October 2020, Sveriges Riksbank.

Figure 36. Yield spread between different types of bonds and government bonds in Sweden, 5 year maturity

Percentage points

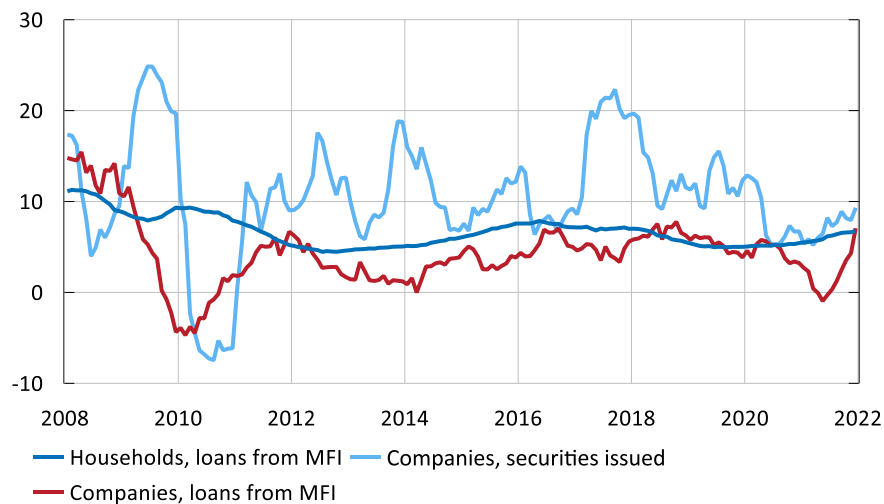


Note. Covered bonds, corporate bonds and government bonds are zero coupon rates calculated using the Nelson-Siegel method. Corporate bonds include companies with credit ratings of BBB or higher. Municipal bonds are benchmark bonds, issued by Kommuninvest i Sverige AB. Broken lines mark the Riksbank’s decisions on 12, 16, 19 and 26 March 2020.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Figure 37. Household and corporate borrowing

Annual percentage change



Note. Lending by monetary financial institutions to households and non-financial corporations adjusted for reclassifications and bought and sold loans. Securities issued by non-financial corporations have been adjusted for currency impact. Loans from MFIs constitute around two thirds of total lending to companies, while securities issues constitute around a third.

Source: Statistics Sweden.

Surveys by the Riksbank, the National Institute of Economic Research and Almi and other contacts that the Riksbank had with companies, banks and actors on the financial markets confirmed the urgent situation. Companies talked about a lack of liquidity as a result of reduced revenues, while conditions for external funding had deteriorated. Many considered that the banks were being overwhelmed by loan applications and that interest rates on loans had risen. At the same time, the banks felt that their funding had become more problematic in both the short and the long term.

However, the aggregated statistics indicate that the situation did not develop into a severe credit crunch. Lending rates to households and companies increased slightly but were stable in principle (see Figure 4 in Chapter 1). Figure 37 shows that, in principle, lending from banks and other monetary institutions to households was not affected. Companies reduced their securities issuance but could partially replace that source of funding with bank loans. Lending to companies increased during the spring and summer of 2020. A breakdown shows that the banks' short-term lending to companies of all sizes increased by 40–50 per cent in a short time at the start of the pandemic (see Figure 7 in the Appendix). Lending at longer maturities also increased, but mainly to large companies, which could indicate that the banks were being influenced by the uncertain future prospects and holding back parts of their lending to smaller companies (see Figure 8 in the Appendix).

The Riksbank's asset purchases and stabilisation of the situation

The widespread concern and the rapidly deteriorating outlook for Swedish companies led the Riksbank to take a number of measures starting on 12 March. On 16 March, the Riksbank announced, among other things, the asset purchase programme described above. Judging by how Swedish interest rates developed immediately after this announcement, it may have contributed to dampening the upturn.⁵⁷ These two dates, together with the decision of 19 March to include the purchase of corporate debt securities in the programme and the announcement on 26 March of the starting point and details of the purchase of commercial paper, are marked in figure 35 and figure 36.⁵⁸

The financial conditions began to stabilise at the end of March and in April. This was probably due to several interacting factors. More and more comprehensive measures were launched internationally. Figure 13 in Chapter 2 illustrates how measures by the Federal Reserve, the ECB and the Bank of England, including their purchases of securities, caused the balance sheets of these central banks to grow strongly. Previously announced measures in Sweden also became more concrete and began to be implemented. The risk premiums on covered bonds fell to close to zero after the Riksbank

⁵⁷ See P. Gustafsson (2022), "An event study of the effects of asset purchases on financial prices during the pandemic", *Staff Memo*, March, Sveriges Riksbank.

⁵⁸ It is important to note that the Government and authorities other than the Riksbank announced measures at the same time. For example, the scheme for short-time work compensation was presented on 16 March. By this point, conditions in Sweden were also being affected by the extensive programmes of measures announced and implemented globally, not least by other central banks.

offered to buy bonds.⁵⁹ The yield spread between corporate and government bonds stabilised in connection with the Riksbank's announcement of the details of the purchase of commercial paper on 26 March and the start of the purchases on 2 April (see figure 36 and Figure 2 in the Appendix).

The Riksbank laid out its plan for the purchase of corporate bonds in mid-2020 and began purchases in September. By that time, the market had recovered and yields on corporate bonds were only slightly above the pre-pandemic levels. There was good reason to believe that the Riksbank's earlier announcement of future purchases of corporate bonds had contributed to this. Although the desired effect on the market had already been achieved, it was important that the Riksbank actually also carried out the purchases. Failure to do so could increase market uncertainty and risk future signals about the purchase of securities having less effect. It was also important to carry out the purchases so that they could quickly be scaled up if the market situation were to deteriorate.

Developments from the summer of 2020 onwards

During the summer of 2020, concern over companies' ability to pay subsided, investors became more willing to hold high-risk assets and the situation in the financial markets became calmer. The supply of credit was maintained, interest rates fell and the yield spread between higher risk bonds and government bonds decreased in trend terms (see figure 36). However, although a financial crisis had been averted and developments had become more stable, the situation was still fragile. The spread of infection had fallen during the spring and summer, but how the pandemic would develop and what that would mean for the recovery and for inflation in the period ahead was very uncertain. During the autumn, there was a setback with an increased spread of infection and increased restrictions in many countries. Monetary policy needed to secure and signal long-term support for the credit supply and for the recovery. The Riksbank therefore expanded the framework amount and extended the programme for the purchase of assets until the end of 2021. In addition, the Riksbank increased the pace of purchases during the first quarter of 2021 in relation to the last quarter of 2020.

Low interest rates and expansionary financial conditions have supported the recovery

The asset purchase programme was put in place in a situation where the unease and unwillingness of investors to hold riskier assets led to an ever greater spread of yields on these assets and on government bonds. By purchasing assets, the Riksbank was able to take over part of the risk from the market. This helped prevent interest rate differentials from increasing further and eventually helped them to decrease. Later in the pandemic, when the situation in the financial markets had stabilised and the development of interest rates was no longer primarily being driven by risk premiums,

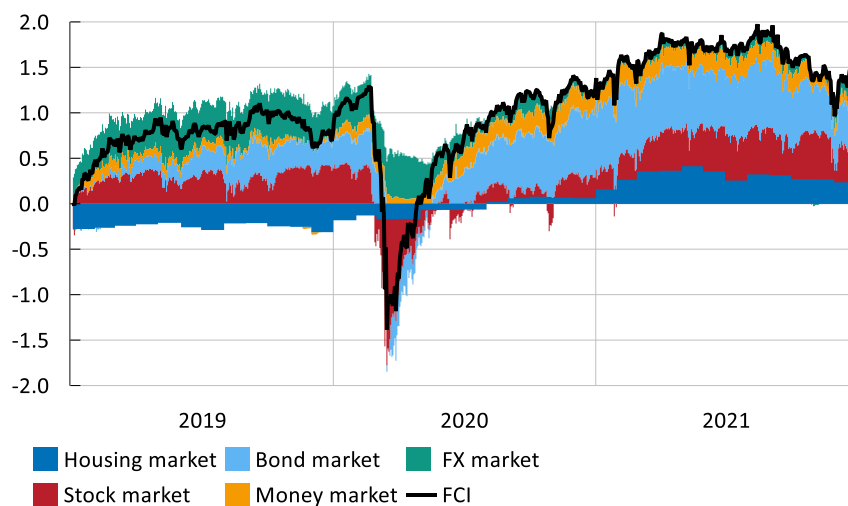
⁵⁹ However, it is difficult to determine exactly how much the Riksbank's purchases contributed to this. See J. Alsterlind (2021), "The development of risk premiums on covered bonds during the coronavirus pandemic", *Economic Commentaries* No. 13, Sveriges Riksbank.

the purchases were aimed more broadly at holding down the level of interest rates in the economy and stimulating demand.

Figure 38 illustrates the Riksbank's financial conditions index (FCI) and gives an overall view of developments in the financial markets during the pandemic.⁶⁰ As shown in the diagram, there was a rapid shift from expansionary to very tight financial conditions in early 2020 due to developments in the stock and bond markets. After the acute situation, conditions became increasingly expansionary from the summer of 2020 until the summer of 2021. The financial conditions have thus provided support for the recovery (see Chapter 1).

Figure 38. Financial conditions index

Standard deviations



Note. A higher value indicates more expansionary financial conditions. The coloured columns show the contributions of the different sub-markets to the index.

Source: The Riksbank.

This development is partly due to the low level of interest rates in the economy. Is it possible to say something more specific about the contribution of asset purchases to this? As mentioned earlier, this is problematic for several reasons, not least because many other measures were implemented simultaneously.⁶¹ One way of trying to identify the effects is to study developments in the financial markets in connection with the Riksbank's announcements concerning the purchases. One such study of the effects seen when the Riksbank launched its purchase programme and later announced

⁶⁰ For details on this index, see J. Alsterlind, M. Lindskog and T. von Brömsen (2020), "An index for financial conditions in Sweden", *Staff Memo*, February, Sveriges Riksbank.

⁶¹ Some conclusions can be drawn concerning the effects based on studies of the Riksbank's purchases of government bonds prior to the pandemic. One difficulty, however, is that purchases during the pandemic consisted mostly of other securities. For analyses of the effects of the purchases of government bonds, see for example O. Melander (2021), "Effects on financial markets of the Riksbank's government bond purchases 2015–2017", *Economic Review* No. 1, Sveriges Riksbank, H. Erikson (2021), "Central bank bond purchases and premiums – the Swedish experience", *Staff Memo*, December, Sveriges Riksbank and R. De Rezende, D. Kjellberg and O. Tysklind (2015), "Effects of the Riksbank's Government Bond Purchases on Financial Prices", *Economic Commentaries* No. 13, Sveriges Riksbank.

changes to the framework amount and duration of the programme indicates that purchases contributed to more expansionary financial conditions via lower yields, a weaker exchange rate and higher equity prices. In particular, interest rates on municipal bonds and covered bonds were affected and these bonds formed a large part of the Riksbank's buying programme.⁶²

Important for the economic outlook and inflation prospects to have sustained support from monetary policy

In the winter and spring of 2021, the economic outlook brightened. Vaccination against COVID-19 took off and it became clear that the second large wave of infection and tighter restrictions were not having the same effects on the Swedish and international economies as the first wave did in the spring of 2020. The recovery was well on the way, but continued support was needed to strengthen the labour market, increase resource utilisation in the economy and thereby raise inflation prospects (see Chapter 2). The Riksbank, like many other central banks, considered that monetary policy needed to be persistent and that there was a high risk that the winding-up of the crisis measures and reduced support from monetary policy, or expectations of this, could break the economic upswing. However, several crisis measures that were introduced in the acute initial stage of the crisis could be phased out in 2021. Among other things, the Riksbank closed loan facilities, for which there had been low demand for some time, and decided to restore the requirements for collateral that the banks have to provide in the case of loans from the Riksbank.

At the start of 2021, the Riksbank signalled that the entire envelope of the asset purchase programme of up to SEK 700 billion would probably be fully utilised. Decisions taken in 2021 concerned how the remaining amount should be allocated to various securities and, as can be seen in figure 33 above, the Riksbank gradually tapered the purchases it made during the year. Other central banks with similar buying programmes also continued to expand their holdings of securities in 2021, although the purchase rates and the distribution of securities differed slightly. Toward the end of the year, the issue of a future reduction of the expansionary monetary policy became more relevant, as did the question of when and at what pace the central banks' portfolios of securities should be decreased (see Chapter 4).⁶³

The highly expansionary monetary policy reflects the extent of the crisis

In 2021, the debate on central bank asset purchases began to be coloured by concerns about the side effects the measures could have and the risks to which they were contributing. Among other things, there was a concern that the purchases had contributed to a general rise in asset prices and, in the case of the Riksbank, housing prices in particular.⁶⁴ However, housing prices rose during the pandemic, despite the fact that mortgage rates remained largely unchanged. This indicates that other factors

⁶² P. Gustafsson (2022), "An event study of the effects of asset purchases on financial prices during the pandemic", *Staff Memo*, March, Sveriges Riksbank.

⁶³ See also the article "Foreign central banks' plans for a gradually less expansionary monetary policy" in *Monetary Policy Report*, September 2021, Sveriges Riksbank.

⁶⁴ This, in turn, has led to further discussions on the distributional effects of monetary policy; see Chapter 4.

than the expansionary monetary policy and purchases of covered bonds influenced developments (see Chapter 4). Among other reasons, the purchases were made to facilitate bank funding in an emergency situation, to counteract an increase in mortgage rates and to reduce the risk of a slump in the housing market that would have further burdened household finances during the pandemic.

More generally, the Riksbank has conducted a monetary policy during the pandemic aimed at mitigating the crisis and supporting the recovery and inflation. This expansionary policy has exacerbated certain vulnerabilities and risks and it is important to identify and manage these.⁶⁵ As always, however, monetary policy has had to focus on the economic outlook and inflation prospects and should be evaluated from that perspective. It is therefore important that asset purchases and other measures are placed in relation to the extent of the crisis and the major negative effects it had and risked having on the real economy and inflation.

The asset purchases have been part of the successful management of the coronavirus crisis

One issue that all economic decision-makers wrestled with in March 2020 was how the coronavirus crisis would develop. How deep would the economic downturn be, how long would the economy be affected, and what needed to be done to counter an even deeper decline and give the economy the best chance to recover? In order to reduce uncertainty and create stability, but also for preventive reasons, it was necessary to act quickly, broadly and on a large scale rather than fine-tuning individual measures. For the Riksbank, this was a matter of ensuring that there was plenty of liquidity and preventing the financial market turbulence from escalating further due to problems in granting credit, as well as of ensuring a low general level of interest rates. The Riksbank therefore implemented a wide range of measures over a short period of time, including the asset purchase programme.

Two years later, it is clear that the coronavirus crisis has been a burden on the economy, but also that the recovery has exceeded many analysts' expectations. Measures by the Riksdag and the Government, the Riksbank and other authorities contributed to averting a financial crisis and, with the support of an expansionary fiscal and monetary policy, the economic situation has become stronger. From this perspective, overall crisis management has been successful. It is, however, difficult to determine the significance of individual measures. Given the objectives of the asset purchase programme, the Riksbank's assessment is that the purchases have fulfilled their function and that they have contributed to limiting the harmful effects of the pandemic on the Swedish economy.

⁶⁵ One example is the high level of household indebtedness, which requires broad reforms in housing and tax policy; see *Financial Stability Report 2021:2*, Sveriges Riksbank.

ARTICLE – The Riksbank's development work

The focus of the Riksbank's monetary policy development work in 2021 was on analysing the rise in inflation and the effects of new monetary policy tools. One question that required analysis was how inflation was affected by high energy prices and bottlenecks in production chains, and to what extent these factors could be expected to have a lasting impact on inflation. With regard to the effects of monetary policy tools, an important issue was to examine in greater detail the consequences of the extensive purchases of securities made by the Riksbank during the coronavirus crisis. In addition, the Riksbank has analysed, among other things, the ECB's new monetary policy framework, developments in the Swedish labour market and how climate change can affect the economy.

Focus on inflation and the effects of monetary policy measures

In 2021, inflation rose sharply both in Sweden and the rest of the world. Several factors contributed to this: freight costs, bottlenecks in production chains and energy prices. In various publications, the Riksbank has tried to investigate the effects of these factors on inflation both in Sweden and abroad. In addition, the Riksbank has analysed and described the strategies of various central banks for dealing with rising inflationary pressures.

As the Riksbank has introduced a number of monetary policy tools during the coronavirus crisis, it has been of the utmost importance to analyse their effects on the economy. An important issue has been the side effects on the economy that may arise from the purchase of assets, including the effects on the distribution of income and wealth. The Riksbank has also analysed the purchases of government bonds made prior to the coronavirus crisis, to gain a better general understanding of how asset purchases affect the economy.

The Riksbank's other development work during the year with a bearing on monetary policy includes describing and analysing the consequences of the ECB's changed monetary policy framework, how the Swedish labour market is to be assessed in the light of the changeover in Statistics Sweden's statistics, the development of the krona and the effects of climate change on inflation and the real economy.

Table 3. Monetary policy-related studies conducted in 2021.

Year of publication 2021, unless otherwise specified

| Articles in Monetary Policy Reports |
|--|
| "Changed consumption during the pandemic affects inflation", February. |
| "Alternative scenarios for the economic recovery", February. |
| "Changes in the LFS and the Riksbank's analysis of the labour market", February. |
| "Development of the Riksbank's securities holdings", February. |
| "Rapidly rising housing prices despite the coronavirus crisis", April. |
| "Alternative scenarios for the recovery", April. |
| "How are higher commodity prices and freight costs affecting inflation in Sweden?", July. |
| "Expansionary fiscal policies abroad are contributing to the recovery", July. |
| "Foreign central banks' plans for a gradually less expansionary monetary policy", September. |
| "Different methods of measuring housing costs in the consumer price index", September. |
| "New monetary policy strategy in the euro area", September. |
| "Are low global real interest rates set to continue?", November. |
| "Higher inflation – temporary or persistent?", November. |
| Economic Commentaries |
| I. Häkkinen Skans, "The corona crisis and the labour market – effects in the short and the long term", No. 1. |
| P. Di Casola, "What does research have to say about the effects of central banks' balance sheet policies?", No. 2. |
| M. Löf, "Cyclically sensitive and exchange rate sensitive prices", No. 5. |
| J. Alsterlind, "Why have US long-term yields risen?", No. 6. |
| G. Lundgren, "Survey-based inflation expectations", No. 7. |
| H. Erikson and D. Vestin, "Pass-through of negative policy rates", No. 9. |
| B. Andersson, M. Apel and I. Häkkinen Skans, "10 questions and answers about the distributional effects of monetary policy", No. 11. |
| D. Hansson and J. Birging, "The Riksbank's asset purchases during the coronavirus pandemic", No. 12. |
| J. Alsterlind, "The development of risk premiums on covered bonds during the coronavirus pandemic", No. 13. |
| E. Bylund and M. Jonsson, "An overview of the economic consequences of the NGFS climate scenarios", No. 14. |

Sveriges Riksbank Economic Review

P. Bacchetta and P. Chikani, "On the weakness of the Swedish krona", No. 1.

M. Gislén, I. Hansson and O. Melander, "Dollar liquidity from the Federal Reserve to other central banks – why and how?", No. 1.

P. Gustafsson and T. von Brömsen, "The coronavirus pandemic: The Riksbank's monetary policy and financial developments in spring and summer 2020", No.1.

O. Melander, "Effects of the Riksbank's purchases of government bonds on the financial markets", No. 1.

C.-J. Belfrage, "The development of the Swedish krona in a longer perspective", No. 2.

S. Laséen, "How lasting are the economic consequences of pandemics? 220 years of Swedish experiences", No. 2.

K. Kladičko and P. Österholm, "Can households predict where the macroeconomy is headed?", No. 2.

Staff Memo

J. Camacho and A. Lindström, "Exchange rate and balance of payments – a correlation that got lost?", April.

A.M. Ceh, J. Manfredini, O. Melander and S. Wollert, "Equity market valuation in light of low interest rates", November.

H. Erikson, "Central bank bond purchases and premiums – the Swedish experience", December.

Working Paper series

C. Bertsch, I. Hull and X. Zhang, "Narrative Fragmentation and the Business Cycle", no. 401.

M. Blix Grimaldi, A. Crosta and D. Zhang, "The Liquidity of the Government Bond Market – What Impact Does Quantitative Easing Have? Evidence from Sweden", no. 402.

N. Amberg, T. Jansson, M. Klein and A. Rogantini Picco, "Five Facts about the Distributional Income effects of Monetary Policy", no. 403.

P. Di Casola and P. Stockhammar, "When domestic and foreign QE overlap: evidence from Sweden", no. 404.

C. Olovsson, K. Walentin and A. Westermark, "Dynamic Macroeconomic Implications of Immigration", no. 405.

O. Faryna, M. Jonsson and N. Shapovalenko, "The cost of disinflation in a small open economy vis-à-vis a closed economy", no. 407.

CHART APPENDIX

Table 1. The Riksbank's measures during the coronavirus pandemic

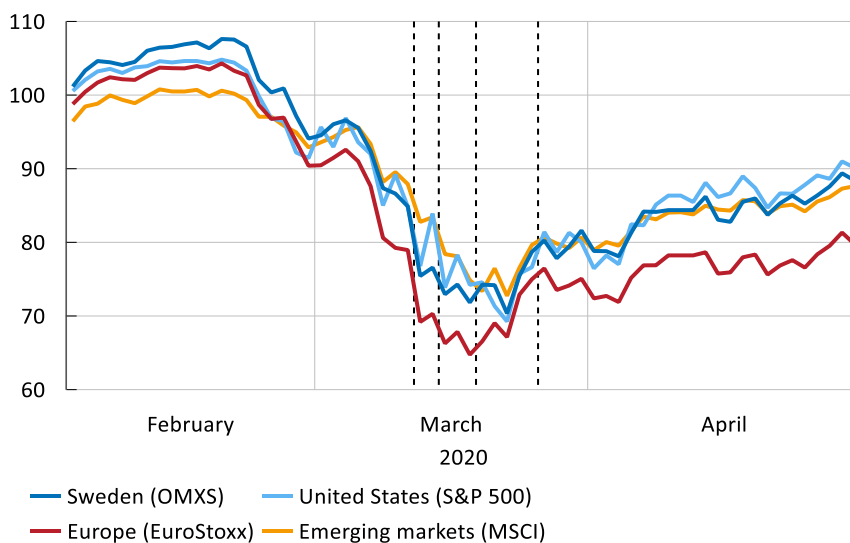
| Measure | Purpose |
|---|---|
| Funding for lending programme | Support credit granting to non-financial corporations |
| Purchases of government bonds, municipal bonds, covered bonds, treasury bills, corporate bonds and commercial paper | Contribute to low interest rates throughout the economy and smoothly functioning credit granting, and in this way creating favourable conditions for the economy to recovery and inflation to rise towards the target |
| Interest rate in standing loan facility cut (The change was part of a planned simplification of the operational framework for monetary policy and brought forward as a result of the coronavirus crisis.) | Ensuring that the overnight rate on the market for Swedish kronor is close to the repo rate. Make it cheaper for the banks to get access to overnight loans. |
| Weekly market operations whereby banks are offered loans against collateral at three and six months maturities at the repo rate. | Strengthening the banks' access to liquidity in Swedish kronor to facilitate their funding and their role as granters of credit for Swedish companies. |
| Easing collateral requirements for borrowing from the Riksbank. | Reinforcing the banks' access to liquidity in Swedish kronor. |
| Loans in US dollars. | Reinforcing access to liquidity in US dollars in the Swedish financial system. |

Note. A detailed description of the Riksbank's measures during the coronavirus pandemic can be found on the Riksbank's website, see <https://www.riksbank.se/en-gb/press-and-published/updates-on-the-riksbank-and-the-coronavirus-pandemic/the-riksbanks-measures-in-connection-with-the-corona-pandemic/>

Source: The Riksbank.

Figure 1. Equity market movements in local currency

Index, 03 January 2020 = 100

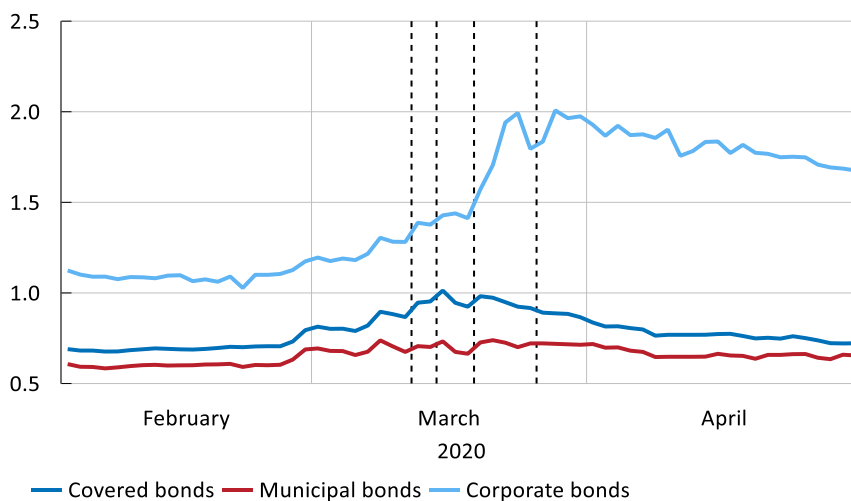


Note. Broken lines mark the Riksbank's decisions on 12, 16, 19 and 26 March.

Source: Macrobond.

Figure 2. Yield spread between different types of bonds and government bonds in Sweden, 5 year maturity

Percentage points

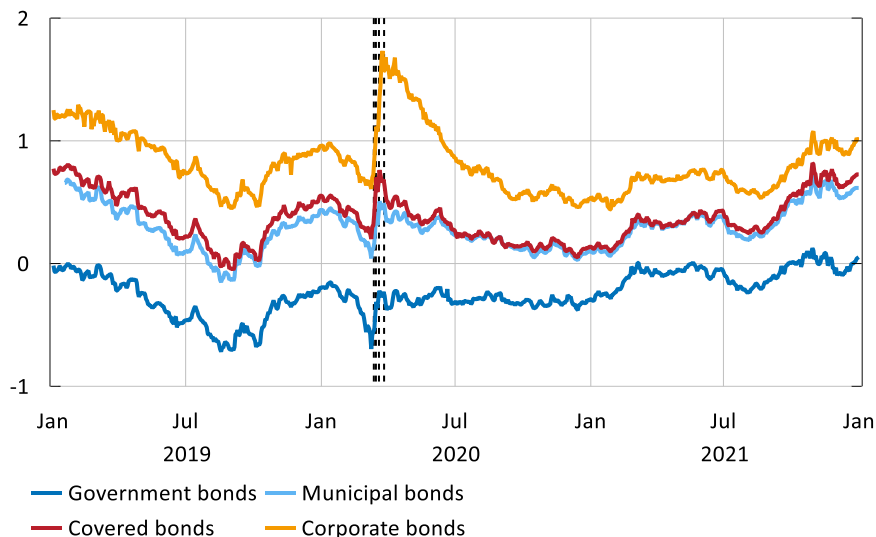


Note. Covered bonds, corporate bonds and government bonds are zero coupon rates calculated using the Nelson-Siegel method. Corporate bonds include companies with credit ratings of BBB or higher. Municipal bonds are benchmark bonds issued by Kommuninvest i Sverige AB. Broken lines mark the Riksbank's decisions on 12, 16, 19 and 26 March.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Figure 3. Bond yields, 5 year maturity

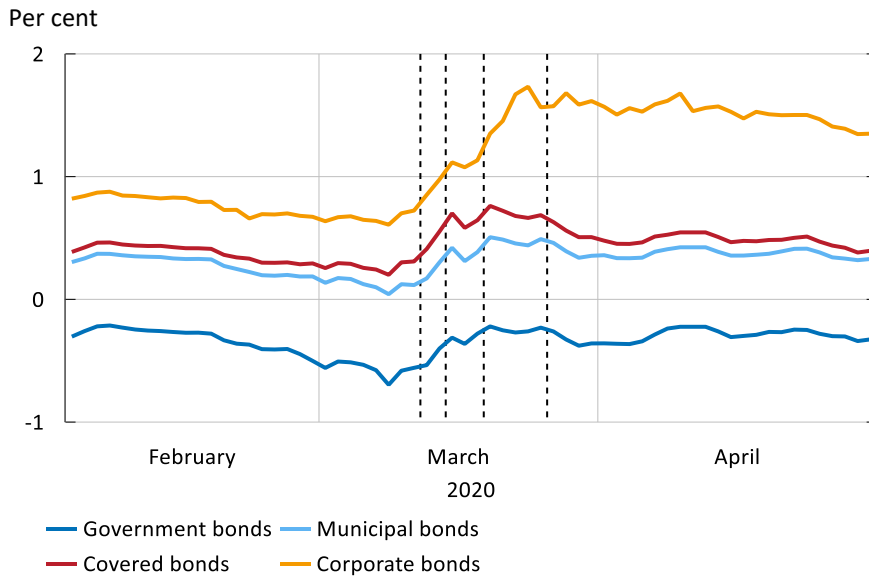
Per cent



Note. Covered bonds and corporate bonds are zero coupon rates calculated using the Nelson-Siegel method, bonds for companies with credit ratings equivalent to BBB or better. Municipal bonds are benchmark bonds issued by Kommuninvest i Sverige AB. Broken lines mark the Riksbank's decisions on 12, 16, 19 and 26 March.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

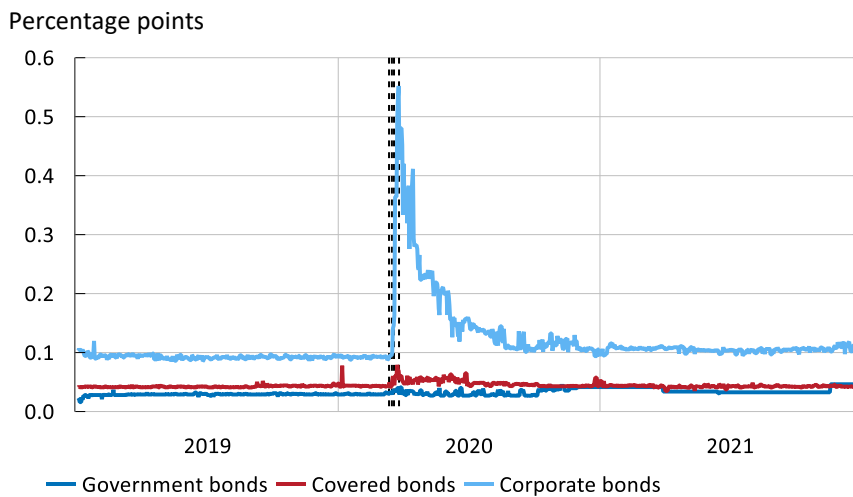
Figure 4. Bond yields, 5 year maturity



Note. Covered bonds, corporate bonds and government bonds are zero coupon rates calculated using the Nelson-Siegel method. Corporate bonds include companies with credit ratings of BBB or higher. Municipal bonds are benchmark bonds issued by Kommuninvest i Sverige AB. Broken lines mark the Riksbank's decisions on 12, 16, 19 and 26 March 2020.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Figure 5. Spread between ask and bid rates on bonds

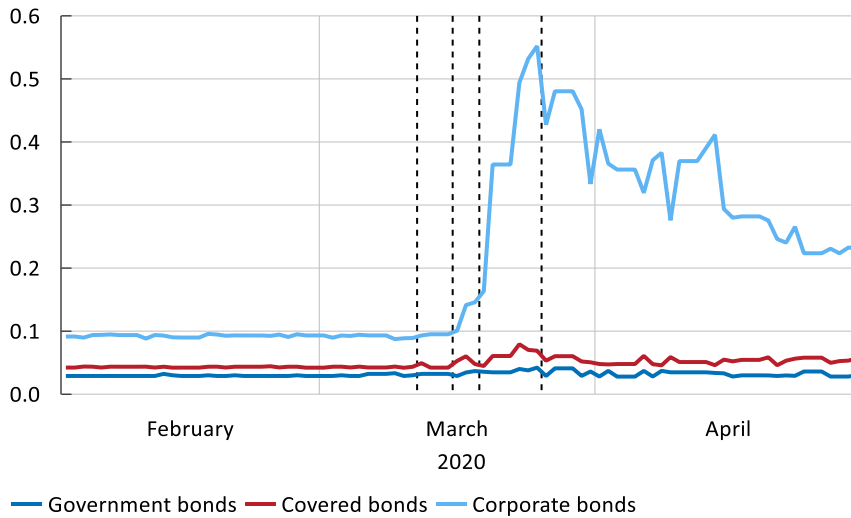


Note. Average listed rates, based on all available nominal government bonds, and just over 50 corporate bonds with varying maturities and with credit ratings equivalent to BBB or higher. Broken lines mark the Riksbank's decisions on 12, 16, 19 and 26 March.

Sources: Refinitiv and the Riksbank.

Figure 6. Spread between ask and bid rates on bonds

Percentage points

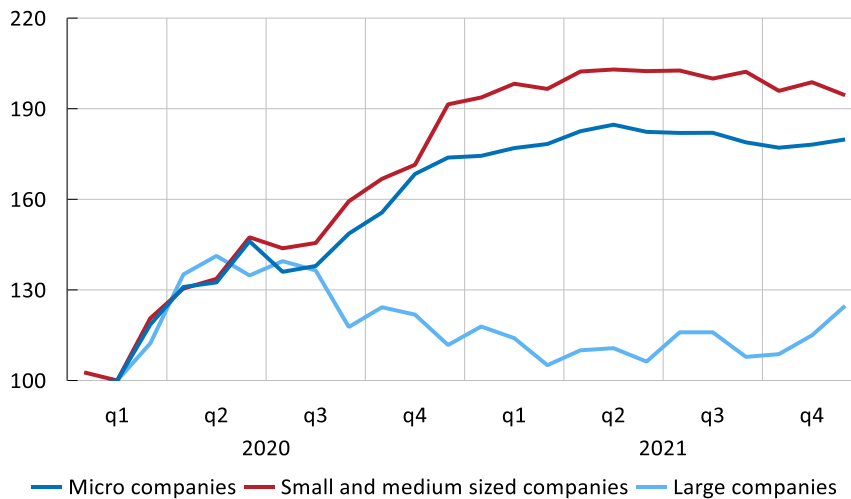


Note. Average listed rates, based on all available nominal government bonds, and just over 50 corporate bonds with varying maturities and with credit ratings equivalent to BBB or higher. Broken lines mark the Riksbank's decisions on 12, 16, 19 and 26 March 2020.

Sources: Refinitiv and the Riksbank.

Figure 7. Short-term lending by banks to companies by size of company

Index, February 2020 = 100

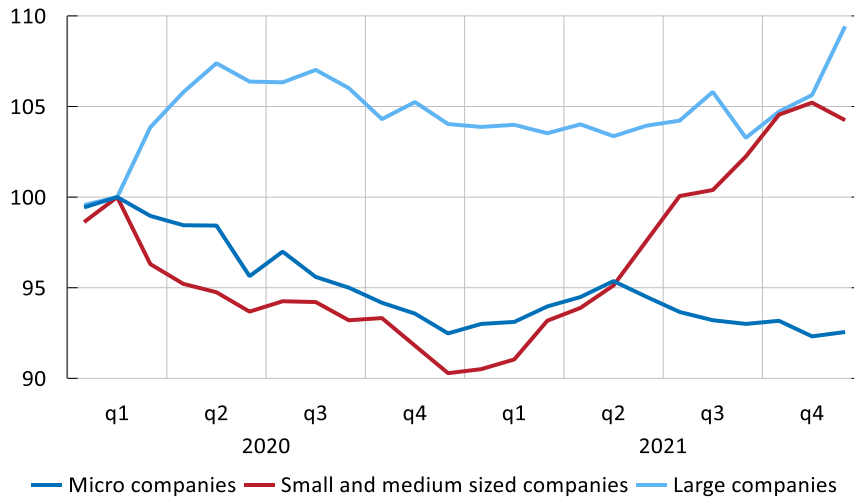


Note. Short and long maturities refer to loan maturities (not interest rates) of up to one year and over one year, respectively. Size breakdown in accordance with European Commission Recommendation (2003/361/EC), in which the combination of number of employees, turnover and assets determines the size classification.

Source: Statistics Sweden (KRITA).

Figure 8. Long-term lending by banks to companies by size of enterprise

Index, February 2020 = 100



Note. Short and long maturities refer to loan maturities (not interest rates) of up to one year and over one year, respectively. Size breakdown in accordance with European Commission Recommendation (2003/361/EC), in which the combination of number of employees, turnover and assets determines the size classification.

Source: Statistics Sweden (KRITA).



SVERIGES RIKSBANK

Tel +46 8 - 787 00 00

registratorn@riksbank.se

www.riksbank.se

PRODUCTION SVERIGES RIKSBANK

ISSN 978-91-87551-02-4 (online)