Monetary Policy Report

February 2022

Rectification 15 February 2022

Text corrected on page 72

Monetary Policy Report

The Riksbank's Monetary Policy Report is published five times a year. The report describes the deliberations made by the Riksbank when deciding what is an appropriate monetary policy[1]. The report includes a description of the future prospects for inflation and economic activity based on the monetary policy that the Riksbank currently considers to be well-balanced.

The purpose of the Monetary Policy Report is to summarise background material for monetary policy decisions, and to spread knowledge about the Riksbank's assessments. By publishing the reports, the Riksbank aims to make it easier for external parties to follow, understand and assess its monetary policy.

The Riksbank must submit a written report on monetary policy to the Riksdag (Swedish Parliament) Committee on Finance at least twice a year (see Chapter 6, Article 4 of the Sveriges Riksbank Act (1988:1385)). During the spring, a special material is submitted as a basis for the evaluation of monetary policy. During the autumn, the Monetary Policy Report is submitted as an account of monetary policy.

The Executive Board made a decision on the Monetary Policy Report on 9 February 2022. The 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.

[1] See "Monetary policy in Sweden" on the next page for a description of the monetary policy strategy and what can be regarded as an appropriate monetary policy.

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 always 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.

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IN BRIEF – Monetary policy February 2022

The sharp fall in GDP abroad during the beginning of the pandemic has largely been recovered. Following the rapid upturn, the growth rate slowed down, although global growth prospects remain bright. An increasing number of countries now assess that COVID-19 is not a danger to society and are removing the remaining restrictions. Not least, conditions are good for household consumption to develop strongly.

In most parts of the world, inflation has risen rapidly over the past year. One common feature is that a large part of the upturn can be explained by rapidly rising energy prices. However, adjusted for energy prices, there are major differences between countries. For instance, in the United States and the United Kingdom, underlying inflation has risen to relatively high levels.

In Sweden, the high inflation is entirely explained by rapid increases in electricity and fuel prices. Inflation adjusted for energy prices is close to 2 per cent. The Riksbank does not expect energy prices to continue to rise this year. This means that inflation will fall back. Although it is uncertain how lasting the high rate of inflation will be, in the forecast inflation is expected to be close to 2 per cent from the middle of next year. Compared with November, the assessment has been revised upwards.

Monetary policy needs to provide continued support for inflation to be close to target in the medium term. The Executive Board has therefore decided to keep the repo rate at zero per cent and that the Riksbank shall purchase bonds for SEK 37 billion in the second quarter of 2022 to compensate for maturing assets. The Executive Board's forecast is, as before, that the holdings will remain approximately unchanged in 2022 and then decrease gradually. The forecast for the repo rate indicates that it will be raised in the second half of 2024, which is slightly earlier than in the assessment in November.

1 Continued support from monetary policy for on-target inflation in the medium term

The global economy has largely recovered the severe fall in GDP that took place at the start of the coronavirus pandemic and global growth prospects continue to be good. In most parts of the world, inflation has risen rapidly over the past year. One common feature is that a large part of the upturn can be explained by rapidly rising energy prices. However, adjusted for energy prices, there are major differences between countries. For instance, in the United States and the United Kingdom, underlying inflation has risen to relatively high levels.

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1.1 Upturn in the global economy and inflation over central banks' targets

Good growth prospects in the global economy despite rapid spread of infection

In recent months, the new variant of the coronavirus, omicron, has spread rapidly across the world. This is expected to restrain GDP growth temporarily at the beginning

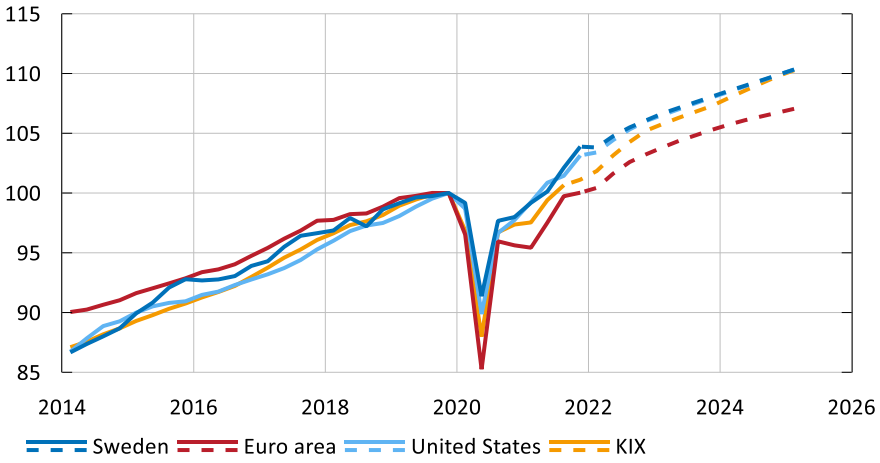
of the year in Sweden and countries important to Swedish trade. An increasing number of countries are now assessing that COVID-19 is not a danger to society and removing the remaining restrictions. The upturn in activity in the global economy is therefore expected to pick up again and in the Riksbank's main scenario it is assumed that the pandemic will have minor effects on overall demand going forward. The increased geopolitical tensions in Europe entails risks, but these are very difficult to quantify and only affect the main scenario to the extent that they are currently reflected in the outcome data on which the forecast is based.

The rapid changes in demand during the pandemic have led to the global logistics chains becoming strained. Production and trade in goods were constrained in 2021, both by shortages of input goods and by the difficulties freight companies had in matching their supply to demand. And when the service sectors gradually opened up, bottlenecks also arose in service production in many areas. However, these problems are expected to subside gradually this year as consumption patterns return to normal, demand grows more slowly and production capacity adjusts.

The sharp fall in the rest of the world´s GDP that took place at the start of the pandemic has largely been recovered (see Figure 1). Following the rapid recovery, the growth rate is now slowing down, although the international prospects remain good. This applies, not least, to the preconditions for household consumption to develop strongly as the labour markets are continuing to strengthen, saving is high and economic policy remains expansionary. Overall, KIX-weighted GDP growth is expected to amount to 4 per cent this year, almost 3 per cent in 2023 and just over 2 per cent in 2024.

Figure 1. GDP in Sweden and abroad

Index, 2019 Q4 = 100, seasonally adjusted data



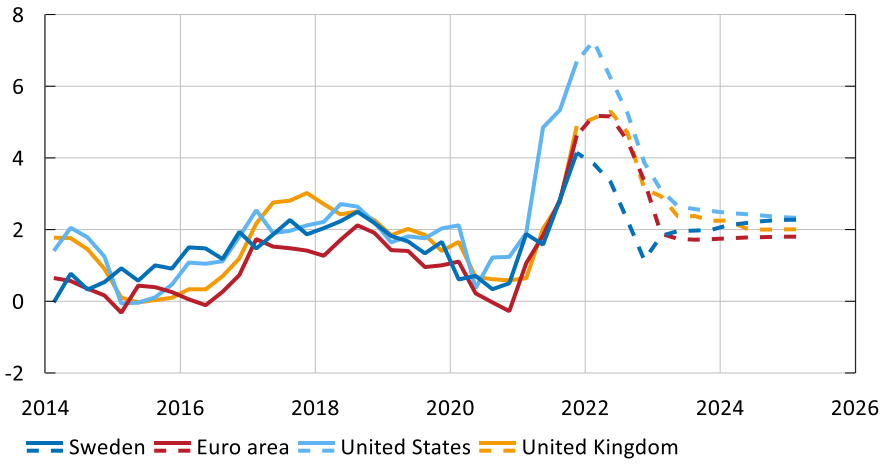
Note. The KIX is an aggregate of countries that are important for Sweden's international trade. Solid lines refer to outcomes, broken lines represent the Riksbank's forecast. The forecast for the United States is close to that for Sweden, and is therefore difficult to distinguish in the figure.

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

In most parts of the world, inflation has risen rapidly over the past year (see Figure 2). The largest upswing has been in the United States, where inflation is now close to 7 per cent. Energy prices are an important explanation for the rise, but also measures of underlying inflation, which disregard energy and, in some cases, rapidly rising food prices, have also risen in many countries (see Figure 3). Particularly in the United States, prices for goods and prices in certain service sectors that were closed during the pandemic have increased substantially. Energy prices are not expected to continue to increase in 2022, which will dampen global inflation. The high underlying inflation in, for example, the United States and the United Kingdom will also be subdued by monetary policy being adjusted. The central banks in these countries have communicated that they are planning to reduce the extensive support from monetary policy. Other central banks are also moving in a less expansionary direction and bond yields have risen, as market participants are now expecting a faster tightening of monetary policy than was previously anticipated.

Figure 2. Inflation in various countries and regions

Annual percentage change

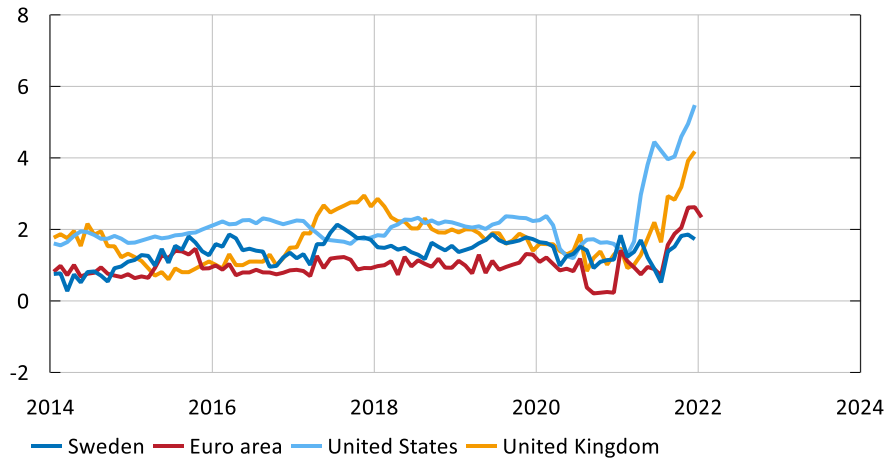


Note. Consumer prices refer to the CPIF for Sweden, the CPI for the United States and the United Kingdom and the HICP for the euro area. Solid lines refer to quarterly outcomes, broken lines represent the Riksbank's quarterly forecast.

Sources: Eurostat, national sources, U.S. Bureau of Labor Statistics and the Riksbank.

Figure 3. Underlying inflation in various countries and regions

Annual percentage change



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

Sources: Eurostat, national sources, and the U.S. Bureau of Labor Statistics.

Rising market rates and the increased geopolitical tensions in Europe have impacted international financial markets and led to declines in equity prices and wider spreads between yields on risky and less risky assets. International developments have also affected Swedish conditions and interest rates have risen. However, this upturn is from low levels and the financial conditions are on the whole assessed to remain very expansionary (see Chapter 2).

The Swedish krona is weaker in relation to November in terms of the KIX index. The weakening of the krona has been connected to the increased turbulence on the financial markets. Variations in the Swedish krona exchange rate usually coincide with changes in risk appetite on the financial markets. In the coming years, the krona exchange rate is expected to slowly strengthen.

Swedish economy remains strong

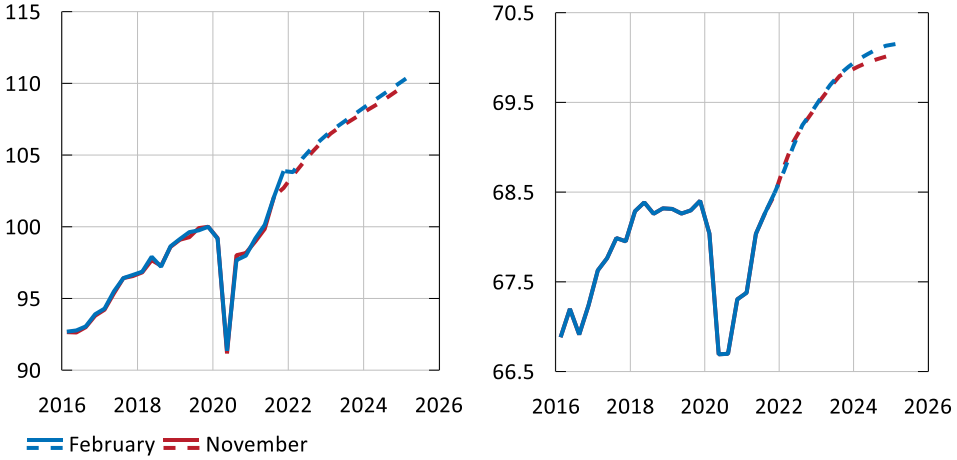
As in other countries, activity in the Swedish economy is continuing to increase. The rapid recovery has created a situation in which companies in different parts of the economy are finding it difficult to produce enough to meet demand. Despite these supply problems, Statistics Sweden's GDP indicator suggests that GDP grew strongly in the fourth quarter. Although the highest growth rate numbers are judged to be behind us, after a slowdown at the start of the year the economy is expected to grow at a good pace going forward and the labour market is expected to improve (see Figure 4).

Employment has more than recovered from the fall in 2020, but demand for labour remains high and the number of persons employed is therefore expected to continue to increase in the coming years. There are still differences between various industries and sectors, but increasing numbers of companies are reporting shortages of labour

and the Economic Tendency Survey reports that recruitment plans in the business sector are on a very high level. At the same time, the number of newly registered job openings at the Swedish Public Employment Service and vacancies according to Statistics Sweden are on a very high level, and the number of redundancy notices is very low. The employment rate is expected to continue to rise, unemployment is expected to fall back and, from the end of the year, the situation on the Swedish labour market is assessed to be relatively strong.

Figure 4. GDP and the employment rate in Sweden

Index, 2019 Q4 = 100, seasonally adjusted data (left-hand graph) and percentage of population, 15–74 years, seasonally-adjusted data (right-hand graph)



Note. Solid line refers to outcome, broken lines represent the Riksbank's forecast. 2021 data for employment and population are adjusted by Statistics Sweden for the time series break in January 2021.

Sources: Statistics Sweden and the Riksbank.

Substantial variation in CPIF inflation this year too

Inflation increased rapidly in Sweden in 2021, although significantly less than in many other countries. In December, CPIF inflation was 4.1 per cent, the highest level since the inflation target was introduced in 1995. However, for the whole year 2021, inflation was lower at 2.4 per cent. The substantial fluctuations in CPIF inflation in recent years are due to energy prices. The effect on inflation of variations in energy prices arises quickly, as prices for fuel and household electricity are included in the usual measures of inflation and prices for these products change more frequently than other prices (see the article "High energy prices – how will other consumer prices be affected?"). The rapid upturn in inflation is creating uncertainty over how persistent the high level of inflation will be. CPIF inflation is expected to remain at around 4 per cent for a couple of months more. However, it is reasonable to assume that energy prices will not continue to increase this year, which is also reflected in forward pricing for energy. The contribution made by energy prices is therefore expected to lessen during 2022 and this is one important reason why CPIF inflation will fall back

in the forecast.[2] At its lowest point, CPIF inflation is expected to be close to 1 per cent at the end of the year before rising again (see Figure 5). From mid-2023, inflation is expected to be close to the target of 2 per cent.

Adjusted for energy prices, inflation has been more stable and, in the latest measurement from December 2021, the increase in the CPIF excluding energy was 1.7 per cent (see Figure 5). The median of different underlying measures, an indicator for inflation in the short to medium term, has risen since the middle of last year and was 2.2 per cent in December. The upturn in underlying inflation last year can be explained by higher general demand in the economy in combination with certain supply problems. For example, the rapid recovery of demand for certain services has resulted in some upward pressure on service prices.

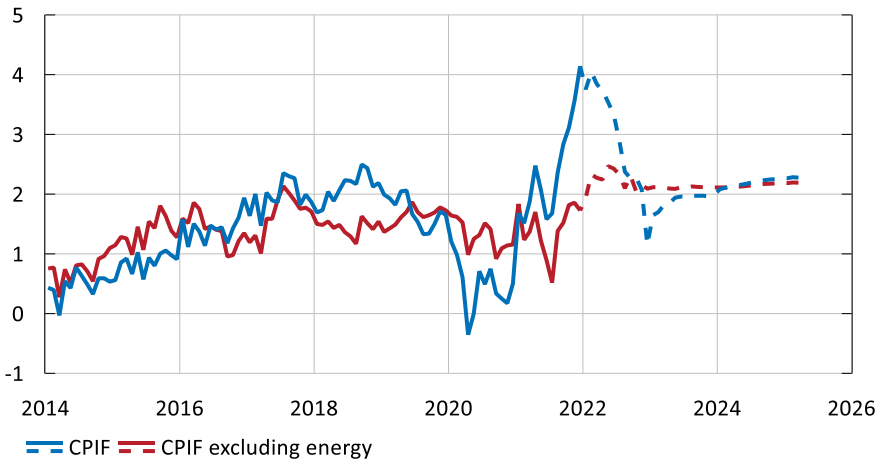
High energy prices clearly affect households' cost of living. Companies' costs have also increased as a result of the higher energy prices, but also as a result of strong increases in commodity prices, higher transport costs and a shortage of components. Price developments for input goods to production normally affect consumer prices with a time lag, but to a limited extent. According to the Economic Tendency Survey, increasing numbers of companies are planning for price rises and the Riksbank expects companies to pass on some of their increased costs to consumers.

The weakening of the krona exchange rate is also fuelling the expectation that inflation adjusted for energy prices will continue to rise somewhat more until mid-2022. After this, it will recede slightly as the pandemic-related supply problems ease off. There are few signs that the currently high energy prices have given rise to more lasting inflation effects. Compared with other countries, underlying inflation is moderate, wage increases are not particularly high and inflation expectations are close to 2 per cent. In the Riksbank's main scenario wage growth is expected to increase slightly over the forecast period, at the same time as demand is expected to remain high. Overall, CPIF inflation adjusted for energy is expected to be close to 2 per cent throughout the forecast period (see Figure 5).

[2] However, the price level is expected to have shifted upwards more permanently; see the fact box "Link between price level and inflation rate" in *Monetary Policy Report*, September 2021, Sveriges Riksbank.

Figure 5. The CPIF and the CPIF excluding energy

Annual percentage change



Note. Solid lines refer to outcomes, broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

1.2 Gradual reduction of support from monetary policy

Since the financial crisis, the conditions for conducting monetary policy have changed. Common trends such as increased globalisation and digitalisation have long contributed to low inflation around the world. Moreover, the long-term real interest rate has fallen in developed economies, which has contributed to dampened inflationary pressures, despite policy rates being at historically low levels.

This development is also apparent in Sweden, where in recent decades the average inflation rate has been below the target of 2 per cent, despite the Riksbank holding the policy rate at a low level and making relatively large asset purchases. Even during years with strong economic activity, inflation has been too low. After two years strongly marked by the pandemic, inflation prospects have now partly changed. The global trends that have contributed to a low inflation environment are, to a large extent, expected to remain even after the pandemic eventually comes to an end. However, as in November, the Riksbank's forecasts illustrate that the prolonged period of below-target inflation is projected to pass. This is particularly evident internationally, but inflation is also expected to be higher in Sweden in the period ahead.

Inflation forecast for this year revised upwards

The Swedish economy has recovered from its downturn during the pandemic and economic activity continues to strengthen. Statistics Sweden's GDP indicator suggests that the upturn at the end of last year has been slightly faster than the Riksbank's forecast from November. Growth is now slightly stronger than normal and activity on the labour market will increase over the year. Since the monetary policy decision in November, the renewed spread of infection has certainly dampened the near-term real economic prospects, both in Sweden and abroad, but, due to higher outcomes

than expected, the forecast for Swedish GDP is nevertheless slightly higher and for unemployment slightly lower (see Figure 4).

The forecasts for global inflation and policy rates have also been revised upwards, as has the forecast for Swedish inflation. This is largely an effect of the surprisingly high energy prices. These are not expected to increase in 2022, and thereby CPIF inflation will fall back clearly this year. However, the forecast for CPIF inflation has been revised upwards significantly, particularly in the short term, meaning that even greater variation in inflation is expected this year, compared with the assessment from November (see Figure 6). CPIF inflation will fall from just over 4 per cent at the start of 2022 to almost 1 per cent at the end of the year.

Figure 6. CPIF

Annual percentage change

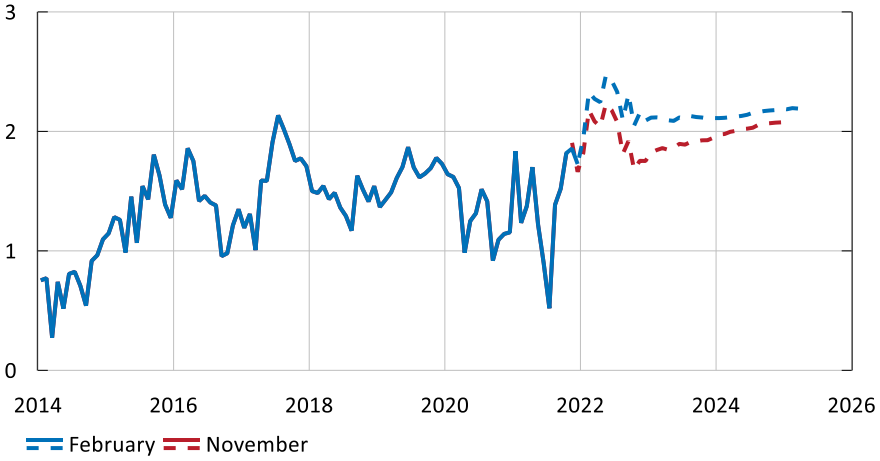
Note. Solid line refers to outcomes, broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Monetary policy affects inflation with a time lag and needs to disregard changes in inflation that are expected to be temporary, such as the direct effects of energy prices, to avoid creating unnecessary fluctuations in the real economy. When adjusted for energy prices, the inflation forecast has also been revised up in relation to November. The unexpectedly high energy prices are also expected to lead to greater indirect effects and greater spillover effects in the form of higher inflation expectations and wage growth (see also the article "High energy prices – how will other consumer prices be affected?"). The upward revision of the inflation forecast is also due to the weaker development of the Swedish krona than was forecast in November. Overall, CPIF inflation adjusted for energy is close to 2 per cent throughout the forecast period (see Figure 7).

Figure 7. CPIF excluding energy

Annual percentage change



Note. Solid line refers to outcomes, broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

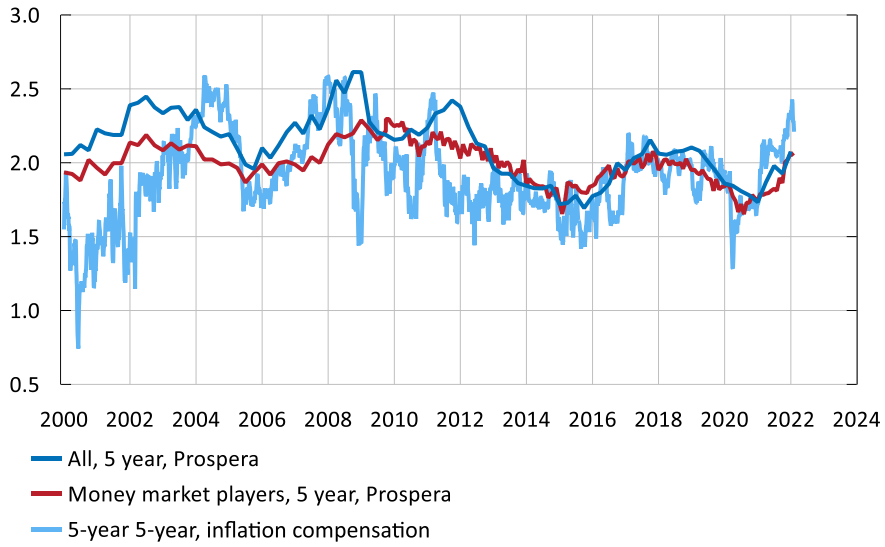
Important that inflation expectations are compatible with the inflation target

Confidence in the inflation target is reflected in the more long-term inflation expectations of the participants in the economy. These fell somewhat at the start of the pandemic, but began to recover fairly quickly. In the wake of last year's upturn in inflation, expectations have continued to rise both abroad and in Sweden. The long-term expectations measured using market prices of various financial contracts have risen most and are somewhat over 2 per cent (see Figure 8). Expectations according to surveys have also risen and are close to 2 per cent.

An inflation rate that overshoots the target for some time may, given the long period of too low price increases, help to anchor expectations of prices and wages more clearly than previously, so that they are compatible with the inflation target. The overall picture of long-term expectations is that they are currently close to the inflation target but should they develop unexpectedly and persistently be too high or too low, monetary policy would need to take this into account.

Figure 8. 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. For money market players, Prospera the line refers to quarterly data up to September 2009 and then to monthly data.

Sources: Kantar Sifo Prospera and the Riksbank.

Zero interest rate and asset purchases to compensate for maturing assets

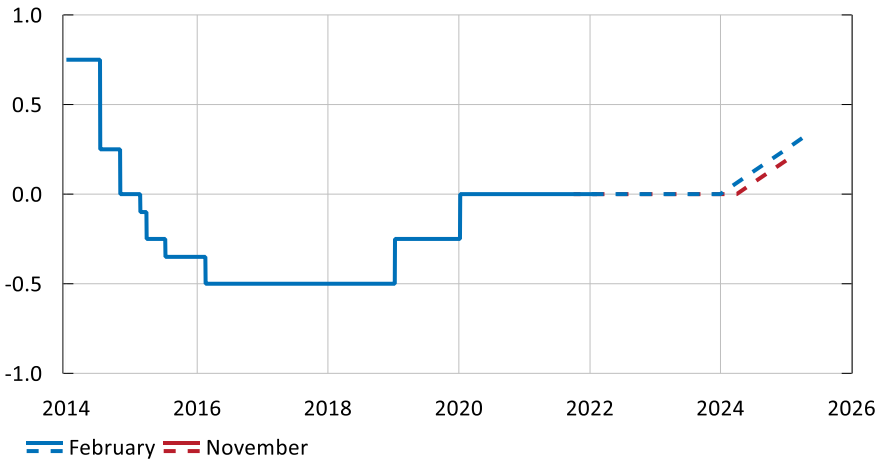
Inflation, despite being high at present, needs continued monetary policy support to be close to target in the medium term. The Executive Board has therefore decided to keep the repo rate unchanged at zero per cent and to continue to purchase securities to compensate for maturing assets during the year. Since 31 December 2021, when the Riksbank's programme for asset purchases expired, the holdings are no longer expanding; rather the Riksbank's asset purchases are aimed at keeping the holdings more or less unchanged. In accordance with the decision in November, the Riksbank will purchase bonds for SEK 37 billion in the first quarter of 2022 to compensate for upcoming maturing assets in the securities portfolio. The Executive Board has now decided that the Riksbank will also purchase bonds for SEK 37 billion in the second quarter.[3]

The forecast for the repo rate indicates that it will be raised in the second half of 2024, which is slightly earlier than the assessment made in November (see Figure 9). The Executive Board also forecasts that the asset holdings will remain approximately unchanged in 2022 and that the total holdings will gradually decrease thereafter (see Figure 10). This assessment remains unchanged compared to November.

[3] In 2022, bonds in the Riksbank's asset portfolio to a value of SEK 154 billion will fall due. The bond purchases in the first and second quarters thereby correspond approximately to the average volume of bonds maturing per quarter in 2022.

Figure 9. Repo rate

Per cent

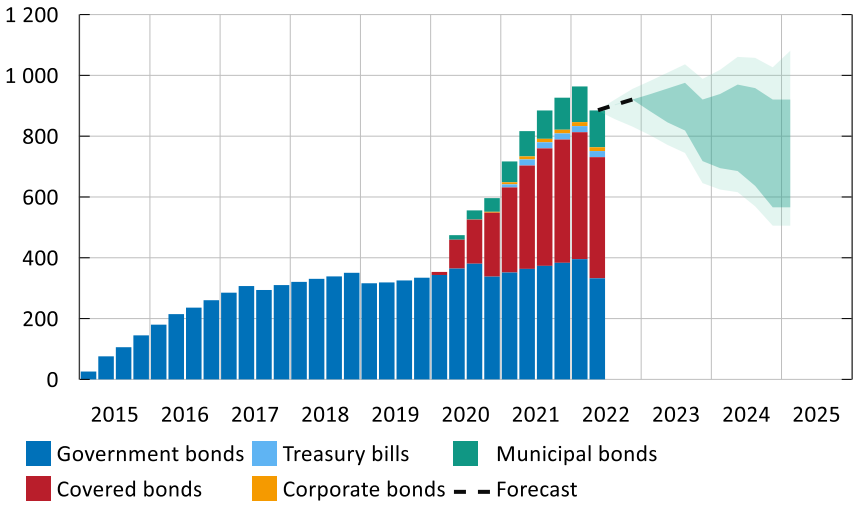


Note. Solid line refers to outcomes, broken lines represent the Riksbank's forecast. Outcomes are daily rates and the forecasts refer to quarterly averages.

Source: The Riksbank.

Figure 10. The Riksbank's holdings of securities and forecast for holdings

Nominal amounts, SEK billion



Note. The bars refer to executed and decided purchases. Broken line shows a forecast for holdings on the assumption that purchases in the second half of 2022 will continue at the same pace as those purchases decided on for 2022 Q2, which means that the holdings will be on approximately the same level at the end of 2022 as at the end of 2021. The lower interval limit is a projection of the holdings assuming that no more asset purchases are made after 2022 Q2. Its upper limit reflects a scenario where the Riksbank's asset purchases continue at the same pace as the average for the past 4 quarters, that is 2021 Q3 to 2022 Q2. The darker area's lower limit is a projection of the holdings assuming that no more asset purchases are made after 2022 while its upper limit shows the development of holdings with an even purchasing rate in each year respectively, which means that holdings will be on the same level at the end of the forecast period as at the end of 2022.

Source: The Riksbank.

Continued monetary policy support needed despite upward revision to the inflation forecast

Inflation outcomes have been higher than expected in recent months, both in Sweden and in many neighbouring countries. And, even though this is mainly due to the upturn in energy prices having been surprisingly large, it is contributing to uncertainty over how lasting the high level of inflation will be. The Riksbank expects inflation to fall back during the year. The Riksbank's upward revision of the inflation forecast indicates that the risk of excessively low inflation has decreased. The strong economic activity and lower risk of excessively low inflation could speak for reducing monetary policy support. It is also reasonable to expect higher policy rates in the period ahead, as the forecast for the repo rate signals. As in the meeting in November, the Executive Board has raised the forecast for the repo rate somewhat. In addition, the Riksbank's holdings of securities are no longer increasing, since the turn of the year2021/2022.

But even if the risk of too low inflation has declined, it still remains, and it is the Executive Board's assessment that the repo rate needs to remain at zero per cent during most of the forecast period and the asset holdings retained more or less unchanged for the remainder of the year. Monetary policy influences inflation with a time lag and, if it were to be tightened too soon, there is a risk that inflation fails to reach the target more permanently in the period ahead.

The risk of inflationary pressures becoming significantly and lastingly higher than in the forecast has increased, as a result of the recent surprisingly high inflation figures. The Riksbank may in this case need to react with tighter monetary policy, but as inflation in recent decades has undershot the target of 2 per cent, the Executive Board has emphasised that if inflation overshoots the target for a period of time, it does not necessarily mean that monetary policy will be tightened.

Just as in many other countries around the world, monetary policy is continuing to be expansionary and will remain so in the years ahead in the Riksbank's main scenario. At the same time, it is uncertain how inflation will develop and large fluctuations are expected in the near term. The Riksbank will continue to assess regularly how lasting the higher inflation is, in light of new information. If necessary, the Executive Board will adjust monetary policy.

To compensate for maturing assets, the Riksbank will purchase securities for a nominal amount of SEK 37 billion in the second quarter of 2022

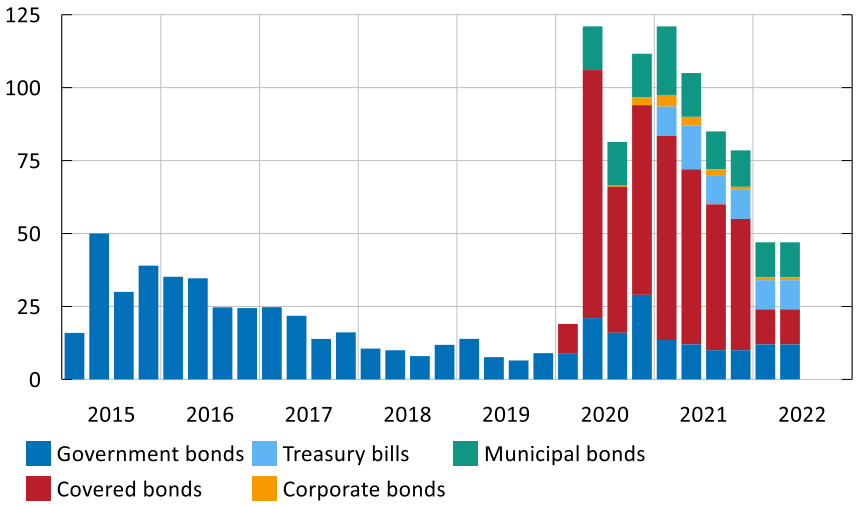
The Riksbank's holdings of securities are expected to be more or less unchanged in 2022 due to purchases compensating for maturing assets. Because the maturities are unevenly distributed over time, the Riksbank's asset holdings will vary, even during periods when the aim is to keep the holdings approximately unchanged. The purchase decisions take account of operational limitations and the purchases are expected to take place at a fairly even rate.

To continue to compensate for coming assets maturities, the Executive Board has decided on bond purchases for the second quarter of 2022 for a total nominal amount of SEK 37 billion (see Figure 12). The Riksbank will purchase nominal and real Swedish

government bonds and Swedish sovereign green bonds for an aggregate nominal amount of SEK 12 billion, municipal bonds for a nominal amount of SEK 12 billion, covered bonds for a nominal amount of SEK 12 billion, and corporate bonds for a nominal amount of SEK 1 billion. The Riksbank will also purchase treasury bills so that the total holding of treasury bills in the Riksbank's securities portfolio is maintained at a level of around SEK 20 billion.

Figure 11. The Riksbank's purchases of securities

Nominal amounts, SEK billion



Note. Refers to executed and decided purchases.

Source: The Riksbank.

Vulnerabilities have been exacerbated during the pandemic

The expansionary economic policy during the pandemic has been necessary to alleviate the crisis and support the recovery and inflation. However, it has also exacerbated vulnerabilities and risks, which may lead to future recessions being both deeper and more prolonged than would otherwise be the case. Risks have increased in particular for countries in which various actors were already heavily indebted before the crisis.

Low interest rates can lead to excessive risk-taking, cause homes and other assets to become overvalued, and lead to risks being incorrectly priced. The most appropriate way of managing such vulnerabilities is with targeted structural measures, well-designed financial regulation and macroprudential policy. The low level of interest rates and strong public finances in Sweden have resulted in favourable conditions in which to implement structural reforms to strengthen the long-term growth potential of the

Swedish economy and improve its efficiency. Under these conditions, it is also desirable for fiscal policy to play a more important role in the period ahead as regards managing economic slowdowns in the Swedish economy.[4]

The Swedish economy has long been characterised by households' high and growing debt levels. The debt levels are continuing to increase more rapidly than both incomes and GDP. Higher indebtedness is making households increasingly more sensitive to both price falls in the housing market and rising interest expenses. Resolving the fundamental problems in the housing market and reducing the risks inherent in household indebtedness will primarily require broad reforms in housing and tax policy. If such reforms are not introduced, new macroprudential policy measures may have to be considered or previous measures tightened. The macroprudential policy measures need, among other things, to restrict households' scope for borrowing or reduce their interest-rate sensitivity.

In addition to mortgages, the banks also have comprehensive lending to real estate companies and this exposure has increased during the pandemic. Real estate companies have continued to increase their indebtedness, making them more sensitive to changing economic conditions. The Riksbank considers that the high and increasing debts levels make the Swedish economy vulnerable, and that financial stability, in an unfavourable scenario, may be affected.[5] One measure that can increase the resilience of the financial system would be if Finansinspektionen were to continue to raise the level of the countercyclical capital buffer.

The Swedish economy seems to be approaching a period of slowly rising interest rates. This makes it important that various actors prepare themselves to cope with such a development.

1.3 Uncertainty surrounding the outlook for inflation has increased

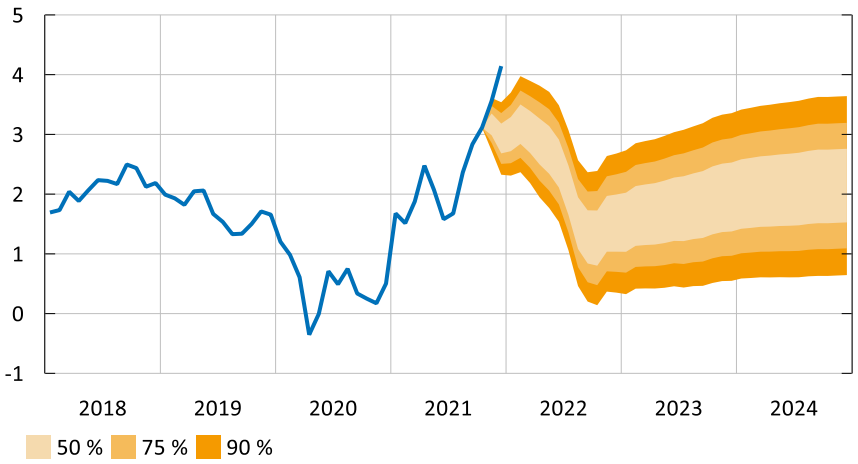
Inflation is currently high but is expected to recede over the year. Like other forecasts, inflation forecasts are uncertain in both the short and long terms. There are factors that could lead to both higher and lower inflation. Figure 11 shows the uncertainty band around the Riksbank's main scenario from November, together with the new outcomes that have arrived since then. The assessment that inflation is unusually uncertain at present is demonstrated by the outcome for December being outside the interval. The overall assessment is that the uncertainty surrounding the outlook for inflation has increased since November.

[4] See, for example, Anna Breman, "Monetary policy after corona – we need to think along new lines", speech published 23 February 2021, Sveriges Riksbank, and Per Jansson, "Is it time to review the division of roles in macroeconomic policy?", speech published 8 December 2021, Sveriges Riksbank.

[5] See *Financial Stability Report 2021:2*, Sveriges Riksbank.

Figure 12. CPIF with uncertainty bands

Annual percentage change



Note. The figure shows the uncertainty band as it was in the MPR in November. The uncertainty bands are based on the Riksbank's historical forecasting errors and the figure shows how large the surprise has been.

Sources: Statistics Sweden and the Riksbank.

If global inflationary pressures were to become significantly stronger than expected, inflation in Sweden could become even higher through steep rises in import prices. Recently, several central banks abroad have tightened their monetary policies or signalled that tightening will take place ahead of schedule. After many years of very low interest rates, rising asset prices and increasing indebtedness, it is uncertain how economic agents in Sweden and abroad would be affected by a rapid rise in the level of interest rates.

There are many common elements regarding the risks surrounding inflation in Sweden and abroad. This development is largely being driven by energy prices and the Riksbank's assessment is that these will recede during the year. However, it is uncertain how energy prices themselves will develop. In addition, it is difficult to know how large the indirect effects will be, that is to say to what extent the rising costs among companies are pushing inflation up. Secondary effects, which reflect rising inflation expectations that, in turn, may affect wage demands and thereby push up inflation further, are difficult to assess (see the article "High energy prices – how will other consumer prices be affected?"). However, there are also important differences in the risk outlook for inflation in Sweden and abroad. The increase in inflation is greater and broader abroad and uncertainty is particularly high after the substantial price rises that have taken place.

The pandemic has now been going on for about two years and has developed unexpectedly several times. More and more countries now assess that COVID-19 no longer constitutes a danger to society but new serious virus variants may still appear in the future, bringing new restrictions with negative effects on the development of the real economy in Sweden and abroad. This could ultimately also affect inflation in Sweden.

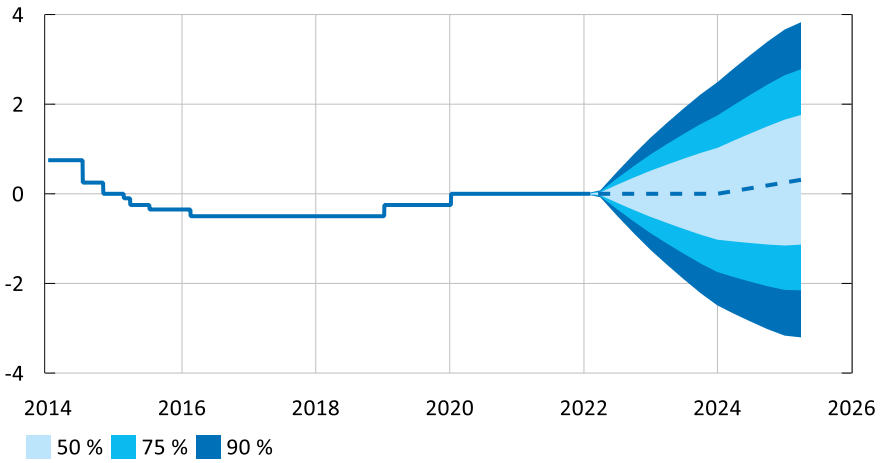
As regards international economic developments, a risk has arisen since November: the worsened security situation in Europe. Among other effects, an intensification of Russia's aggression could lead to rising energy prices and increased unease on the financial markets. However, it is very difficult to estimate the consequences, which largely depend on how Russia chooses to act in various scenarios.

An opposing risk as regards economic developments is that Swedish household saving is very high. In the Riksbank's forecast, saving falls at a relatively moderate pace to a level that is still historically high. When the pandemic loosens its grip, it is possible that many households will catch up on the consumption they missed out on earlier and therefore cut back on their saving at a faster rate than is now projected in the forecast. This would mean higher demand and higher inflation than in the main scenario.

Monetary policy needs to be constantly adapted to changes in the economic outlook and inflation prospects. The Riksbank stands prepared to adjust the expansiveness of monetary policy in either direction. If inflation were expected to exceed the target in a substantial and lasting manner, a less expansionary monetary policy would be justified. Adjustment to reduce expansiveness could take place via repo rate rises and/or the reduction of asset holdings. The Executive Board may cut the repo rate or, in some other way, make monetary policy more expansionary if inflation prospects weaken. This applies in particular if confidence in the inflation target were to be under threat.

Figure 13. Repo rate with uncertainty bands

Per cent



Note. The uncertainty bands are based on the Riksbank's historical forecasting errors and on risk premium-adjusted forward rates' forecasting errors for the period 1999 until the Riksbank began publishing forecasts for the repo rate in 2007. The uncertainty bands do not take into account the fact that there may be a lower bound for the repo rate. The solid line refers to outcomes, the broken line represents the Riksbank's forecast. Outcomes are daily rates and the forecasts refer to quarterly averages.

Source: The Riksbank.

2 Higher interest rates in focus in financial markets

High global inflation is fuelling expectations among market participants that central banks will increase their policy rates and taper their asset purchases more rapidly than previously expected. This has led to higher bond yields. Rising market rates and the increased geopolitical tensions in Europe have impacted international financial markets and led to declines in equity prices and wider spreads between yields on risky and less risky assets.

International developments have affected Swedish interest rates, which have risen from very low levels. Households and companies are nevertheless expected to continue to have good access to low-cost funding. The increased turmoil in financial markets has contributed to a depreciation of the krona since the monetary policy meeting in November. Overall, financial conditions are forecast to remain very expansionary.

2.1 Higher interest rates and expectations of less expansionary monetary policy

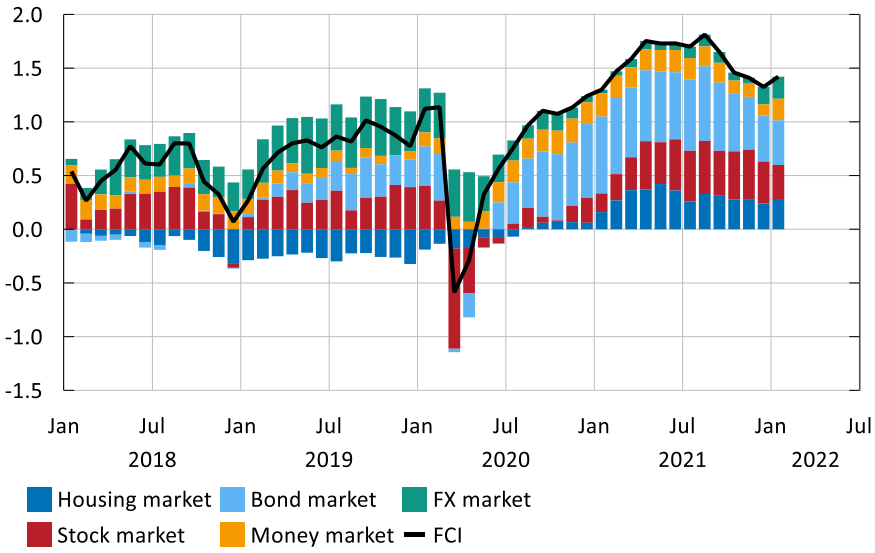
Inflation is high both abroad and in Sweden and inflation expectations have increased since the declines at the start of the pandemic. Since the publication of the Monetary Policy Report in November, yields on government bonds and other productive securities have risen, which reflects expectations of higher inflation and higher policy rates. However, long-term inflation expectations have been more or less unchanged since November in the United States, the United Kingdom and the euro area. According to market pricing, central banks are expected to raise policy rates sooner than market pricing indicated a few months ago. Rising market rates have added to the turbulence in financial markets since the turn of the year with greater volatility and falling equity prices. The heightened geopolitical tensions in Europe have also contributed to this.

Swedish government bond yields have also increased. Short-term inflation expectations have risen since the monetary policy meeting in November while long-term expectations are approximately unchanged and close to the inflation target.
The Riksbank is expected to raise the policy rate sooner than market pricing indicated at the monetary policy meeting in November, which has contributed to the rise in government bond yields. In a historical perspective, however, interest rates remain low and yield spreads between risky bonds and government bonds are still narrow. Since the monetary policy meeting in November, the Swedish krona has weakened,

especially in conjunction with declines in prices for riskier assets. On the whole, financial conditions in Sweden continue to be very expansionary (see Figure 14).[6]

Figure 14. Index for financial conditions in Sweden

Standard deviations. A higher value indicates more expansionary financial conditions.



Source: The Riksbank.

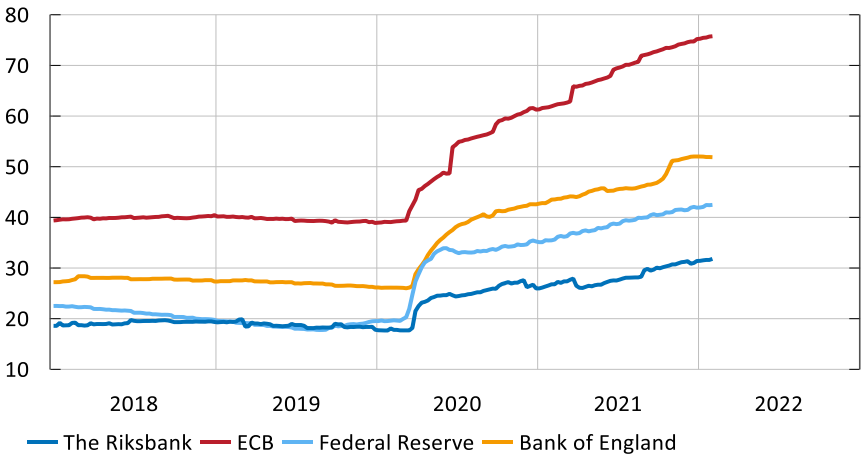
Monetary policy expected to be less expansionary going forward

Monetary policy abroad is very expansionary. During the pandemic, low policy rates have been complemented with other measures such as asset purchases. Central bank balance sheets have therefore increased substantially as a share of GDP (see Figure 15). But as inflation has now been elevated for some time, central banks have increasingly started to taper their asset purchases. They have also begun to discuss the need to increase policy rates going forward and some have already done so.

[6] For details on this index, see J. Alsterlind, M. Lindskog and T. von Brömsen, "An index for financial conditions" *Staff memo*, February 2020, Sveriges Riksbank. Note that, unlike previously, the index now also includes yields on corporate bonds.

Figure 15. 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. For the quarters where GDP has not yet been published, the most recently published GDP statistics are used.

Sources: Bank of England, ECB, Federal Reserve, Macrobond and the Riksbank.

The US Federal Reserve left the policy rate unchanged within the interval 0.0–0.25 per cent at its latest monetary policy meeting in January, but indicated that the rate will soon be increased. The Fed also decided to continue with faster tapering of its asset purchases as announced at the meeting in December. This means that net purchases, i.e. an increase in holdings, will come to an end in March. The Fed also stressed that the reduction in the balance sheet will occur after the rise in the policy rate interval. The market expects a rise in March and that the interval for the policy rate will have been increased to 1.25–1.50 per cent by the end of 2022, according to the pricing of forward contracts (see Figure 16). In line with the central bank's announcement, the increase in asset holdings is expected to come to an end in March.

The European Central Bank (ECB) also left policy rates unchanged at its meeting in February. As in December, the bank communicated that a slightly slower increase of the holdings within the Pandemic Emergency Purchase Programme (PEPP) than in the two previous quarters is enough to preserve the favourable financing conditions. It also announced that net purchases within the PEPP will be terminated at the end of March 2022 .The ECB had previously communicated that it will temporarily increase bond purchases within the asset-buying programme that was in place prior to the pandemic (APP) in 2022. From the fourth quarter of 2022, the bank plans to revert to purchases of EUR 20 billion per month over and above maturing assets. According to forward pricing, the market expects the ECB to raise its policy rates at a faster pace than was forecast in November, especially next year (see Figure 16). According to forward pricing, the market is expecting the ECB to raise its policy rates at a faster pace than was forecast in November, especially next year.

In contrast to the Fed and the ECB, the Bank of England (BoE) chose to raise the policy rate at its monetary policy meeting in February. The rate was increased by 25 percentage points to 0.50 per cent. The bank also decided to reduce government bond holdings by ceasing to reinvest maturing assets. Corporate bond holdings will also be reduced by ceasing to reinvest maturing assets and by a programme of bond sales in order to fully unwind holdings by the end of 2023. According to forward pricing, the market expects BoE to raise the policy rate again in March.

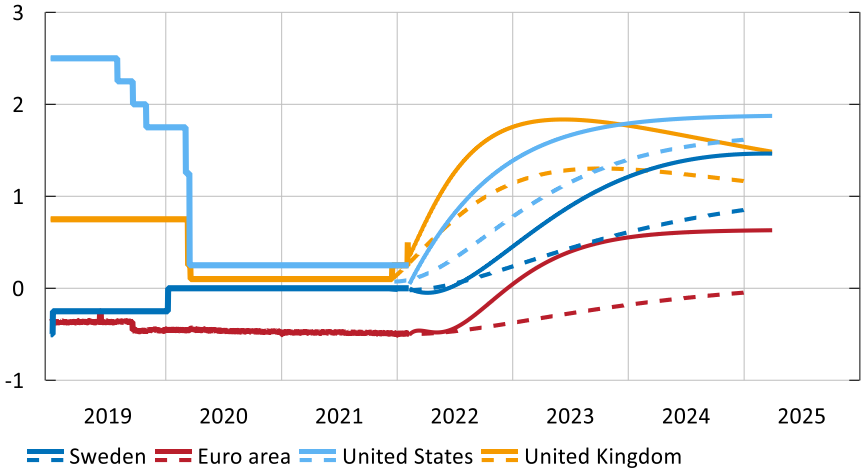
Other central banks have also started to taper their asset purchases. They have also signalled, and in some cases already begun to implement, rate increases. Norges Bank increased its policy rate to 0.50 per cent in December and indicated that the next rate rise will probably occur in March this year. Bank of Canada left its policy rate unchanged at its meeting in January but indicated that it will probably be raised soon. As of October 2021, the bank is only buying bonds to compensate for maturing assets and is thus not increasing its asset holdings. The Reserve Bank of Australia decided to stop increasing bond holdings, i.e. cease net purchases, at its monetary policy meeting in February. The policy rate was left unchanged at 0.10 per cent. The Reserve Bank of New Zealand ended its net bond purchases in July and increased the policy rate to 0.75 per cent in November.

In contrast to many other central banks, the People's Bank of China has lowered policy rates. Several large, highly indebted Chinese property companies have recently had liquidity problems and targeted measures to promote lending have therefore also been promised. The Bank of Japan is continuing with its very expansionary monetary policy. At its monetary policy meeting in January, it decided to keep the policy rate at −0.10 per cent and to continue purchasing unlimited amounts of government bonds to ensure that the yield on a ten-year Japanese government bond is close to zero per cent.

Monetary policy in many parts of the world is moving in a less expansionary direction. Central bank communication, in combination with the rise in inflation, has led market participants to expect gradually higher policy rates. Since November, market pricing has shifted upwards and indicates expectations of rate rises over the next year in several economies (see Figure 16). Despite the shift in expectations, however, central bank policy rates overall are expected to remain historically low for a long time to come.

Figure 16. Policy rates and rate expectations according to forward pricing

Per cent



Note. Forward rates describe market-based expectations of the overnight rate, which do not always correspond to the policy rate. Solid lines represent forward rates on 08 February 2022. Broken lines represent forward rates 25 November 2021. In the euro area, the overnight rate EONIA has replaced by ESTR as the underlying rate in forward contracts since 1 January 2022, but EONIA is used in the figure to facilitate comparison between 25 November 2021 and 08 February 2022. EONIA is equivalent to ESTR + 0.085 percentage points.

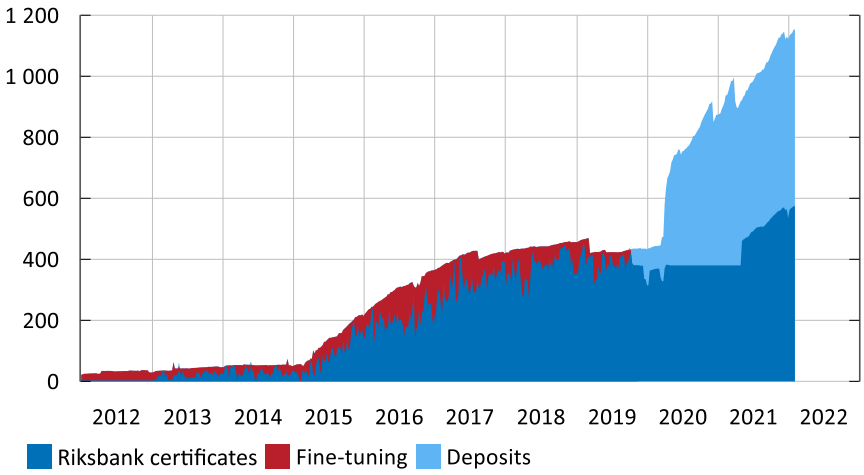
Sources: Macrobond and the Riksbank.

Interest rates remain low in Sweden

Swedish forward rates are higher compared to November and the Riksbank is expected to raise the policy rate in 2022 (see Figure 16). It is primarily in the slightly longer term that forward rates have risen. According to money market participants in Kantar Sifo's Prospera survey in January, the repo rate is expected to be raised by 0.25 percentage points at least once over the next two years, and four times over the next five. According to the same survey, the median respondent among money market participants expects the Riksbank to purchase bonds for approximately SEK 120 billion in 2022.

The Riksbank has purchased bonds for monetary policy purposes since 2015, which has led to an increase in the liquidity surplus in the banking system. The Riksbank's decisions to implement new asset purchases and lending programmes during the pandemic have substantially strengthened this trend (see Figure 17).

Figure 17. Liquidity in the banking system, deposits and Riksbank Certificates
SEK billion



Note. The banks' liquidity surplus towards the Riksbank represents the Riksbank's liquidity debt to the banking system. The Riksbank's purchases of foreign exchange with the aim of replacing the external funding of the foreign exchange reserves mean that the liquidity surplus in the banking system is increasing. The purchases have no monetary policy purpose.

Source: The Riksbank.

Swedish money market rates remain low (see Figure 18). The SWESTR reference rate shows that the actual transactions made in Swedish kronor from one business day to the next occur at a rate close to the deposit rate in the Riksbank's standing facility.[7] The yield on a three-month treasury bill fell in October in conjunction with the Swedish National Debt Office publishing a new forecast for the supply of government securities, which suggests that the market had expected a larger supply than was announced. The rate on three months STIBOR also fell in October, which is considered a consequence of banks wanting to shrink their balance sheets towards the end of the year to reduce their annual resolution fee.[8] They do this by temporarily reducing deposit rates. After the turn of the year, both these rates have risen and are now close to the levels they were at for most of last year.[9] This means that the rate for borrowing or investing money in the Swedish money market is still very low.

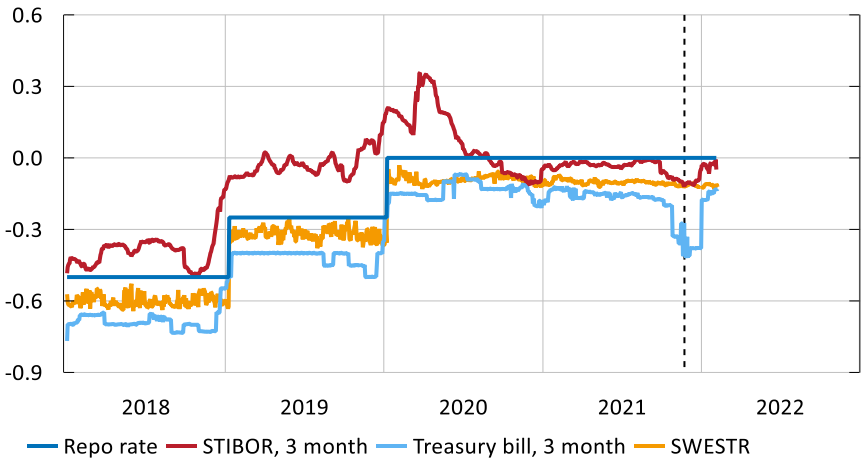
[7] SWESTR can be used in financial contracts as of 1 September 2021. For further information see https://www.riksbank.se/en-gb/statistics/swestr/.

[8] On 1 October, a three-month contract lasts until 1 January. This means, for example, that money deposited at a bank is on the bank's balance sheet over the turn of the year.

[9] The resolution fee is also considered to be the reason why interest rates on the overnight market fell sharply over the turn of the year.

Figure 18. Repo rate and market rates

Per cent



Note. SWESTR falls very heavily on the last banking day of each year, quotations that have been omitted from this figure. The broken line marks the time of the monetary policy meeting in November.

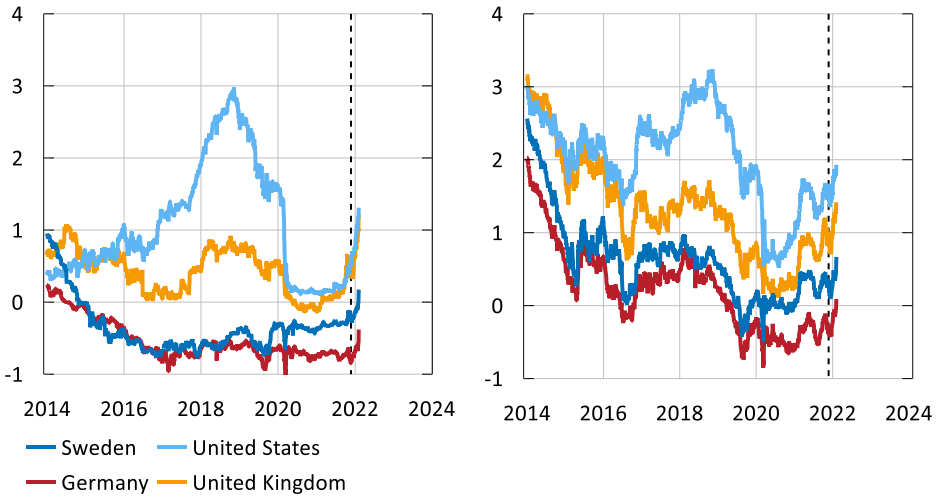
Sources: Macrobond, Refinitiv and the Riksbank.

Higher government bond yields abroad and in Sweden

Government bond yields continue to be low around the world but have risen recently due to the signals of less expansionary monetary policy (see Figure 19). Over shorter maturities, the increases are clearest in the United States and United Kingdom. It is also in these two countries that the central banks are expected to increase policy rates most rapidly (see Figure 16). Inflation has risen significantly in these economies, while long-term inflation expectations are approximately unchanged compared with the situation at the time of the monetary policy meeting in November (see Figure 20). Inflation-adjusted rates, real rates, have also risen significantly in both countries.

Figure 19. Government bond yields

2-year maturity (left-hand graph) and 10-year maturity (right-hand graph), per cent



Note. Zero coupon rates for Sweden, Germany and the UK. 2-year and 10-year benchmark rates for the US. The broken line marks the date of the monetary policy meeting in November.

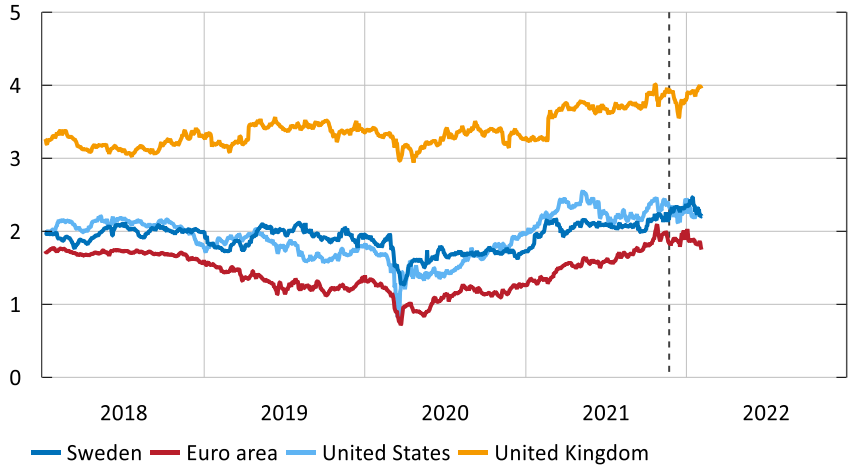
Sources: National central banks, US Treasury and the Riksbank.

In Germany and Sweden too, nominal government bond yields have recently risen (see Figure 19). However, for bonds with shorter maturities, the increases are somewhat smaller than in the United States and United Kingdom. This can be explained by the fact that underlying inflation has risen less in the euro area and Sweden than in the United States and the United Kingdom. Market participants therefore expect the ECB and the Riksbank to keep policy rates low in the near term. Having increased during the autumn, inflation expectations in the euro area have remained relatively unchanged compared with the monetary policy meeting in November (see Figure 20).

In Sweden, short-term inflation expectations have risen since the monetary policy meeting in November while long-term expectations are approximately unchanged. Both market-based and survey-based measures of long-term inflation expectations are close to or just above 2 per cent (see Figure 8 in Chapter 1).[10] According to Kantar Sifo's Prospera survey in January, money market participants on average are expecting inflation five years ahead to be around 2 per cent according to both the CPI and the CPIF. In the shorter term, prices are expected to increase by just over 2 per cent. Swedish real interest rates have recently increased and are higher than they were at the time of the monetary policy meeting in November.

[10] As for the foreign equivalents, 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.

Figure 20. Long-term inflation expectations in Sweden, the euro area, the US and UK
Per cent



Note. Inflation expectations are market-based measures and refer to a 5-year period starting in 5 years' time. For the euro area, they are calculated on the basis of inflation swaps and refer to the HICP. For Sweden and the United States, they are calculated on the basis of bond yields and refer to the CPI. For the United Kingdom, they are calculated on the basis of bond yields and refer to the RPI. The broken line marks the date of the monetary policy meeting in November.

Sources: Bloomberg, Macrobond and the Riksbank.

Price falls on risky assets

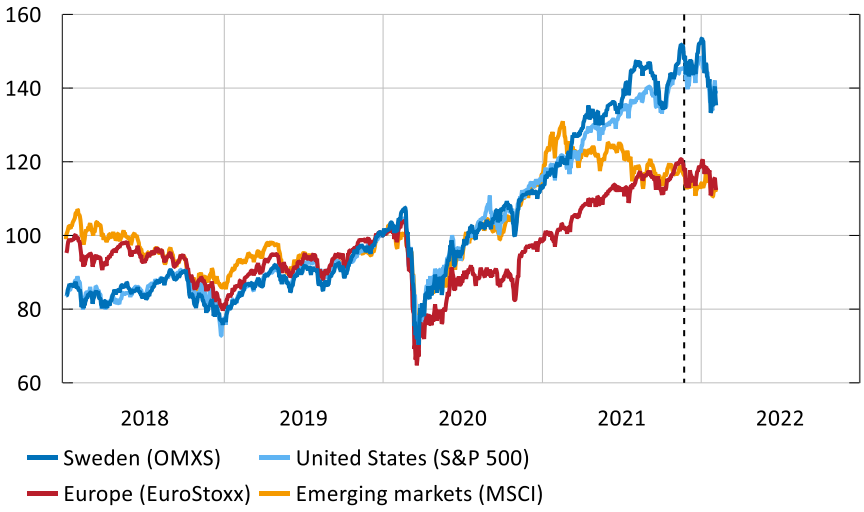
The increase in risk-free yields in many economies has led to the value of riskier assets declining in recent times, which can be seen in falling equity prices and rising yield spreads between risky and less risky bonds (see Figures 21 and 22). It is natural for rising yields to affect equity prices negatively as the valuation of future corporate profits is negatively affected by higher yields.[11] But equity markets have been turbulent, especially since the turn of the year, and the price of financial contracts that reflect expected variations in equity market value has risen. This indicates that market participants now expect higher volatility in the period ahead. Increased geopolitical tensions in Europe have also fuelled the turbulence on financial markets.

Equity prices have also fallen recently in emerging market economies. Developments there have been significantly more subdued in the past year. Higher US rates and a stronger dollar have weighed on equity indices in many emerging markets, whose economies tend to be negatively affected by tighter financial conditions in the United States. The continued problems in the property sector in China have also been an important contributory factor. Several large, highly indebted companies have recently had liquidity problems. However, the concern in financial markets over a serious liquidity crisis have subsided somewhat after the Chinese central bank made monetary

[11] See, for example, A M. Ceh, J. Manfredini, S. Wollert and O. Melander, "Equity market valuation in light of low interest rates", *Staff memo*, November 2021, Sveriges Riksbank.

policy more expansionary and promised targeted measures to promote lending in the sector.

Figure 21. Equity market developments in domestic currency
Index, 31 December 2019 = 100



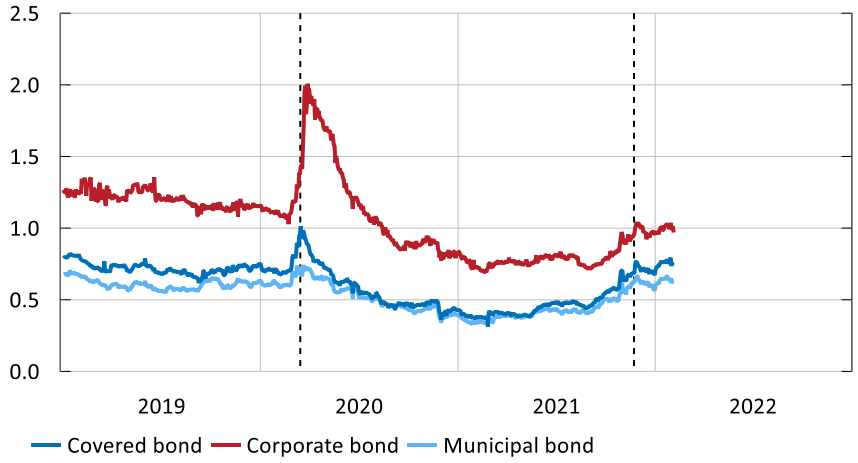
Note. The broken line marks the date of the monetary policy meeting in November.

Source: Macrobond.

Financial market turbulence can also be seen in credit markets, but yield spreads between corporate and government bonds remain small in the US, the euro area and Sweden. Although yield spreads in Sweden between risky bonds and government bonds have increased slightly during the autumn, they are approximately unchanged compared with November (see Figure 22).

Figure 22. Yield spread between different types of bonds and government bonds in Sweden, 5-year maturity

Percentage points



Note. Yields on covered bonds, corporate bonds and government bonds are zero coupon rates calculated using the Nelson-Siegel method. Corporate bonds refer to companies with a high credit rating. Covered bonds refer to bonds issued by Stadshypotek and the municipal bonds are issued by Kommuninvest i Sverige AB. Broken lines mark 16 March 2020, when the Executive Board decided to extend the asset purchases to cover municipal bonds and covered bonds, and the date of the monetary policy meeting in November 2021, respectively.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Weaker Swedish krona due to increased turbulence in financial markets

The krona, normally considered by investors to be a riskier currency than e.g. the dollar or euro, depreciated when the pandemic broke out, but has since appreciated significantly. At the end of November, the krona depreciated rapidly when the omicron variant of the coronavirus was discovered, causing sentiment in financial markets to deteriorate. The most recent movements in the krona also coincide relatively well with changes in risk appetite in financial markets, which suggests that variations in the willingness to hold risky assets have affected the development of the krona. For example, the krona depreciated rapidly in conjunction with global declines in equity prices at the end of January. The Swedish krona is weaker compared with November in terms of the KIX exchange rate index (see Figure 23).

Figure 23. Nominal exchange rate, KIX

Index, 18 November 1992 = 100

Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. The broken line marks the date of the monetary policy meeting in November.

Source: The Riksbank.

2.2 Swedish lending and funding conditions

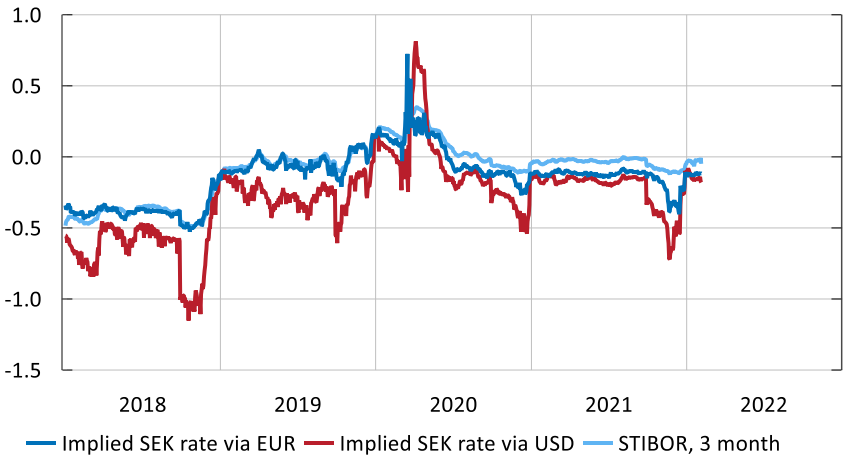
Swedish households and companies obtain funding primarily via loans from banks and other financial institutions. An important precondition for the pass-through of monetary policy is therefore that banks and other financial institutions are willing and able to lend money.

Favourable funding conditions for Swedish banks contributing to low interest rates for households and companies

Swedish banks face very low interest rates on Swedish and foreign money markets and can thereby access low-cost, short-term funding. Their costs measured in Swedish krona for obtaining funding in foreign currency are very low, and are also lower than the interest rates for obtaining funding in SEK (see Figure 24).

Figure 24. Money market rates, in SEK

Per cent



Note. The implied SEK interest rates are calculated using spot rates and forward exchange rates, as well as 3-month interest rates (EURIBOR and USDLIBOR).

Source: Bloomberg.

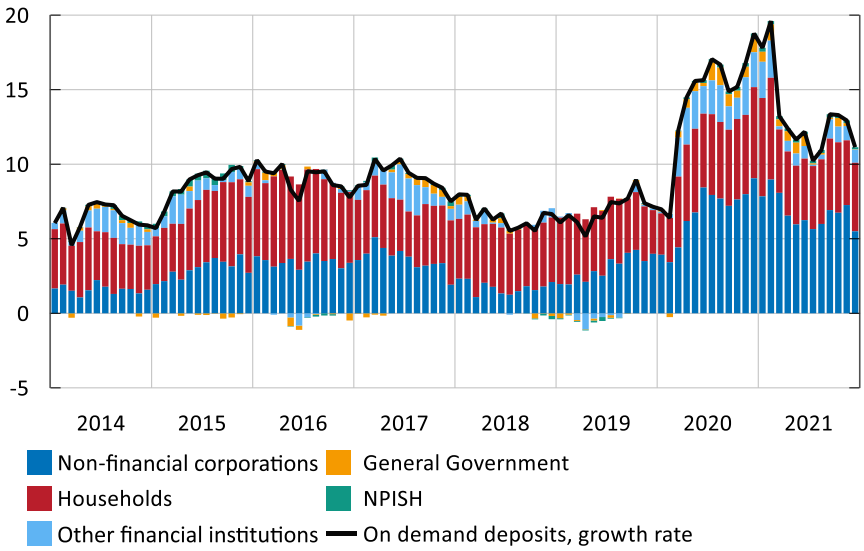
Banks' more long-term funding mostly comes from the issuing of covered bonds. Interest rates on this type of funding also remain low, partly as a result of the Riksbank's monetary policy (see Figure 22). The very low interest rates on the Swedish money and bond markets are contributing to banks´ ability to obtain low-cost funding, which enables them to continue to offer low interest rates when lending to households and companies. Banks can also obtain funding via deposits from households and companies. Deposits have increased in recent years, although the rate of growth has slowed somewhat in 2021 (see Figure 25). Compared with November, the growth rate is approximately unchanged.

The average interest rates for new or renegotiated household mortgages and for loans to non-financial corporations remain low and have been largely unchanged for a prolonged period (see Figure 26). The average mortgage rate from banks and other monetary financial institutions (MFIs) to households was just about 1.4 per cent in December. Both the variable mortgage rate and the rate on interest-rate fixation periods up to five years was unchanged or slightly higher. At the same time, the share of mortgagors choosing to take out loans at a fixed interest rate has increased, a trend that has continued for several years. More borrowers are now choosing a fixed rather than a variable rate on new or renegotiated loans.

The average mortgage rate from MFIs to non-financial corporations was just over 1.5 per cent in December (see Figure 26). Together with surveys from ALMI and the National Institute of Economic Research, this supports the impression that companies are still finding it easy to obtain funding.

Figure 25. Deposits and contributions to deposits in MFIs

Annual percentage change and percentage points

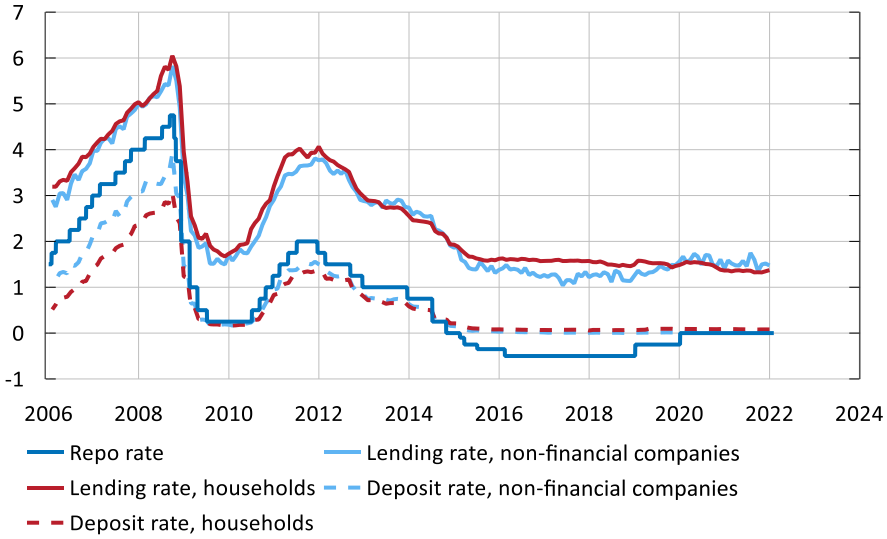


Note. Deposits refer to on-demand deposits and deposits with certain conditions in MFIs (monetary financial institutions). Households refer to households excluding non-profit institutions serving households. Financial companies refer to financial companies excluding MFIs.

Source: Statistics Sweden.

Figure 26. Repo rate, and average deposit and lending rate to households and companies, new and renegotiated loans

Per cent



Note. Deposit and lending rates are volume-weighted averages of monetary financial institutions' deposits and lending at all maturities.

Sources: Statistics Sweden and the Riksbank.

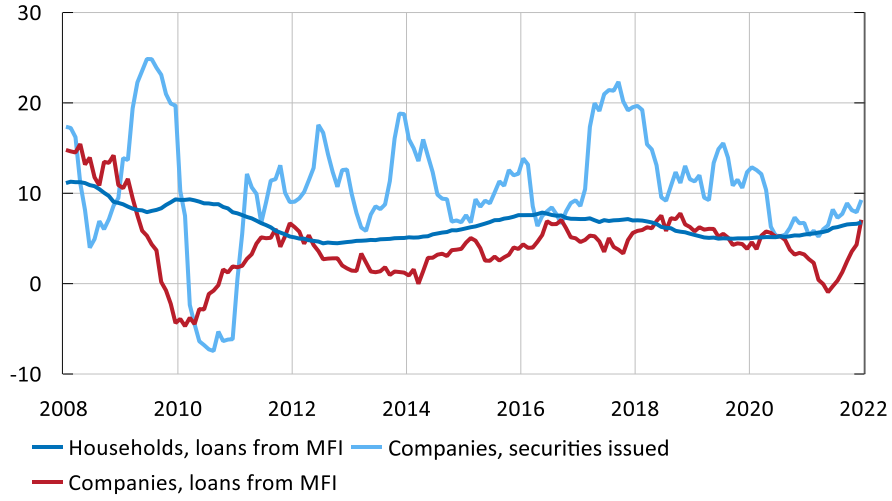
Increase in lending to Swedish companies and households

Bank loans are the predominant way for the majority of Swedish companies to borrow money. In recent years, however, market funding has been responsible for an ever greater share of the corporate sector's borrowing as many large companies, not least in the property sector, now issue commercial paper and bonds. Lending to companies from banks and other MFIs increased by just over 7 per cent in November, which was significantly faster than in the previous month (see Figure 27). Growth in outstanding volumes of issued securities has now increased by around 9 per cent compared with the same period last year. It is primarily companies in the property sector that are contributing the most to the growth in securities borrowing.

Just over 80 per cent of Swedish household debt with MFIs consists of mortgages. As housing prices have increased sharply during the pandemic and housing purchases are largely financed by mortgages, household debt has increased. In December, debt was approximately 7 per cent higher than in the corresponding month in 2020 (see Figure 27). However, overall debt growth for households was slightly lower, in part because consumption loans grew at a slightly slower rate.

Figure 27. 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 about two thirds of total lending to companies, while securities issues constitute around a third.

Source: Statistics Sweden.

3 Continued good growth prospects

The economic recovery abroad is forecast to continue and the negative economic effects of the omicron variant of the coronavirus are expected to be relatively limited. GDP growth abroad is expected to pick up again in the second quarter and growth prospects going forward are good. Inflation has risen rapidly abroad. In the euro area and the United States, the upturn can largely be explained by high energy and food prices. Rising prices of goods and services significantly affected by the pandemic have also contributed to the rise in inflation. Inflation is expected to fall back during 2022, due in part to the expectation that energy and food prices will increase more slowly in the period ahead. As resource utilisation increases, inflation is then expected to rise gradually in the coming years.

Similar to abroad, demand in Sweden is temporarily subdued due to the high rate of infection. GDP growth will slow down in the first quarter of 2022 before economic activity picks up again and the economy continues to strengthen. Resource utilisation is expected to be higher than normal during the entire forecast period. CPIF inflation was 4.1 per cent in December, a high figure that is largely explained by high energy prices. CPIF inflation is expected to be close to 4 per cent fin the first quarter before falling back rapidly to a low of close to 1 per cent at the end of the year, once the contribution to inflation from electricity prices decreases. CPIF inflation is expected to be close to target from the middle of 2023. Adjusted for energy prices, inflation is forecast to be close to 2 per cent for the whole forecast period.

3.1 Temporary subdued growth abroad but high inflation

The pandemic continues to affect GDP growth but to a limited extent

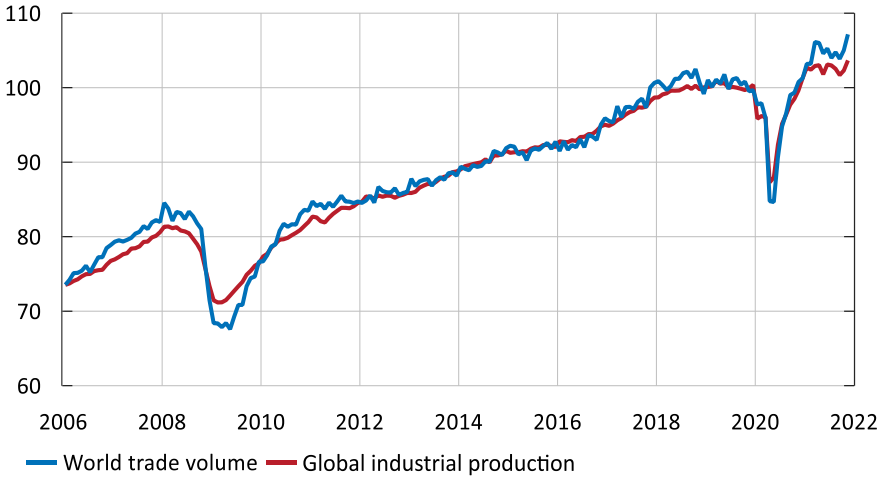
The omicron variant has spread rapidly, but the symptoms are generally milder compared to previous variants, particularly among those who have been vaccinated. As the symptoms are relative mild and the number of deaths is relatively low, few countries are reintroducing harsh restrictions. An exception is Germany, however, where GDP also fell in the fourth quarter by 0.7 per cent compared with the third quarter. The effects on economic activity abroad and in Sweden are expected to be less serious than in previous waves of infection, and growth will slow down only temporarily. As from the second quarter, KIX-weighted GDP will recover rapidly when infections

decrease and many restrictions have been lifted. Going forward, GDP is expected to rise at a gradually slower pace when resource utilisation becomes more strained.

The global freight problems and other supply restrictions have dampened GDP growth. Freight prices have risen significantly as a result of the high demand for goods and the difficulty in adjusting the supply of containers and cargo ships fast enough. Together with the shortage of semiconductors, these circumstances have had negative effects on industrial output, particularly in those countries that are more dependent on global value chains in their production. An example is the German automotive industry. As a result of this, global trade has slowed, despite an upward rebound in November (see Figure 28).

Figure 28. World trade volume and global industrial output

Index, 2019 Q4 = 100



Note. World trade refers to trade in goods.

Source: CPB Netherlands Bureau for Economic Policy Analysis.

The forecast is for the freight problems to decrease and freight prices to fall in the period ahead as demand in the economy grows less rapidly and producers then have had time to work their way through the backlog of orders. In addition, freight companies have taken measures to increase their supply and logistics are expected to improve. This can be seen, for example, in the component of the purchasing managers' index that measures how long it takes for companies to deliver their goods to customers.

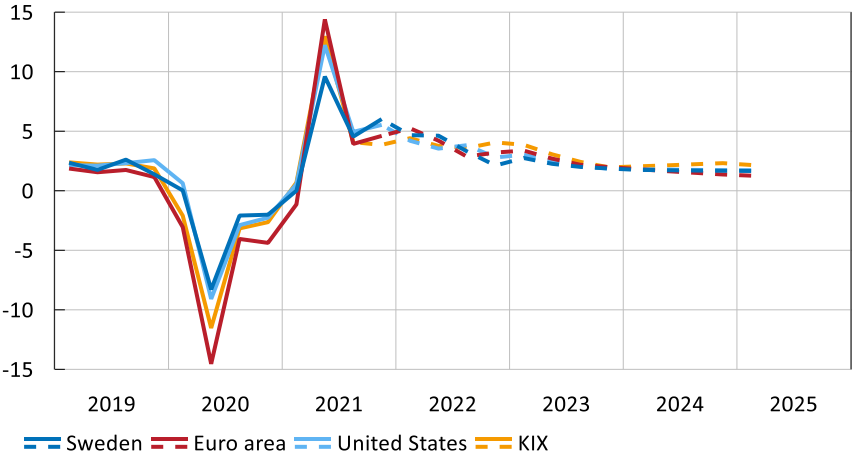
Growth prospects abroad are good, even though they are currently being subdued by high inflation, which is having a negative effect on real disposable income. Household saving is high in many countries, indicating scope for increasing consumption over and above the rise in income, which in turn is expected to be strong as the labour market continues to improve. This suggests healthy growth in consumption in the period ahead. The projected fall in inflation going forward also indicates a gradual increase in the scope for consumption when real disposable income rises during the second half of this year. Monetary policy remains expansionary and will contribute to growth, but

to a slightly lesser extent in the years to come when several central banks are expected to reduce their support.

Overall, KIX-weighted GDP growth is forecast to fall from just over 5 per cent in 2021 to just under 4 per cent this year, just under 3 per cent in 2023 and just over 2 per cent in 2024 (see Figure 29).

Figure 29. GDP in Sweden and abroad

Annual percentage change, seasonally adjusted data



Note. The KIX is an aggregate of 32 countries that are important for Sweden's international trade. Solid lines refer to outcomes, broken lines represent the Riksbank's forecast.

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

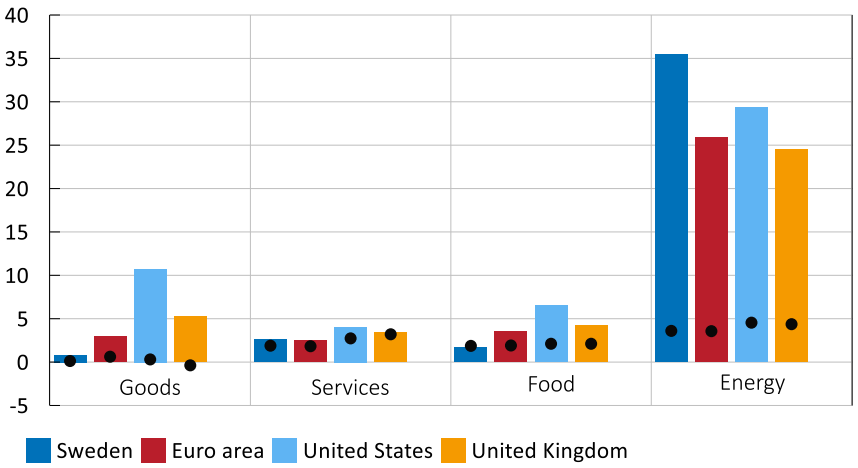
Inflation has risen rapidly abroad

Inflation has risen rapidly abroad and the rising trend continued in December. In January, inflation rose somewhat further in the euro area, while underlying inflation fell somewhat. Inflation is significantly higher in the United States than in the euro area. This applies not least to underlying inflation, which in the United States was more than 5 per cent compared to around 2.5 per cent in the euro area. In Sweden, the corresponding figure in December was 1.7 per cent.

However, the development shares some common characteristics. In many countries, the increase can be explained by higher energy and food prices. The higher energy prices have led to sharply rising heating costs and more expensive vehicle fuel. The pandemic also led to an increased demand for furniture and second-hand cars, for example, and these prices have risen significantly over the past year. This is particularly true in the United States, where goods prices have risen unusually rapidly (see Figure 30). In addition prices in certain service sectors that were closed during the pandemic have increased substantially. For example, this applies to hotel and air travel prices, which fell significantly in 2020 but then increased significantly after the easing of restrictions. The increase in inflation can also be explained by the expansionary fiscal policy aimed at maintaining demand during the pandemic.

Figure 30. Prices in various countries and regions

Annual percentage change



Note. The columns show price developments in December 2021. The dots in the columns show the average annual price change in the product/service in the period 2000–2021. Inflation measured as the HICP for Sweden and the euro area and the CPI for the US and the UK.

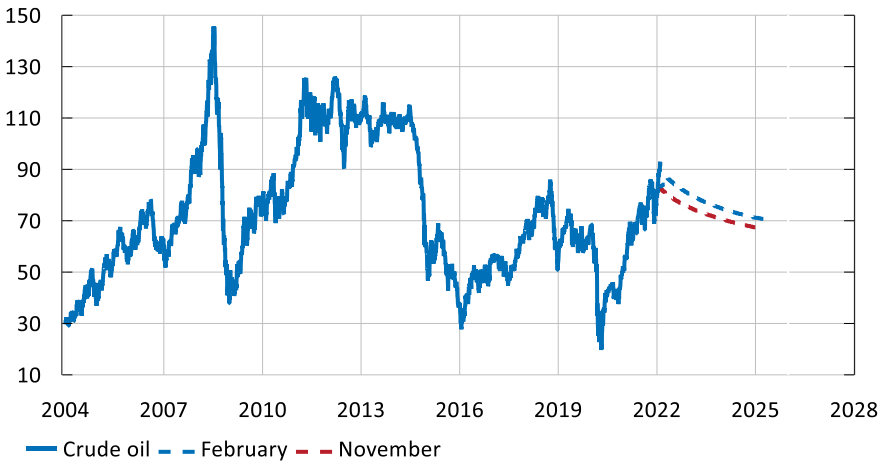
Source: National sources.

Lower inflation going forward

Global inflation is expected to fall in the period ahead. The forecast is for prices of transport and housing to gradually slow down as a result of lower energy prices in accordance with forward pricing. This applies to the price of oil, as well as electricity and natural gas (see Figures 31 and 32). The effect on inflation of higher energy prices will therefore subside.

Figure 31. Crude oil price

USD per barrel

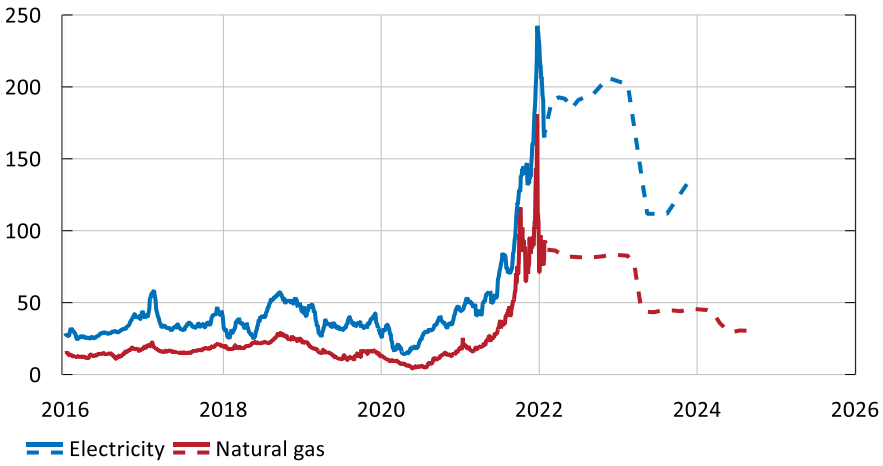


Note. Solid line refers to outcome, broken lines represent the Riksbank's forecast. The forecast is based on an average of forward pricing in the 15 trading days up to February.

Sources: Intercontinental Exchange and the Riksbank.

Figure 32. Energy prices in Germany

EUR/MWh, 15-day moving average



Note. For electricity prices, the solid line refers to the spot price. For natural gas prices, the solid line represents forward prices for the current month. Broken lines represent forward pricing.

Sources: European Energy Exchange and Intercontinental Exchange.

The forecast also assumes that the high rate of increase in food prices will decline abroad. In addition, prices significantly affected by the pandemic are expected to increase at a slower pace and contribute to lower inflation.

The high inflation could also lead to wage earners and trade unions demanding higher wage increases as compensation for the rapid rise in consumer prices. In that case, inflation expectations risk increasing further and exceeding inflation targets. This can lead to a wage inflation spiral with persistently high inflation for a longer period, which will most likely increase the need for monetary policy tightening, resulting in negative effects on GDP and employment.

The Riksbank's forecast assumes that wage increases abroad will not lead to a rapid wage inflation spiral. But the risk of this is greater in the United States, where the labour market is tighter and unemployment has fallen significantly faster than in the euro area. Resource utilisation in the labour market is forecast to be high in the United States, which is indicated by high numbers of job vacancies and significantly higher wage increases than in the euro area. In the major euro countries, many central wage agreements will be renegotiated in the autumn. The forecast assumes there will not be any rapid upturn in wage growth going forward. Even if there are fairly large differences in inflation within the euro area, inflation is lower in all the major euro area countries (Germany, France, Italy and Spain) than in the United States.

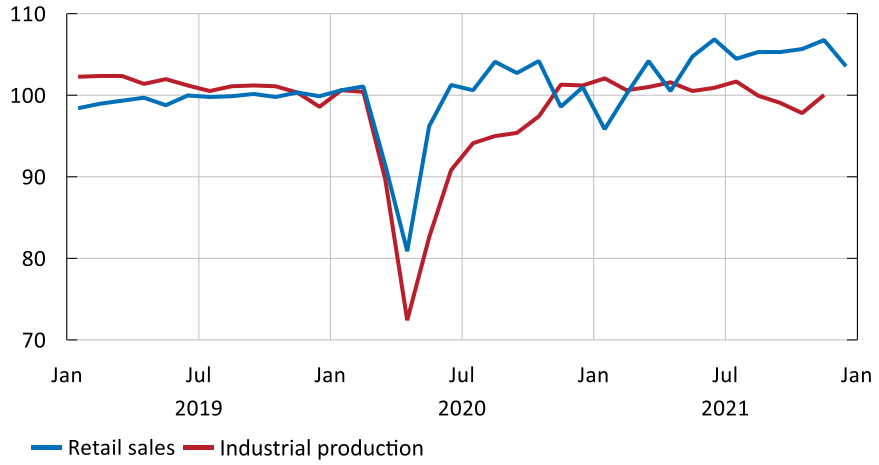
Trade-weighted international inflation in terms of the KIX is forecast to be almost 4 per cent this year and then fall to just over 2 per cent in 2023 and 2024.

The recovery continues in the euro area after a slowdown at the turn of the year

After a rapid recovery in the second and third quarters of last year, GDP in the euro area grew in the fourth quarter by a modest 0.3 per cent compared with the previous quarter. There were major differences between different countries. GDP in Germany was affected to a large degree by tighter restrictions and fell by 0.7 per cent according to preliminary figures. At the same time, Spanish GDP rose by 2.0 per cent. The outcome meant that GDP in the euro area is back at its pre-pandemic level. Among the major economies, it is only the tourism-dependent Spanish economy that is on a significantly lower level than prior to the pandemic, despite a strong end to last year. Disruptions in global supply chains have contributed to weak growth in industrial output in the euro area over the past year, while turnover in the retail trade has risen significantly. However, it fell sharply in December (see Figure 33). Households' real disposable incomes have been dampened as a result of the high inflation.

Figure 33. Retail trade turnover and industrial output in the euro area

Index, 2019 Q4 = 100, seasonally adjusted data

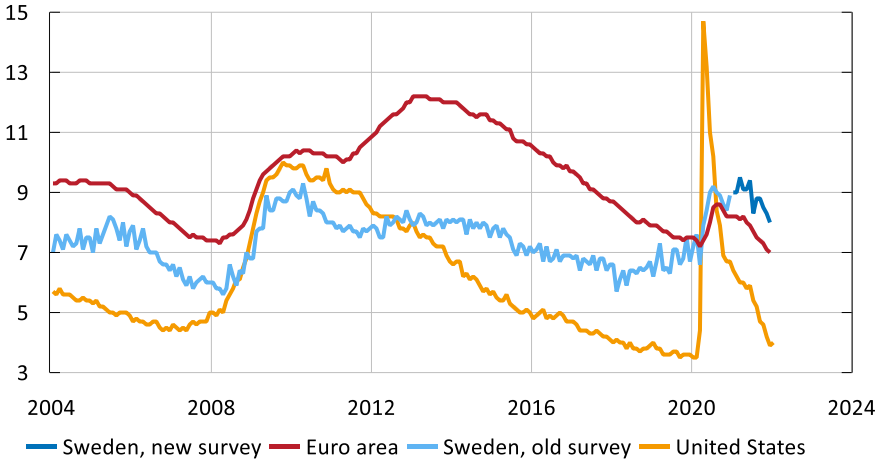


Source: Eurostat.

Unemployment in the euro area fell rapidly in the second six months of 2021 and amounted to 7.0 per cent in December (see Figure 34). A large proportion of employees in the euro area are covered by collectively negotiated wages. Despite the demand for labour having become increasingly strong and the number of persons employed having increased more rapidly than the labour force, there are still no signs of higher wage growth. Neither are there so far any clear indications of wages starting to rise more rapidly going forward. In Germany and several of the other major euro area countries, important wage agreements are expected to be signed in the autumn of this year. The wage demands raised in various sectors and regions in Germany over the past six months have in general been around 5 per cent a year, and the agreements then signed have been below 3 per cent, in several cases around 2 per cent. During the summer, wage demands are expected to be made by leading trade unions prior to the central negotiations in a number of other sectors and regions in Germany. Unemployment is expected to continue to fall, but the assessment is that there will

still be spare capacity in the labour market in the coming years and wage increases are forecast to be just under 3 per cent per year.

Figure 34. Unemployment in Sweden, the euro area and the United States
Percentage of the labour force, seasonally adjusted data



Note. Refers to 15–74 years in the euro area and Sweden and 16 years and older in the United States. With effect from 2021, Swedish statistics for unemployment are affected by a break in the time series. In the Riksbank's view, this now means that more unemployed persons are included in the statistics, which explains much of the increase in unemployment in 2021. Statistics Sweden has not been able to adjust for this change.

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

Confidence among households and service companies declined around the turn of the year in connection with the spread of the omicron variant. During the first quarter of this year, growth in GDP is expected - albeit to a lesser extent - to continue to be impeded by the high rate of infection and related restrictions, as well as by the high energy prices that are restricting households' real disposable income. Significantly higher growth is then expected in the second and third quarters in conjunction with the easing of restrictions and gradual resolution of the global freight problems.

Thereafter, GDP is also expected to grow more rapidly than normal in 2023 and some way into 2024. Lower inflation going forward together with a stronger labour market and rising wages will lead to higher real disposable income. In addition, high saving and low interest rates will contribute to a continued increase in household consumption in the period ahead. Fiscal policy is expected to be tightened this year compared to 2021 as many pandemic measures are withdrawn. But fiscal policy initiatives under the framework of NGEU (Next Generation EU) will also contribute to increased investment over the next few years. Resource utilisation is expected to increase gradually over the forecast period. All in all, GDP growth is expected to fall from a good 5 per cent in 2021 to almost 4 per cent this year, 2.6 per cent in 2023 and 1.6 per cent in 2024.

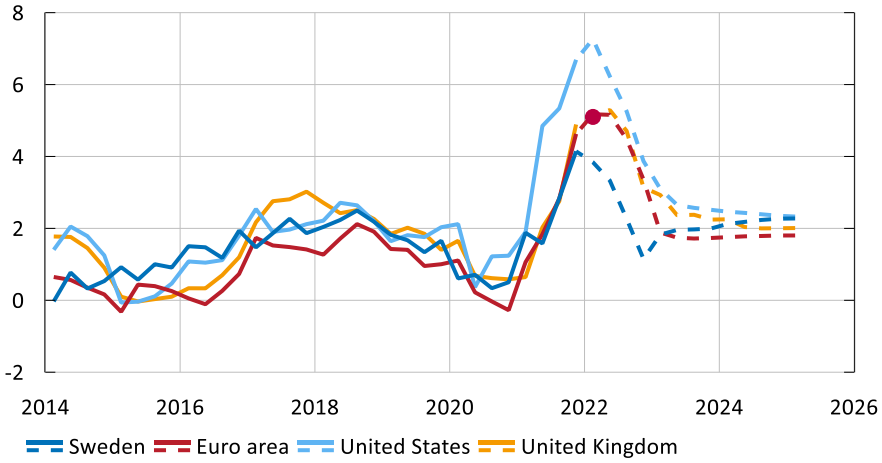
High inflation in the euro area expected to be temporary

HICP inflation in the euro area has risen by more than 3 percentage points since last summer and was 5.1 per cent in January. Underlying inflation, measured as the HICP excluding energy, food, alcohol and tobacco, has also risen, although it fell to 2.3 per cent in January. The rise in underlying inflation can partly be explained by technical factors. During the second half of 2020, price growth was very weak, linked to the consequences of the pandemic and Germany's temporary VAT reduction in 2020. These lower prices were reflected during the second half of 2021 by higher annual rates of price increases. Slightly lower underlying inflation in January confirmed that this effect has started to fade. Underlying inflation is expected to continue falling during the remainder of this year.

As resource utilisation continues to increase, underlying inflation is expected to rise marginally during 2023 and average around 1.8 per cent in 2024. HICP inflation will fall during the course of this year as a result of significantly slower growth in energy and food prices. Aggregate HICP inflation in the euro area is expected to be 4.5 per cent this year and then fall to 1.8 per cent in 2023 and 2024 (see Figure 35).

Figure 35. Consumer prices in various countries and regions

Annual percentage change



Note. For Sweden the CPIF is shown. Solid lines refer to quarterly outcomes, broken lines represent the Riksbank's quarterly forecast. The dot refers to the monthly outcome for January for the euro area.

Sources: Eurostat, national sources, U.S. Bureau of Labor Statistics and the Riksbank.

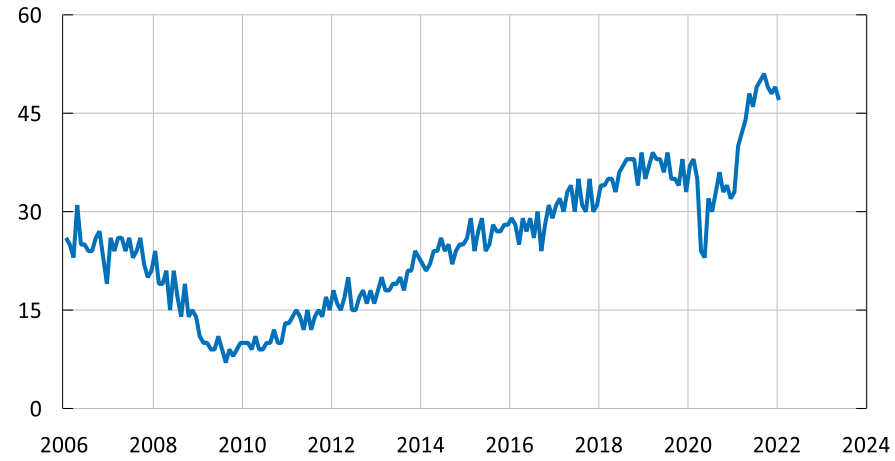
Strong GDP development in the United States

The majority of indicators pointed to strong economic growth in the United States at the end of 2021, but since then confidence has fallen slightly. Consumer confidence fell in January but is still at a relatively high level. The same applies to confidence in both the service sector and the manufacturing industry. Employment has increased and unemployment fell to 3.9 per cent in December. The recovery in the labour force participation, which fell sharply during the pandemic, is proceeding slowly, however.

The low labour force participation rate is probably partly due to continued apprehension about the coronavirus, which has led to new life choices in some cases, and partly to more early retirements. The strong demand on the labour market, combined with the low labour force participation rate, means that resource utilisation is strained despite the employment rate still being lower than prior to the pandemic. About half of small companies say that they are having difficulty filling their vacancies, which is a historically high level (See Figure 36). Unemployment is expected to continue to fall going forward and the strained labour market situation is forecast to continue.

Figure 36. Share of small companies that say they cannot fill vacancies in the United States

Per cent, seasonally adjusted data



Source: National Federation of Independent Business.

The fiscal policy stimulus package approved by the US Congress last March is also expected to have positive effects on GDP this year and next year. In addition, the cross-party congressional agreement reached in the autumn is expected to lead to significantly higher infrastructure investment for several years to come. However, the negotiations on investments in the climate area and social insurance under the "Build Back Better" framework have become prolonged and, as yet, no decision has been taken by Congress. An agreement is, however, expected to be reached, albeit in a downscaled version.

Although confidence among companies is still high, a continued shortage of components and long delivery times in the manufacturing industry are expected to hold GDP growth back for some time to come. Monetary policy is expected to become less expansionary going forward, but even if interest rates rise, they are expected to be low going forward. The strong labour market is contributing to healthy income growth among households. GDP growth is expected to amount to 5.7 per cent in 2021 and then shift down to 3.6 per cent this year, almost 2.5 per cent in 2023 and almost 2 per cent in 2024 (see Figure 29).

Record inflation in the United States

CPI inflation was as much as 7.0 per cent in December, the highest level in 40 years. The upturn was partly driven - as in the euro area - by higher energy and food prices. Underlying inflation, measured as the CPI excluding energy and food, was also high and, in the same month, amounted to 5.5 per cent. Inflation measured as the personal consumption expenditures (PCE) price index was 5.8 per cent and inflation measured as the PCE excluding energy and food was 4.9 per cent.

The strained labour market is expected to lead to wages continuing to increase at a relatively rapid pace. One sign of this is that wage growth has increased in recent months and average hourly earnings increased in December by 4.7 per cent on an annual basis. In addition, surveys show that many companies, due to difficulties in filling vacancies, are planning to increase wages further in the months to come. Higher wage costs are expected to be passed on to consumer prices to some extent. As in other countries, however, the rate of increase in energy prices is forecast to fall in the period ahead and contribute to a gradual fall in inflation. CPI inflation in the United States is expected to be 5.6 per cent this year and then to fall back to around 2.5 per cent at the end of the forecast period (see Figure 35).

Property sector burdening China's growth

The Chinese economy made a strong recovery in 2021 when GDP rose by 8.5 per cent. However, there was a slowdown in growth in the second half of the year. In the fourth quarter, GDP increased by 4 per cent compared with the same quarter in the previous year. Uncertainty in the property sector, where a number of property developers are facing economic difficulties, is dampening investment in construction at the same time as new outbreaks of infection and energy shortages are impeding the recovery within the services sector and manufacturing industry. The authorities have recently announced plans for more expansionary economic policy to support the economy. The Chinese central bank has cut its policy rate and fiscal policy is to be made more expansionary. Despite this, the property sector is expected to continue to burden the Chinese economy in 2022. The growth of exports, which has been stronger than expected in 2021, is also expected to develop more slowly this year as consumption patterns normalise abroad. Overall, economic growth is projected to fall to just over 5 per cent this year, and then remain at around that rate in the years to come.

3.2 Economic activity in Sweden slowing down temporarily, with inflation high in the near term

The rapid spread of infection is temporarily restraining GDP growth

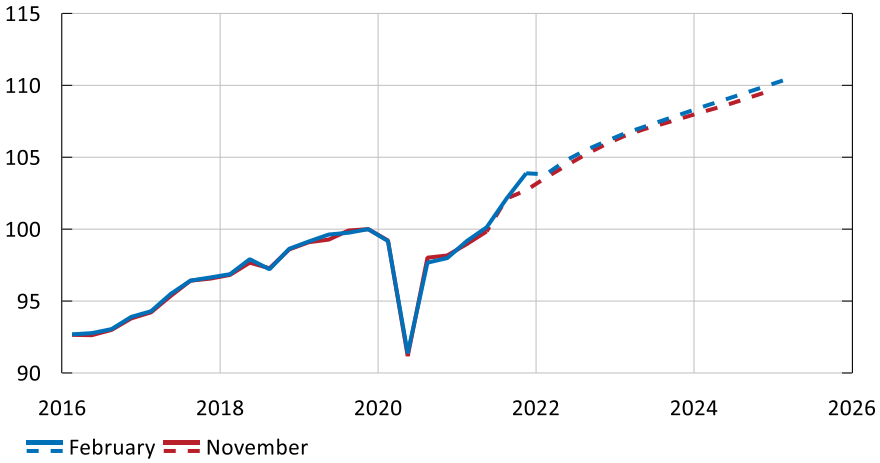
Demand rose rapidly in the Swedish economy during much of last year and in the fourth quarter, GDP increased by 1.4 per cent, seasonally adjusted and compared to

the third quarter.[12] At the end of last year, the spread of infection picked up again. The very high infection rate means that more people are at home, sick or in quarantine, and therefore absent from work. Moreover, during December and January further restrictions were introduced, which together with the self-imposed restrictions are thought to have subdued demand at the beginning of the year. GDP is therefore expected to fall marginally in the first quarter, compared with the fourth quarter of 2021 (see Figure 37).

On 9 February the restrictions ceased to apply. When the spread of infection also declines, demand is expected to return rapidly and during the second quarter, growth is expected to be high again. GDP will continue to grow at a somewhat faster pace than normal until the beginning of 2023 once, for example, households' consumption patterns are normalised, housing construction is high and the effects of bottlenecks disappear. As these temporary effects drop out, growth will slow and the economy will grow in line with potential growth (see Figures 37 and 44). This year, GDP growth is expected to be 3.6 per cent, and then 2 per cent in 2023 and 1.7 per cent in 2024.

Figure 37. GDP in Sweden

Index, 2019 Q4 = 100, seasonally adjusted data



Note. The solid line refers to outcomes, the broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Gradually stronger public finances

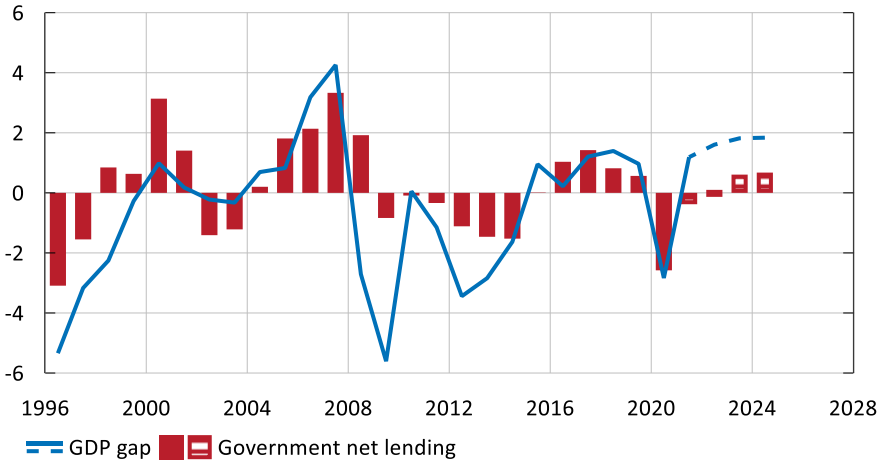
Last year's deficit in public finances seems to be smaller than expected, as the rapid economic recovery has led to an unexpectedly large increase in tax revenues. The

[12] Previous quarters are also revised when the GDP indicator for the fourth quarter is published (28/1). The new series indicates that the GDP level was higher in the third quarter of 2021 than previously published. Figure 37 shows the Riksbank's estimate of the new GDP level for the fourth quarter based on the GDP indicator. However, the previous quarter corresponds to Statistics Sweden's publication of the National Accounts on 29 November 2021, which means that the quarterly rate will be higher than the one published for the GDP indicator.

budget for the year includes unfunded measures for just over SEK 70 billion in 2022.[13] In addition to the budget, the Government has announced new support measures due to the recent high infection rates, as well as compensation to households for high electricity prices. Despite comprehensive fiscal policy measures, general government net lending will be close to zero this year (see Figure 38). This is because most of the temporary pandemic-related support from 2020–2021 is being removed and the economic situation is continuing to strengthen. Economic activity will also strengthen in coming years, which will reduce the need for stimulation measures. Fiscal policy is thus expected to be adapted to the targets in the fiscal policy framework.

Figure 38. General government net lending and GDP gap

Per cent of GDP and per cent of potential GDP, respectively



Note. GDP gap refers to the deviation of GDP from the Riksbank's assessed trend. Solid line and bars refer to outcome, broken line and bars represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

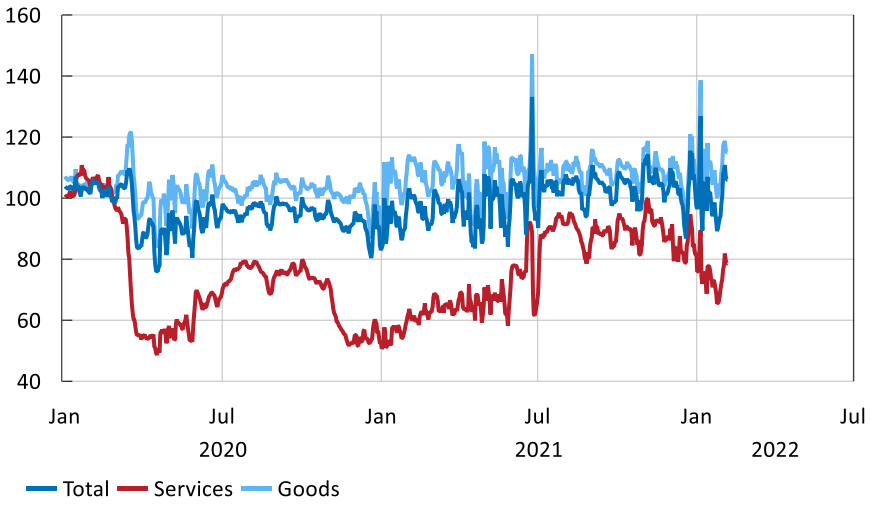
High infection rates and expensive electricity bills restraining consumption

Household consumption increased rapidly last autumn and winter but, since then, is deemed to have slowed down as infection rates have again risen. High-frequency indicators, such as data on card transactions, show that the consumption of services decreased in December and January (see Figure 39). Once again, consumption is falling substantially in certain service sectors, such as hotels, restaurants, transport and travel.

[13] Unfunded reforms refer to the amount that has been announced and that is not funded by active decisions on expenditure cuts or tax increases. However, the government fiscal balance increases via a so-called automatic budget strengthening measure. This means that the balance is strengthened in the event of unchanged rules since tax revenue develops approximately in line with GDP while expenditure tends to decrease. The unfunded reforms of SEK 74 billion are thus partly financed via the automatic budget strengthening measure.

Figure 39. Card payments

Index, corresponding 7-day period in 2019 = 100



Note. Data is missing for the first week in January 2019, and has been replaced by an average for the second week in January.

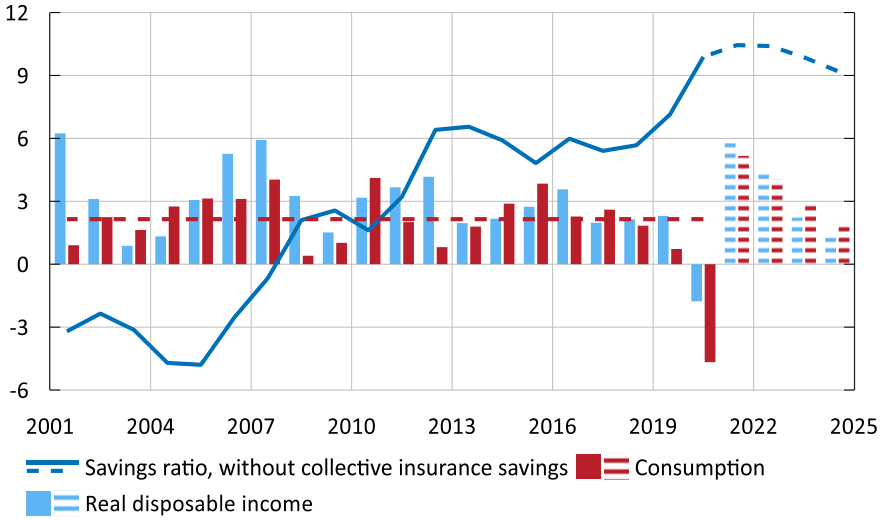
Sources: Swedbank and the Riksbank.

In combination with the cold weather and thus the high electricity consumption, the recent high electricity prices have entailed high electricity bills for many households. When electricity bills consume an increasingly large part of household income, there is less scope for other consumption, which risks further restraining consumption in the first quarter. However, at the start of January, the Government announced targeted support to compensate households for electricity bills from December to February. It has still not been decided whether and when this support will be paid, but if it is, it will probably be in the next few months.[14] Electricity bills are therefore likely to subdue consumption during the first quarter. Consumption would probably have been further subdued if households had not expected to be compensated going forward. Consumption is expected to be weak during the first quarter, but to recover quickly and grow by almost 2 per cent during the second quarter, when the spread of infection is low again and electricity bills are lower.

Household saving has risen significantly during the pandemic. This may, to a certain extent, be a question of due to precautionary saving when economic prospects deteriorate, but it is probably also enforced saving linked to the spread of infection and related restrictions. During 2020, household income declined, as many people became unemployed or were put on short-term work schemes and capital incomes fell. Last year, employment increased and capital incomes rose, which meant that household income increased rapidly. Despite consumption also increasing, the saving ratio continued to rise. Once the latest wave of infection has subsided, households are expected to reduce saving and return to normal consumption patterns (see Figure 40).

[14] The Riksdag has not yet made a decision on the Government's proposed support measures. The forecast for household consumption contains an assumption that the Riksdag will decide to give households some form of compensation, however.

Figure 40. Households' real disposable incomes, consumption and saving ratio
Annual percentage change and percentage of disposable income



Note. Disposable income has been deflated using the household consumption deflator. The broken red line represents average consumption growth in 1994–2020. Collective insurance savings consist of savings that households do not control themselves, for example premium pensions and group insurance policies. Solid line and bars refer to outcome, broken line and bars represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Exports have been restrained by a lack of input goods and by delivery problems

Despite global output in many goods manufacturing sectors having been higher than normal over the past year, this has not been enough to fully satisfy the high demand. One of the reasons for this is that certain sectors in global value chains have limited capacity, for example freight services and the production of semiconductors. In Sweden, this has manifested itself both in weak goods export growth in recent quarters and in unusually long delivery times (see Figure 41).

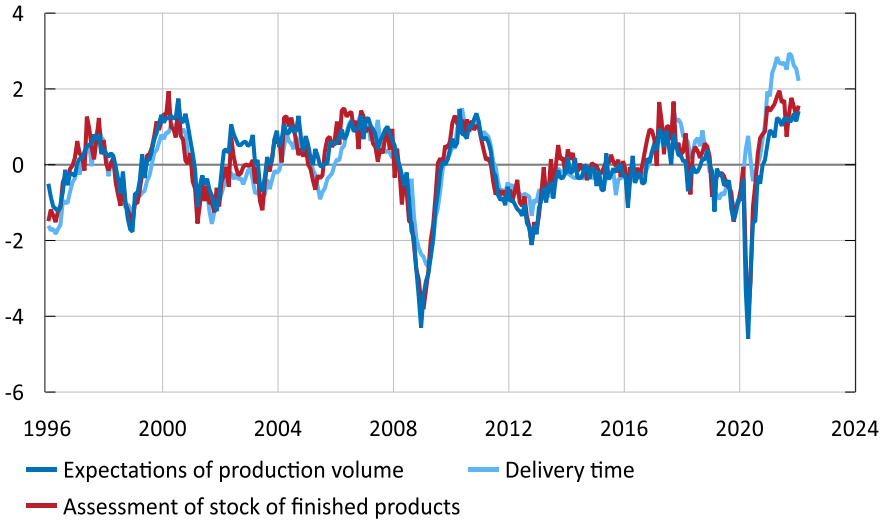
Total production of goods is currently deemed high enough to meet new orders and some of the demand that has been postponed during the pandemic. On the other hand, production restrictions mean it will take time to fully catch up on all the postponed demand. The backlog of orders will thus remain larger than normal for a longer period, which is reflected in long delivery times and high producer prices in several sectors. The consumption of services is expected to increase again as the pandemic subsides, which will contribute to a gradually decline in demand and help to ease bottlenecks.

International demand will be high over the next year and, together with well-filled order books in the manufacturing industry, this will help exports grow at a healthy pace as from the second quarter of this year until the beginning of 2023. Increased travel will also contribute to exports, via consumption by foreign households in Sweden. From the beginning of 2023, export growth will slow. By that time, the order backlog

will have been resolved, demand for goods will decrease and international demand will grow more slowly.

Figure 41. Indicators in the Purchasing Managers' Index for the manufacturing sector

Standardised data, mean = 0, standard deviation = 1



Source: Silf/Swedbank.

Housing construction increasing rapidly

During the pandemic, demand for housing has increased and housing prices have risen rapidly.[15] Last year, housing prices increased by 10 per cent, which is almost as much as in 2020. This has contributed to an increase in housing construction. In the period ahead, demand for housing is expected to slow, causing housing investment to decline. Seen over the period as a whole, however, new construction is at record levels.

In 2020, business sector investment excluding housing fell less than it normally does in a recession and last year increased rapidly. Therefore, there is not expected to be any pent-up investment requirement after the pandemic and in the forecast, investment is projected to grow in line with demand.

Demand for labour is high

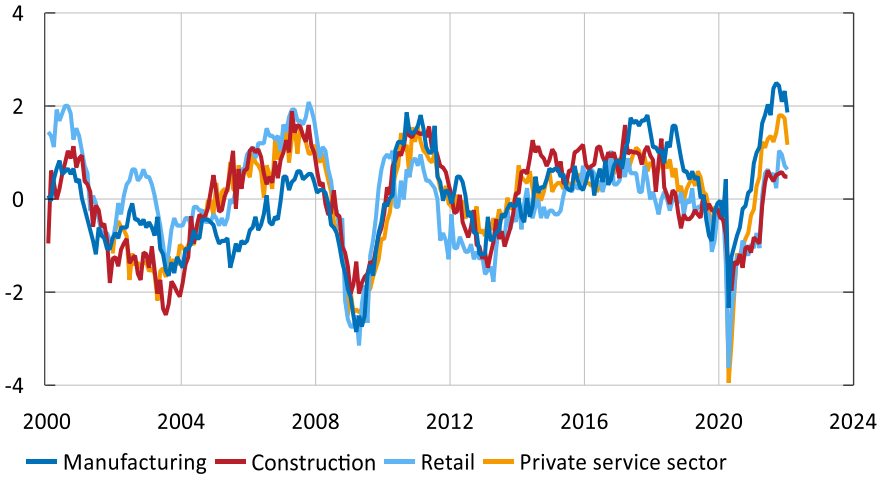
During the fourth quarter, employment increased by 0.3 per cent compared with the previous quarter. Underlying demand for labour is very high and, in the Economic Tendency Survey, many companies report that they plan to employ, particularly in the industrial sector and private services sector (see Figure 42). At the same time, the number of newly registered job openings at the Swedish Public Employment Service and vacancies in the business sector according to Statistics Sweden are on a very high

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

level, and the number of redundancy notices is very low. Employment is therefore expected to continue to rise, although the spread of infection will hold back this development slightly in the first months of the year. Sickness absence is very high and, according to the Swedish Social Insurance Agency, applications for sickness benefit, care of sick children benefit and disease carrier's allowance have been at an all-time high.[16] As levels of sickness absence are high, the number of hours worked is affected more than the number of persons employed. Infections are expected to decrease in the coming months and, in combination with the lifting of restrictions, employment and the number of hours worked are forecast to rise rapidly.

Figure 42. Recruitment plans by sector

Standardised data, mean = 0, standard deviation = 1



Source: National Institute of Economic Research.

Employment continues to rise and unemployment is falling

Before the crisis, unemployment according to the LFS was about 7 per cent. In January 2021, LFS reorganised its statistics, which resulted in several changes. One change was the broadening of the concept of unemployment.[17] In the Riksbank's view, this now means that more unemployed persons are included in the statistics, which explains much of the increase in unemployment in 2021. Statistics Sweden has not been able to adjust for this change. The size of the total effect from the changes on unemployment is very uncertain, but the Riksbank's assessment is that it may increase unemployment by around 0.5 percentage points. During the second quarter of last year, unemployment peaked at 9.2 per cent, and, as said, some of this increase is thought to be due to the reorganisation of statistics. Thereafter it fell to 8.2 per cent in the fourth quarter.

[16] See https://www.svt.se/nyheter/inrikes/svenska-sjukfranvaron-nar-nya-rekordnivaer

[17] With effect from January 2021 the LFS asks "have you looked for or tried to find a job in the last 4 weeks?". See also the discussion in the article "The LFS reorganisation and the Riksbank's analysis of the labour market" in the *Monetary Policy Report*, February 2021, Sveriges Riksbank.

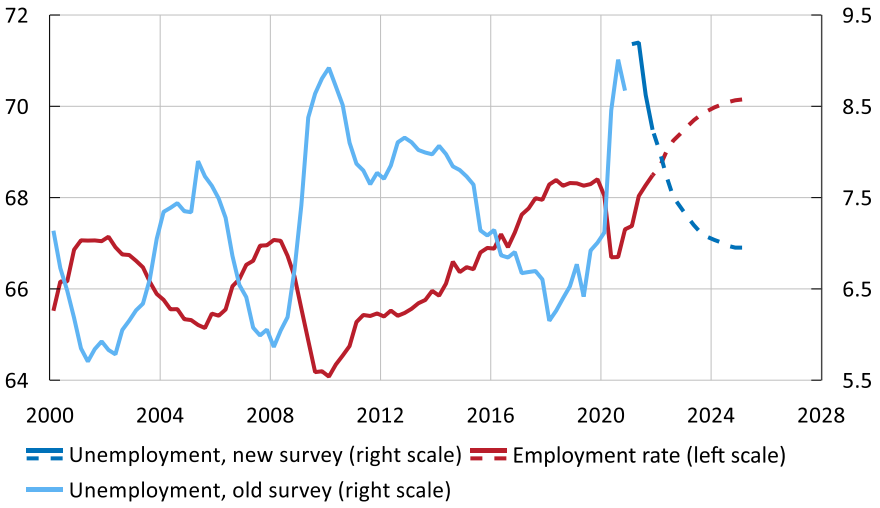
According to the Swedish Public Employment Service's statistics, unemployment has fallen back faster and, according to data for the first weeks of January, amounted to 7.3 per cent, which is approximately the same level as before the crisis. Employment according to LFS has also recovered to its pre-crisis level (see Figure 43), but as the labour force has increased by more than usual, unemployment according to LFS is still elevated.

The pandemic has led to an increase in the number of persons who have been unemployed for more than twelve months. This indicates that the pandemic could lead to some major long-term negative effects on the labour market. However, data indicate some improvement in the labour market for long-term unemployed persons in recent months. This is a positive sign and supports the Riksbank's view that the long-term negative effects on the labour market from the pandemic will be relatively limited.[18] This year and in coming years, labour supply is expected to rise at a slower pace and more in line with the development of the working-age population. The labour force participation rate, which is already very high from a historical perspective, is, however, predicted to rise further slightly due to increased labour force participation among older and foreign-born persons. At the same time, labour demand is expected to remain strong and unemployment will therefore fall at a relatively fast pace this year (see Figure 43). As a decreasing amount of spare capacity is available in the labour market, the downturn in unemployment and the rise in the employment rate are forecast to slow down. At the end of the forecast period, unemployment is expected to be close to 7 per cent, at the same time as the employment rate is very high.

[18] 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.

Figure 43. Employment rate and unemployment

Per cent of population and labour force, respectively



Note. 2021 data for employment and population are adjusted for the time series break in January 2021. Statistics Sweden has made an adjustment for the estimated effect of the change in the definition of employment. It has used RAMS, which was previously used as help information instead of AGI, and adjusted for changes in the target population. These adjustments are not comprehensive, however. Unemployment has been affected by changes for which Statistics Sweden has not been able to adjust. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Resource utilisation higher than normal

As the amount of spare capacity in the economy affects the development of wages and prices, resource utilisation is of considerable interest for monetary policy. However, it cannot be measured exactly and the Riksbank therefore makes an assessment based on an amount of data and different indicators. Examples of these are measures of unemployment, capacity utilisation and shortages.

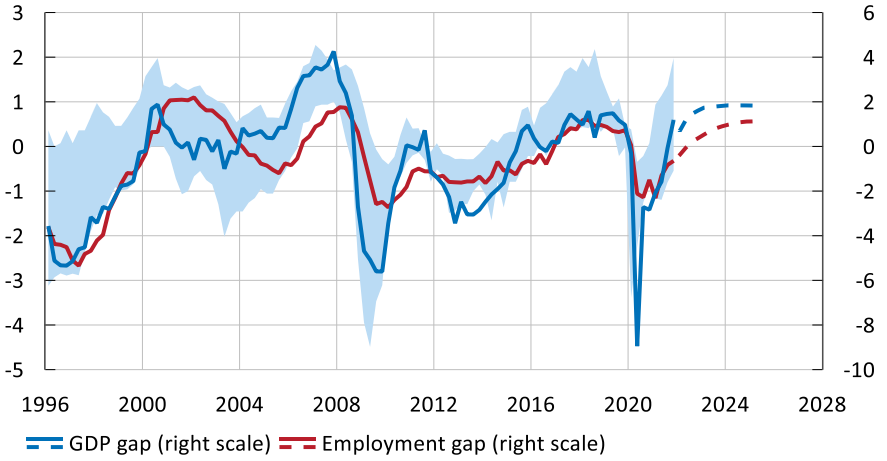
Data that the Riksbank normally monitors indicates that resource utilisation has risen sharply. However, the span between the different indicators is wide and it is difficult to assess the precise level of resource utilisation (see Figure 44). At the bottom of the span is unemployment according to LFS, which indicates that there is still considerable spare capacity in the labour market, and at the top is shortages in the business sector according to the Economic Tendency Survey.

The Riksbank's assessment is that resource utilisation in the economy rose rapidly last year, which is supported by all the indicators and data in Figure 44. However, the currently very high levels of some indicators are considered to reflect to a certain extent

other, more temporary, factors than aggregate resource utilisation. [19] The Riksbank considers resource utilisation to be currently somewhat higher than normal. This is also illustrated by the fact that GDP is higher than its expected trend, that is to say the GDP gap is positive (see Figure 44). Resource utilisation in the labour market normally follows the GDP gap with a certain lag and the Riksbank considers there to still be some spare capacity in the labour market. Going forward, resource utilisation, supported by the expansionary economic policy, is expected to continue to rise. The economic situation is expected to be stronger than normal in the coming years, which is illustrated in the Riksbank's forecasts for the various gaps.

Figure 44. Measures of resource utilisation

Standard deviation and per cent



Note. The field is read against the left-hand axis and 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 shortages, profitability assessment and demand. The gaps refer to the deviation in GDP and employment from the Riksbank's projected trends. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Wage growth to increase in the years ahead

Wage growth rose last year and is projected to have averaged 2.7 per cent in 2021. This is an increase compared to 2020 and even slightly higher than 2019. The increase is due to the fact that wage negotiations at the end of 2020 resulted in an agreement to raise centrally agreed wages by an average of about 2 per cent annually until the

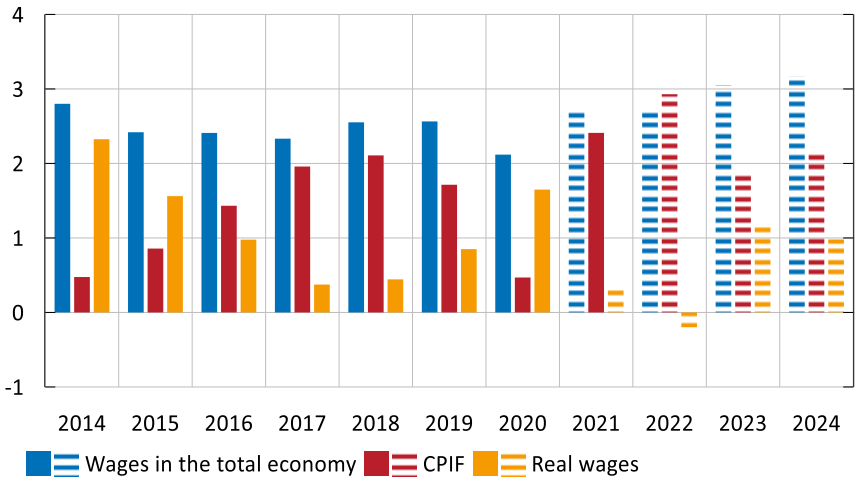
[19] For example, shortages according to the Economic Tendency Survey are on a very high level. The shortages in the Economic Tendency Survey also capture, to a certain extent, companies' general need to increase their personnel, rather their problems in recruiting staff. Many of the companies that have plans to recruit also say that they have a shortage of labour. The likelihood of them having to increase the number of employees three months later (i.e. having succeeded with their recruitment plans) is greater than it is for those companies that say they do not have a shortage. See the article "Dämpas sysselsättningen av brist på arbetskraft?" (only in Swedish - Is employment being subdued by labour shortages?), article in *Konjunkturläget (Swedish Economy Report)*, December 2017, National Institute of Economic Research.

end of the first quarter of 2023. However, the distribution differs between the years and wage growth in the agreements is somewhat higher in 2021 than in 2022. However, total wage growth is not just determined by centrally agreed wages but also by local pay reviews. The size of these is affected by, among other factors, the situation in the labour market. As demand for labour is now high, wages over and above agreements will rise more rapidly this year than last year, and wage growth is therefore expected nevertheless to be about the same on average. Even though nominal wage growth is expected to increase, real wage increases are projected to be historically low in 2021 and 2022 as inflation is high (see Figure 45).

Negotiations on agreements for 2023 and beyond will begin in the autumn of 2022. The economic situation is expected to be better then, with lower unemployment and higher inflation than in the pandemic year of 2020, when the current agreements were concluded. As economic activity abroad is also strengthening, wages abroad are projected to increase at a faster pace. This is expected to contribute to faster wage growth in the years ahead. After being just over 2 per cent in 2020, wage growth according to the NMO short-term wage statistics is expected to rise and go beyond 3 per cent in 2024 (see Figure 45). The forecasts mean that real wages, that is wage increases minus inflation, will only rise moderately and more slowly than the average over the last 20 years of about 1.5 per cent.

Figure 45. Wages, the CPIF and real wages

Annual percentage change



Note. Real wages are calculated as the difference between wage growth and the rate of increase in the CPIF, which is to say the blue bar minus the red bar. Solid bars refer to outcomes, broken bars to the Riksbank's forecast. The outcome for wages in 2020 is preliminary.

Sources: National Mediation Office, Statistics Sweden and the Riksbank.

Krona will strengthen in the years ahead

The Swedish krona has depreciated since November, which has coincided with increased unease on the financial markets. The real exchange rate is thought to be

weaker than the level that can be expected based on, for example, Swedish productivity in relation to the rest of the world. In trade-weighted terms, the krona is expected to appreciate slowly over the coming three years (see Figure 46).

Figure 46. Nominal exchange rate, KIX

Index, 18 November 1992 = 100

Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. Outcomes are daily rates and forecasts refer to quarterly averages. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Source: The Riksbank.

Historically high energy prices will contribute to CPIF inflation of just over 4 per cent for a short period of time

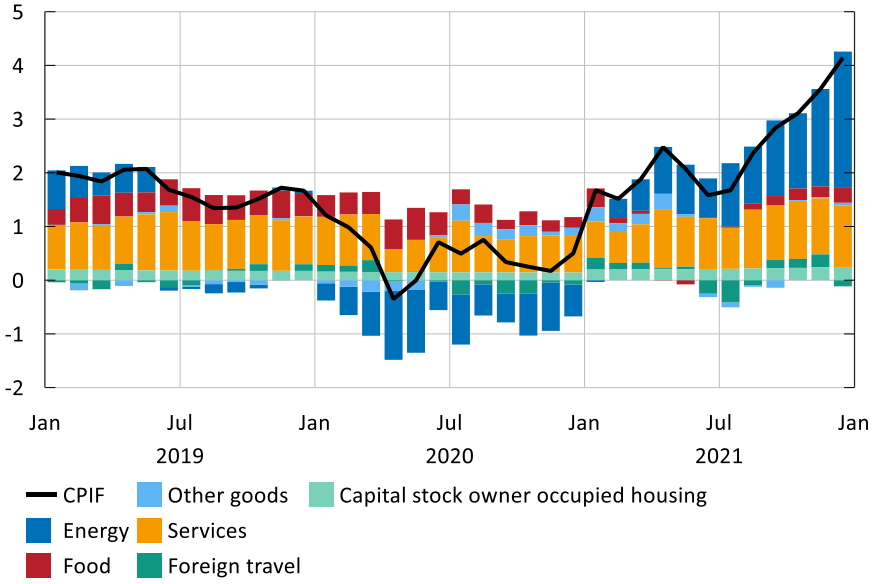
After having been very low in 2020, CPIF inflation rose rapidly in 2021 and amounted to 4.1 per cent in December, which is the highest figure since December 1993. On average, CPIF inflation was 2.4 per cent in 2,021. The single most important explanation for this development is that energy prices and particularly electricity prices have risen rapidly. The contribution of the various sub-groups to the rate of increase in the CPIF is shown in Figure 47. The contribution from energy prices rose successively in 2021 and amounted to just over 2.5 per cent in December. Prices for goods are close to unchanged, measured as an annual percentage change, but they are expected to rise increasingly rapidly over the next few months, due in part to the recent krona depreciation. Service prices are currently increasing approximately in line with the historical average.

Even if energy prices are disregarded, inflation has increased, albeit by significantly less than in many other countries. In December, CPIF inflation excluding energy amounted to 1.7 per cent.

CPIF inflation is expected to be close to 4 per cent in the first quarter before receding rapidly over the year.[20] The downturn in CPIF inflation can be explained by energy prices being expected not to continue rising in 2022.[21] This is supported by forward prices for electricity and oil, among other things. However, the development is difficult to assess and may be affected by everything from weather conditions to the geopolitical situation.

Figure 47. 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.

Both electricity and fuel prices rose last year (see Figure 48). Electricity prices on the Nord Pool electricity exchange reached new records in December 2021 but fell in January. The volume of stored natural gas has been lower than normal in Europe, which has also affected prices for electricity, coal and emission rights. This development has also contributed to higher electricity prices in Sweden, particularly in southern Sweden. Electricity prices in Sweden have also been affected by weather and wind. This has led to low water levels in reservoirs in the Nordic countries for the time of

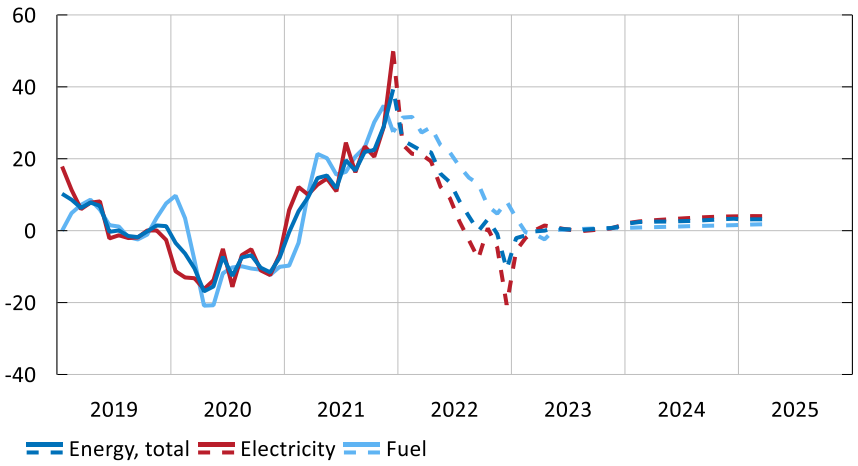
[20] To compensate for high energy prices, the Government has proposed a subsidy to be paid to households with high electricity consumption between December 2021 and February 2022. If the proposal is realised, it may affect inflation measured as the CPIF. Statistics Sweden has not yet decided exactly how and when this will be considered in the calculation of the CPIF. If the subsidy were to be included in the calculations, the measured inflation rate would fall during the months in question. Statistics Sweden will announce how the subsidy is to be considered in the calculations on 18 February.

[21] For a more detailed description of how the rate of inflation is affected by the level of prices, see the fact box "Link between price level and inflation rate" in Chapter 3, *Monetary Policy Report*, September 2021, Sveriges Riksbank.

year and consequently reduced hydropower capacity. The rapidly rising fuel prices in the last month depend partly on the increase in global oil prices. Since 1 January 2022, more biofuel is also to be mixed into diesel and petrol (30.5 per cent and 7.8 per cent, respectively), which, together with increased taxes, pushed up diesel prices at the pumps by just over one krona per litre at the turn of the year.

Figure 48. Energy prices in the CPIF

Annual percentage change



Note. In 2021, the weights are as follows, in per cent; total energy 7.1, electricity 4.2 and fuel 2.4. Solid lines refer to outcomes, broken lines represent the Riksbank's forecast.

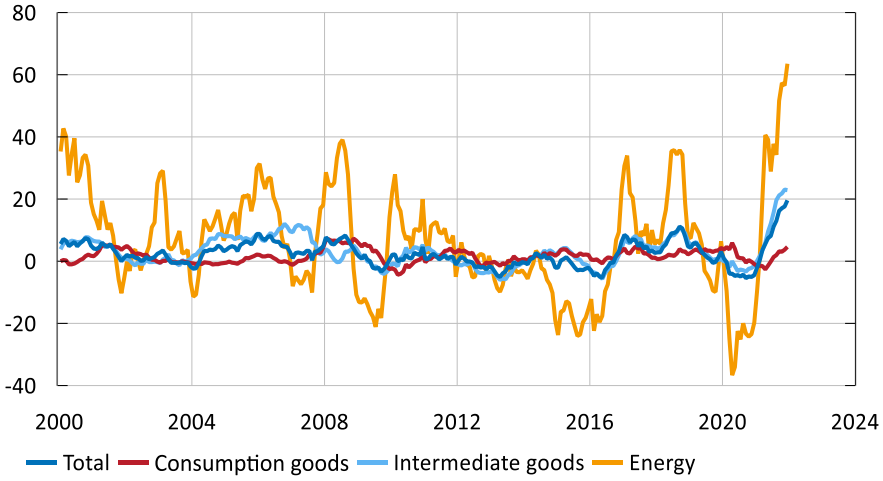
Sources: Statistics Sweden and the Riksbank.

CPIF excluding energy over two per cent for most of 2022

It is not just energy prices that have increased during the pandemic. Disruptions to global trade caused costs for sea freight to rise dramatically in the summer of 2020. Costs peaked towards the end of 2021. The situation is still problematic and logistic problems are considerable, although it has been possible to discern some improvement of late. Commodity prices remain at very high levels. High commodity prices and freight costs have led to rapidly rising prices in the producer channel. Prices for energy and input goods have accelerated over the last year, while the rate of increase in producer prices of consumer goods is not unusually high (see Figure 49).

Figure 49. Prices in the producer channel

Annual percentage change



Note. Refers to Sweden's domestic supply price index (ITPI), which is a composite of the domestic market price index (prices of goods produced and sold in Sweden) and the import price index.

Source: Statistics Sweden.

Developments in input prices for producers normally affect consumer prices with a time lag, but to a limited extent.[22] The rate of increase of prices for goods in the CPIF remains low (see Figure 49) but is expected to rise over the next year, in part because prices for input goods are rising and because the krona has depreciated over the last year.

The service prices measured have varied greatly since the start of the pandemic and has been characterised by changed weights on foreign travel and various measurement problems. Demand for certain services has now rapidly started to recover and put some upward pressure on prices. One example is prices for hotel stays. The rate of increase in service prices in December was close to its historical average (See Figure 47). In contrast to many other countries, the rate of increase in food prices has been relatively stable in Sweden, although these are also expected to rise more rapidly in 2022.

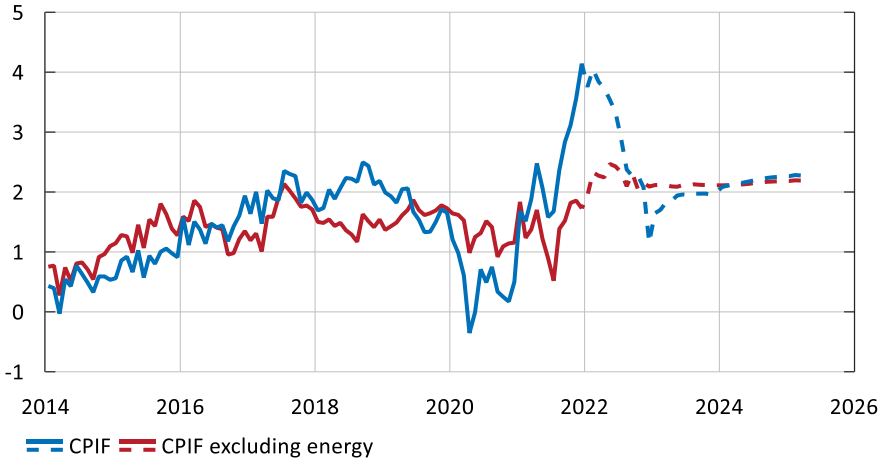
According to survey data from the Economic Tendency Survey and Purchasing Managers' Index, prices are expected to increase relatively rapidly in the period ahead in both trade and manufacturing sectors. According to the Economic Tendency Survey, increasing numbers of companies are planning price rises, particularly in the retail trade but also across the entire business sector. This has strengthened the Riksbank's assessment that the rate of increase in the CPIF excluding energy will rise and be around 2.3 per cent on average in the first half of 2022 (see Figure 50). The increase is also reinforced by the depreciation of the krona and by indirect effects of recent high energy prices (see the article "High energy prices – how will other consumer prices be

[22] Only a smaller share of the consumer price is made up of the cost of input goods. Payroll costs, transport, rent and mark-ups make up most of the price.

affected?"). In the second half of 2022, the rate of increase in the CPIF excluding energy will fall back somewhat.

Figure 50. The CPIF and the CPIF excluding energy

Annual percentage change



Note. Solid lines refer to outcomes, broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

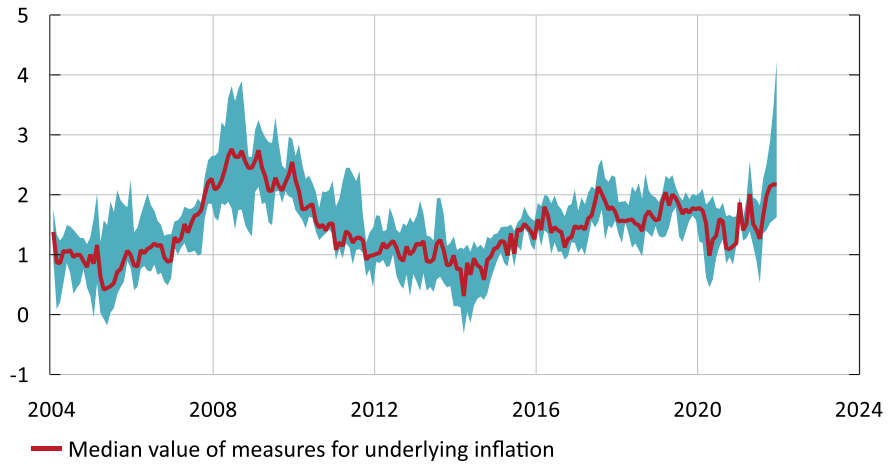
Like many other central banks, the Riksbank calculates and publishes various different measures of so-called core inflation. These measures, which exclude or reduce the significance of prices that have previously varied substantially, have become less stable during the pandemic. This is probably connected to changed weights and different measurement problems. The rapidly rising energy prices are also affecting some of the measures.[23] The median of the various measures amounted to 2.2 per cent in December (see Figure 51). The measures that have proved best in surveys (UND24 and CPIFPC) are unusually divergent and are at 2.6 and 1.6 per cent respectively.[24]

[23] For more information on the impact and expected impact of changed consumption patterns during the pandemic, see J. Johansson, M. Löf and O. Tysklind, "Changed consumption during the pandemic affects inflation", *Economic Commentaries*, No. 14, 2020, Sveriges Riksbank.

[24] For a more detailed description of different measures of underlying inflation, see J. Johansson, M. Löf, O. Sigrist and O. Tysklind, "Measures of core inflation in Sweden", *Economic Commentaries* no. 11, 2018, Sveriges Riksbank.

Figure 51. Different measures of 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 median inflation (Trim1).

Sources: Statistics Sweden and the Riksbank.

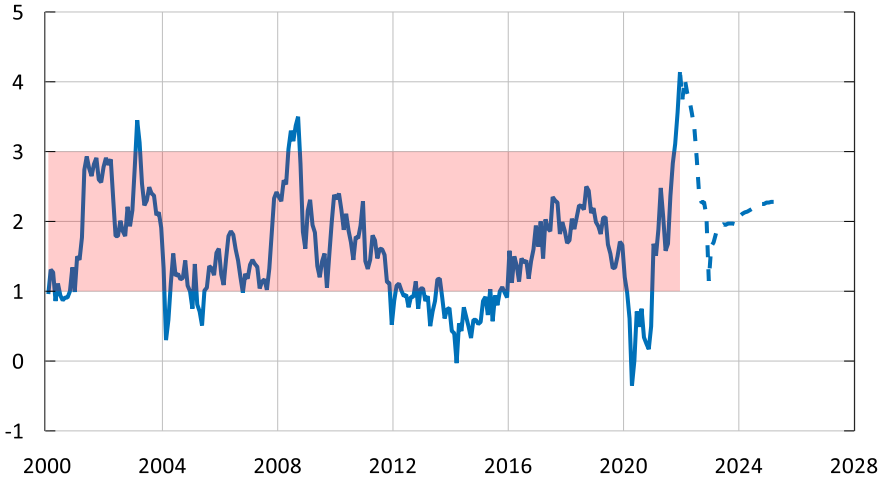
Inflation close to target from mid-2023

There are few signs so far that the currently high energy prices have given rise to more lasting inflation effects. The rate of increase in the CPIF excluding energy is expected to rise slightly and reach 2.3 per cent on average in the first quarter of 2022 and then slow somewhat and be close to 2 per cent for the remainder of the forecast period. CPIF inflation will fall when energy prices stop increasing and bottom out at the end of 2022. After this, it will rise slowly as wages increase more rapidly. The krona exchange rate is also expected to contribute to slightly higher inflation especially over the next year, while demand is forecast to remain high. From 2023, CPIF inflation will develop in line with inflation abroad.

Over the last two years, CPIF inflation has varied greatly. Inflation slowed down suddenly at the start of the pandemic and then rose relatively rapidly during 2021 (see Figure 52). The increase in inflation has also pushed up inflation expectations. In turn, this is expected to contribute to slightly higher wage growth than in the years prior to the pandemic. Even though fluctuations in CPIF inflation have been very strong, it is expected to be close to target, on average, over the period 2020–2024.

Figure 52. The CPIF and the 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. The solid line refers to outcomes, the broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

ARTICLE – High energy prices – how will other consumer prices be affected?

During the initial stage of the pandemic, inflation in Sweden was mostly affected by measurement problems and changed consumption patterns. During2021, the focus was on bottlenecks, rising freight costs and higher commodity prices. Many of these problems remain to some extent, but most recently, it has primarily been higher energy prices, and electricity prices in particular, that have impacted inflation. CPIF inflation, which has risen rapidly, is expected to be close to 4 per cent during the first quarter. This article discusses how, and to what extent, energy prices can affect other consumer prices. As the rise in energy prices has been both larger and more prolonged than the Riksbank estimated earlier, the contagion effects are expected to be somewhat larger than has been assumed so far.

How do higher energy prices affect other prices?

Changes in energy prices have contributed to an increase in CPIF inflation from 0.5 per cent in December 2020 to 4.1 per cent in December 2021. Never since the introduction of the inflation target in 1995 has CPIF inflation been higher. Prices for fuel and household electricity are included in the normal measures of inflation and consumer prices for these products are changing more frequently than other prices. However, it is not only households that consumes energy; companies do it too. The question is how much the high energy prices are affecting corporate costs and thus how much other prices are also being raised afterwards. These delayed effects are very difficult to measure.

An example of such an *indirect effect* is when rising fuel prices affect bus companies' costs and, in the next step, their ticket prices. Other examples are when higher electricity prices affect the total expenditure item for farmers, who must then compensate by raising food prices, or when higher costs for running and heating properties result in higher rents. In all cases, it is a question of higher costs for companies gradually being passed on to consumers.

When energy prices rise, this can also affect inflation expectations and thus inflation via higher wage demands, for example. This type of delayed effect is normally referred to as a *secondary effect*.

The Riksbank and other analysts have tried to estimate the magnitude of the indirect effects of changed energy prices with the help of econometric analysis tools that take historical correlations between variables into consideration. Secondary effects have

also been studied in various scenarios. This article discusses the results from these analyses.

The contribution of energy prices to inflation is at an all-time high

Energy prices, which is to say both fuel prices and electricity prices, rose rapidly in 2021 and their contribution to CPI inflation amounted to 2.5 percentage points in December (see Figure 53).[25] The contribution from fuel prices was 0.6 percentage points, while electricity prices contributed 1.9 percentage points.

Fuel prices are affected by the price of oil, which has increased by just over USD 30, or 60 per cent, to almost USD 90 a barrel since January 2021. This development has affected fuel prices in both the United States and Europe.[26] In Sweden, the price of a litre of 95-octane petrol has risen by more than 30 per cent, or almost SEK 4 per litre during the same period. The price of diesel has risen even more. The price increase on oil is due to the supply not having increased as quickly as the demand. Prices for natural gas and coal have also risen sharply.

Electricity prices have developed even more dramatically and this is due to several factors. Abnormally low water levels in Nordic reservoirs and little wind have contributed to rising electricity prices in Sweden. Supplies of natural gas from Russia have been limited, which has affected electricity prices in Europe. In December 2021, market prices of electricity had risen by almost 400 per cent in Germany and France on a yearly basis. They have fallen slightly in January 2022 but are still high. Since the Swedish electricity market has become more interconnected with the continental market over time, Swedish electricity prices have also been affected, particularly in southern Sweden.

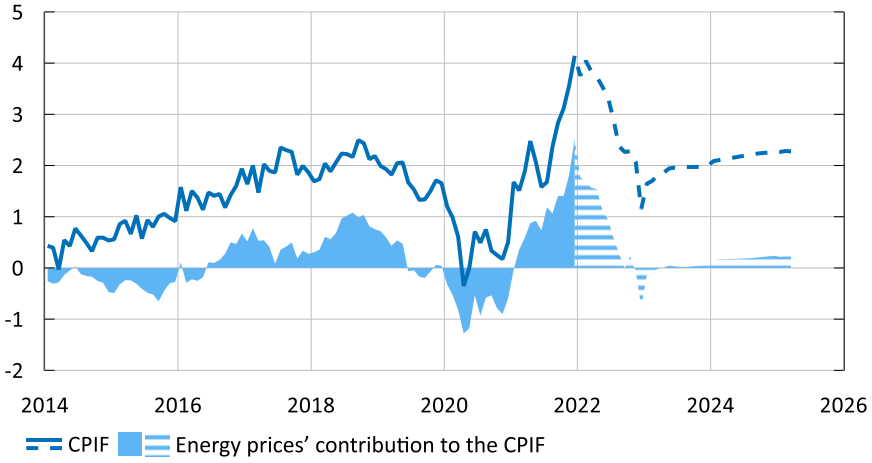
According to forward prices, the oil price is expected to fall by close to USD 15 per barrel during the forecast period. Electricity prices in Europe and Sweden will also fall after the winter, according to forward pricing. However, the short-term movements in the electricity price are difficult to foresee with any great precision, as they to a large extent depend on the weather, although there is a clear seasonal pattern in these prices, which are normally lower in the summer than in the winter.

[25] The weights of fuel and electricity prices in the consumption basket amount to 2.4 and 4.2 per cent respectively. Energy prices also include heating excluding electric heat (weight = 0.5 per cent), which includes fuel oil, for example.

[26] Fuel prices in Europe are also being affected by the dollar exchange rate.

Figure 53. The CPIF and contributions from energy prices

Annual percentage change and percentage points



Note. The contribution of energy prices to the CPIF in the forecast is calculated as the annual percentage change in energy prices multiplied by their current weight in the CPIF. Solid line refers to outcome, broken line represents the Riksbank's forecast.

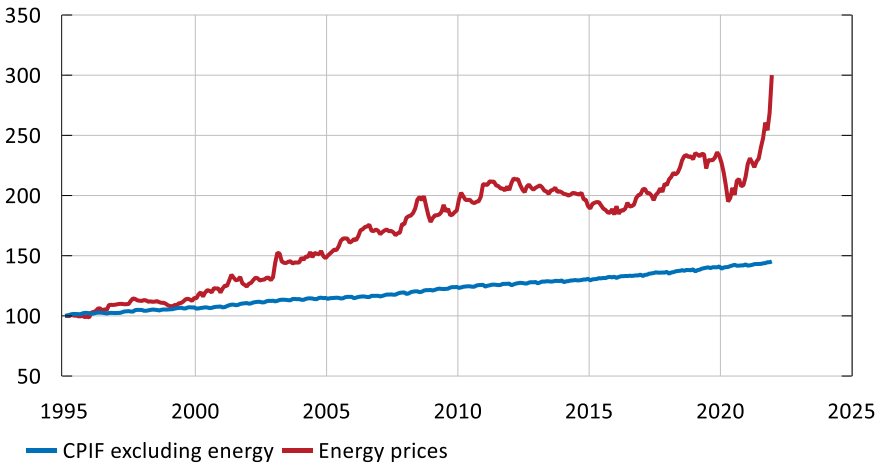
Sources: Statistics Sweden and the Riksbank.

Energy prices rising more rapidly than the CPIF, i.e. the relative price of energy increasing, is no new phenomenon. In Sweden, it is partly due to a trend increase in tax on energy. Energy prices are usually volatile and have quite a considerable effect on inflation, despite their relatively limited weight in the consumer basket. As Figure 54 shows, they increased considerably faster than other prices in Sweden from the end of the 1990s up until around 2012. The figure also shows how energy prices have increased unusually rapidly in the recent period.

During the 2000s, however, inflation in terms of the CPIF has not been particularly high. If anything, inflation has tended to be below the target of 2 per cent. The fact that energy prices have risen faster than other prices has thus not given rise to excessively high total inflation.

Figure 54. CPIF excluding energy and energy prices in levels

Index, January 1995 =100

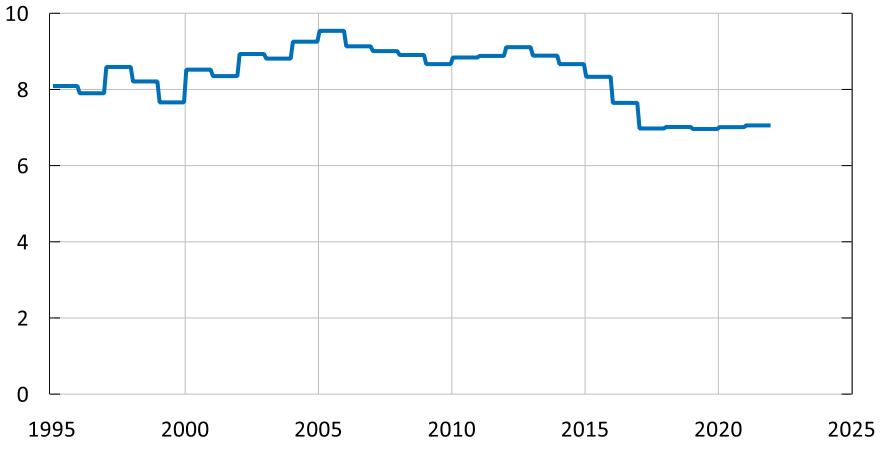


Sources: Statistics Sweden and the Riksbank.

Despite the rising energy prices, the weight for energy in the consumption basket has been relatively constant at 7–9 per cent (see Figure 55). The cost of the average consumer's energy consumption has thus not increased in relation to the cost of other products – it does not constitute a greater share of the consumption basket over time.

Figure 55. Weight for energy in the CPIF

Per cent



Source: Statistics Sweden.

One explanation for this is that producers and consumers are constantly striving to produce and buy products and technology that save increasingly expensive energy, such as ground-source heating and fuel-efficient cars, as these have been profitable for both companies and consumers. Higher energy prices have increased the incentive to invest in energy-saving technological development.

Which prices are normally affected by energy prices?

Recently, there have been several news reports and articles about corporate cost increases and expected indirect price effects. In many cases, the increased costs are entirely or partially linked to higher energy prices. The trade association the Swedish Food Federation has reported that many Swedish farmers and food producers have very squeezed margins, where higher electricity and fuel prices, especially the higher diesel price, have had an impact on their expenditure. They have also indicated that this should lead to significant price increases on food. One example is bread companies that are letting rising costs for electricity impact retail prices. At the same time, one of the world's largest furniture companies, IKEA, is referring to higher costs for transport and logistics and has announced an increase in the prices for half its range by an average 9 per cent. Cost increases have also been reported in the services sector as a result of higher energy prices, for instance for hotels and conference centres.

As early as last autumn, costs had risen in almost all sectors, partly due to energy prices, according to the Riksbank's Business Survey.[27] Other indicators also point to more consumer prices will be raised in the near term. Producer prices have risen, which is expected to affect consumer prices with a certain time lag. According to the Economic Tendency Survey, the share of companies wanting to raise prices has increased rapidly, especially in the retail sector.

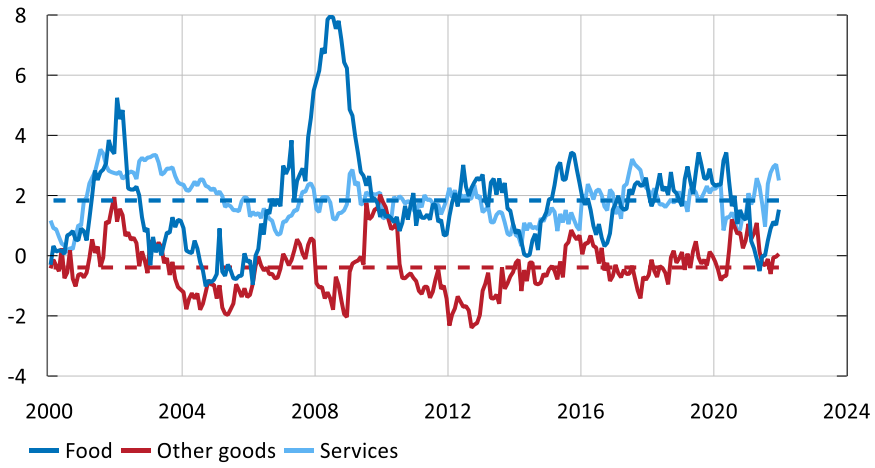
One can thus assume that the higher costs, which are to a fairly large degree affected by energy prices, may lead to indirect effects in several sectors. This, in turn, can lead to a relatively broad upturn in inflation. The Riksbank's assessments in the forecasts done in 2021 was therefore that various indirect effects would contribute to higher inflation.

So far, however, inflation outcomes show no clear indirect effects of the higher energy costs. Figure 56 shows the annual rate of increase in prices for food, other goods and services. The rate of increase has not risen markedly and is still close to a historical average in all cases.

[27] See "As soon as you find one component, you realise you're missing another", *The Riksbank's Business Survey*, September 2021, Sveriges Riksbank.

Figure 56. Food, other goods and services in the CPI

Annual percentage change



Note. Broken lines refer to average rate of change in the period 2000 up to and including the most recent outcome. The mean values of the rate of increase for food prices and service prices are close and thus cannot be told apart in the figure.

Sources: Statistics Sweden and the Riksbank.

Model estimates of indirect energy price effects

The Riksbank has previously tried to estimate the magnitude of potential indirect effects in the event of a higher oil price. A study from 2008 shows that the indirect effect on inflation is approximately as large as the direct effect, but that it impacts with a time lag and is distributed over a longer period. The estimate shows that, if the price of oil were to rise by 10 per cent and then remain at that level, after one year, CPIF inflation would be about 0.2 of a percentage point higher than if the price had remained unchanged.[28] If energy prices rise sharply over a longer period of time, as has been the case over the past year, the analysis shows that the indirect effect may be significant.[29]

In another analysis by the Riksbank from the same year, a similar approach is used to study the indirect effect of higher electricity prices.[30] The model is expanded in this case to include producer electricity prices, which are assumed to rise by ten per cent and then remain at that level. The results indicate that the indirect effect is almost as large as in the case of a permanently higher oil prices.

[28] The direct effect on CPIF inflation via higher fuel prices was calculated at about 0.15 of a percentage point. The estimates were produced using econometric analysis tools and the period studied was 1990–2005. See also M. Bjellerup and M. Löf (2008), "The effects of the oil price on inflation in Sweden", *Economic Commentary* no. 4, Sveriges Riksbank.

[29] In an analysis by the National Institute of Economic Research, a similar model was estimated, see "Råoljeprisets betydelse för konsumentpriserna" (only in Swedish - Significance of crude oil price for consumer prices) in *Konjunkturläget (Swedish Economic Report)*, March 2016, National Institute of Economic Research. This analysis reaches similar conclusions.

[30] The period studied is 1985–2007. See the article "Energy prices and Swedish inflation" in *Monetary Policy Report*, February 2008, Sveriges Riksbank.

It should be stressed that this type of estimate is extremely uncertain. The results depend on which variables are included in the specification and which period is studied. The estimates can only capture an average effect on inflation caused by changes in energy prices. It is not difficult to imagine that a large number of factors, such as the general economic situation and resource utilisation in the economy, play a role and can affect companies' pricing when energy prices change. How inflation is ultimately affected depends of course also on how monetary policy is designed.

The model results above are based on energy prices rising initially and then remaining at the new, higher level. According to the above estimates, this would lead to large indirect effects. If the direct effect contributes 2.5 percentage points to the rate of inflation now, the indirect effects will contribute roughly the same amount, but divided over 3 years.[31] However, in the Riksbank's forecast, the prices of oil and electricity are expected to fall back, in line with forward pricing, so that the indirect effects according to this rule of thumb should be lower.

Estimates based on newer data also indicate that the impact from energy price changes has declined. It is often difficult to find any clear historical covariation between energy prices and other prices at all.[32] One possible explanation for the indirect effects appearing to have declined over time is that production is more energy-efficient now than it was before. Another explanation could be the time period studied. The earlier analyses included a period with very high energy prices around 1990 in the data material. If the fluctuations in energy prices are minor, or judged to be temporary, then companies may allow them to impact profits instead of adjusting their selling prices.

How have the higher energy prices been considered in the inflation forecast?

However, although more up-to-date estimates of the average indirect effect suggest that it has decreased, it cannot be ruled out that the impact on other consumer prices may be significant this time, as the energy price increases have been very substantial.

The Riksbank's assessments from 2021 expected various indirect effects to lead to a somewhat higher rate of inflation, particularly in 2022. It was then also assumed that the rising inflation would lead to some, very limited, secondary effects via higher inflation expectations and higher wages.

Now that energy prices have risen an unusually large amount, and caused CPIF inflation to rise to a good 4 per cent, the risk of larger indirect effects and larger secondary effects has increased. This has been taken into consideration in this report.

[31] This would give an indirect contribution of 0.8 of a percentage point per year for three years (the years 2021–2023).

[32] The Riksbank's studies of the correlation imply that the average indirect effect is at most around half as large as in the analyses from 2008. And according to new analysis from the National Institute of Economic Research, the long-term aggregate effect on the CPI, if the spot price of electricity is permanently 10 per cent higher, will be 0.21 of a percentage point if the costs have their full impact. Of this, 0.16 of a percentage point is a direct effect and 0.05 of a percentage point is an indirect effect via higher production costs in Sweden and abroad.

Compared with the latest assessment in November, inflation has been revised upwards by about 0.1 of a percentage point due to indirect effects over the last two years. The secondary effects are also expected to become somewhat larger now than in the last projection. However, these are expected to affect inflation slightly further ahead.

Alternative scenario with greater second-hand effects

It is difficult to forecast the size of both the indirect effects and the secondary effects. The forecast of indirect effects can be supported by the above-mentioned model estimates but there are no equivalent empirical underpinnings for the secondary effects. Instead, alternative scenarios are used here to illustrate what the consequences of secondary effects may be for the inflation forecast following different monetary policy decisions. One such scenario is presented below.[33]

As secondary effects are based on changes in inflation expectations, assumptions of how these will develop are important. Inflation expectations on different horizons have risen gradually since the second half of 2020. The overall view of long-term inflation expectations is that they are close to the inflation target, but the rise in more short-term expectations has been rapid and can become even higher.[34] The correlation between actual inflation and inflation expectations is high, particularly in the short term, and it is easy to find results indicating that higher actual inflation leads to higher inflation expectations.[35] It is also reasonable to assume the reverse causal relationship: that higher inflation expectations lead to higher actual inflation, which is to say that secondary effects arise.

The temporarily high inflation could thus cause inflation expectations to rise further. This, in turn, could lead to wage earners demanding higher wages as a way of retaining unchanged real wages. Companies may then be forced to compensate for their higher costs by raising prices further, and so on. It is difficult, overall, to determine the size of secondary effects and large changes in inflation may make this even more difficult. The unexpectedly rapid upturn in inflation since November may therefore give reason to study an alternative scenario with greater secondary effects than in the main scenario.

In a preliminary stage, inflation expectations for two years ahead are assumed to rise further from the current levels and then be above the inflation target over the entire forecast period. This, in turn, is assumed to lead to wage demands being higher and nominal wages rising more rapidly. Corporate costs thereby rise more than in the

[33] The scenario has been constructed using the Riksbank's general equilibrium model, MAJA. For a description of the model, see V. Corbo and I. Strid (2020), "MAJA: A two-region DSGE model for Sweden and its main trading partners", *Working Paper* no 391, Sveriges Riksbank.

[34] Some expectations, such as households' expectations according to the National Institute of Economic Research, are at historically high levels.

[35] Inflation expectations covary particularly clearly with the rate of price change in various energy components. See, for example, L. Kilian and X. Zhou (2020), "Oil Prices, Gasoline Prices and Inflation Expectations: A New Model and New Facts", *Working Paper* No 2025, Federal Reserve Bank of Dallas.

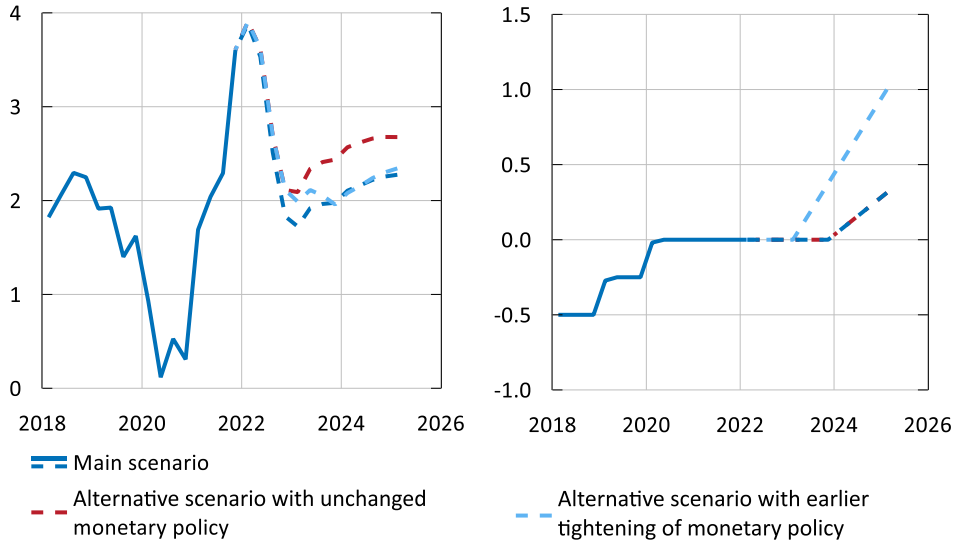
main scenario and, as the higher costs are passed on to consumers in the form of higher prices, the rate of inflation rises.

If monetary policy is not adjusted to the higher inflationary pressures, wage rises and CPIF inflation become higher than in the main scenario and the inflation target is exceeded clearly over the entire forecast period, as shown by the red curve in the left image in Figure 57. Monetary policy would therefore need to be tightened.

An alternative with an earlier tightening of monetary policy is that the repo rate starts to rise in the second quarter of 2023, when inflation increasingly starts to deviate from the main scenario and is on the way to starting to rise over 2 per cent (see the light blue curves in Figure 57). To bring inflation down to the level of the main scenario, the repo rate would then have to rise at a rate equivalent to two increases of 0.25 percentage points per year, instead of one such increase per year, as in the main scenario. When corporate and household expectations are adjusted to the tighter monetary policy, inflation will slow down so that it is in line with the main scenario during the latter part of the forecast period. One of several sources of uncertainty over these effects is how highly-indebted households and companies can be expected to react to interest rate rises that not only come sooner but proceed more rapidly. The monetary policy response may in practice be different to that anticipated in the scenario, once all of the specific circumstances prevailing at the time the decision is made have been taken into consideration.

Figure 57. The CPIF and repo rate

Annual percentage change (left-hand graph) and per cent (right-hand graph)



Sources: Statistics Sweden and the Riksbank.

Forecast tables

The forecast in the previous Monetary Policy Report is shown in brackets.

Table 1. Repo rate forecast

Per cent, quarterly averages

	2021Q4	2022Q1	2022Q2	2023Q1	2024Q1	2025Q1
Repo rate	0,00 (0,00)	0,00 (0,00)	0,00 (0,00)	0,00 (0,00)	0,06 (0,00)	0,31

Source: The Riksbank.

Table 2. Inflation

Annual percentage change, annual average

	2020	2021	2022	2023	2024
CPIF	0,5 (0,5)	2,4 (2,3)	2,9 (2,2)	1,9 (1,8)	2,2 (2,1)
CPIF excl. energy	1,3 (1,3)	1,4 (1,4)	2,2 (2,0)	2,1 (1,9)	2,1 (2,0)
CPI	0,5 (0,5)	2,2 (2,1)	2,9 (2,3)	2,0 (1,9)	2,4 (2,2)
HICP	0,7 (0,7)	2,7 (2,5)	3,0 (2,1)	1,7 (1,6)	2,1 (2,0)

Note. The HICP is an EU-harmonised index for consumer prices.

Sources: Statistics Sweden and the Riksbank.

Table 3. Supply balance

Annual percentage change unless otherwise specified

	2020	2021	2022	2023	2024
Household consumption	−4,7 (−4,7)	5,2 (4,8)	4,0 (4,8)	2,9 (2,4)	2,0 (2,0)
Public consumption	−1,3 (−0,6)	3,7 (3,3)	1,4 (1,8)	0,6 (0,6)	1,1 (1,1)
Gross fixed capital formation	−0,3 (−0,4)	7,3 (6,3)	4,1 (3,1)	2,0 (2,1)	1,5 (1,5)
Stock investments*	−0,7 (−0,7)	0,3 (0,1)	0,2 (0,2)	−0,2 (0,1)	0,0 (−0,1)
Exports	−4,6 (−4,6)	6,8 (5,6)	3,1 (4,1)	4,4 (4,0)	3,3 (3,3)
Imports	−5,6 (−5,7)	8,2 (6,4)	2,9 (4,0)	4,3 (4,0)	3,3 (3,3)
GDP	−2,9 (−2,8)	5,2 (4,7)	3,6 (3,8)	2,0 (2,0)	1,7 (1,5)
GDP, calendar-adjusted	−3,2 (−3,0)	5,0 (4,5)	3,7 (3,8)	2,2 (2,3)	1,7 (1,5)
Final domestic demand*	−2,5 (−2,4)	5,1 (4,6)	3,2 (3,4)	1,9 (1,8)	1,6 (1,5)
Net exports*	0,2 (0,3)	−0,2 (−0,1)	0,2 (0,2)	0,2 (0,2)	0,1 (0,1)
Current account (NA), percentage of GDP	6,0 (5,6)	6,3 (5,7)	6,5 (5,7)	6,6 (5,7)	6,6 (5,7)

* Contribution to GDP growth, percentage points
Note. The figures show actual growth rates that have not been calendar-adjusted, unless otherwise stated. NA is the National Accounts.

Sources: Statistics Sweden and the Riksbank.

Table 4. Production and employment

Annual percentage change

	2020	2021	2022	2023	2024
Population, aged 15–74* **	0,4 (0,4)	−0,3 (−0,3)	0,1 (0,1)	0,2 (0,2)	0,3 (0,3)
Potential hours worked	0,7 (0,8)	−0,2 (0,7)	0,5 (0,5)	0,4 (0,4)	0,4 (0,4)
Potential GDP	1,8 (1,8)	1,8 (1,8)	1,8 (1,7)	1,7 (1,7)	1,7 (1,7)
GDP, calendar-adjusted	−3,2 (−3,0)	5,0 (4,5)	3,7 (3,8)	2,2 (2,3)	1,7 (1,5)
Hours worked, calendar-adjusted	−3,8 (−3,8)	1,2 (1,9)	2,8 (3,9)	1,8 (1,2)	0,9 (0,7)
Employed persons* **	−1,3 (−1,3)	−0,1 (−0,1)	1,9 (1,9)	1,2 (1,1)	0,7 (0,6)
Labour force* **	0,3 (0,3)	0,4 (0,5)	0,6 (0,7)	0,6 (0,5)	0,5 (0,4)
Unemployment*,* **	8,3 (8,3)	8,8 (8,9)	7,7 (7,7)	7,2 (7,2)	7,0 (7,1)
GDP gap**	−3,7 (−3,6)	−0,6 (−1,1)	1,2 (1,0)	1,8 (1,6)	1,8 (1,4)
Hours gap**	−4,0 (−4,1)	−2,6 (−3,0)	−0,3 (0,3)	1,0 (1,0)	1,5 (1,3)

*Per cent of labour force
**Deviation from the Riksbank's assessed potential levels, in per cent
***As a result of a changeover in statistics, the forecast for 2021 in particular is affected by a break in the time series. For further information, see the fact box in the April 2021 Monetary Policy Report and the article "The LFS reorganisation and the Riksbank's analysis of the labour market" in the February 2021 Monetary Policy Report.
Note. Potential hours worked and potential GDP refer to the long-run sustainable level according to the Riksbank's assessment.

Sources: Statistics Sweden and the Riksbank.

Table 5. Wages and labour costs for the economy as a whole

Annual percentage change, calendar-adjusted data unless otherwise stated

	2020	2021	2022	2023	2024
Hourly wage, NMO	2,1 (2,1)	2,7 (2,8)	2,7 (2,7)	3,1 (2,9)	3,2 (3,0)
Hourly wage, NA	4,8 (4,9)	2,8 (2,2)	2,4 (2,3)	3,0 (2,9)	3,2 (3,0)
Employers' contribution*	−0,7 (−0,8)	0,4 (0,7)	0,0 (0,0)	0,0 (0,0)	0,0 (0,0)
Hourly labour cost, NA	4,1 (4,0)	3,3 (2,9)	2,4 (2,4)	3,0 (2,9)	3,2 (3,0)
Productivity	0,7 (0,8)	3,8 (2,6)	0,8 (0,0)	0,4 (1,1)	0,8 (0,9)
Unit labour cost	3,5 (3,3)	0,2 (0,8)	1,6 (2,4)	2,6 (1,8)	2,3 (2,1)

* Difference in rate of increase between labour cost per hour, NA and hourly wages, NA, percentage points

Note. NMO is the National Mediation Office's short-term wage statistics and NA is the National Accounts. Labour cost per hour is defined as the sum of actual wages, social-security charges and wage taxes (labour cost sum) divided by the number of hours worked by employees. Unit labour cost is defined as labour cost sum divided by GDP in fixed prices.

Sources: National Mediation Office, Statistics Sweden and the Riksbank.

Table 6. International conditions

Annual percentage change unless otherwise specified

GDP	PPP weights	KIX weights	2020	2021	2022	2023	2024
Euro area	0,12	0,47	−6,5 (−6,5)	5,2 (5,1)	3,9 (4,0)	2,6 (2,0)	1,6 (1,4)
United States	0,16	0,09	−3,4 (−3,4)	5,7 (5,5)	3,6 (3,9)	2,4 (2,4)	1,8 (2,0)
Japan	0,04	0,02	−4,5 (−4,7)	1,8 (1,6)	3,1 (2,4)	1,4 (1,3)	0,9 (0,9)
China	0,19	0,09	1,6 (2,2)	8,5 (7,9)	5,2 (5,4)	5,3 (5,6)	5,3 (5,3)
KIX weighted	0,76	1,00	−4,9 (−4,8)	5,2 (5,2)	4,0 (4,1)	2,8 (2,5)	2,2 (2,1)
The World (PPP	1,00	—	−3,1 (−3,1)	5,9 (5,8)	4,5 (4,6)	3,7 (3,7)	3,4 (3,4)

Note. Calendar-adjusted growth rates. PPP weights refer to purchasing-power adjusted GDP weights in the world for 2022, according to the IMF. KIX weights refer to weights in the Riksbank's krona index (KIX) for 2022. The forecast for GDP in the world is based on the IMF's forecasts for PPP weights. The forecast for KIX-weighted GDP is based on an assumption that the KIX weights will develop in line with the trend during the latest five years.

CPI	2020	2021	2022	2023	2024
Euro area (HICP)	0,3 (0,3)	2,6 (2,5)	4,5 (2,6)	1,8 (1,6)	1,8 (1,7)
United States	1,2 (1,2)	4,7 (4,7)	5,6 (4,6)	2,7 (2,6)	2,4 (2,4)
Japan	0,0 (0,0)	−0,2 (−0,2)	0,7 (0,6)	0,8 (0,7)	0,6 (0,8)
KIX weighted	1,1 (1,1)	2,7 (2,6)	3,8 (2,7)	2,1 (2,0)	2,1 (2,1)

	2020	2021	2022	2023	2024
International policy rate, per cent	−0,3 (−0,3)	−0,3 (−0,3)	−0,2 (−0,2)	0,0 (−0,1)	0,2 (0,0)
Crude oil price, USD/barrel Brent	43,3 (43,3)	70,7 (71,7)	83,8 (78,9)	77,2 (72,7)	72,8 (68,9)
Swedish export market	−8,1 (−8,2)	8,7 (8,3)	6,3 (6,6)	4,5 (3,9)	3,6 (3,4)

Note. International policy rate is an aggregate of policy rates in the US, the euro area (EONIA), Norway and the United Kingdom. In the euro area, the overnight rate ESTR replaced EONIA as the reference rate on 1 January 2022. The policy rate for the euro area quoted here still refers EONIA, which corresponds to ESTR + 0.085 percentage points.

Sources: Eurostat, IMF, Intercontinental Exchange, national sources, OECD and the Riksbank.

Table 7. Summary of financial forecasts

Per cent unless otherwise stated, annual average

	2020	2021	2022	2023	2024
Repo rate	0,0 (0,0)	0,0 (0,0)	0,0 (0,0)	0,0 (0,0)	0,2 (0,1)
10-year rate	0,0 (0,0)	0,3 (0,3)	0,6 (0,6)	1,0 (0,9)	1,3 (1,2)
Exchange rate, KIX, 18 Nov 1992 = 100	118,5 (118,5)	114,3 (114,1)	119,5 (114,2)	118,3 (113,5)	116,5 (113,0)
General government net lending*	−2,6 (−2,8)	−0,4 (−1,2)	0,0 (−0,1)	0,6 (0,5)	0,7 (0,7)

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank.

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