Monetary Policy Report

June 2022

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 29 June 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 policy rate. This policy-rate path is a forecast, not a promise.
- In connection with every monetary policy decision, the Executive Board makes an assessment of the policy-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 and during the pandemic, the policy rate and the policy-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 June 2022

Last year, many economies recovered quickly from the crisis. Increasingly high economic activity has resulted in a strong labour market with high employment and low unemployment. However, the imbalances arising when demand increased faster than supply have been reinforced by Russia's invasion of Ukraine and new pandemic-related restrictions in China. This has pushed up prices for energy, various input goods and food. The high rate of inflation in Sweden and abroad is being felt by households and is undermining purchasing power. Central banks around the world are now tightening monetary policy to cool down economic activity and bring inflation down.

Just like in other countries, price rises in Sweden have now spread increasingly and prices for goods, food and services have been rising considerably faster than expected since the start of the year. Companies' costs have increased rapidly and the strong demand has made it possible to pass on these to consumer prices. However, there are also signs of changed price-setting behaviour in that companies have raised prices unusually strongly in relation to how much costs have increased.

Inflation has risen strongly and is expected to remain above 7 per cent for the remainder of the year. The risk has therefore increased that the high inflation will become entrenched in price setting and wage formation. The Riksbank therefore needs to use monetary policy to ensure that inflation returns to target. This makes it clear to price- and wage-setters that the inflation target can continue to be used as a benchmark.

The Executive Board deems that monetary policy needs to be tightened more than was assessed in April and has therefore decided to raise the policy rate from 0.25 to 0.75 per cent. The forecast for the policy rate has been revised upwards and entails that it will be close to 2 per cent at the start of next year.
The Executive Board has also decided that, in the second half of the year, the Riksbank's asset holdings shall shrink faster than was decided in April. With this monetary policy, inflation is expected to fall back next year and be close to 2 per cent from 2024.

1 Policy rate increased to counter high inflation

Since the monetary policy decision in April, inflation has continued to rise rapidly and it is becoming increasingly clear that price rises are spreading through the economy. Many economies recovered quickly last year. The shocks arising from imbalances in supply and demand during the pandemic have been exacerbated by Russia's invasion of Ukraine and new pandemic-related restrictions in China. This has pushed up prices for energy, various input goods and food. Companies have to a large degree passed on their increased costs to consumer prices, but there are also signs that the upturn in inflation has been affected by a change in price-setting behaviour among companies. The Riksbank's inflation forecast is revised upwards and CPIF inflation is now expected to remain above 7 per cent for the remainder of the year.

The Riksbank needs to use monetary policy to ensure that inflation returns to the target and to counteract the high inflation becoming entrenched in price setting and wage formation. The Executive Board deems that monetary policy needs to be tightened more than was assessed in April and has therefore decided to raise the policy rate from 0.25 to 0.75 per cent. The forecast for the policy rate has been revised upwards, meaning that it will be close to 2 per cent at the start of next year. The Executive Board has also decided that, in the second half of the year, the Riksbank's asset holdings shall shrink faster than was decided in April. Under this monetary policy, inflation is expected to be close to 2 per cent from 2024.

The Riksbank adapts its monetary policy to the developments in the economy and is prepared to raise the policy rate faster if needed to ensure that inflation is returned to the target.

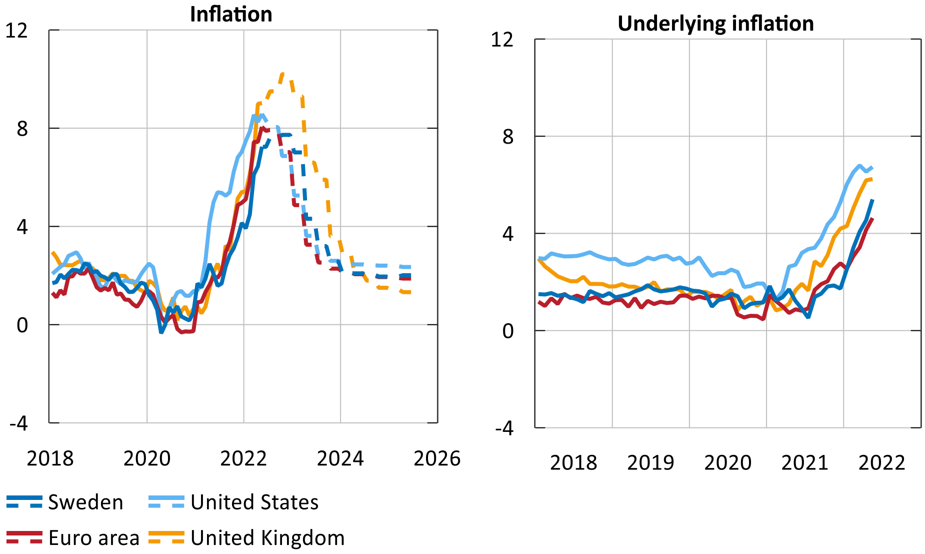
1.1 Strong economic activity being cooled down by increased interest rates

Many economies recovered quickly last year. Demand increased and has resulted in a strong labour market with high employment and low unemployment (see the article "Labour shortages and higher wage pressures abroad"). The situation is similar in Sweden. For example, in the Riksbank's Business Survey, several of the major Swedish companies say that they have never experienced such a favourable economic situation as now.[2]

However, growth indicators indicate that economic activity is starting to slow down. Companies express continued optimism in various surveys but households expect a less favourable economic development in many countries. Large fluctuations in demand during the pandemic have pushed inflation upwards as supply has not been adjusted fast enough. These imbalances, exacerbated by Russia's invasion of Ukraine and new pandemic-related restrictions in China, continue to effect global inflation, which has risen rapidly in most countries since last year (see Figure 1). The Riksbank's forecast assumes that the conflict between Russia and Ukraine does not escalate but that the sanctions against Russia remain in place for the time beeing. This is compatible with the forward pricing of various commodities, which indicates relatively stable but high price levels for these for a long time to come.

Figure 1. Inflation and underlying 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 line refers to monthly outcomes, broken line refers to the Riksbank's quarterly forecast. Underlying inflation shows monthly data and refers to the CPIF excluding energy for Sweden, the HICP excluding energy for the euro area and the CPI excluding energy for the United States and United Kingdom.

Sources: Eurostat, Statistics Sweden, U.K. Office for National Statistics, U.S. Bureau of Labor Statistics and the Riksbank.

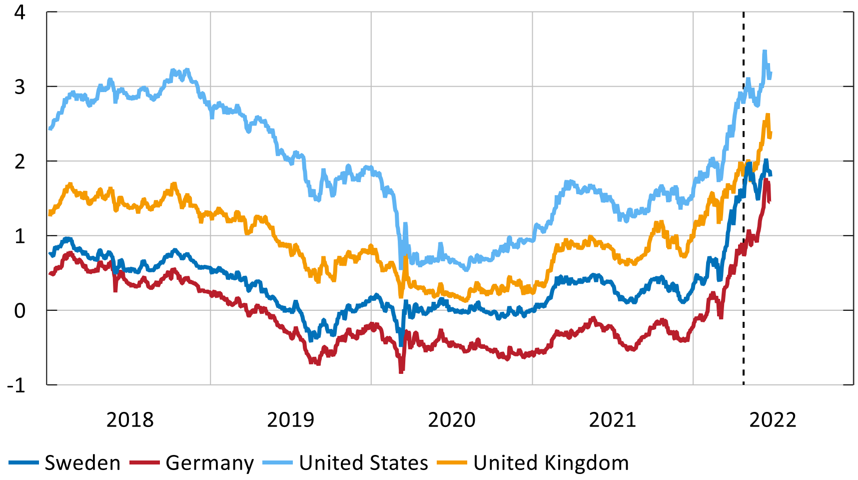
The high rate of inflation in Sweden and abroad is being felt by households and is undermining purchasing power. Central banks around the world are now tightening monetary policy to cool down economic activity and help bring inflation down. Uncertainty about inflation going forward and how economic developments will be affected by the central banks' tighter monetary policy are among the most important factors

[2] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

currently affecting developments on the financial markets. One consequence of the rate increases that have been made so far is that interest rates on assets also with longer maturities, both in Sweden and abroad, have increased and financial conditions have become tighter (see Figure 2).

Figure 2. Yields on 10-year government bonds

Per cent



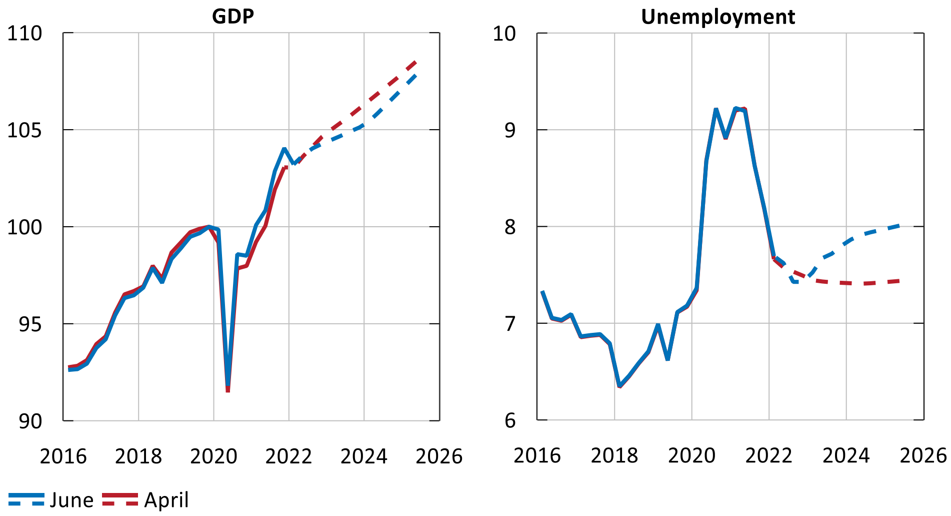
Note. Zero coupon rates for Sweden, Germany and the United Kingdom and benchmark rate for the United States. The broken line marks the time of the monetary policy meeting in April.

Sources: Bank of England, Bundesbank, U.S. Treasury and the Riksbank.

Growth in the global economy is expected to be modest in the coming years, which will also affect activity in the Swedish economy. The main factor restraining growth in Sweden is that the rate of increase in household consumption is declining and housing investment is falling as a result of the higher interest rates. The labour market, both in Sweden and abroad, is also entering a phase of calmer demand for labour, and unemployment is expected to increase over the next few years (see Figure 3). However, even though the employment rate in Sweden is expected to decrease slightly, it will nevertheless remain historically high.

Figure 3. GDP and unemployment according to LFS in Sweden

Index, 2019 Q4 = 100, seasonally adjusted data (left) and percentage of labour force, 15–74 years, seasonally adjusted data (right)



Note. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

1.2 Historically high inflation

Over the last year, inflation has risen faster than expected by the Riksbank and other analysts, and is now higher than it has been for over 30 years. The pandemic years have been unique from a historical perspective. The combination of rapidly rising demand during the recovery from the crisis and various disruptions to production and distribution around the world have substantially pushed up prices on the world market. The imbalances have been exacerbated by Russia's invasion of Ukraine and new pandemic-related restrictions in China. This applies to prices for energy, various input goods, finished goods and food, for example. Companies' costs have thereby increased rapidly and inflation outcomes suggest that these, in light of the high level of demand, are to a large degree being passed on to consumer prices.

One important factor behind the upturn in inflation is rising energy prices, which are affecting consumer prices both directly via higher petrol prices, for example, and indirectly via increased prices for transport, for example. The upturn in energy prices has become both larger and more prolonged than expected, which means that the spillover effects from energy prices to other prices have been greater.

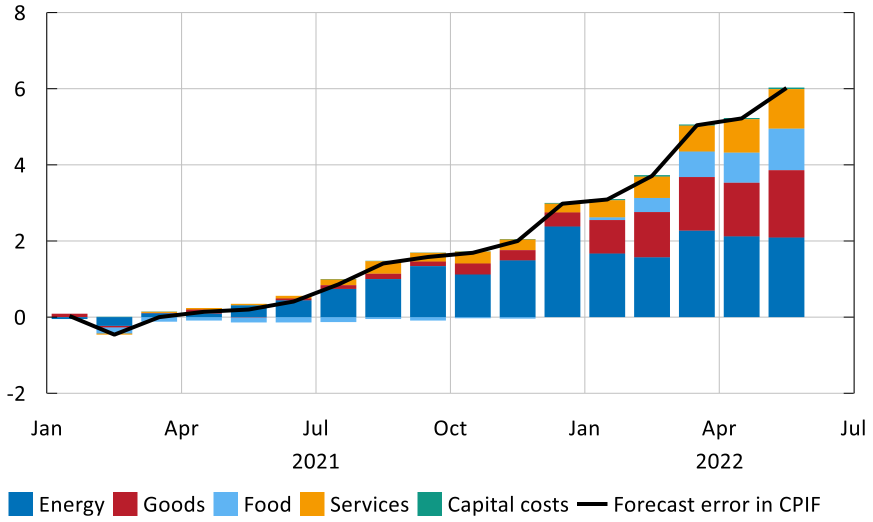
Since the upturn in energy prices became clear at the end of last year, the Riksbank has emphasised how difficult it is to predict how persistent the high inflation will be and how comprehensive its spillover effects will be.[3] Figure 4 shows how various components help to explain the difference between the outcome for CPIF inflation and

[3] See the articles "Higher inflation – temporary or persistent?" in *Monetary Policy Report*, November 2021, Sveriges Riksbank, and "High energy prices – how will other consumer prices be affected?" in *Monetary Policy Report*, February 2022, Sveriges Riksbank, and "Many indications that inflation will be high this year and next year" in *Monetary Policy Report*, February 2022, Sveriges Riksbank.

the forecast published in the Monetary Policy Report in February 2021. The price increases have now spread further and, since the start of the year, prices for goods, food and services have risen considerably more than expected. It was expected that prices would rise faster in service sectors, such as hotels and restaurants, when economies opened up again after the pandemic but the price increases have been stronger than expected.

Figure 4. The CPIF: difference between the Riksbank's forecast in February 2021 and outcome since then

Percentage points



Note. The forecast error has been calculated for the forecast published in the Monetary Policy Report, February 2021. At this time, the Riksbank had access to outcomes for inflation through December 2020. The weights in the CPIF 2022 are 18.2 per cent for food, 5.9 per cent for energy, 28.9 per cent for goods, 43.7 per cent for services, and 3.4 per cent for cost of capital.

Sources: Statistics Sweden and the Riksbank.

The rise in consumer prices cannot be explained fully by the development of various measures of production costs and how these historically have explained inflation.[4] Inflation has risen unusually rapidly compared with how it usually reacts in relation to companies' cost development. When price rises for input goods are modest, companies do not usually pass them on but allow some of the variation to impact their profit margins. After the dramatic movements of the last two years, companies seem to be able to increase their margins by raising consumer prices to a greater extent than they would otherwise, now that demand is high (see also the article "Price rises are spreading in the economy"). According to the National Institute of Economic Research's Tendency Survey, increasing numbers of companies are also satisfied with their profitability (see Figure 5). In addition, many companies state that there has recently been greater acceptance among customers of higher prices.[5] The rise in inflation thereby

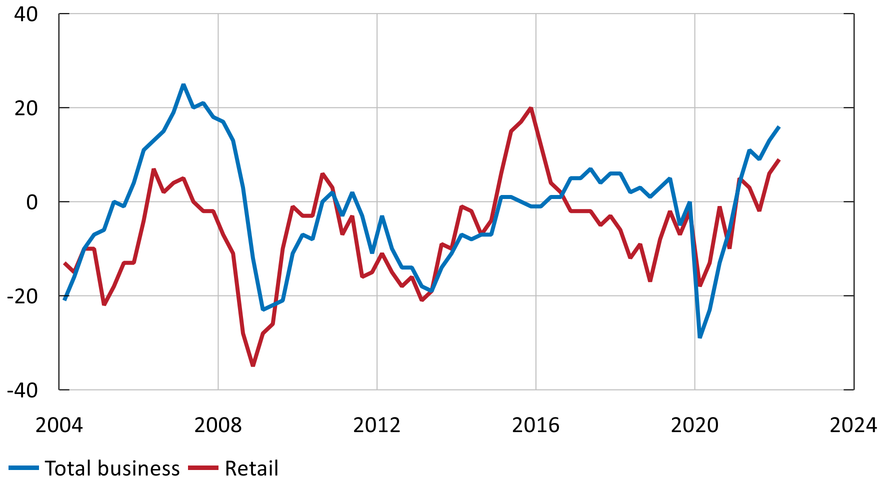
[4] See J. Johansson, M. Löf, P. Stockhammar and I. Strid (2022), "What can explain the Riksbank's forecasting error for inflation?", *Staff Memo*, June, Sveriges Riksbank.

[5] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

seems to have been strengthened, to a certain extent, by changed price-setting behaviour among companies.

Figure 5. Profitability among companies

Net figures, seasonally adjusted data



Note. A net figure over 0 indicates that more companies respond that profitability is good than poor.

Source: National Institute of Economic Research.

1.3 Tighter monetary policy to safeguard the inflation target

Growth is slowing down – but higher inflation this year

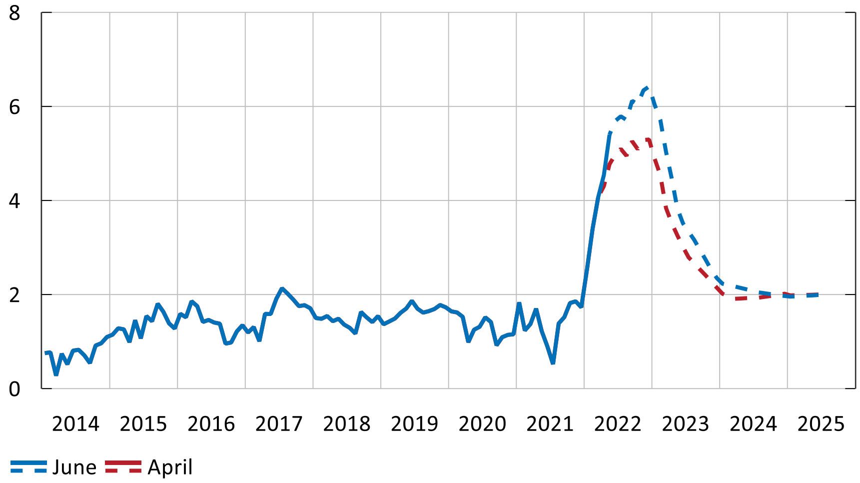
Since the monetary policy decision in April, the development of the labour market has been slightly stronger than expected, while GDP growth has slowed down a little more, both in Sweden and abroad. The economic outlook has been revised downwards compared with the Riksbank's forecast in April (see Figure 3). Tighter monetary policy and financial conditions are contributing to growth becoming weaker, both in Sweden and abroad.

At the same time, inflation in Sweden has continued to rise rapidly and signs that price increases are spreading in the economy have become even clearer. Prices for food and other goods have risen rapidly and the rate of increase is unusually high in relation to historical averages. In recent months, service prices have also risen faster and notably more than in the Riksbank's assessment in April. The forecast for the CPIF excluding energy is therefore revised upwards for the coming year (see Figure 6).

The forecast for CPIF inflation has been revised upwards even more and is expected to remain above 7 per cent during the rest of the year (see Figure 7). The price of oil has risen somewhat since April and electricity prices have not fallen as they usually do during summer. The rate of price increase for energy has thereby been higher than expected and the forecast for energy prices is revised upwards.

Figure 6. CPIF excluding energy

Annual percentage change

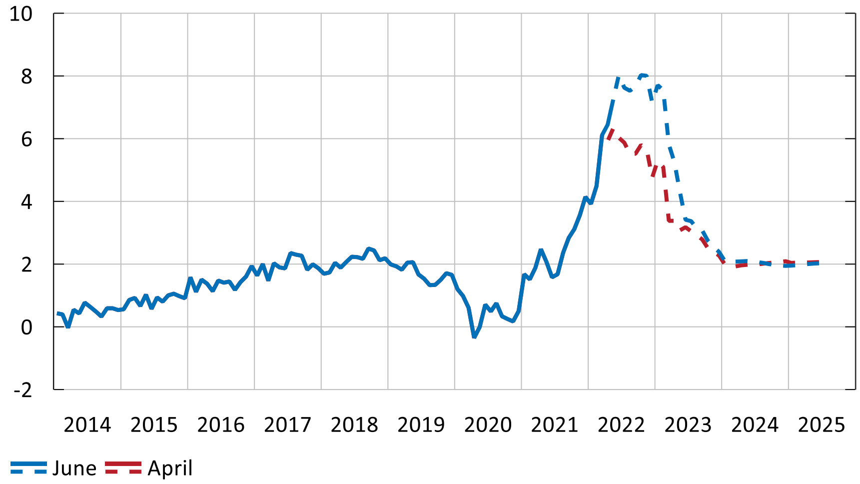


Note. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Figure 7. CPIF

Annual percentage change



Note. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Inflation close to 2 per cent in 2024

Inflation is expected to subside next year. This does not mean that the prices are expected to fall, but that they will not rise as quickly as this year (see Figure 49 in Chapter 3).[6]

While supply shocks linked to the pandemic and the war in Ukraine are expected to continue to affect many actors during the forecast period, the problems are expected

[6] See also the fact box "Link between price level and inflation rate" in *Monetary Policy Report*, September 2021, Sveriges Riksbank.

to gradually decline going forward. In addition, companies are expected to become increasingly adept at managing the shocks. Moreover, global demand for energy, commodities and shipping will soften as the major central banks rapidly tighten monetary policy. In line with this, the price for commodities and shipping has now subsided or, at least, has not continued to increase. Additionally, forward pricing in the markets for energy, food and other commodities indicates that prices will not continue to increase as much as previously. Furthermore, according to the Riksbank's forecast, the krona exchange rate will strengthen over the next few years. All of this indicates that the costs for companies' input goods will increase more slowly.

When demand is restrained by the Riksbank's rate rises, companies' opportunities to raise or maintain their profit margins will be restricted. Combined with the restrained cost increases for input goods, this means that the rate of price increase for food, other goods and services will ease off.

A tighter monetary policy with a clear focus on attaining the inflation target within a reasonable time frame will help prevent the current high inflation from becoming entrenched in price setting and wage formation. As yet, no clear impact has become visible in data on the development of wages. The Riksbank's forecast assumes that negotiations between employer organisations and employee organisations, together with local wage formation, will lead to wages increasing slightly faster than in recent years, but that the effects of the current high inflation on wage formation will nevertheless be limited. CPIF inflation is expected to fall from on average 6.9 per cent this year to 2.0 per cent in 2024.

Inflation close to the target is anchoring expectations

The task of monetary policy is to maintain confidence in the inflation target of 2 per cent. This does not mean that inflation always will be exactly at 2 per cent, which is not possible either, as changes continuously occur in the economy. Inflation varies in a way that cannot be predicted with particularly great precision nor counteracted over the short term. In addition, it takes time for monetary policy to have effect. The important thing is that households and companies have confidence that deviations from the target will not last too long. The main point of an inflation target is for it to serve as a benchmark for price setting and wage formation in the economy. When inflation does not vary so much and economic agents have a collective picture of how prices will develop in the future, uncertainty decreases and it becomes easier to plan for the long term. This, in turn, improves the possibility of achieving a favourable economic development with good, stable growth.

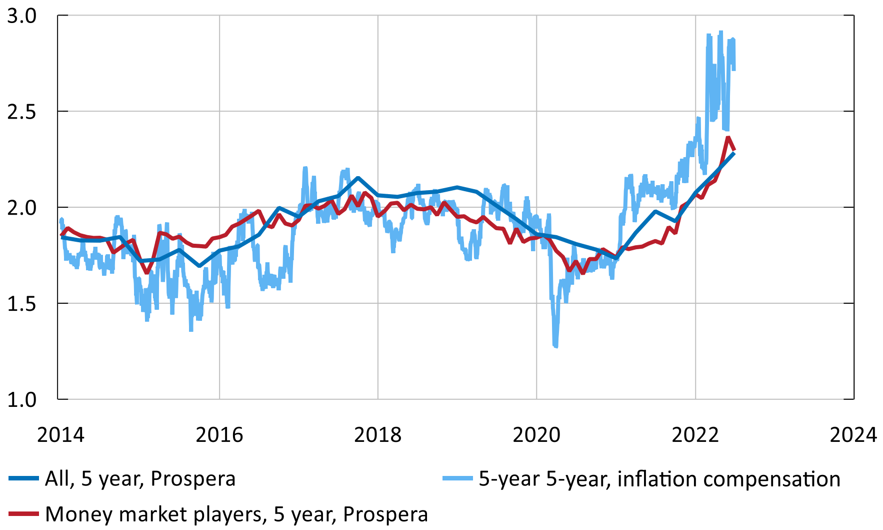
The rapid rise in inflation has increased the risk of weakened confidence in the inflation target. It is primarily inflation expectations one and two years ahead that have risen. However, even long-term inflation expectations have risen (see Figure 8). Expectations of more persistent higher inflation are affecting economic agents so that price setting and wage formation are starting to be based on an inflation rate that is above target. Greater price and wage increases are becoming more accepted and a self-reinforcing inflation spiral may be triggered. It is therefore important that the

Riksbank acts with monetary policy to prevent the higher inflation from becoming entrenched in price-setting and wage formation and to ensure that inflation returns to the target. This makes it clear to price- and wage-setters that the inflation target can continue to be used as a benchmark.

The forms for Swedish wage formation mean that there are good conditions for wage formation to be compatible with the inflation target. However, if wages were to increase in a way that ultimately leads to persistently excessive inflation, the policy rate would need to be increased even more to bring inflation back to target.

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. Both inflation compensation and expectations from Prospera refer to the CPI.

Sources: Kantar Sifo Prospera and the Riksbank.

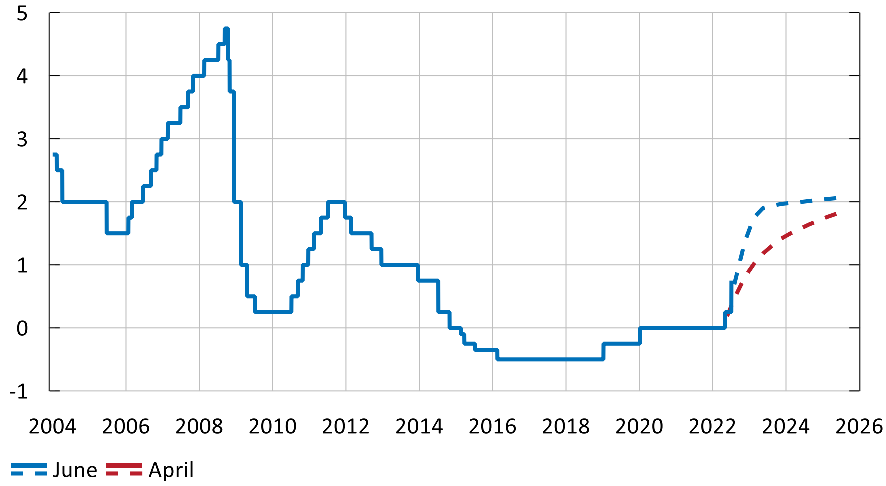
Policy rate raised by 0.5 percentage points to 0.75 per cent

To safeguard confidence in the inflation target, monetary policy needs to be tightened further than the Executive Board decided in April. The Executive Board has therefore decided to raise the policy rate by 0.5 percentage points to 0.75 per cent. The forecast for the policy rate has been revised upwards, meaning that the policy rate will be raised further at coming monetary policy meetings and will be close to 2 per cent at the start of next year (see Figure 9).

Under the monetary policy in the Riksbank's main scenario, price setting and wage formation are deemed to be in line with the inflation target, at the same time as economic activity slows down. Inflation will fall back next year and stabilise at close to 2 per cent in 2024 (see Figure 7).

Figure 9. The Riksbank's policy rate

Per cent



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

Source: The Riksbank.

Monetary policy considerations

The rapid and steep rise in inflation in Sweden and abroad illustrates the great uncertainty surrounding inflation prospects. It is clear that monetary policy needs to act to return inflation to target but it is difficult to determine in advance how much it needs to be tightened, not least because monetary policy acts on inflation with a time lag. By raising the policy rate more now, the risk of high inflation in the longer term is reduced and thus also the need for greater monetary tightening further ahead.

If monetary policy is tightened insufficiently, there is a risk that the high inflation will become entrenched and that confidence in the inflation target will weaken and generate a self-reinforcing process with excessive price and wage increases. If confidence in the inflation target seems to be in the process of weakening, it will be justifiable to tighten monetary policy substantially.

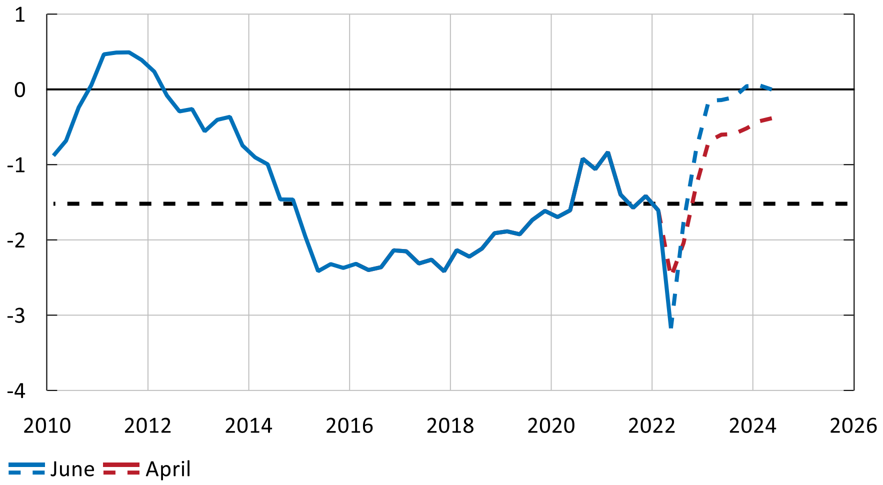
The amount of cooling off that will be needed to prevent inflation becoming entrenched depends, among other things, on how the real economy and inflation are ultimately affected by higher interest rates. The high interest-rate sensitivity in the Swedish economy caused by comprehensive indebtedness among households and companies means that a tightening of monetary policy would affect the real economy faster and more substantially than otherwise.

The central banks set their policy rates in relation to the underlying global level of real interest rates, which has certainly risen over the last year but is still deemed historically low. Studies indicate that important driving forces behind the low level of real interest rates are demographic factors and high global savings, that is, conditions that monetary policy cannot influence. Several of these factors are expected to persist in the period ahead, although there is considerable uncertainty.[7] The monetary policy in the Riksbank's main scenario means that the real policy rate will become less and less negative and will be close to zero next year (see Figure 10).

The Riksbank regularly assesses how rising prices and interest rates affect the development of the economy and adjusts its monetary policy.

Figure 10. Real policy rate

Per cent



Note. The real policy rate is the Riksbank's expected real interest rate, calculated as a quarterly mean value of the Riksbank's policy rate forecast one year ahead minus the inflation forecast (CPIF) for the corresponding period. Outcomes are based on the most recently published forecasts at that time. Black broken line represents an average for the period 2012–2021.

Source: The Riksbank.

Interaction with fiscal policy important for the development of the economy

When inflation was low during the pandemic and monetary policy was limited by its effective lower bound, monetary policy and fiscal policy complemented one another and were thereby able to contribute to a strong economic development. Now that inflation is high, the situation is different. Broad fiscal policy demand stimulation could contribute to a further rise in inflation and lead to a need to tighten monetary policy even more. However, in a situation where higher interest rates cause negative real economic effects, fiscal policy can for example use labour market policy measures to improve matching in the labour market and in this way more directly facilitate for vulnerable groups (see also the box "Signs of poorer matching on the labour market" in chapter 3). Targeted fiscal policy measures can also reduce the risk of wage drift becoming too large, which, in turn, can reduce the need for monetary policy tightening.

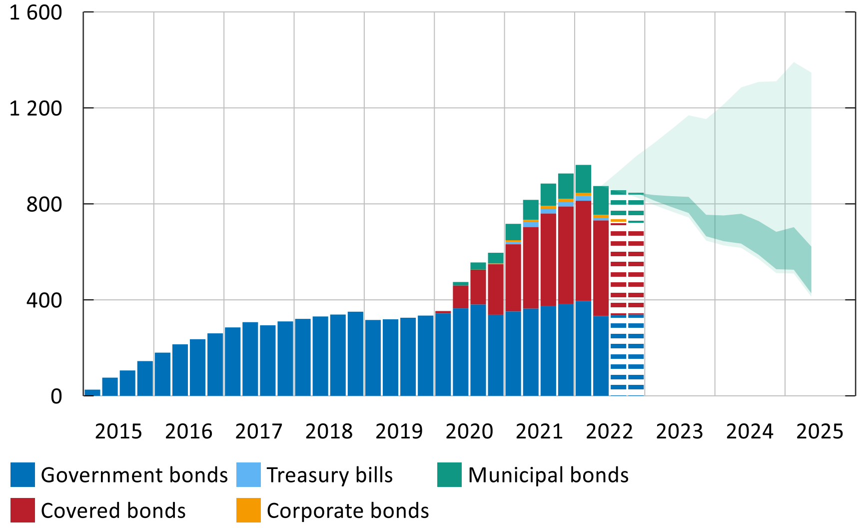
[7] In 2017, the Riksbank published an assessed interval for the long-term policy rate of 2.5–4 per cent. At present, it is reasonable to assume that the interest rate will in the longer run be at the lower end of, or slightly below, this interval. See the articles "Are low global real interest rates set to continue?" in *Monetary Policy Report*, November 2021, Sveriges Riksbank, and "The long-term repo rate" in *Monetary Policy Report*, February 2017, Sveriges Riksbank.

Further tapering of the Riksbank's asset purchases in the second half of the year

This year, bonds in the Riksbank's asset portfolio to the value of around SEK 154 billion, or on average around SEK 38 billion per quarter, will reach maturity. During the first six months, the Riksbank purchased bonds for SEK 73 billion to compensate for maturities. In April, the Executive Board decided that the Riksbank should purchase bonds for SEK 37 billion in the second half of the year. The Executive Board has now decided to reduce these bond purchases further. This decision means that the Riksbank will purchase bonds for SEK 18.5 billion. The Executive Board's forecast is that holdings will continue to shrink going forward. However, the interval shown in Figure 11 illustrates that uncertainty about this forecast is comprehensive.

Figure 11. The Riksbank's holdings of securities and forecast for holdings

Nominal amounts, SEK billion



Note. The solid column refers to outcomes, the dashed column to the forecast. Purchases in the second half of 2022 are assumed to be divided evenly between the third and fourth quarters. The lower interval limit is a projection of holdings assuming that no more asset purchases are made after 2022 Q2. Its upper limit reflects a development in which the Riksbank's asset purchases after 2022 Q2 continue at the same pace as in 2021. The darker area's lower limit is a projection of the holdings assuming that no more asset purchases are made after 2022 Q4, while its upper limit shows the development of holdings with a purchasing rate after 2022 Q4 that compensates for half of the maturities in each respective year.

Source: The Riksbank.

As interest rates have risen over the year, the market value of the Riksbank's bond holdings has fallen. If the large rate rise persists, the Riksbank's reported result will be very weak this year.[8]

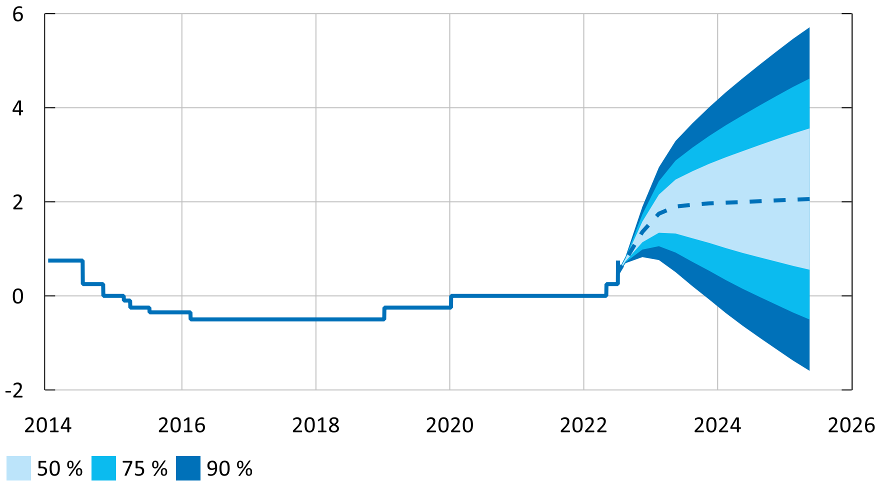
[8] The expected policy rate rises over the forecast period mean that the Riksbank's cost for funding its holdings of bonds can be expected to increase. However, most bonds that the Riksbank has purchased have a fixed interest rate. The Riksbank's financial result will therefore be negatively impacted when the interest rate rises. According to the Riksbank's accounting principles, the bond holdings shall be marked at market value. This means that the reported result will immediately deteriorate when the policy rate is expected to be raised in the future (assuming that these expectations have an impact on rates with longer maturities).

1.4 Great uncertainty over economic prospects and the inflation outlook

There are several uncertainty factors surrounding the development of economic activity and inflation that could lead to a different monetary policy than in the Riksbank's main scenario. Uncertainty over the future policy rate is illustrated by the interval in Figure 12.

Figure 12. Policy rate with uncertainty band

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 policy rate in 2007. The uncertainty bands do not take into account the fact that there may be a lower bound for the policy rate. Outcomes are daily rates and the forecasts refer to quarterly averages.

Source: The Riksbank.

The continued development and economic effects of the war in Ukraine are very uncertain. One effect could be that the supply limitations that have arisen, among other reasons as a consequence of the sanctions on Russia and missing deliveries of food commodities from Ukraine, could restrain growth abroad more than in the Riksbank's forecast. If Russia were to further limit deliveries of natural gas to Europe, the effects could be severe. However, aggravated supply problems would probably also entail inflation becoming higher than normal, in accordance with the typical pattern during shocks. This would give central banks around the world the challenge of having to tackle an even higher inflation and simultaneously manage deteriorating growth prospects. The Swedish economy would probably be affected similarly, as weaker demand for exports would restrain growth at the same time as imported goods would become more expensive and push up inflation. In such a scenario, the Riksbank would probably also be faced with a similar dilemma.

See also the fact box "The Riksbank's financial results are affected by interest rate changes" in *Monetary Policy Report*, April 2022, Sveriges Riksbank.

Inflation has recently risen to very high levels in Sweden and abroad. One substantial uncertainty factor concerns the extent to which the central banks need to raise their policy rates to restrain the high inflation and what consequences the tighter monetary policy will have for the real economy. After many years of very low interest rates, rising asset prices and increasing indebtedness, it is uncertain how economic agents will be affected by a rapid rise in the level of interest rates. There is a risk that demand will be more restrained, so that growth will be lower than the Riksbank´s forecast. However, unlike when growth is held back by supply shocks, inflation would then probably also be lower. In this case, monetary policy would thus not be characterised to the same extent by trade-offs between restraining inflation and maintaining output. Instead, monetary policy abroad and in Sweden would probably not have to be tightened as rapidly.

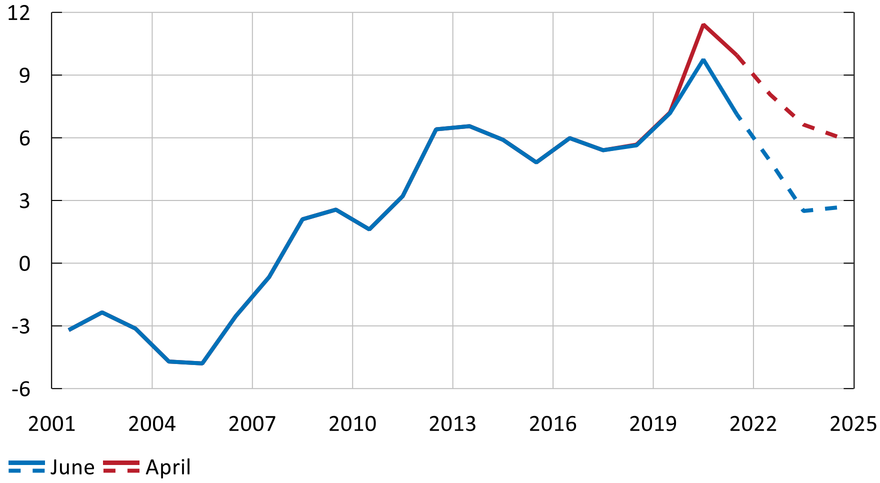
The Riksbank has been pointing out the risks on the Swedish housing market for a long time. Several of the factors that have contributed to rising housing prices in recent years are expected to reverse in the coming years. After being low for a long time, mortgage rates are expected to rise going forward. Moreover, the Riksbank assesses that the sharp upturn in prices during the pandemic was largely due to changed preferences among households for larger living space and that many of them have spent a lot of time at home and have been forced to hold back on other consumption.[9] Now that the restrictions have been lifted, this development is expected to be reversed, to a certain extent. In addition, a large number of new homes have been built in recent years, which has increased the supply. The Riksbank's forecast is that housing prices will fall during the forecast period. However, they are still expected to be at a higher level than prior to the pandemic. Even so, one risk is that the adaptation process will be abrupt and that housing prices will fall considerably. This could cause both household consumption and housing investments to be weaker than in the forecast.

One related uncertainty factor concerns households' demand for consumption in the coming years. Despite the strong labour market, household confidence indicators from the National Institute of Economic Research are at the weakest level since the global financial crisis. This is making it difficult to assess the future development of consumer demand. The Riksbank's forecast implies that households will increase consumption more slowly than normal but that they will continue to reduce saving as a proportion of disposable income (see Figure 13). One downside risk is that expectations of a rising cost of living and higher mortgage rates will prevent the recovery of household confidence, leading households to maintain precautionary saving. At the same time, households have a relatively high level of saving, which could also be used to maintain the previous rate of consumption growth going forward. Consequently, it cannot be ruled out that saving will decrease even more than in the Riksbank's forecast so that consumption develops more strongly. However, this would presuppose a recovery of confidence from current levels.

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

Figure 13. Household saving in Sweden

Percentage of disposable income



Note. Household savings refers to saving ratio excluding collective insurance schemes. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

A further uncertainty factor is how the highly indebted households in Sweden will be affected by rising interest rates. The Riksbank assesses that the household sector as a whole will be able to manage rising interest rates during the forecast period. However, the share of highly indebted new mortgagors has increased significantly in recent years.[10] The most indebted households may see their disposable incomes restrained strongly, even by a moderate rise in interest rates.[11] If housing prices simultaneously fall more than expected, the situation for households could be even more problematic. As there is no up-to-date microdata on households' assets and savings, it is difficult to assess how households will adapt their consumption to new circumstances. If the households with the highest debt are also those with the highest propensity to consume, the cash flow effects on consumption may become stronger, so that it develops more weakly than in the Riksbank's forecast.

Preparedness to adapt monetary policy if inflation outlook changes

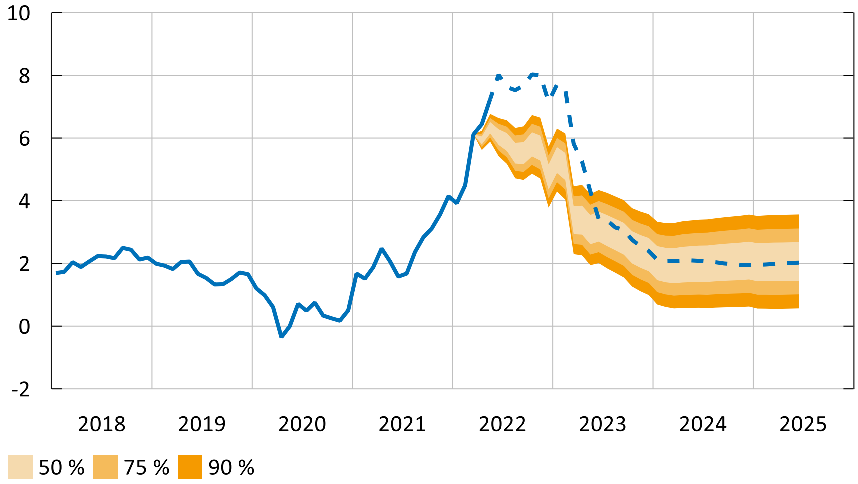
The inflation forecasts are uncertain over both the short and long terms, as Figure 14 clearly illustrates. Both the outcomes for April and May and the forecast for the coming year lie outside the uncertainty band surrounding the Riksbank's main scenario from the April Monetary Policy Report.

[10] See *The Swedish Mortgage Market 2022*, April 2022, Finansinspektionen.

[11] The Riksbank has in previous years analysed the cash flow effects of rising interest rates. See, for instance "How are household cashflows and consumption affected by rising interest rates?" article in *Monetary Policy Report*, December 2018, Sveriges Riksbank and "How are households affected by rising interest rates?" article in *Monetary Policy Report*, December 2017, Sveriges Riksbank.

Figure 14. The CPIF and the uncertainty band

Annual percentage change



Note. The figure shows the uncertainty band based on the Riksbank´s forecast from April 2022. The uncertainty bands are based on the Riksbank's historical forecasting errors and the figure shows how large the surprise has been. Solid line refers to outcome, broken line represents the Riksbank's current forecast.

Sources: Statistics Sweden and the Riksbank.

As mentioned above, there exist a number of factors that could lead to higher inflation than in the Riksbank's forecast. There is also a risk that the high inflation in Sweden will be more persistent than expected. There are now signs that the price increases are spreading to more and more groups of goods and services. In addition, there are tendencies towards changed price-setting behaviour among companies, which reflect an increased propensity to raise prices more than costs are increasing (see the article "Price rises are spreading in the economy"). The Riksbank adapts its monetary policy to the developments in the economy and is prepared to raise the policy rate faster if needed to ensure that inflation is returned to the target.

Inflation could also become lower than in our forecast. As described above, growth could slow down sooner than expected, for example as a consequence of higher interest rates affecting economic agents in a more substantial way than anticipated. In this type of scenario, inflation could fall back quickly and the Riksbank may then have to postpone continued rate increases.

2 Rising interest rates are tightening the financial conditions

The high rate of inflation is continuing to mark developments on the financial markets. Since the start of the year, many central banks have raised their interest rates, signalled more rate rises in the near future and simultaneously reduced their asset purchases. This has contributed to a rapid rise in yields on bonds and certificates. Uncertainty over how inflation and the economy will develop has dampened investors' willingness to purchase high-risk assets, which has contributed to falling equity prices both in Sweden and abroad, among other things.

In Sweden, yields on both the money markets and the bond markets have risen but the krona has depreciated since the monetary policy decision in April. Short-term inflation expectations have risen since April, while long-term expectations have risen less strongly and remain slightly above 2 per cent. Due primarily to higher interest rates, the financial conditions in Sweden are judged to be tighter now than they were at the monetary policy meeting in April.

2.1 The central banks are tightening monetary policy to restrain inflation

Inflation has increased unexpectedly rapidly over the last year and inflation expectations have risen, especially since the start of the year. As a result, central banks around the world have adapted monetary policy. Taken together, this has caused yields for government bonds and other fixed-income securities to rise. Uncertainty over how the higher interest rates will affect economic developments is an important factor currently marking the development of the financial markets, as is uncertainty over how inflation will develop in the period ahead.

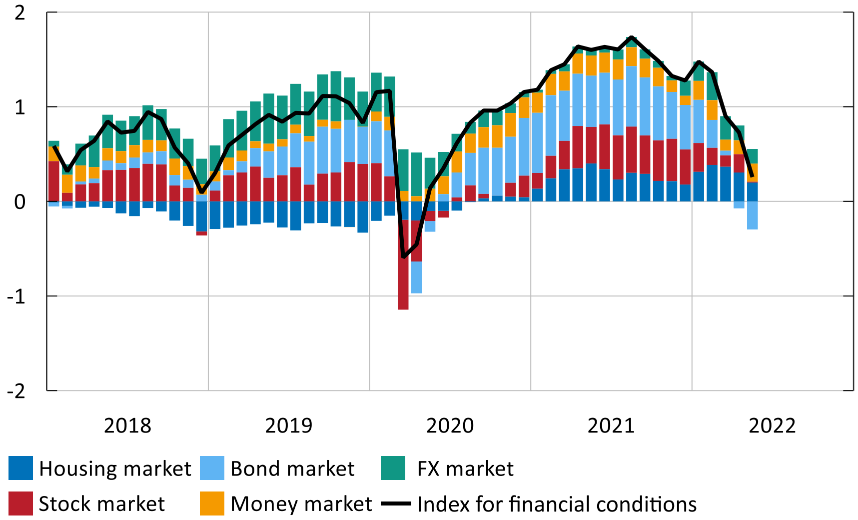
Like in earlier periods in which the Riksbank raised the policy rate in Sweden, interest rates on both the money markets and the bond markets increased after the Riksbank raised the policy rate in April.[12] According to forward pricing, market participants expect a significantly higher policy rate towards the end of the year than they did in April. The krona appreciated in conjunction with the monetary policy decision in April but has since depreciated, partly in light of the low risk appetite among investors. Higher interest rates and an unwillingness to hold high-risk assets have also been reflected by falling equity prices in Sweden and many other countries and uncertainty

[12] See also the article "What usually happens when the repo rate is raised?" in *Monetary Policy Report*, October 2018, Sveriges Riksbank.

on the equity markets has been high. Overall, the financial conditions in Sweden are tighter than in April (see Figure 15).

Figure 15. Index for financial conditions in Sweden

Standard deviations. A higher value indicates more expansionary financial conditions



Source: The Riksbank.

The central banks are raising policy rates and reducing asset purchases

Like the Riksbank, many central banks have raised or signalled raises of the policy rate. In addition, many of them have reduced their asset purchases and some have started selling securities to accelerate the reduction of their holdings. Market participants expect policy rates to continue to be raised in the years ahead (see Figure 16).

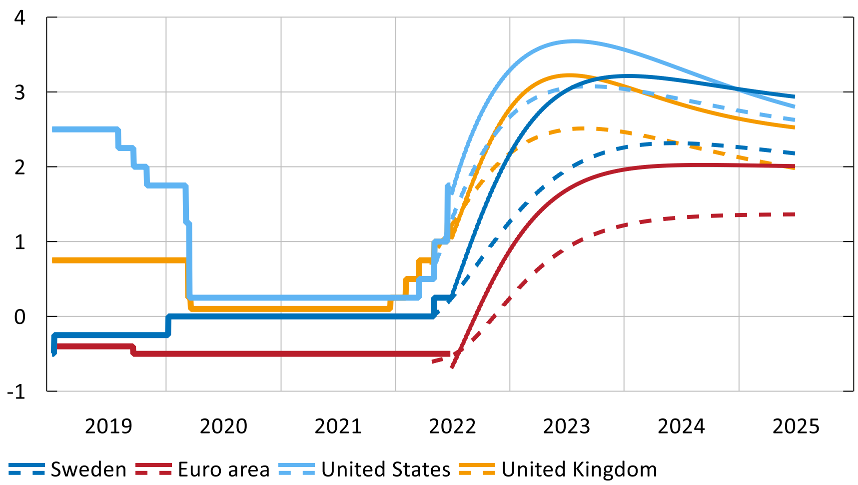
The US Federal Reserve raised its policy rate by 0.5 percentage points at its meeting in May and by a further 0.75 per cent at its meeting in June, meaning that the interval for its policy rate is now 1.50–1.75 per cent. The members of the Federal Open Market Committee (FOMC) shifted their policy rate expectations clearly upwards for the coming years and the median expectation is that the policy rate will reach 3.4 per cent by the end of the year. In conjunction with the meeting in May, the Federal Reserve also decided to start reducing its holding of bonds as of June. Not fully reinvesting the maturing bonds will lead the holding to decrease by USD 47.5 billion per month and, from September, the holding will decrease by USD 95 billion per month. Since the outbreak of the pandemic, the Federal Reserve's asset purchases have contributed to the growth of its balance sheet from about USD 4,000 billion to almost USD 9,000 billion. Prices of forward contracts indicate that participants in the financial markets expect the US policy rate to be about 3.2 per cent by the end of the year (see Figure 16).

As expected, the European Central Bank (ECB) left policy rates unchanged at its meeting in June. However, the ECB clearly signalled that policy rates are expected to be raised by 0.25 per cent at its meeting in July and that policy rates will be raised further, most probably by 0.50 percentage points in September. At the same time, it decided to allow its Asset Purchase Programme (APP), as of July, to move into a phase in which the ECB's purchases are solely made to compensate for maturing bonds in the holding. Asset purchases in the Pandemic Emergency Purchase Programme (PEPP) are also aimed at compensating for maturing bonds and the ECB has communicated that these purchases can be adjusted to give monetary policy an even pass-through on European government bond yields. According to forward prices, market participants expect the ECB to have raised its deposit rate to 0.9 per cent by the end of 2022 (see Figure 16).

The Bank of England raised its policy rate by 0.25 percentage points in conjunction with its meeting in May and by a further 0.25 percentage points at its meeting in June. The UK policy rate is now at 1.25 per cent. Since its meeting in February, the Bank of England has stopped reinvesting maturing government bonds and has started to sell its holding of corporate bonds. According to forward prices, market participants expect the UK policy rate to reach about 2.7 per cent by the end of 2022 (see Figure 16).

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 27 June 2022. Broken lines represent forward rates 25 April 2022. For the euro area, the EONIA overnight rate was replaced by ESTR as the underlying rate in forward contracts on 1 January 2022. The figure therefore shows forward contracts with ESTR as underlying rate.

Sources: Macrobond and the Riksbank.

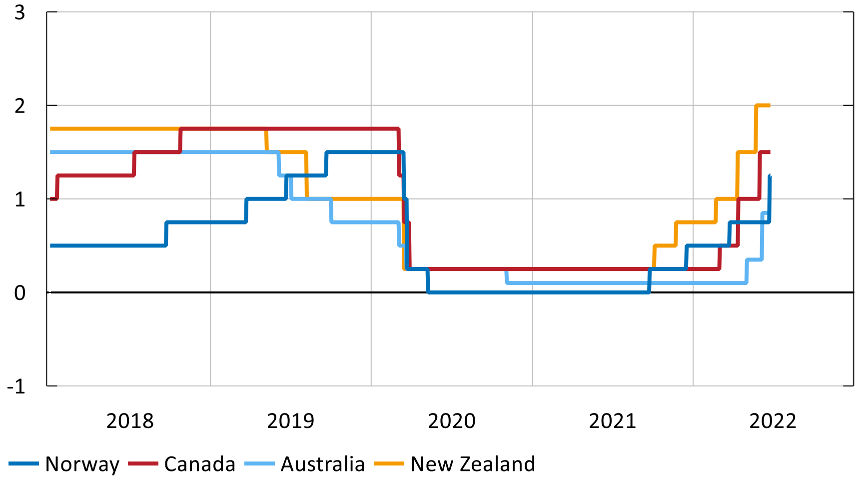
Other central banks have also started to raise their policy rates and have adjusted their asset purchase programmes in a tighter direction (see Figure 17). Norges Bank raised its policy rate by 0.5 percentage points, to 1.25 per cent in conjunction with its meeting in June, and communicated that the rate would probably be raised to 1.5 per cent in August.[13] In June, the Bank of Canada raised its policy rate by 0.5 percentage points to 1.5 per cent and, since the meeting in April, it has stopped purchasing securities to compensate for maturing bonds in its holdings. At its meeting in June, the Reserve Bank of Australia raised its policy rate by 0.50 percentage points to 0.85

[13] In contrast to many other central banks, Norges Bank did not introduce any programme for asset purchases to counteract the economic impact of the coronavirus pandemic.

per cent and, since the meeting in May, it has terminated purchases of government bonds aimed at compensating for maturing bonds in its holdings. The Reserve Bank of New Zealand raised its policy rate by 0.5 percentage points to 2 per cent at its meeting in May and communicated that it expects continued increases in the period ahead.

Figure 17. Policy rates in some other developed economies

Per cent



Sources: Bank of Canada, Norges Bank, Reserve Bank of Australia and Reserve Bank of New Zealand.

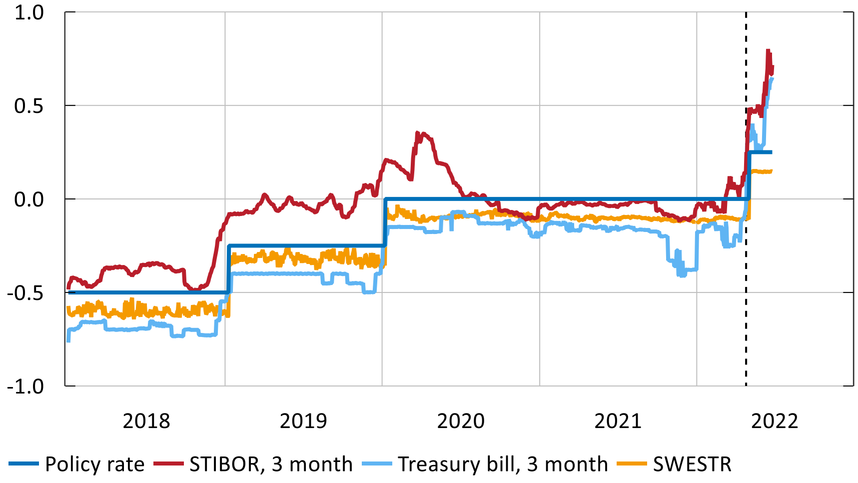
Higher interest rates on the money market since April

After the Riksbank raised the policy rate in April, the pass-through to money market rates has worked in the same way as in previous periods of rising policy rates in Sweden. In conjunction with the implementation of the increased policy rate on 4 May, the Riksbank's reference rate, SWESTR, also rose by 0.25 percentage points (see Figure 18). The level of the SWESTR reference rate shows that the actual transactions made in Swedish kronor from one business day to the next are continuing to occur at a rate close to the deposit rate in the Riksbank's standing facility.[14] Interest rates for loans with maturities of three months on the interbank market, STIBOR, rose slightly above the policy rate, which is in line with the Riksbank's communication that the policy rate is expected to be raised several times in the period ahead. A similar rise can be seen in treasury bill yields with a maturity of three months, which can also be explained by the Riksbank's decision in April to stop purchasing treasury bills.

[14] SWESTR can be used in financial contracts as of 1 September 2021. For further information, see https://www.riksbank.se/en-gb/statistics/swestr/. The deposit rate in the Riksbank's standing facility is 0.10 percentage points below the policy rate.

Figure 18. The Riksbank's policy 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 April.

Sources: Macrobond, Refinitiv and the Riksbank.

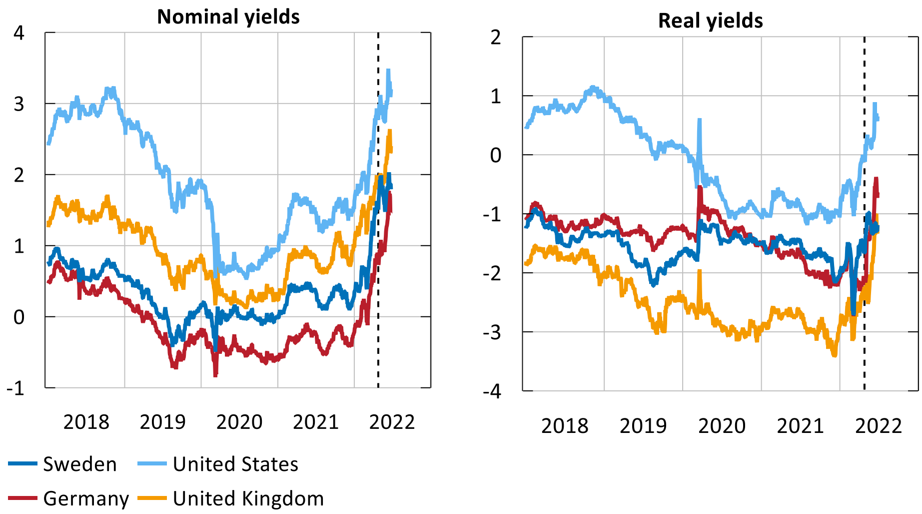
In recent weeks, short-term market interest rates have shifted further upwards, which can be explained by market participants' expectations of the future policy rate having shifted upwards. This can also be seen in forward rates (see Figure 16). Expectations are now that the Riksbank will raise the policy rate to about 2.2 per cent by the end of the year. In Kantar Sifo's Prospera survey from June, money market participants, on average, expected the Riksbank to raise the policy rate to 1.4 per cent within the next year and further to 1.8 per cent within the next two years.

Rising yields on government bonds as monetary policy is tightened

Since the start of the year, government bond yields have risen rapidly in many countries, including Sweden (see Figure 19). The underlying reason is the high inflation, which is leading central banks to raise interest rates, primarily with the help of their policy rates but also by reducing asset purchases. Inflation expectations have also risen, causing real interest rates, which provide purchasers with protection against rising inflation, not to rise as much as the corresponding nominal interest rates (see Figure 19). Since the monetary policy meeting in April, yields on both nominal and real government bonds abroad have risen more steeply than yields on Swedish government bonds have.

Figure 19. Yields on 10-year government bonds

Per cent



Note. Nominal yields refer to zero coupon rates for Sweden, Germany and the United Kingdom, and to benchmark rates for the United States. Real yields refer to zero coupon rates for Sweden and to benchmark rates for Germany, the United Kingdom and the United States. The broken line marks the time of the monetary policy meeting in April.

Sources: Bank of England, Bloomberg, Bundesbank, U.S. Treasury and the Riksbank.

Swedish government bond yields have not risen as much as the expected short-term yields, measured as the yield on so-called interest-rate swaps (see Figure 20). This can likely be explained by the high demand for safer assets which has been particularly high for real government bonds. At the same time, the supply of government bonds is expected to be low. Strong public finances mean that the government borrowing requirement is low. This means that a limited amount of government bonds will be issued, at the same time as the Riksbank owns a large share of outstanding volumes of government bonds. Overall, the imbalance between supply and demand, together with the great uncertainty surrounding the prospects for inflation and the economy, has in recent months caused the markets for government bonds to occasionally function less efficiently than normal.

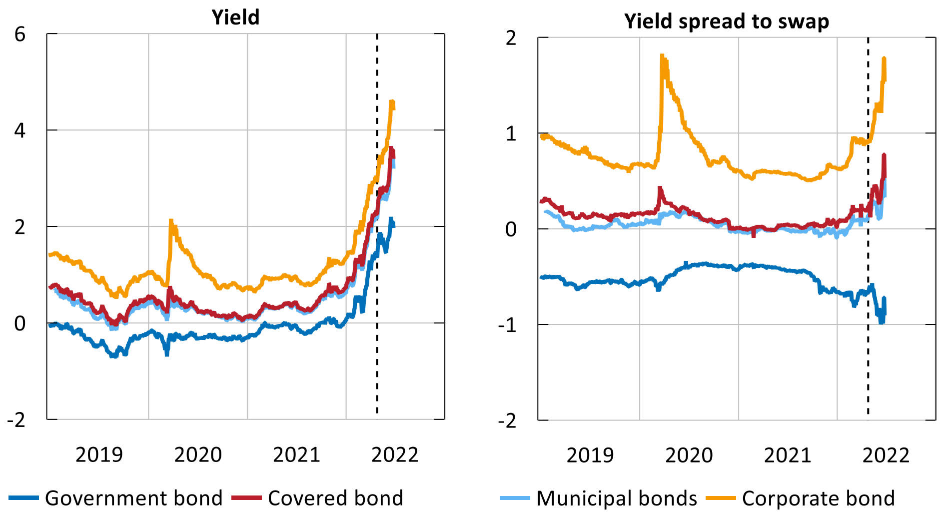
Yields have risen clearly for government bonds with both short and long maturities. This development corresponds well with market participants' expectations that policy rates will rise rapidly and strongly over the next year before they stop increasing as rapidly (see Figure 16), just as the central banks have communicated. Swedish government bond yields increased slightly in conjunction with the monetary policy decision in April, which indicated that the pass-through of monetary policy was functioning normally.

In the euro area, yield spreads against German government bond yields have increased since the start of the year (see Figure 21). The upturn for Italian and Greek yields, which have risen considerably more strongly than corresponding German yields, is particularly clear. This probably reflects expectations that the ECB will make fewer asset purchases in the period ahead. Yield spreads decreased slightly after the

ECB communicated that it would be possible to adjust purchases under PEPP to give monetary policy an even pass-through.

Figure 20. Yields for various types of bonds, 5-year maturity

Percentage (left) and percentage points (right)

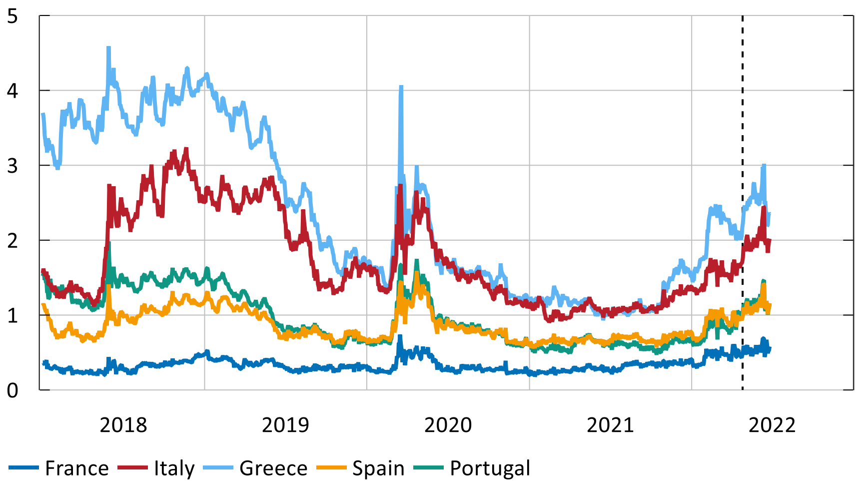


Note. Government bonds, municipal bonds, covered bonds and corporate bonds refer to a zero coupon rate. Corporate bonds refer to bonds/companies with credit ratings corresponding to investment grade. Covered bonds refer to bonds issued by Stadshypotek and municipal bonds are issued by Kommuninvest i Sverige AB. The broken line marks the time of the monetary policy meeting in April.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Figure 21. Yield spread between European and German government bonds, 10-year maturity

Percentage points



Note. Refers to benchmark rates. The broken line marks the time of the monetary policy meeting in April.

Source: Macrobond.

Prices for high-risk assets have fallen since the start of the year

Yields for higher-risk bonds have risen since the start of the year, also compared with the anticipated short-term rate (see Figure 20). This development can be seen in Sweden, as well as in the euro area and the United States. Apart from the low risk appetite among investors and the tighter monetary policy, the yield spreads may also, to some extent, have been pushed up by investor expectations of slightly lower economic activity in the period ahead. For these same reasons, equity prices have fallen and uncertainty on the equity markets has been high. All in all, the US S&P500 stock market index has fallen by about 18 per cent since the start of the year, while, in Sweden, the OMXSPI has fallen by just over 27 per cent over the same period. The falling prices have been particularly clear on the Chinese market, which has fallen significantly more than emerging markets in general. This is in part because the Chinese property sector is facing problems.

High inflation expectations both in Sweden and abroad

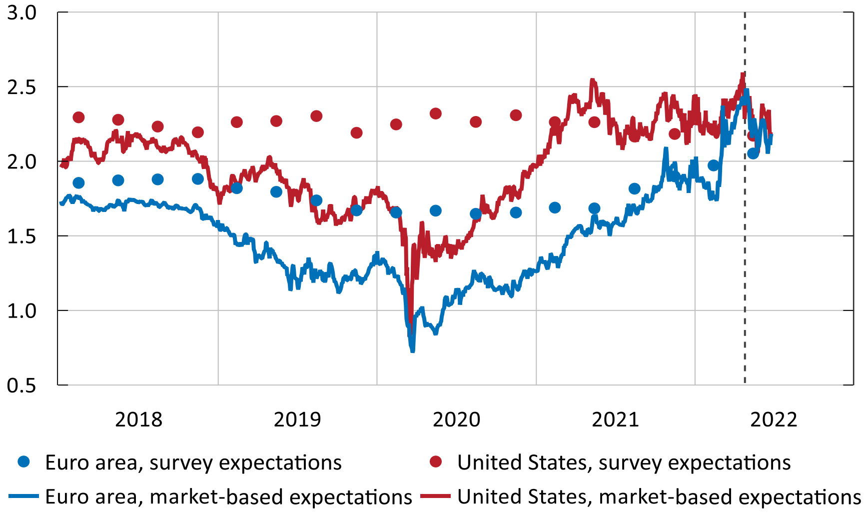
Long-term inflation expectations have increased in many countries since the start of the year. For most countries, the increase is clearest in the market-based measures (see Figure 22 and Figure 8 in Chapter 1). Fluctuations, particularly in the Swedish market-based measures, have been unusually large since the start of the year. However, there is reason to interpret these with some caution, as the markets for government bonds, especially the one for real government bonds, has functioned poorly. This could mean that the market-based measures do not just reflect changed inflation expectations but also fluctuations in liquidity premiums.

According to Kantar Sifo's Prospera survey, short-term inflation expectations, have risen sharply over the spring (see Figure 23). According to the survey, conducted during the first two weeks of June, money market participants expected, on average, prices measured as the CPI one year ahead to increase by about 4.6 per cent. However, this is still significantly lower than the Riksbank's forecast of almost 7 per cent. According to Kantar Sifo's Prospera survey, inflation was expected to fall back to about 2.3 per cent five years ahead, which was slightly lower than the corresponding expectations in May (see Figure 23).

Several measures of long-term inflation expectations, both survey-based and market-based, exceed the Riksbank's inflation target of 2 per cent. If inflation expectations stabilise at a level clearly above target, there is a risk that the high level of inflation will become entrenched. The Riksbank is therefore carefully monitoring the various measures of inflation expectations.

Figure 22. Long-term inflation expectations in the euro area and United States

Per cent

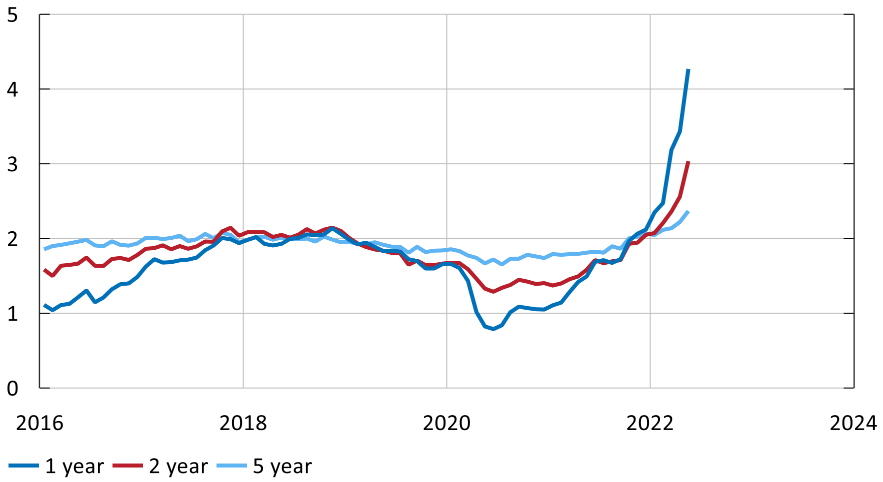


Note. Market-based measures of inflation expectations refer to a 5-year period starting in 5 years' time. For the euro area, they are calculated on the basis of inflation swaps and refer to the HICP. For the United States and Sweden, they are calculated on the basis of bond yields and refer to the CPI. Survey-based expectations refer to inflation 5 years ahead for the euro area (ECB Survey of Professional Forecasters), and average inflation 5–10 years ahead for the United States (Federal Reserve Bank of Philadelphia). The broken line marks the time of the monetary policy meeting in April.

Sources: Bloomberg, Macrobond and the Riksbank.

Figure 23. Inflation expectations among money market participants

Per cent



Note. Inflation expectations refer to the CPI.

Source: Kantar Sifo Prospera.

Weaker krona in the wake of rising interest rates abroad

In conjunction with the monetary policy decision in April, the krona appreciated slightly, measured as KIX. This can be explained by the Riksbank announcing a policy rate rise and an upward adjustment of the policy rate, which was somewhat tighter than market participants had expected. Since then, however, the krona has weakened. This has happened against the background of market participants expecting accelerating rate rises, above all from the ECB and Federal Reserve. This has led German and US interest rates to rise faster than Swedish ones, which has contributed to the krona depreciation. At the same time, uncertainty on the financial markets has remained high and, in such circumstances, the krona usually depreciates as investors regard it as a higher risk currency than the US dollar or euro, for example.

Overall, the krona exchange rate against other currencies has weakened by about 1 per cent since the monetary policy meeting in April, measured as the KIX. Since the start of the year, the krona has weakened by almost 4 per cent (see Figure 24).

Figure 24. 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. Since 28 March 2022, the index has been calculated against 31 countries since the Russian rouble was excluded from it. A higher value indicates a weaker exchange rate. The broken line marks the time of the monetary policy meeting in April.

Source: The Riksbank.

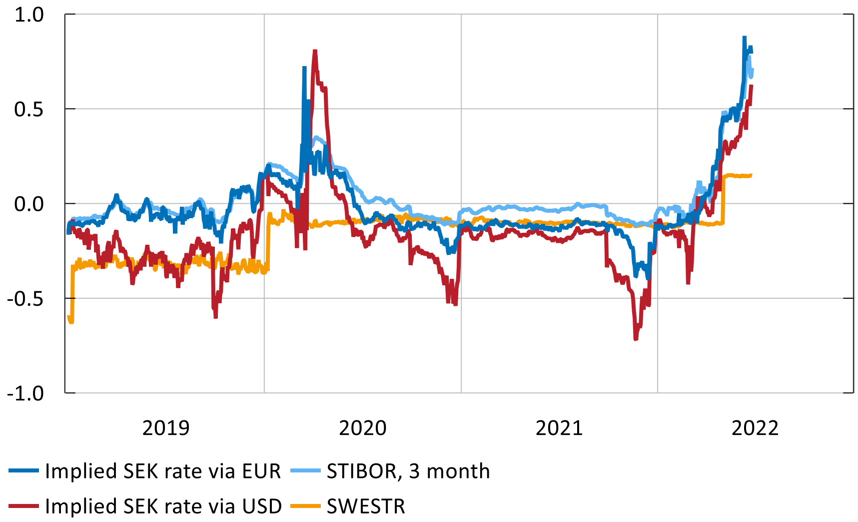
2.2 Swedish households and companies are facing rising interest rates

The Riksbank's decision to raise both the policy rate and the forecast for the policy rate at the monetary policy meeting in April had the intended impact on the interest rates faced by the banks on the money market. The banks' costs for obtaining short-term funding in both kronor and foreign currency have increased slightly more than the policy rate (see Figure 25). In recent weeks, these interest rates have risen further due to market participants' expectations of the future policy rate having risen.

The banks' funding costs over longer maturities also increased slightly in conjunction with the Riksbank's decision in April. However, these costs have increased particularly clearly since the start of the year and this is in line with the development of the bond markets. For example, yields on covered bonds, which are an important source of the banks' long-term funding, have risen by about 2.9 percentage points since the start of the year (see Figure 20). Another important source of funding for the banks is deposits from the general public. These increased strongly in 2020 but grew at an increasingly slow pace last year and have been more or less unchanged since the start of the year. For several years, the banks have borrowed from the general public at interest rates close to zero (see Figure 26).

Figure 25. The banks' funding costs on the money market, 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). SWESTR falls very heavily on the last banking day of each year, quotations that have been omitted from this figure.

Sources: Bloomberg and the Riksbank.

Increased credit growth despite higher interest rates

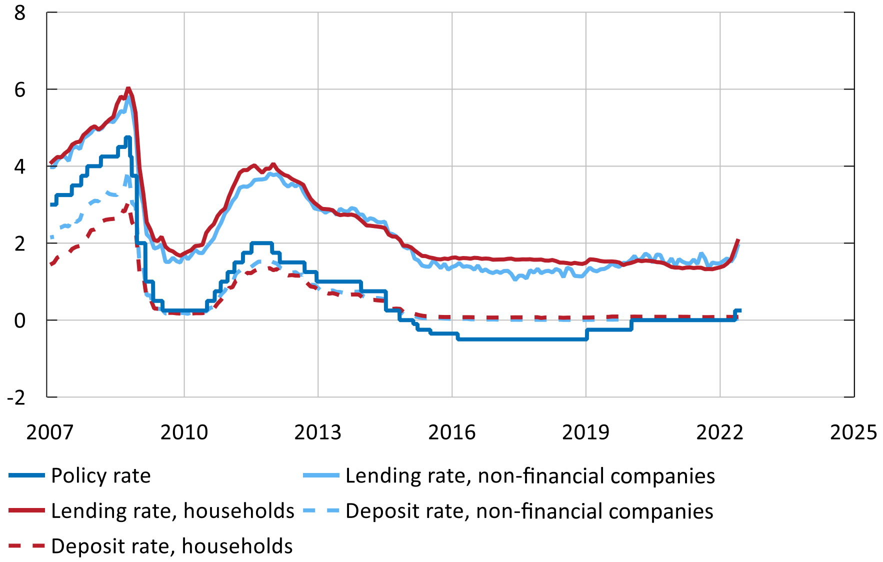
Interest rates for bank loans have risen approximately in line with the banks' funding costs. In contrast, deposit rates have not risen to the same extent, meaning that the banks' profit margins may have increased.

Swedish companies primarily obtain funding via bank loans, even if they have raised increasingly large parts of their loans through wholesale funding in recent years. This is because many larger companies, not least in the property sector, have started to issue certificates and bonds. Measured as the annual percentage change, the outstanding volume of issued securities increased by almost 10 per cent in May, and bank lending increased by almost 14 per cent (see Figure 27). The Riksbank's statistical database KRITA shows that the increased borrowing need is being driven by major companies, while Almi's lending indicator for the first quarter indicated that the most common reason for companies to take new or larger loans was acquisitions, which is to say purchases of other companies.

Average interest rates for corporate loans increased to 2.0 per cent in May (see Figure 26). On the other hand, the rise in interest rates for loans with longer maturities was slightly larger and, in particular, companies' costs for obtaining funding on the bond market have continued to increase clearly in May and June (see Figure 20).

Figure 26. The Riksbank's policy rate and average deposit and lending rates, new and renegotiated loans

Per cent

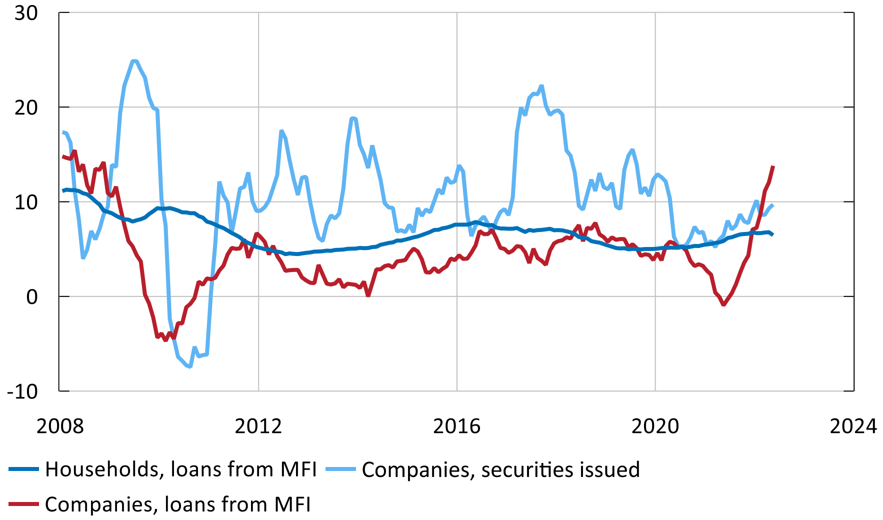


Note. Deposit and lending rates are volume-weighted averages of monetary financial institutions' deposits and lending at all maturities.

Sources: Statistics Sweden and the Riksbank.

Figure 27. Household and corporate borrowing

Annual percentage change



Note. Lending by monetary financial institutions (MFIs) 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.

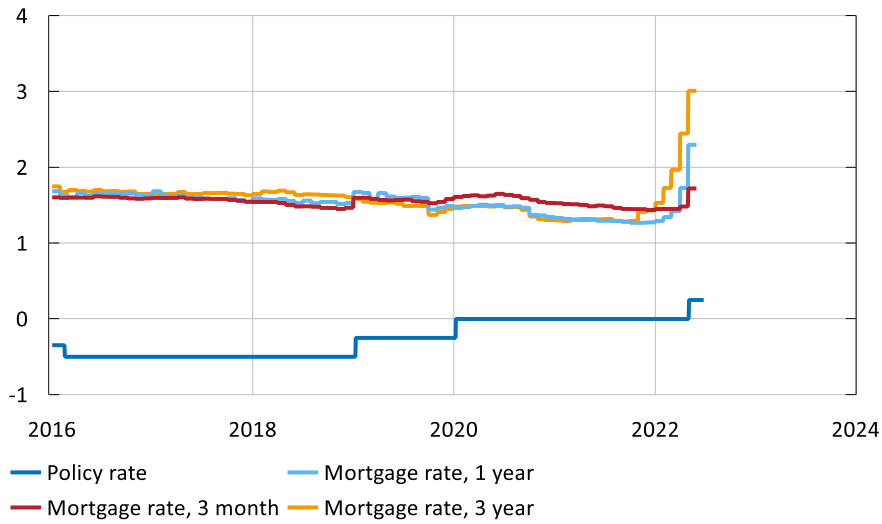
Source: Statistics Sweden.

On the whole, Swedish households have large loans in relation to their incomes and about 80 per cent of these debts consist of mortgages.[15] In May, households' mortgages increased by almost 7 per cent at an annual rate and households' total debt increased by about the same degree (see Figure 27). Interest rates on mortgages with longer maturities had already started to rise at the start of the year, in step with rising yields on the bond market (see Figures 20 and 28). In May, the average mortgage rate with a maturity of three years was about 3 per cent, which is 1.5 percentage points higher than it was in January. After the policy rate was raised in April, the variable mortgage rate with a maturity of three months rose too, by about as much as the policy rate (see Figure 28).

Over the last few years, it has become more common for households to take out mortgages with fixed interest rates. About 55 per cent of outstanding mortgages are at fixed interest rates, which is to say with an interest-rate fixation period longer than three months. However, the percentage of mortgages with variable interest rates remains large in comparison with many other countries and the average fixation period is short. This is contributing to rate rises having a relatively rapid impact on households' finances and scope for consumption. High household indebtedness is also making their finances sensitive to rate rises.[16]

Figure 28. The Riksbank's policy rate and mortgage rates

Per cent



Note. The mortgage rates are an average of actual mortgage rates from SEB, Swedbank, SHB, SBAB, Länsförsäkringar Bank and Nordea.

Sources: The respective mortgage actor and the Riksbank.

[15] The household loan-to-income ratio, which is to say household debt in relation to disposable income, amounts to about 200 per cent. The debt-to-income ratio has risen by just over 30 percentage points over the last ten years.

[16] For a more detailed discussion of household interest-rate sensitivity, see *Financial Stability Report* 2022:1, Sveriges Riksbank.

3 Inflation has risen further

The level of activity in the Swedish economy is high, although GDP fell temporarily in the first quarter of this year. Companies report in several surveys a strong demand for their products and services. Recruitment plans are at record-high levels, but despite the strong labour market consumer confidence has fallen markedly in Sweden and in other parts of Europe.

As in other countries, inflation has risen rapidly in Sweden and is expected to remain high over the coming year. CPIF inflation increased by 7.2 per cent in May. An important explanation for the high inflation is that prices of fuel and electricity have risen rapidly over the past year. However, prices of services, food and other goods have risen at an increasing rapid pace and unusually fast in relation to their historical averages. This shows that the upturn in inflation has spread to an increasing number of products and services.

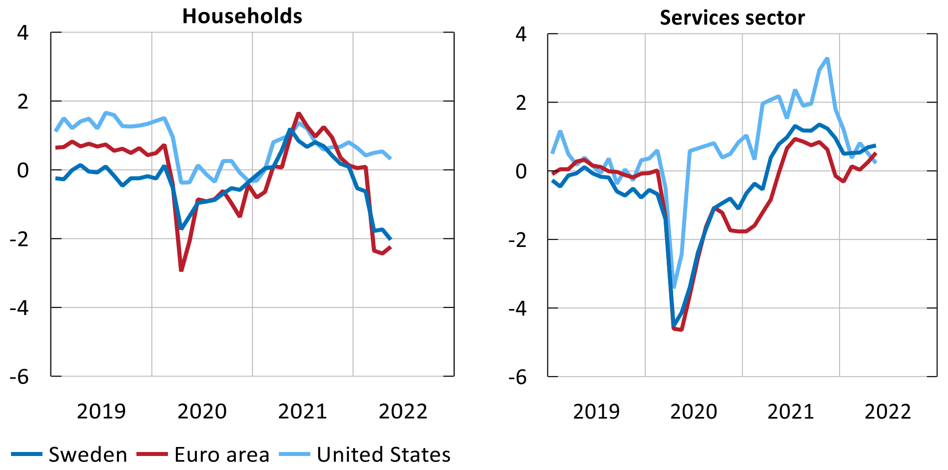
Gradually declining supply disruptions and an increasingly tight monetary policy will cause inflation to fall back next year. GDP is growing at a slower pace than normal, unemployment is rising somewhat and resource utilisation is falling to a somewhat lower level than normal. All in all, this fuels the expectation that inflation will to be close to the target of 2 per cent at the beginning of 2024.

3.1 Many prices are rising rapidly in Sweden and abroad

Resource utilisation is higher than normal in Sweden and the United States, at the same time as the signals regarding the direction taken by our economy have been mixed recently. Households' confidence in a strong development of the economy in the future has fallen to unusually low levels in several areas, while companies report relatively good times (see Figure 29). At the same time, GDP in the first quarter was weak in many countries, including Sweden. One contributing cause has been the extensive wave of the pandemic at the start of the year. Strong labour markets and the phasing out of restrictions have facilitated a rapid increase in consumption. At the same time, the increased uncertainty and supply shocks caused by Russia's invasion of Ukraine and new pandemic-related restrictions in China are holding back GDP growth in Sweden and our TCW counterparts.

Figure 29. Confidence among households and in the service sector

Standardised data, mean = 0, standard deviation = 1



Note. Purchasing Managers' Index for the service sector.

Sources: Conference Board, European Commission, Institute for supply management, National Institute of Economic Research and the Riksbank.

All in all, the supply shocks remain at a high level (see Figure 30). The war in Ukraine has had extensive consequences in the form of human suffering, and for the supply of food and energy commodities around the world. At the same time, there are still some bottlenecks in the global value chains. Delivery disruptions remain due to, among other factors, widespread COVID-related lockdowns of cities in China that have led to delayed deliveries, and as new infection is discovered, new lockdowns are to be expected. The supply disruptions are predicted to continue to affect many agents but the problems are expected to decrease during the forecast period.

Figure 30. Global Supply Chain Pressure index

Standardised data, mean = 0, standard deviation = 1

Note. The index is based on transport costs and indicators for the manufacturing industry in the euro area, China, Japan, the United Kingdom, South Korea, Taiwan and the United States.

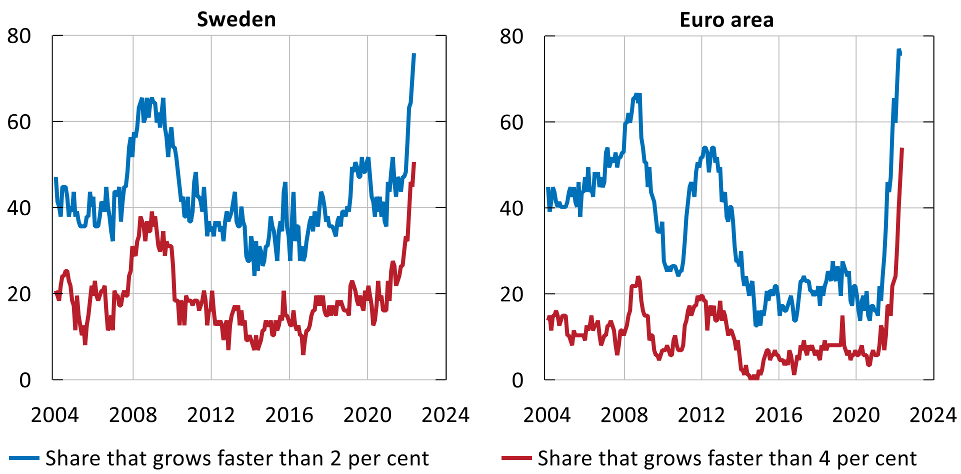
Source: Federal Reserve Bank of New York.

Supply shocks have contributed to high inflation that is still rising in many parts of the world. Energy prices are still high and risk becoming even higher going forward as a result of boycotts of Russian oil and not least further limitations on natural gas supplies from Russia to Europe. These have arisen now that Russia recently reduced deliveries though the Nordstream pipeline. Several countries have begun to limit their gas consumption and to increase other energy production, for instance, the German government has announced the introduction of an auction system to limit the manufacturing industry's use of natural gas and a restart of inactive coal-fired power plants. The Riksbank's forecast is based on the current sanctions against Russia remaining in place during the entire forecast period. The war in Ukraine has also significantly reduced the supply of food on the world market and contributed to substantial increases in food prices in many areas.

In many countries, the high and rising price growth has broadened to cover most product groups and therefore now covers more than just energy and food prices. In Sweden and the euro area, the prices of almost three quarters of all product groups have increased by more than 2 per cent and in around half of the product groups the rate of price increase has exceeded 4 per cent (see Figure 31). For further details of the indirect effects of the earlier, mainly internationally determined, price increases, see the article "Price rises are spreading in the economy".

Figure 31. Percentage of consumer prices increasing faster than 2 and 4 per cent respectively

Percentage



Note. Percentage of product groups for HICP.

Sources: Eurostat and Statistics Sweden.

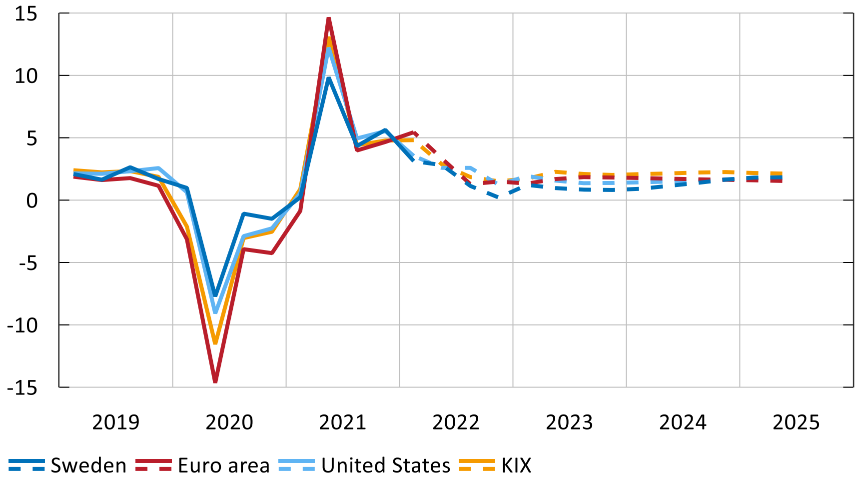
3.2 High pressure on labour markets and rising wage expectations in many countries

Moderate growth during the forecast period

The year began with another wave of the pandemic, which contributed to subdued growth in the global economy. Despite the underlying demand being assessed as weaker in the euro area than in the United States, GDP growth moved in the opposite direction during the first quarter (see Figure 32). In the euro area, GDP rose by a relatively large amount, but the upturn was largely driven by greater stocks, reduced imports and an exceptionally high growth on Ireland, which has very volatile growth. At the same time, GDP declined somewhat in the United States, where net exports fell markedly, at the same time as private consumption and investment continued to increase.

Figure 32. 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 line refers to outcome, broken line represents the Riksbank's forecast.

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

Following Russians invasion of Ukraine at the end of February, consumer confidence has fallen significantly in Europe, while the downturn has been less marked in the United States (see Figure 29). In the euro area, sales in the retail trade fell in April and weak consumption demand is expected to lead to low GDP growth during the second and third quarters, after which it will recover somewhat. In the United States, where consumption demand is not as weak, the negative growth during the first quarter will be followed by a temporarily higher growth during the second and third quarters, after which it will slow down as interest rates rise.

The Chinese economy began the year stronger than the euro area and the United States. Since then, China's zero tolerance strategy, with widespread lockdowns to manage the spread of infection, has burdened Chinese growth, where the retail trade and industrial production fell in April. Growth is also dampened by slower export growth as a result of weaker demand from abroad. Various forms of economic stimulus are expected to counteract the slowdown to some extent going forward, in particular investments in the infrastructure and measures to stimulate credit growth and demand on the housing market. Despite this, economic growth is expected to slow down to on average 5 per cent a year in 2022–2024, which is significantly lower than the historical average.

Labour demand is high

The demand for labour is high in both the euro area and the United States. Resource utilisation is assessed to be higher than normal in the United States, but lower than normal in the euro area. The shortage of labour in the United States has worsened as demand has increased in combination with the labour supply being held back by the pandemic, which has caused wages to rise much faster (see the article “Labour shortages and higher wage pressures abroad”). During the first quarter, the employment cost index (ECI) increased by 4.5 per cent compared with the same quarter last year. There are many indications that wages may rise at an even faster rate going forward and the increased payroll costs are expected to some extent to lead to higher consumer prices. The tight labour market is expected to ease gradually, along with higher interest rates and energy and food prices contributing to subduing demand.

No similar upturn has yet been seen in wage growth in the euro area. However, the higher resource utilisation on the labour market and demands for compensation for the high inflation are expected to lead to wages increasing at a much faster pace going forward. There are signs of demands for compensation from trade unions, particularly in Germany, at the same time as minimum wages have been raised in several countries. In the Riksbank’s forecast, wages are expected to rise by around 4 per cent this year and next year.

Inflation expected to exceed the target next year as well

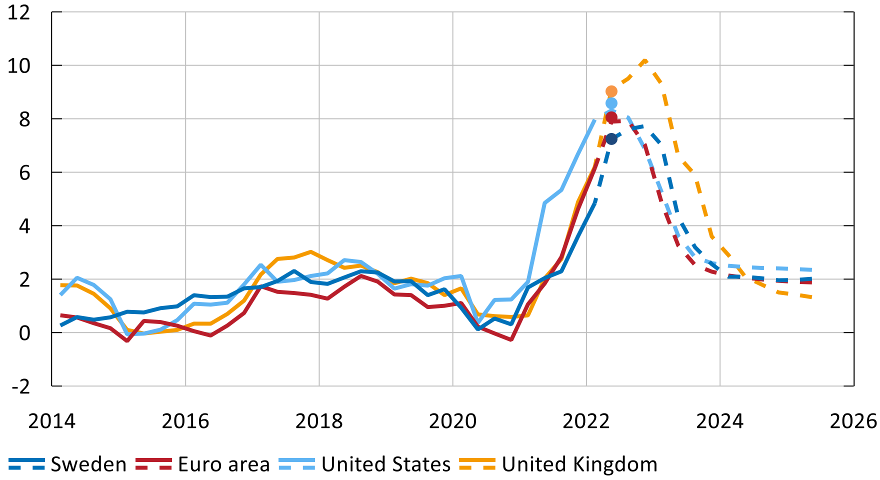
Inflation has continued to rise in many countries over the past few months. The upturn is driven by rising energy and food prices as well as high transport costs and delivery problems, but also by strong demand. In the euro area, as in Sweden, the rising inflation has broadened to include an increasing number of goods and services. Inflation excluding energy was 4.6 per cent in May. Consumer energy prices rose by almost 40 per cent and including energy prices HICP inflation was 8.1 per cent.

US CPI inflation was 8.6 per cent in May. Inflation in the United States is also being pushed up to a large degree by rising energy prices. However, the labour market there is stronger than in the euro area and wage growth is higher, which has contributed to a much more substantial rise in inflation excluding energy than in the euro area. In May it amounted to 6.6 per cent.

Inflation in the euro area and the United States is expected to remain high this year and then to fall back as energy and food prices increase more slowly and monetary policy is tightened to bring inflation back to the target. Wage growth is assessed to be high in a historical perspective, but is not expected to lead to a wage and inflation spiral. However, inflation is not expected to be close to 2 per cent until 2024, in both the United States and the euro area (see Figure 33).

Figure 33. Consumer prices in various countries and regions

Annual percentage change



Note. Consumer prices refer to quarterly data with the CPIF for Sweden, the CPI for the United States and the United Kingdom and the HICP for the euro area. Dots refer to monthly outcomes for May. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Eurostat, U.K. Office for National Statistics, U.S. Bureau of Labor Statistics, Statistics Sweden and the Riksbank.

3.3 Strong Swedish demand will decline

High level of activity in the Swedish economy

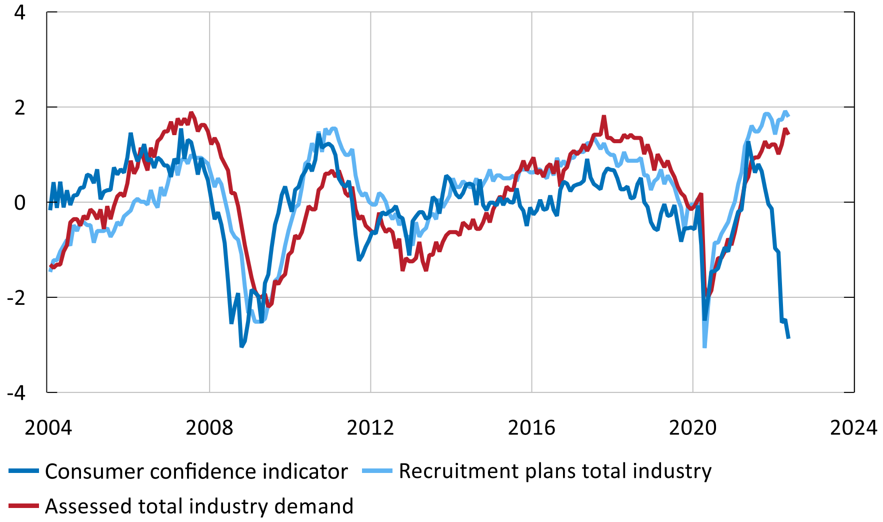
Swedish companies are currently experiencing high demand. This is shown in both the Riksbank's most recent Business Survey and the Economic Tendency Survey, where companies consider they have a strong demand situation at the same time as their recruitment plans are at record-high levels (see Figure 34). The Riksbank's Business Survey in May contained quotes such as "an upswing of a rarely seen type" and several respondents stated that they had never before experienced such a favourable business situation as now.

At the same time as the companies state that the economic situation is strong, an increasing number of respondents to the Riksbank's Business Survey consider that the risks of declining economic activity have increased. One such risk is how household demand will be affected by the high inflation. It is clear that an increasing number of households have a less positive view of the future, as household confidence indicators in the Economic Tendency Survey are down at levels that were most recently measured in the financial crisis 2008 (see Figure 34). One difference between now and then is that it is primarily households' views regarding their own finances that are very negative. In 2009, households' views on the Swedish economy were also very negative.

The high inflation dampens household purchasing power and means that consumption will increase more slowly in the near term. Public consumption and investment is not expected to increase at a fast pace, and in total GDP will increase approximately in line with the trend in the coming quarters.

Figure 34. Indicators in the Economic Tendency Survey

Standardised data, mean = 0, standard deviation = 1

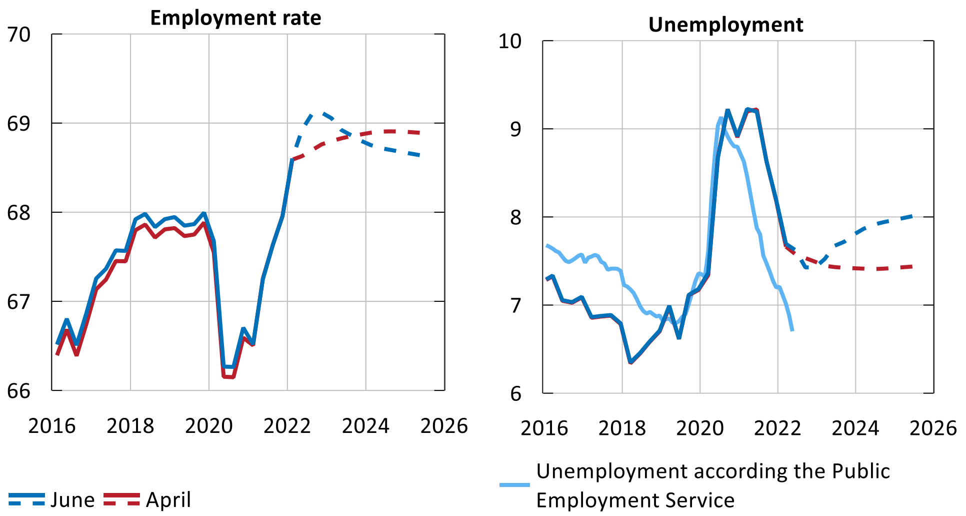


Source: National Institute of Economic Research.

The strong demand in the economy has had a clear impact on the Swedish labour market. During the first quarter, employment increased rapidly and unemployment declined markedly (see Figure 35). Forward-looking indicators suggest a continued high demand for labour. Employment is thus expected to continue rising at a relatively rapid pace in the short term, and unemployment declines somewhat further.

Figure 35. Employment rate and unemployment in Sweden

Percentage of population (left) and percentage of labour force (right)



Note. The difference in outcome for the employment rate prior to 2021 is due to Statistics Sweden having revised historical data. Employment rate and unemployment in dark blue and red lines refer to age 15–74 years, Swedish Public Employment Service's unemployment figures refer to age 16–64 years. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Swedish Public Employment Service, Statistics Sweden and the Riksbank.

High inflation and rising interest rates will soften demand going forward

During the second half of this year, demand is expected to slow down as the high inflation undermines households' purchasing power, construction slows down and at the same time monetary policy is tightened. In Sweden, investments in military defence will help sustain the growth rate in the coming years, but the fiscal policy measures are expected to be less than in recent years starting from next year.[17] Going forward, foreign trade is expected to increase more slowly as demand both in Sweden and abroad slows down in the wake of tighter economic policy and higher inflation. However, export companies still have large order stocks and the prevailing supply limitations are assessed to wane parallel to demand slowing down. All in all, both exports and imports are expected to increase at a moderate pace going forward. All in all, GDP growth will slow down from 1.8 per cent in 2022 to on average 1 per cent 2023–2024. The main factors restraining GDP during the forecast period are that the rate of increase in household consumption will become lower and housing investment will decline.

As GDP growth slows down, labour demand is also expected to decline. At the same time, the labour supply is projected to continue to increase and the Riksbank's forecast is that unemployment will rise with effect from next year. At the end of the forecast period, unemployment is expected to be 8 per cent. However, even though

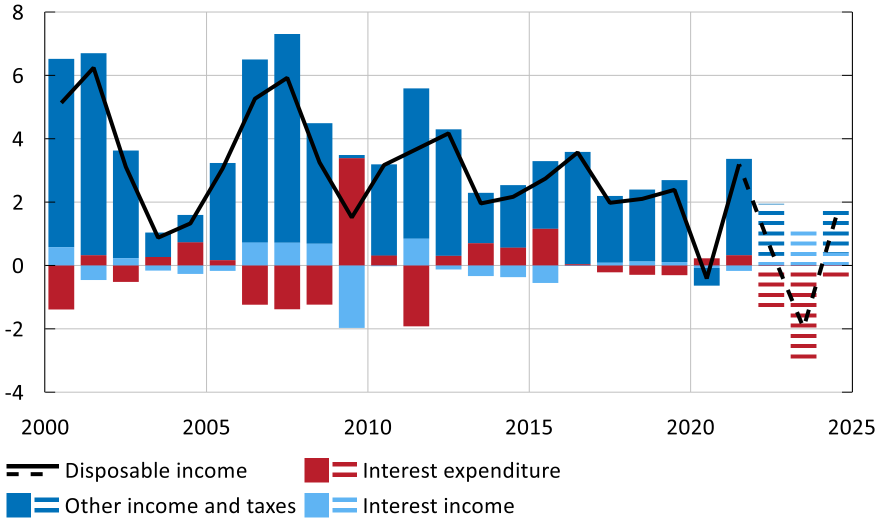
[17] It is assumed in the forecast that around 50,000 people from Ukraine will seek refuge in Sweden this year.

the employment rate is expected to decrease, it will nevertheless remain historically high.

Weaker development of household income

This year and next year, wages are not expected to rise at the same pace as prices, which means that real wages will fall (see Figure 43). Total real disposable household income will nevertheless increase this year as a result of increased employment, tax cuts, transfers and high capital income. Next year, however, these factors are not expected to counteract the increasingly high interest rates and real disposable household income will decline (see Figure 36).

Figure 36. Contribution to annual growth in real disposable household income
Annual percentage change and percentage points respectively



Note. Deflated using the consumption deflator. Other income refers to payroll, dividends, transfers etc. The solid line and column refers to outcome, the broken line and column refer to the Riksbank's forecast.

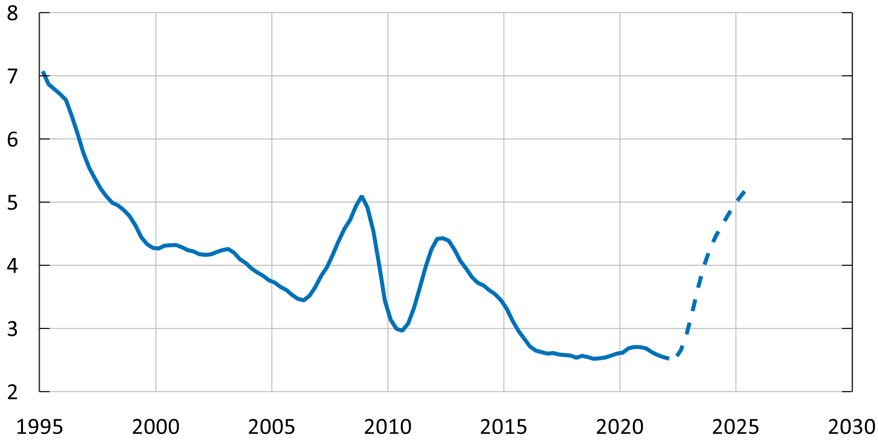
Sources: Statistics Sweden and the Riksbank.

The weaker income development will also dampen household consumption growth. During the remainder of 2022 and in 2023 consumption is therefore expected to increase slowly and less than it has done historically. However, consumption is expected to increase faster than household income, causing the household savings ratio to fall (see Figure 13 in Chapter 1). As inflation falls, households' purchasing power will improve. This benefits consumption, which is expected to increase at a roughly normal pace in 2024.

Over a long period of time, household debt as a percentage of disposable income has increased. The low mortgage rates have meant that households' interest expenditure has nevertheless comprised a small percentage of their disposable income. Going forward, however, households' interest expenditure is expected to rise as a share of disposable income, as the high indebtedness means that households' interest expenditure is very much affected by rising interest rates. At the beginning of 2025, the interest-to-income ratio, that is interest expenditure as a percentage of disposable income, is expected to amount to around 5 per cent (see Figure 37). This is roughly the same level as in 2008, despite the policy rate then being more than twice as high. On the other hand, there was little difference between the policy rate and mortgage rates then. Today, households' interest fixation periods for mortgages are on average shorter, which means that the Riksbank's policy rate changes have a faster impact on households' interest expenditure.

Figure 37. Interest-to-income ratio

Percentage of disposable income



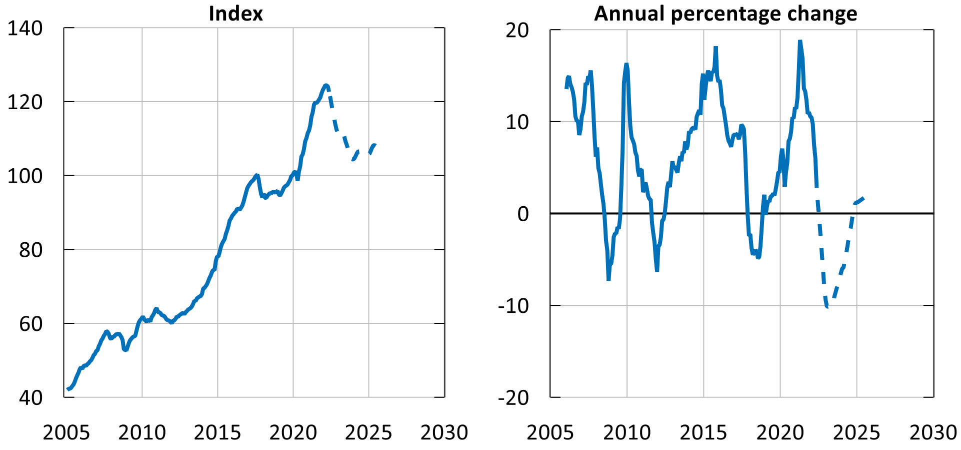
Note. The interest-to-income ratio refers to households' interest expenses as a percentage of their disposable income. The calculations assume that everyone can use the 30 per cent interest deduction. Disposable household income is expressed as a four-quarter moving total.

Sources: Statistics Sweden and the Riksbank.

The increasingly high mortgage rates and the weaker development in disposable income will dampen household demand for housing. Other rising costs related to housing, such as higher energy and construction costs will also contribute to the slowdown in demand. Housing prices have therefore fallen somewhat in recent months and fewer households now believe that prices will rise. At the same time, the supply of housing has increased, and the number of houses sold has declined. After rising over a long period of time, housing prices are therefore expected to fall during the coming year. This is partly a correction of the large price increase during the pandemic, which involved households being willing to pay more for larger homes in particular. The Riksbank's forecast is that at the end of 2024, housing prices will still be higher than they were prior to the pandemic (see Figure 38). The lower housing prices will in turn lead to housing construction declining (see Figure 39), which will contribute to the lower GDP growth.

Figure 38. Housing prices

Index 2019 Q4 = 100, seasonally adjusted data (left) and annual percentage change (right)

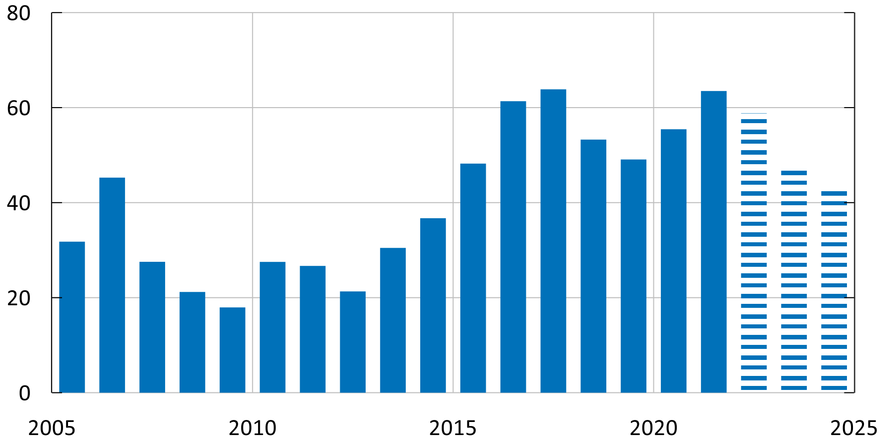


Note. Solid line refers to HOX Sweden price index, a quality-adjusted index for tenant-owned apartments and houses, the broken line is the Riksbank's forecast.

Sources: Valueguard and the Riksbank.

Figure 39. New construction

Number of housing starts, thousands



Note. The solid bar refers to housing starts, the broken bar to the Riksbank's forecast.

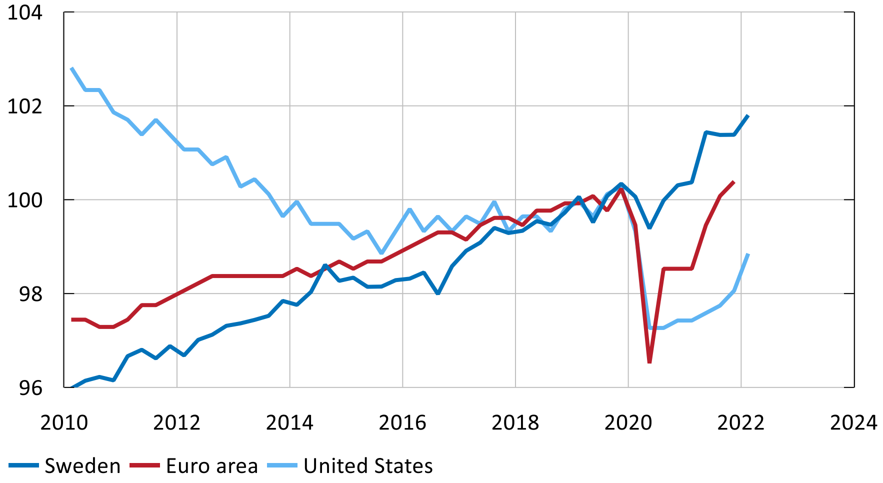
Sources: Statistics Sweden and the Riksbank.

Little spare capacity on the labour market, despite large labour supply

In several countries, labour supply was severely dampened during the coronavirus crisis, but in Sweden it was only marginally dampened and has since risen to record-high levels (see Figure 40). Despite the employment rate having more than recovered the fall that took place during the pandemic, unemployment according to the Labour Force Survey (LFS) has thus remained at an elevated level. In contrast, unemployment in the core labour force, that is the age group 25–54 years, has recovered to the pre-crisis levels. It is thus mainly among the younger and older members of the work force that unemployment is elevated.

Figure 40. Labour force participation

Index, 2019 = 100



Note. Labour force participation refers to the percentage of the population in the labour force. United States refers to labour force participation for those older than 16 years, for Sweden and the euro area labour force participation refers to the age group 15–74 years.

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

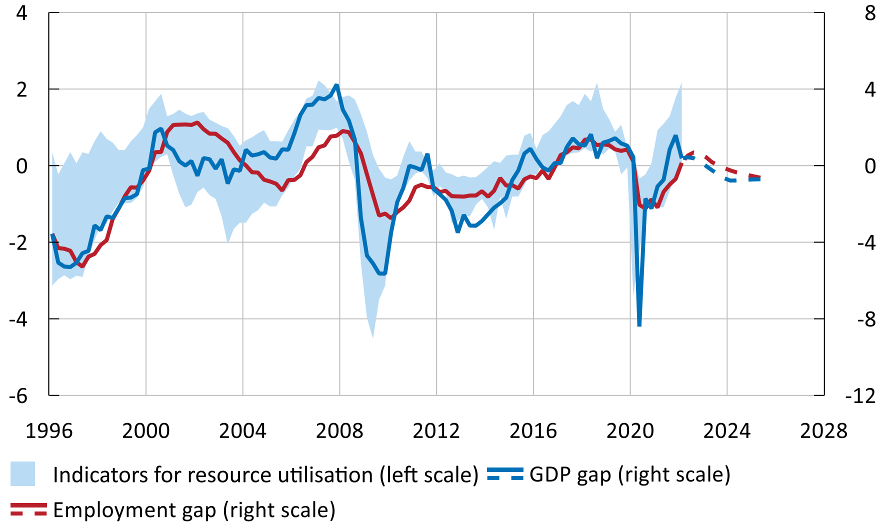
Despite the increased labour supply, there appears to be little spare capacity on the labour market. The percentage of companies stating that they are experiencing a shortage of labour has risen to record-high levels, according to the Economic Tendency Survey, and is at a high level in relation to unemployment. According to Statistics Sweden's short-term employment statistics, mobility in the labour market among those already employed appears to have been high in the first quarter. Both the percentage of employed who left their jobs (voluntarily and involuntarily) and the percentage of new recruitments were at high levels. The percentage of vacancies in the economy rose to record levels in the first quarter, but in comparison unemployment has not fallen at the same rate (see the fact box below).

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 assesses resource utilisation on the basis of various data and indicators. The Riksbank's overall assessment is that resource utilisation in the economy is at present higher than normal. This is illustrated by both the Riksbank's GDP and employment gaps being positive and also supported by other indicators and data (see Figure 41).[18] As the tighter monetary policy subdues demand during the forecast period, resource utilisation is expected to become somewhat weaker than normal.

[18] The Riksbank's various gap measures refer to the deviation in GDP from the Riksbank's assessed long-term trends, and therefore do not capture short-term fluctuations in production capacity, which can for instance be due to a shortage of inputs. This means that the GDP gap become lower in connection with disruptions in production, at the same time as these disruptions lead to higher prices.

Figure 41. Measures of resource utilisation

Standard deviation and per cent



Note. The field shows the highest and lowest outcomes for standardised indicators of resource utilisation. Included series are: Inverted unemployment according to LFS, and 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.

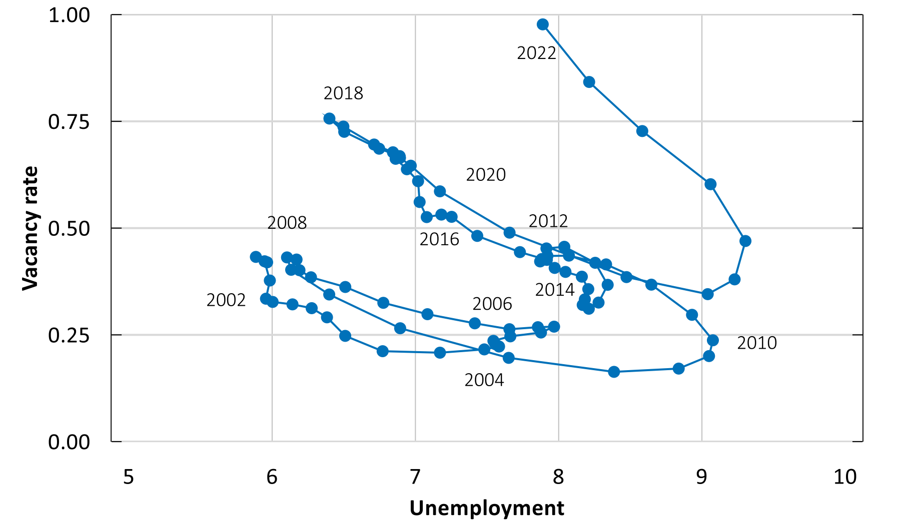
Sources: The National Institute of Economic Research, Statistics Sweden and the Riksbank.

Signs of poorer matching on the labour market

The Beveridge curve shows the relationship between unemployment and vacancies over time (see Figure 42). It is usually regarded as a measure of how well the matching in the labour market works, that is, how easy it is to match job seekers with job openings. It is reasonable to assume that when demand in the economy is high, the number of job openings rises while unemployment falls, and vice versa. The correlation should therefore be negative.

Figure 42. Beveridge curve

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



Note. Vacancy rate refers to unfilled job openings in the business sector as a percentage of the labour force, aged 15–74. Unemployment refers to the number of unemployed persons as a percentage of the labour force aged 15–74 years. Dates denote first quarter of each year respectively.

Sources: Statistics Sweden and the Riksbank.

Shifts outwards in the Beveridge curve are usually explained as a deterioration in the matching efficiency, as they mean that unemployment is higher for a given vacancy rate. The coronavirus crisis has led to an increase in long-term unemployment. As of autumn 2021, the percentage of unemployed registered with the Swedish Public Employment Service for longer than 12 months has indeed declined significantly, but the percentage registered with very long period of unemployment (more than two years) has at the same time continued to increase somewhat.[19] For these people the chances of obtaining a job are very small, and the fact that the group has now grown larger indicates that the coronavirus crisis has led to persistence effects that have increased equilibrium unemployment.[20] In addition to the crisis possibly having affected

[19] See C. Flodberg, I. Häkkinen Skans and P. Wasén (2022), "Long-term unemployment in the wake of the pandemic", *Economic Commentary* no. 2, Sveriges Riksbank.

[20] Equilibrium unemployment is a theoretical concept and refers to the level of unemployment in the absence of cyclical variations. The level of equilibrium unemployment depends on how well the labour market functions and is affected by various structural factors, such as unemployed persons' competitiveness, matching efficiency, the size and design of employment benefits and how wage formation functions.

the human capital of unemployed persons, it may also have impaired matching efficiency as a result of changes in preferences and search behaviour. Some of the outward shift during the past year is considered to be due to the large changeover in LFS statistics in January 2021, which has meant that more people are included in the labour force as unemployed.[21]

All in all, the Riksbank assesses that the equilibrium unemployment is higher now than prior to the crisis, and that there is little spare capacity on the labour market. The fact that the actual level of unemployment, measured by the LFS, is now higher than prior to the crisis is thus considered to be solely due to structural factors. Expansionary monetary policy can reduce cyclically high unemployment. But reducing unemployment that is due to structural factors requires reforms that make the labour market function better and that increase the chances for the long-term unemployed, low educated and people who lack sufficient Swedish skills to obtain work.

Rising wage growth

Wage growth decreased at the end of last year and has remained at around 2 per cent also at the start of 2022. This slowdown is primarily due to the profile of the collective wage agreements, which entails a temporary downturn in wage growth from the end of last year. With effect from May this year, the agreed wage growth is rising again. It is expected to amount to around 2 per cent until the end of the first quarter of 2023, when many of the current collective wage agreements expire.

However, total wage growth is not solely determined by centrally agreed wages but also by local pay reviews, so-called wage drift or wages over and above central agreements. The size of these is affected by, among other factors, the situation in the labour market. Microdata from Statistics Sweden indicates that a slightly higher percentage have changed jobs at the start of 2022 than in 2019. But at an aggregate level, those who are changing jobs now do not appear to have a notably higher salary than those who changed jobs in 2019.[22] However, some companies state in the Riksbank's Business Survey that new employees are now entering the workplace on higher salary levels than before.[23] As a result of the strong labour market situation, wages over and above collective agreements are therefore expected to rise faster this year than last year. Rising inflation is also expected to contribute to some demands for compensation. Wage growth is therefore expected to be on average somewhat higher this year than last year. However, even though nominal wage growth is expected to increase, real wage increases are assessed to be historically low in 2022 as inflation is so high (see Figure 43).

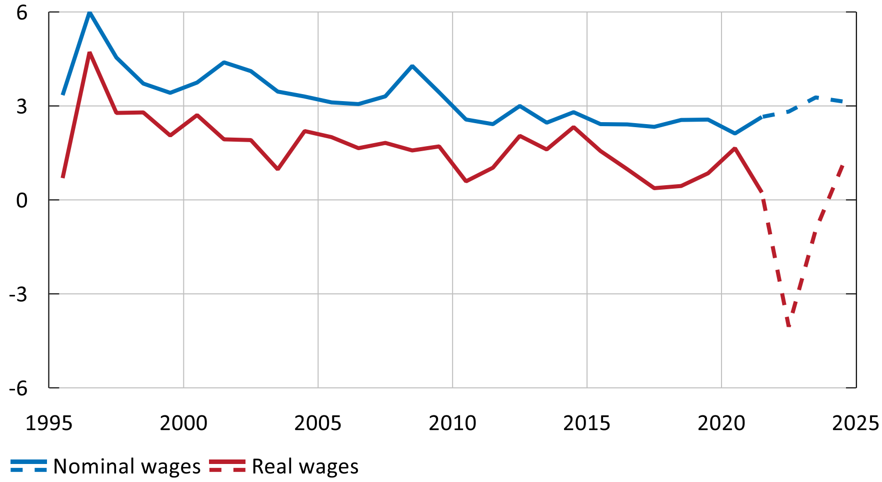
[21] The Riksbank assesses that some of the increased labour supply is due to the rewording of the question on unemployment in the LFS with effect from January 2021. This has meant that more people state that they are seeking work and therefore are now included in the labour force survey as unemployed. The Riksbank assesses that this effect is somewhat greater than Statistics Sweden has taken into account in spliced data, see the Fact Box "Spliced data by Labour Force Surveys" in *Monetary Policy Report*, April 2022, Sveriges Riksbank.

[22] Statistics Sweden has made calculations at the request of the Riksbank based on data from employers' tax returns at individual level.

[23] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

Figure 43. Nominal 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. Solid lines refer to outcomes, broken lines to the Riksbank's forecasts.

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

Real wages have increased in each individual year since 1994. This year, inflation will rise partly due to rising energy prices and higher prices on other mainly imported goods. In contrast, wages are not expected to increase fast enough this year to compensate for the higher prices, which means that their real wages will fall. However, tax cuts and transfers will nevertheless contribute to a slight increase in real disposable income this year.

During autumn 2022, negotiations will begin prior to central wage agreements for 2023 and beyond in the manufacturing industry. Unemployment is expected to be lower then, and inflation higher than when the current agreements were signed in the pandemic year 2020. Inflation is also high in other countries, at the same time as economic activity has strengthened and the forecast is therefore that wages abroad will increase faster. This is expected to contribute to faster rising wages also in Sweden in the coming years, and wage growth according to the NMO short-term wage statistics is expected to amount to more than 3 per cent a year in 2023 and 2024 (see Figure 43).

The krona is expected to gradually appreciate over the forecast period

The Swedish krona has weakened since the monetary policy meeting in April, which usually happens when uncertainty on the financial markets increases. The real exchange rate is now assessed to be weaker than might be expected on the basis of general economic development in Sweden in relation to other countries. In trade-weighted terms, the Riksbank expects the krona to appreciate slowly over the coming years (see Figure 44).

Figure 44. 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. Since 28 March, the index has been calculated against 31 countries when the Russian rouble was excluded from it. 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.

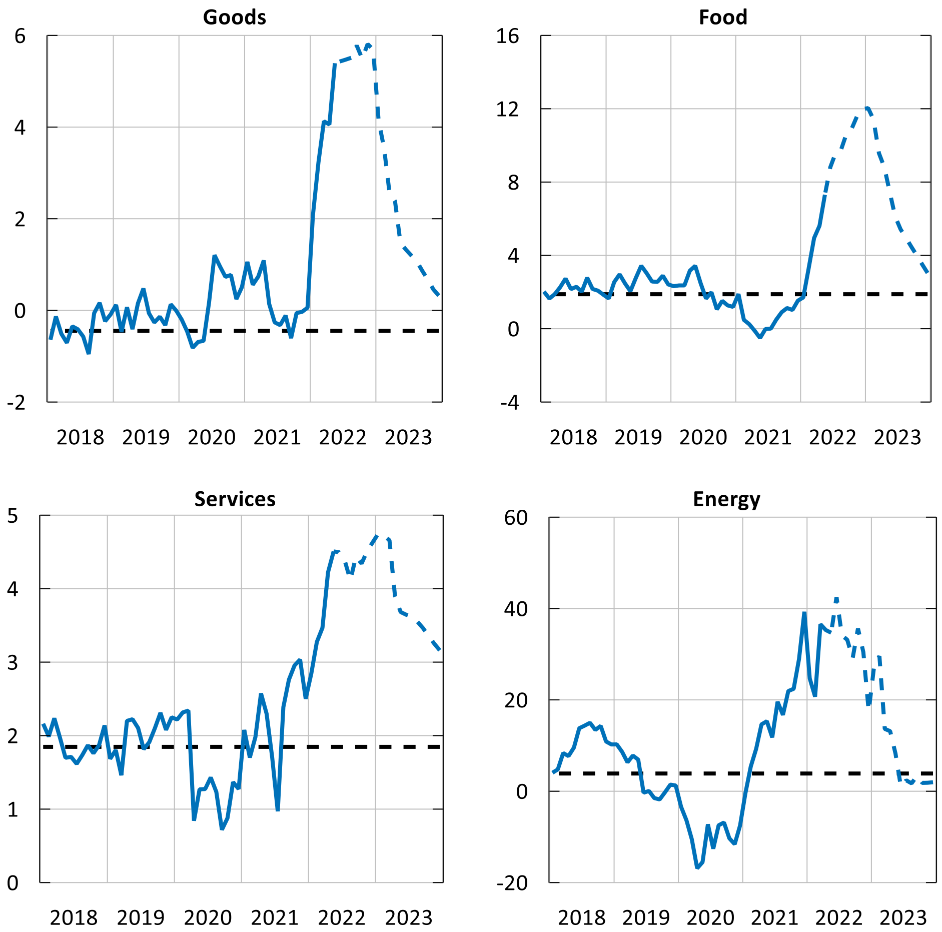
Source: The Riksbank.

Inflation over 7 per cent this year

Inflation has risen rapidly this year and amounted to 7.2 per cent in May, which is the highest level measured since December 1991. One explanation for the rapid upturn is that prices of fuel and electricity have risen rapidly over the past year. However, inflation has risen on a much broader front than this. The CPIF excluding energy increased by 5.4 per cent in May, which is also the highest level since the beginning of the 1990s. The rates of increase in prices of services, food and other goods has risen over the past year and are unusually high in relation to their historical averages (see Figure 45 and the article "Price rises are spreading in the economy").

Figure 45. Forecasts for various sub-indices in the CPIF 2022 and 2023

Annual percentage change



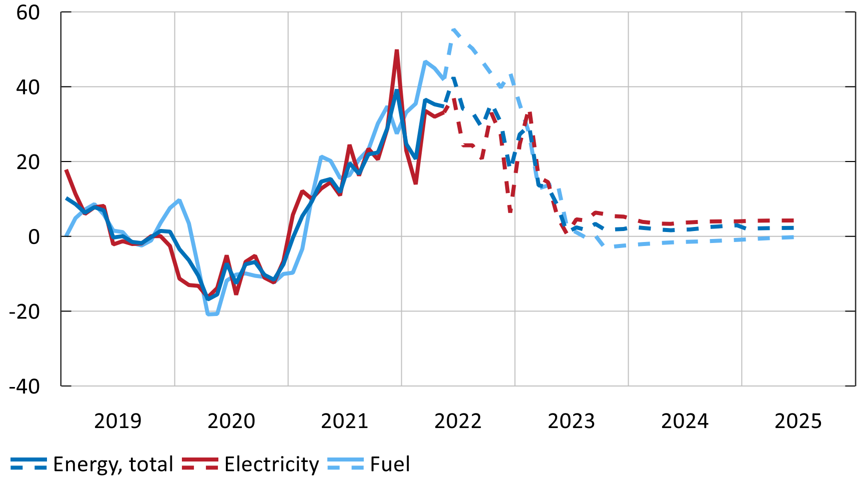
Note. Goods refers to prices of goods excluding energy and food. The weight for food prices in the CPIF, according to the Riksbank's classification, amounts to 18.2 per cent for 2022, while prices for other goods weigh 28.9 per cent. The weight for service prices is 43.7 per cent and the weight for energy prices is 5.9 per cent. The capital stock index, which has a weight of 3.4 per cent, is not shown here. Horizontal broken lines represent mean values for the period 2000–2019. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

The Riksbank's forecast is that CPIF inflation will remain at between 7 and 8 per cent for the remainder of the year. The war in Ukraine has meant that energy prices have risen further in recent months. Although price levels are expected to remain high, the rate of increase in energy prices is expected to slow down in line with pricing on the forward market towards the end of this year and the beginning of next year. The rising energy prices will thus affect the annual comparison figures to a declining degree going forward. Energy prices already began to increase rapidly in autumn 2021, and these increases will finally cease to affect the annual comparative figures towards the end of the year (see Figure 46). This also means that CPIF inflation will begin to fall.

Figure 46. 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 line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

But at the same time, the CPIF excluding energy will continue to rise from the current, already high, level. The rate of increase in the CPIF excluding energy is expected to rise in the coming months, and the Riksbank's forecast is that it will amount to over 6 per cent towards the end of the year. Prices of food and other goods in particular are expected to continue rising rapidly for some further months before the rate of increase slows down more tangibly next year. One important reason for this is the war in Ukraine, which has meant that prices of both food and certain other commodities have risen on the world market. And even before war broke out, prices of many commodities had been pushed up on the world market as a result of the supply disruptions that followed the rapid recovery from the coronavirus crisis. Moreover, the rising energy prices have had indirect effects on inflation via, for instance, rising prices for transport and other costs for companies.[24]

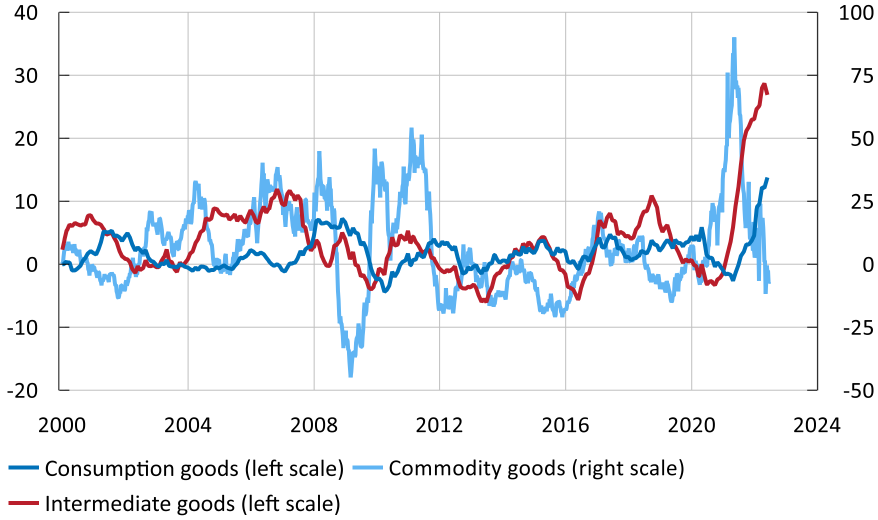
The rise in prices of commodities and freight, particularly last year, has caused producer prices to rise. Prices for energy and input goods have accelerated over the last year, and producer prices of consumer goods are also unusually high (see Figure 47). According to survey data from the Economic Tendency Survey, the Purchasing Managers' Index and the Riksbank's Business Survey, prices are expected to increase relatively rapidly for some time to come in both trade and manufacturing sectors.[25]

[24] See the articles "High energy prices – how will other consumer prices be affected?" in *Monetary Policy Report*, February 2022, Sveriges Riksbank, and "Many indications that inflation will be high this year and next year" in *Monetary Policy Report*, February 2022, Sveriges Riksbank.

[25] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

Figure 47. Producer prices and commodity prices

Annual percentage change



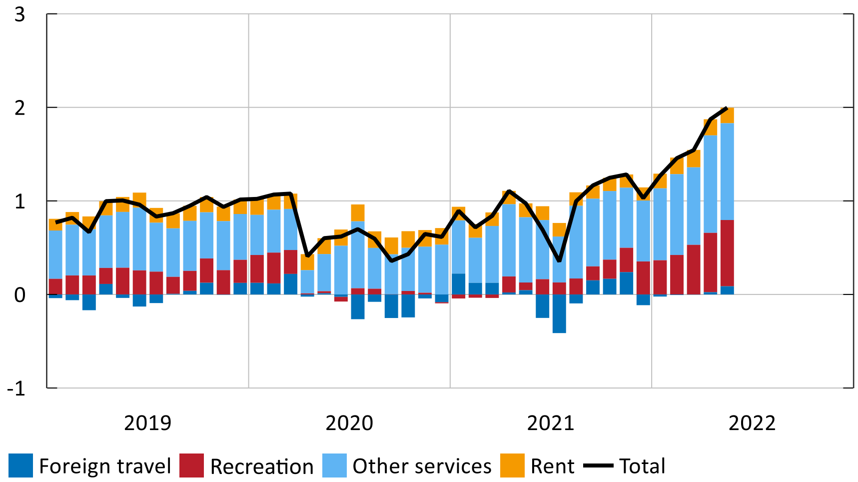
Note. The price index for consumer goods and producer input goods refers to the price index for Sweden's domestic supply price index (ITPI), which is a composite of the domestic market price index (prices of goods produced and sold in Sweden) and the import price index. The price index for commodities is the Economist's commodity price index.

Sources: Statistics Sweden and The Economist.

Service prices are also expected to continue increasing at an unusually rapid pace during the year, partly due to demand for many services rising rapidly in the wake of the coronavirus crisis (see Figure 48). It is also to be expected that service prices rise as a result of higher interest rates. For example, there are signs that rents and housing cooperative fees will increase more over the coming years.

Figure 48. Contribution of service prices to CPIF inflation

Contributions to the rate of increase in the CPIF in percentage points



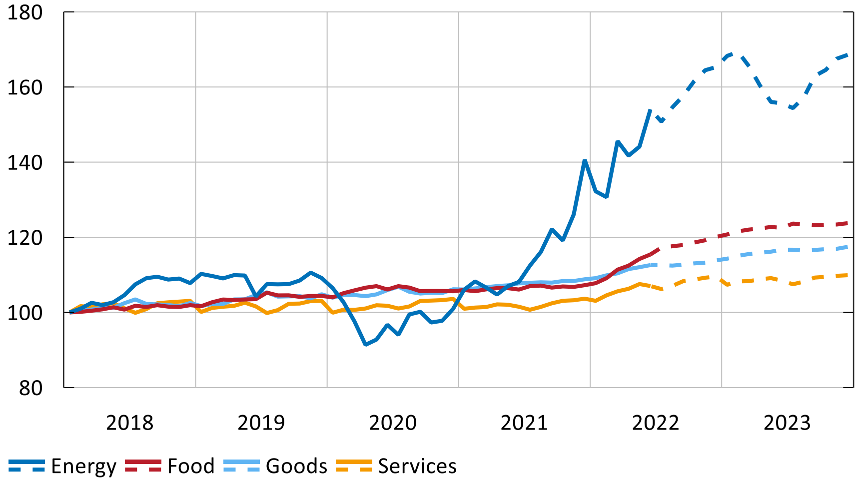
Note. The component 'recreation' includes leisure, recreation, accommodation, and food and drink at restaurants (the parts of the service sector hit particularly hard during the pandemic). The weight for services in the CPIF is 43.7 per cent.

Sources: Statistics Sweden and the Riksbank.

All in all, the Riksbank's forecast is that inflation will remain high over the coming year. However, the inflation forecast, particularly with regard to sub-groups, is very uncertain. Prices of services, energy, food and other goods will rise rapidly this year. The large price increases are nevertheless expected to be temporary. This does not mean that prices are expected to fall. The price level is expected to remain permanently higher. However, it is not expected to continue rising as quickly going forward (see Figure 49).

Figure 49. Forecasts for various sub-indices in the CPIF in 2022 and 2023

Index levels. Index, January 2018 = 100



Note. Goods refers to prices of goods excluding energy and food. The weight for food prices in the CPIF, according to the Riksbank's classification, amounts to 18.2 per cent for 2022, while prices for other goods weigh 28.9 per cent. The weight for service prices is 43.7 per cent and the weight for energy prices is 5.9 per cent. The capital stock index, which has a weight of 3.4 per cent, is not shown here. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Inflation close to the target towards the end of the forecast period

Prices for commodities and freight saw a peak increase in the autumn of 2021, but have since subsided slightly or have at least not continued increasing. Forward pricing on the markets for energy, food and other commodities suggests that prices will not continue to increase, which is partly connected to monetary policy being tightened in many parts of the world. Companies are also expected to become better at managing supply shocks, at the same time as the krona exchange rate strengthens. Overall, this indicates that the pace of price increases for companies' input goods will slow down.

The fact that service prices have risen so quickly is judged to be due to the rapid increase in demand for certain contact-intensive services after the pandemic. These rapid price increases are expected to be lower when the increase in demand in these sectors slows down.

Inflation expectations have risen over the past six months and wages are increasing faster than in recent years. But there are few signs of a sharp upturn in wage growth.

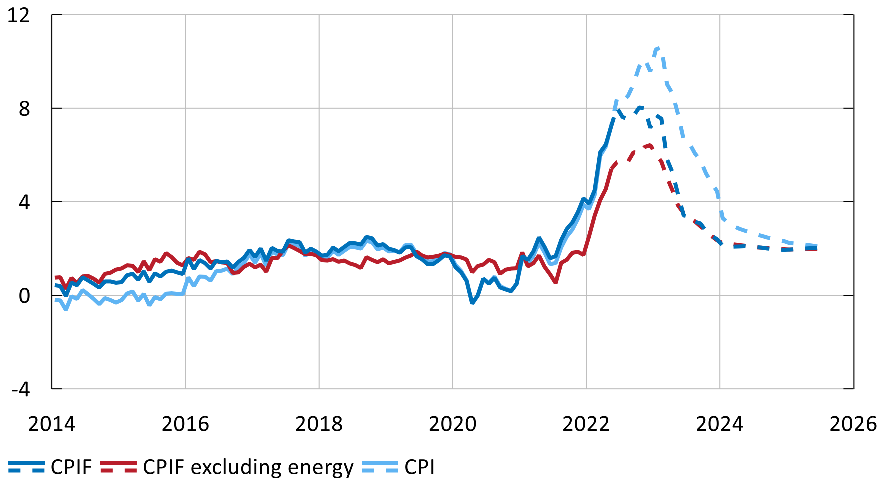
At the same time, some companies appear to be increasing their profit margins in a way that they did not earlier, given the increased costs (see the article “Price rises are spreading in the economy”). When demand is dampened by the Riksbank’s rate hikes, companies’ opportunities to raise or maintain their profit margins will be restricted. Combined with the subdued costs for input goods, this means that the rate of increase in goods and food prices will slow down notably next year.

A tighter monetary policy with a clear focus on attaining the inflation target within a reasonable time frame will counteract the high inflation becoming entrenched in wage formation. The Riksbank’s forecast assumes that negotiations between employer organisations and employee organisations, together with local wage formation, will lead to wages increasing slightly faster than in recent years, but that the effects of the current high inflation on wage formation will nevertheless be limited.

When the policy rate and mortgage rates rise, household interest expenditure will increase faster, causing CPI inflation to be significantly higher than CPIF inflation. The differences are largest in the near term, and at the beginning of 2023 the CPI is expected to increase by more than 10 per cent (see Figure 50). Towards the end of the forecast period however, CPI inflation will be close to 2 per cent.

Figure 50. CPIF, CPIF excluding energy and CPI

Annual percentage change



Note. Solid line refers to outcome, broken line represents the Riksbank’s forecast.

Sources: Statistics Sweden and the Riksbank.

As demand is slowed down by the Riksbank’s rate hikes, companies’ opportunities to raise or maintain their profit margins will be restricted. This, combined with the subdued costs for companies’ input goods, means that inflation is expected to fall back next year and be close to the target of 2 per cent in 2024.

ARTICLE – Price rises are spreading in the economy

For some time now, a large share of the prices of energy, food and other goods has been increasing faster than normal. Now many service prices have also started to increase more rapidly, which illustrates that the rise in inflation is broad. There are also some signs that prices are being raised even when this is not clearly justifiable on the basis of higher costs. The wage statistics so far do not show higher wage increases, but respondents to the Riksbank's Business Survey are expecting a larger wage drift and they state that more new employees are now entering the workplace on higher salary levels to compensate for the high inflation. This could be a first sign of spillover effects via expectations and wages. The Riksbank assesses that the risk of the high inflation becoming entrenched in price-setting and wage formation has increased. Inflation is now expected to be higher this year and next year in relation to the previous assessment.

Inflation has risen since the middle of 2021. Initially, it was driven by rising global energy prices. Now a large share of the prices of energy, food and other goods is increasing faster than normal. During the most recent months, the rate of increase on many service prices has also increased, which is a sign of more domestically generated inflationary pressures.

In this article we discuss the question of whether the upturn in inflation in Sweden can be explained by rapidly rising internationally determined costs, or whether other mechanisms play a major role. Inflation has been low for many years. For instance, companies have experienced that substantial competition has made it difficult for them to raise prices without losing market shares. If there is now a generally increased acceptance for higher prices, it may mean that even companies that have not been affected so much by increased costs and the effects of the pandemic will raise their prices. This can in turn be a sign of changed price-setting behaviour and ultimately changed wage formation behaviour, and will then become a central issue for monetary policy.

In this article, we also discuss the development of more long-term inflation expectations and whether there is any tendency towards wages having been affected. This kind of delayed effect, in which higher inflation expectations in turn generate higher prices and wages via higher marginal costs, is usually called a *secondary effect*.

Pricing of goods and services according to theory

Theoretically, corporate pricing of goods and services is determined by marginal costs and mark-ups. *Marginal costs*, which measure the cost of producing one further unit of a manufactured item, can be explained by the price of production factors and are therefore affected by wages, capital costs (such as rent and costs for machinery) and prices for input goods.[26] *Mark-ups*, which usually depend on the competition and demand situation, capture companies' need and opportunity to set a price higher than the production cost to obtain a return on invested capital.[27]

Last year, many companies in various sectors stated that costs had risen gradually. According to the responses to the Riksbank's Business Survey in September, this was due to rising prices on energy and input goods and to sharply rising costs for transport, warehousing and logistics.[28]

In 2021, the Riksbank assessed that consumer prices would be affected by factors such as *indirect effects* of the higher costs and that inflation would rise, particularly in 2022.[29] In particular, prices for food and other goods were expected to rise faster, as were prices for some services. However, developments have been significantly faster and the price increases have spread more than expected. If costs continue to increase rapidly, inflation will probably be pushed up even further. However, given that prices of many commodities and deliveries have stabilised, it is reasonable to expect that several cost increases will gradually wane. One important factor for the development of inflation in the long run will thus be domestic cost domestic cost development and companies' expectations of the general price situation.

Service prices have risen rapidly in recent months

More expensive input goods and higher freight costs should not affect the service sector as directly as other sectors, but according to the Riksbank's Business Surveys last year, service companies also saw rising costs and higher expected sales prices. This picture is also confirmed by statistics from the Economic Tendency Survey (see Figure 51).

According to the theoretical framework above, price rises can be explained by increasing costs and mark-ups in addition to costs. The price mark-up can be regarded in this context as a merger of the factors 'competition' and 'demand'. According to the bars in Figure 51, the price mark-up has become gradually more positive and attained its

[26] Productivity also affects marginal costs, as does the exchange rate. Fewer resources are needed to produce one more unit if productivity is high. If the krona is strong, Swedish companies pay less in Swedish kronor for imported input goods.

[27] For a discussion of corporate pricing, see the article "Cost developments and inflation" in *Monetary Policy Report*, July 2013, Sveriges Riksbank.

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

[29] One example of an indirect effect would be higher fuel costs leading to more expensive transport and thus to higher costs for all goods transported by road.

highest value during the first quarter of 2022. These survey responses thus indicate that service companies' price mark-ups are rising.

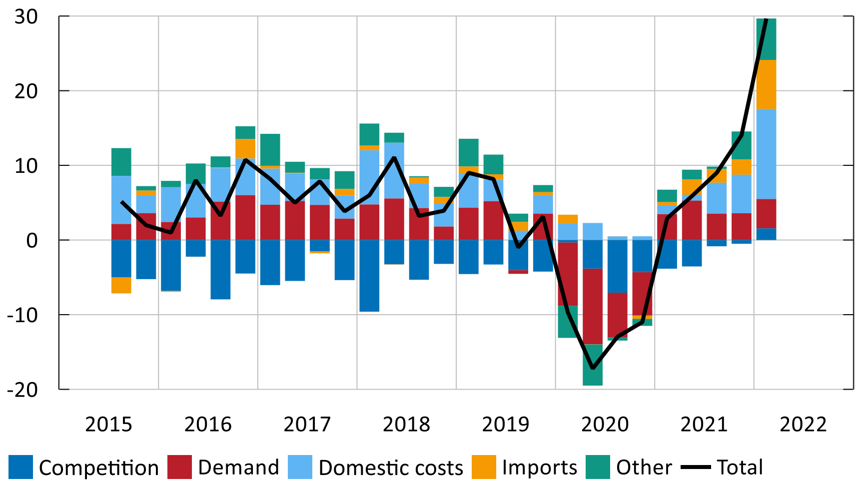
The rate of increase in Swedish service prices was low during 2020 as pandemic restrictions limited the demand for services. The rate of increase rose in 2021, partly due to many pandemic restrictions being lifted, and the demand for services rose quickly. This development has continued this year and according to the Riksbank's most recent Business Survey, sales of travel, restaurant visits and hotel nights are continuing to increase.[30]

However, what stands out most clearly in Figure 51 are factors that could be itemised under the term marginal costs. Domestic costs have always made a positive contribution but never as high as during the first quarter of 2022. According to the Riksbank's Business Survey, costs developments in the service sector are currently mainly affected by rising wages. This in turn is due to the shortage of labour and the tough competition for it. It is also probable that the service sector is experiencing higher operating costs and rents for premises as well as increased transport costs, although these posts generally comprise a smaller share of the service sector's production costs. The factor 'imported costs' has also risen rapidly and the weakening of the exchange rate may play a certain part in this.

The factor 'other' has also contributed to the higher prices, according to survey responses, which could be a sign that some prices are being raised without any direct link to higher costs or strong demand.

Figure 51. The driving forces behind price changes among companies in the service sectors

Net figures



Note. Companies in the service sector answer whether prices have risen or fallen in the most recent quarter and which factor has been the most significant price development driver.

Sources: The National Institute of Economic Research and the Riksbank.

[30] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

Is the high inflation also affecting sectors where costs have not increased?

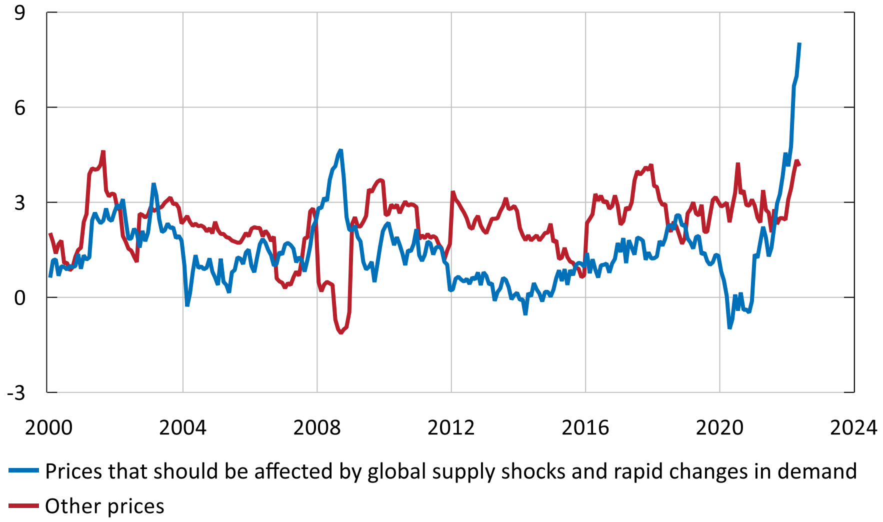
The issue is whether parts of the general rise in prices can be explained by other mechanisms than the direct and indirect effects of higher costs and more expensive input goods. Inflation has been low for many years and, in such an environment, it is difficult to raise prices without standing out, particularly when competition is also tough. Now that a number of prices have risen at the same time in different sectors, there may be a pent-up need to adjust prices upwards, even if this is not actually justifiable on the basis of higher costs.

Figure 52 shows an overall index of prices that has most likely been affected much by global supply shocks and rapid changes in demand in recent years. The figure also shows an index that includes prices that have probably been less affected by these factors. The latter index should therefore more closely capture domestic costs and price mark-ups. The prices are gathered from 70 sub-groups that together make up the CPIF. The first index (the blue line in the figure) includes all energy prices and food prices, as well as prices for most other goods. Some service prices have also been located to this group, including rent, travel, entertainment, accommodation and restaurant visits. These service prices are deemed to have been affected primarily by changes in demand due to earlier pandemic restrictions. The weight for these goods and services comprises almost 80 per cent of the CPIF. The other index (red line in the figure) includes most of the service prices and some goods prices, such as newspapers and pharmaceuticals, that are not assessed to have been affected as much by the international cost increase. The weight for these prices, which are also listed in table 1 below, amounts to just over 20 per cent in the CPIF.

The way they have been sorted is rather rough, but the figure nevertheless indicates that prices that are not directly related to higher costs and input prices are rising just now. This in turn indicates that the price increases are spreading.

Figure 52. Prices that should have been affected by higher international costs and other prices

Annual percentage change



Note. The weight for prices that should have been affected by recent years' higher costs, higher input prices and shifting demand amounts to 79.6 per cent. The weight for other prices amounts to 20.4 per cent.

Sources: Statistics Sweden and the Riksbank.

Table 1. Prices that should have been less affected by higher costs

Weight		Weight	
3.4	Capital stock index (housing)	0.7	Health and medical care items
2.8	Funerals, insurance, banking, education	0.7	Own housing: Site leasehold, property tax
2.1	Telecommunications services	0.6	Own housing: Repairs, goods
1.9	Vehicle inspection, driving lessons, vehicle insurance	0.5	Newspapers and magazines
1.8	Medical care	0.4	Books
1.5	Personal hygiene, services	0.4	Own housing: Insurance fees
1.1	Pharmaceuticals	0.4	Repairs, household services
1.0	Own housing: Water and sewerage, refuse collection	0.1	Mail
0.9	Dental fees		

Note. Weight refers to the weight in the CPIF in per cent. The total of these weights amounts to 20.4 per cent in the CPIF.

Sources: Statistics Sweden and the Riksbank.

The Riksbank follows price-setting and wage formation closely

There can be a tendency to now 'take the chance' to raise prices, as a price increase will not stand out in the same way as when inflation is low. One sign of this is that the profitability assessment by companies in the business sector has increased, according to the Economic Tendency Survey, and is at a high level. Despite costs having increased rapidly for many companies, they have nevertheless increased their profitability by passing on the cost increases, and more than that, to the consumers. If it continues, this behaviour could prolong the period of high inflation.

The upturn in more long-term inflation expectations, according to Kantar Sifo's Prospera survey, is clear but as yet there are no concrete signs of rapidly rising wages in the statistics. According to the Riksbank's Business Survey, come companies testify to rising payroll costs and say that job seekers are now trying to get higher salaries on employment as compensation for the higher inflation. This may be a first sign of secondary effects, and that price-setting and wage formation have been affected.[31] The Riksbank's forecast assumes that negotiations between employer organisations and employee organisations, together with local wage formation, will result in wages increasing slightly faster than in recent years, but that the secondary effects on wage formation will be limited.

If inflation becomes entrenched in price-setting and wage formation, the period of high inflation will be prolonged. This makes it more difficult for households and companies to plan, which can dampen investment and growth in the long run. It could also mean that monetary policy needs to be tightened further. How inflation develops in the slightly longer term largely depends on how the inflation expectations of companies and households are affected. And this in turn depends on how monetary policy is designed. The Riksbank regularly analyses how price-setting and wage formation are developing and will adapt its monetary policy to bring inflation close to the target.

[31] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

ARTICLE – Labour shortages and higher wage pressures abroad

In many countries the spare capacity in the labour market has declined rapidly over the past year. Demand for labour has increased, which has entailed higher employment rates and lower unemployment. An increasing share of companies are reporting labour shortages and the number of job openings is at present high in relation to the number of unemployed.

Wages often rise faster when there is competition for labour. In addition, employees can require compensation for today's unusually high inflation. Wages are already rising rapidly in both the United States and the United Kingdom, and there are also signs of somewhat higher wage increases going forward in the euro area, including in Germany. Wage formation abroad affects inflation abroad and Swedish inflation via imported goods and services. For the parties in the manufacturing industry, which set the benchmark for wage increases in the Swedish labour market, wage increases in competing countries are important prior to the autumn's wage bargaining rounds. Wage formation is important for how inflation develops and thereby for monetary policy. Going forward, wage growth in Sweden is expected to be a good 3 per cent a year. This is somewhat higher than that in recent years, but is compatible with close-to-target inflation in the long run.

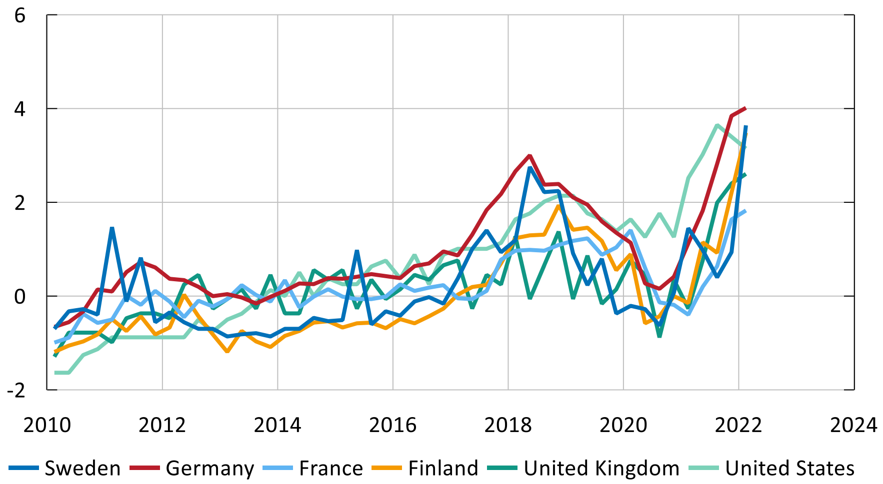
Little spare capacity in the labour market

Over the past year, spare capacity in the labour market has declined rapidly in many countries. The demand for labour has risen, and an increasing number of companies are reporting that it is difficult to get hold of labour (see Figure 53). In Germany, labour shortages have increased very rapidly and never been as high as they are now, and in the United States, around half of the companies state that they have not succeeded in filling their vacancies. The labour shortages are relatively widespread and are not concentrated to certain industries. In some countries, such as the United States and United Kingdom, it has been particularly difficult to get hold of staff for low-paid and contact-intensive jobs, for instance in the retail, hotel and restaurant industries.[32] In addition, in the United Kingdom, the shortages are reinforced by Brexit having made the large European labour pool less accessible.[33]

When demand for labour is high and there are plenty of job openings, employees' negotiating strength increases and it is easier to advance to better jobs. It then becomes more difficult to recruit to the least attractive jobs. Moreover, there can be lingering effects from the coronavirus crisis, that have aggravated labour shortages in some industries, for instance due to many people changing industry and some groups not having returned to the labour market yet.

Figure 53. Share of companies reporting labour shortage

Standardised data, mean = 0, standard deviation = 1



Note. United States: percentage of small companies (private sector) stating that they have not succeeded in filling vacancies. United Kingdom: percentage of companies in the manufacturing industry stating shortage of skilled labour as an obstacle to production. EU countries: percentage of companies in the manufacturing industry stating shortage of labour as limiting production. For Sweden, the time series break in 2021 Q4 may entail an overestimate.

Sources: Confederation of British Industry, European Commission, National Institute of Economic Research and National Federation of Independent Business.

A common measure of labour market tightness is the number of job openings in relation to the number of unemployed. The changes should be interpreted with some caution over the longer run, as digitalisation has made it easier and cheaper to advertise.[34] However, over the past year the number of job openings has increased substantially at the same time as the number of unemployed has declined and the ratio is now at a very high level in many countries (see Figure 54). An additional sign that there is little spare capacity in the labour market is that the core employment rate (25–54 years) has risen and, in most countries, is now as high as, or higher than, before the pandemic. Employment has essentially recovered in the industries that were

[32] See, for example, R. Duval, Y. Ji, L. Li, M. Oikonomou, C. Pizzinelli, I. Shibata, A. Sozzi and M. Tavares (2022), "Labor Market Tightness in Advanced Economies", IMF Staff discussion note 2022/001.

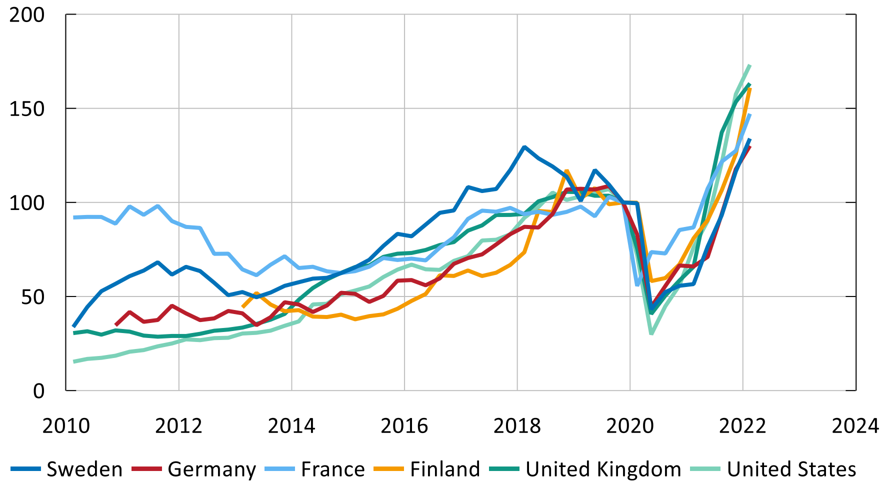
[33] See, for example, A. S. Pose and L. Rengifo-Keller (2022), "Brexit is driving inflation higher in the UK than its European peer after identical supply shocks", PIIE.

[34] The fact that it has become easier and cheaper to advertise job openings contributes to an increasing trend in the vacancy rates, which makes it more difficult to make comparisons far back in time. Changes in the unemployment statistics may also have affected the measure.

hit hard during the coronavirus crisis, such as hotels, restaurants and other contact-intensive service industries. But, employment has risen and the number of job openings has increased in other industries too, such as the manufacturing industry. Also, the core labour force participation rate has recovered in most countries. However, looking at the total labour force, the participation rate is still lower in some countries and this contributes to the labour market tightness. This applies, for instance, to the United Kingdom, United States and Germany.

Figure 54. Number of job openings in relation to number of job seekers

Index, 2019 Q4 = 100



Sources: Eurostat, Statistics Sweden, U.K. Office for National Statistics and U.S. Bureau of Labor Statistics.

Both the labour market situation and institutional factors affect how wages develop

In a labour market where there is little spare capacity, wages tend to rise faster, as the competition for labour is great.[35] Mobility in the labour market may also be important for the development of wages as new employees' salaries are often affected the most by the business cycle.[36] Both in the United States and the United Kingdom, the number of people leaving their jobs voluntarily has risen to historically high levels, which indicates considerable mobility in the labour market. Wages also rise much more among those who change jobs.[37] At the aggregate level, it does not appear that those who changed employer in Sweden at the start of 2022 are receiving much

[35] In aggregate wage statistics this is not always clear, as the composition of the jobs and the employed varies over the business cycle and resource utilisation differs between different industries and regions.

[36] See, for example, M. Carlsson, I. Häkkinen Skans and O. Nordström Skans (2019), "Wage Flexibility in a Unionized Economy with Stable Wage Dispersion", *IZA DP* No 12093, and A. Carneiro, P. Guimarães and P. Portugal (2012), "Real Wages and the Business Cycle: Accounting for Worker, Firm, and Job Title Heterogeneity", *American Economic Journal: Macroeconomics* 4 (2).

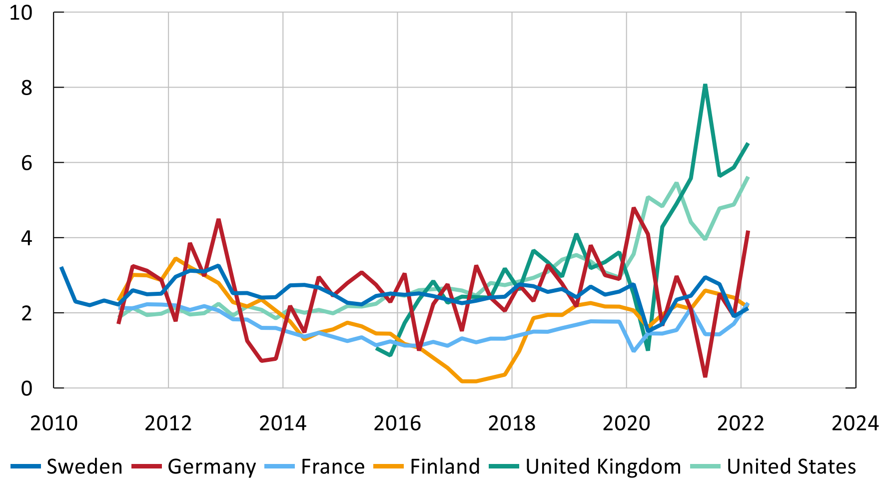
[37] According to Atlanta Fed's Wage Growth Tracker, the median salary in the United States rose by 6 per cent in May for those who have changed job, compared with 4.5 per cent for those who have not done so.

higher wage increases than those who changed employer in 2019.[38] However, some companies state in the Riksbank's Business Survey that new employees are now entering the workplace on higher salary levels.[39]

How quickly and how much the tight labour market will affect wages is to some extent due to institutional factors with regard to wage formation. In countries where wages are set directly in negotiations between employers and employees, such as in the United States and United Kingdom, wage-setting is more flexible and wages can therefore vary more than in countries where wage formation is centralised to a larger degree, such as in many European countries, including Sweden. In the United States and the United Kingdom, wages have overall also increased at a rapid pace (see Figure 55). Inflation has been high for a long time in these countries, which may have led to even higher wage demands. Wage cost increases can in turn have a greater impact on inflation when it is already high, particularly if inflation expectations are not anchored.[40] This increases the risk of wage-price spiral and is the reason why monetary policy needs to react. Central banks have now begun to tighten monetary policy. This reduces the risk of the high inflation becoming entrenched in price setting and wage formation.

Figure 55. Wage growth in selected countries

Annual percentage change



Note. NMO wages for Sweden, monthly or hourly wages for others.

Sources: French Ministry of Labour, Swedish National Mediation Office, Statistics Finland, Federal Statistical Office of Germany, U.K. Office for National Statistics and U.S. Bureau of Labor Statistics.

In the EU countries, inflation has not been high for as long, and wage growth does not appear to be as high there (see Figure 55). But there are indications that wages are

[38] According to calculations based on data from employers' tax returns at individual level until the end of March, made by Statistics Sweden on behalf of the Riksbank. See also Chapter 3.

[39] See "Everyone is talking about the problems, no one about how well things are going", *The Riksbank's Business Survey*, May 2022, Sveriges Riksbank.

[40] See, for example, E. Bobeica, M. Ciccarelli and I. Vansteenkiste (2020), "The link between labor cost inflation and price inflation in the Euro Area" i G. Castex, J. Galí and D. Saravia (ed.), *Changing Inflation Dynamics, Evolving Monetary Policy*, edition 1, volume 27, chapter 4, Central Bank of Chile.

now beginning to rise faster in the euro area too, although not as rapidly as in the United States and United Kingdom. The ECB's indicator for agreed wages pointed during the first quarter of this year to almost 3 per cent wage increases for the euro area as a whole (see Figure 56). However, the high inflation is expected to lead to higher total wage increases. Going forward, the Riksbank's forecast is that wages in the euro area will rise by around 4 per cent a year.

International developments affect Swedish wage formation

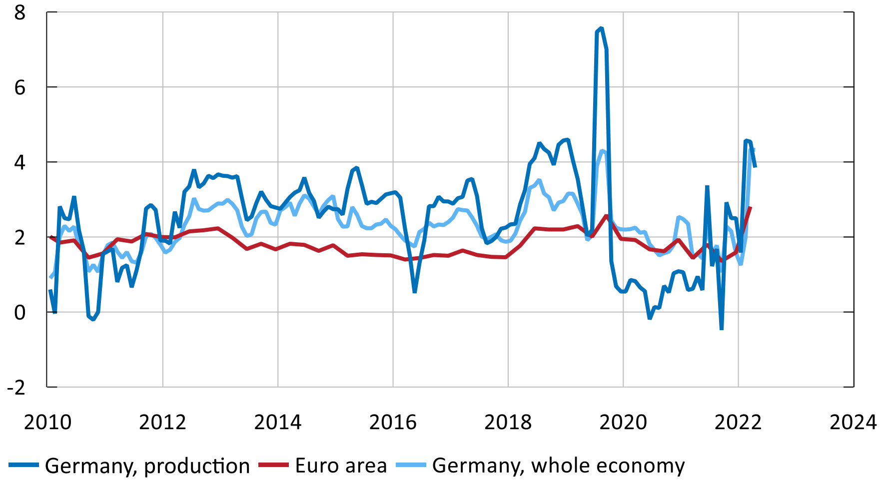
How payroll costs in competitor countries develop is important for collective bargaining in the Swedish industrial sector. It is therefore interesting to follow how wages develop abroad. In Germany, recent agreements in both the manufacturing industry and service industries have been higher than before (see Figure 56). Wage expectations have also risen. Germany intends to also raise minimum wages by a total of 20 per cent this year, to EUR 12 per hour. Around six million Germans are directly affected by the increase in minimum wages, but this may also lead to demands to further increase agreed wages that are just above the minimum level.[41] The negotiations for IG Metall (trade union for industrial and metalworkers) in the steel industry in north-west Germany concluded in an agreement giving 6.5 per cent wage increases over 18 months, corresponding to 4.3 per cent at an annual rate, plus a one-off payment of EUR 500. This is the highest agreed wage increase in the German steel industry for 30 years.

In Sweden, the current Industrial Agreement applies until March 2023, and the trade unions in the manufacturing industry will stipulate their wage demands later in the autumn. The centrally agreed wage increases in the labour market as a whole usually follow the manufacturing industry´s benchmark. Total wage increases are also affected by local wage negotiations, where the high inflation and the strong labour market are expected to lead to somewhat higher increases than in recent years. Wage growth is important to the development of inflation and thereby for the formation of monetary policy. The tighter monetary policy will contribute to lower resource utilisation in the labour market going forward and wages in Sweden are expected to increase by a good 3 per cent a year. This rate of wage growth is somewhat higher than that in recent years, but is compatible with close-to-target inflation in the long run.

[41] See G. Koester and G. Wittekopf (2022), "Minimum wages and their role for euro area wage growth", *ECB Economic bulletin* 3/2022. The United Kingdom and France also raised minimum wages by a relatively large amount this year, almost 7 per cent and 6 per cent respectively. In France, the minimum wage is linked to inflation and average real wage developments.

Figure 56. Centrally agreed wage increases

Annual percentage change



Note. Euro area: quarterly data agreed rate of wage growth including one-off payments. Germany: monthly data agreed rate of wage growth including one-off payments (3 month moving average).

Sources: Deutsche Bundesbank and ECB.

Forecast tables

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

Table 1. Policy rate forecast

Per cent, quarterly averages

	2022Q1	2022Q2	2022Q3	2023Q2	2024Q2	2025Q2
Policy rate	0,00 (0,00)	0,16 (0,16)	0,76 (0,51)	1,90 (1,18)	1,99 (1,57)	2,06 (1,81)

Source: The Riksbank.

Table 2. Inflation

Annual percentage change, annual average

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

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

Sources: Statistics Sweden and the Riksbank.

Table 3. GDP and demand

Annual percentage change unless otherwise specified

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

* 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, unless otherwise stated

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

*Per cent of labour force
**Deviation from the Riksbank's assessed potential levels, in per cent

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

* 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 forecasts

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)	5,3 (5,4)	2,9 (2,9)	1,7 (2,4)	1,7 (1,9)
United States	0,16	0,09	−3,4 (−3,4)	5,7 (5,7)	2,5 (3,2)	1,6 (2,0)	1,5 (1,7)
China	0,19	0,09	1,7 (1,7)	8,5 (8,5)	4,0 (4,4)	5,2 (5,1)	5,1 (5,1)
KIX weighted	0,75	1,00	−4,8 (−4,8)	5,6 (5,4)	2,7 (2,9)	2,0 (2,5)	2,2 (2,3)
The World (PPP)	1,00	—	−3,1 (−3,1)	6,1 (6,1)	3,3 (3,7)	3,3 (3,4)	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 (2,6)	7,3 (6,8)	3,2 (2,7)	2,0 (2,0)
United States	1,2 (1,2)	4,7 (4,7)	7,8 (7,4)	3,6 (3,2)	2,4 (2,5)
KIX weighted	1,1 (1,1)	3,1 (2,7)	7,0 (5,9)	3,3 (2,9)	2,3 (2,2)

	2020	2021	2022	2023	2024
International policy rate, per cent	−0,3 (−0,3)	−0,3 (−0,3)	0,3 (0,0)	2,0 (0,9)	2,0 (1,5)
Crude oil price, USD/barrel Brent	43,3 (43,3)	70,7 (70,7)	109,2 (102,4)	100,8 (93,3)	89,6 (85,8)
Swedish export market	−8,0 (−8,1)	9,1 (9,1)	6,4 (6,7)	3,4 (4,2)	3,7 (3,9)

Note. The policy rate abroad is an aggregate of rates in the US, the euro area, Norway and the United Kingdom. In the euro area, the overnight rate ESTR has replaced EONIA as the reference rate since 1 January 2022.

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
The Riksbank's policy rate	0,0 (0,0)	0,0 (0,0)	0,6 (0,4)	1,9 (1,2)	2,0 (1,6)
10-year rate	0,0 (0,0)	0,3 (0,3)	1,5 (1,4)	2,2 (1,9)	2,4 (2,2)
Exchange rate, KIX, 18 Nov 1992 = 100	118,5 (118,5)	114,3 (114,3)	119,7 (117,8)	119,8 (116,8)	118,2 (115,5)
General government net lending*	−2,7 (−2,7)	−0,3 (−0,2)	−0,1 (−0,2)	−0,1 (0,3)	−0,3 (0,2)

* Per cent of GDP

Note. Outcome and forecast for general government net lending are based on EDP statistics published at the end of March by Statistics Sweden.

Sources: Statistics Sweden and the Riksbank.

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