Monetary Policy Report

November 2022

Rectification 14 December 2022

Correction of subheading Figures 27 and 43 and the titles in footnotes 19 and 20.

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 23 November 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, 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 November 2022

To bring down inflation and safeguard the inflation target, the **Executive Board has decided to raise the Riksbank's policy rate** by 0.75 percentage points to 2.5 per cent.

Inflation is still far too high. In October CPIF inflation was 9.3 per cent. This was **slightly below the Riksbank's forecast in September**, which is entirely due to **energy prices being lower than expected. Excluding energy prices, inflation was instead higher than expected**. There is still a substantial risk that the current high inflation will become embedded in expectations of households, companies, financial market agents and others. A high rate of inflation over a long time can create serious problems. Monetary policy therefore needs to act to enable inflation to fall back and stabilise around the target of 2 per cent within a reasonable time. The Executive Board thereby assesses that **the policy rate needs to be raised more** than in its assessment in September.

The Riksbank needs to cool off the economy so that inflation returns to the target. Rising prices and higher interest costs are certainly noticeable for households and companies. However, it would be even more noticeable for the Swedish economy if inflation were to remain at the current high level. By **raising the policy rate more now,** the Riksbank **can reduce the risk that inflation will remain high for a long time.** This will also **reduce the risk of even greater monetary policy tightening later on**. With this monetary policy, inflation is expected to fall back next year and to stabilise close to 2 per cent in 2024.

The forecast shows that **the policy rate will probably be raised further at the beginning of next year** and then be just below 3 per cent. However, the development of inflation going forward is still difficult to assess and the Riksbank will adapt monetary policy as necessary to ensure that inflation is brought back to the target within a reasonable time.

1 Higher policy rate to bring down inflation

High demand, combined with various supply disturbances has pushed up the rate of price increase in the global economy. To bring down the high inflation, central banks around the world have raised their policy rates over the past year and communicated that they intend to continue to do so for some time to come. This has contributed to the imbalances between supply and demand having declined, which indicates that price and cost increases will dampen and inflation in the global economy will fall back.

In Sweden, too, inflation is still far too high. In October, CPIF inflation was 9.3 per cent. While this was somewhat below the Riksbank's forecast in September, when the energy component is excluded inflation has actually been unexpectedly high, just as in our neighbouring area. This indicates that inflationary pressures are somewhat higher than the Riksbank had assumed. The risk that the current high inflation will become entrenched is still substantial, and it is very important that monetary policy acts to ensure inflation falls back and stabilises around the target of 2 per cent within a reasonable time.

The Executive Board assesses that monetary policy needs to be tightened more than was anticipated in September to bring inflation back to the target. To bring down inflation and safeguard the inflation target, the Executive Board has decided to raise the Riksbank's policy rate by 0.75 percentage points to 2.5 per cent. The forecast indicates that the policy rate will probably be raised further at the beginning of next year, to then be just below 3 per cent. The higher policy rate underlines the fact that the Riksbank will ensure that inflation returns to the target level within a reasonable period of time.

As the Riksbank is raising the policy rate more now, the risk of high inflation for a long time is reduced, as is the risk of an even greater monetary tightening further ahead. From the start of next year, the Riksbank will allow its holdings of securities to decrease in line with maturities.

1.1 High global inflation and rising interest rates

Increasingly tight financial conditions

Demand in the global economy is now slowing down after having been high earlier this year. Despite weaker growth in many countries, the labour markets have developed strongly. This applies not least to the United States and the euro area, where unemployment is very low. Combined with various supply shocks that have in recent years pushed up world market prices on many commodities, input goods, energy, food and transports, this has meant that global inflation has risen to very high levels. And as demand has been high, it has been unusually easy for companies to pass on their increased production costs to consumer prices.

Over the past year, central banks around the world have raised their policy rates to bring down the high inflation and they have communicated that they will continue to do so for some time to come (see Table 1 in Chapter 2). The global imbalances between supply and demand have declined, and commodity and freight prices have fallen, which on the whole indicates that price and cost increases will slow down and inflation in the global economy will fall back.

The war in Ukraine, the high inflation and rising interest rates create uncertainty and volatility on the financial markets. Market participants expect increasingly higher policy rates both in Sweden and abroad and this has caused bond yields to rise. Since the start of the year, Swedish housing prices have also fallen. All in all, financial conditions in Sweden have tightened, even though the krona has weakened somewhat over the year. The transmission of the Riksbank's rate increases over the year has functioned roughly as usual, to both market rates and lending rates to households and companies.

Inflation in Sweden, which is a small, open economy, is affected by the international price increases. These can also have greater or lesser impact, depending on how the krona exchange rate develops.[2] However, the prices that are to a greater extent affected by demand in Sweden are also important.[3] Demand recovered rapidly after the pandemic and activity in the Swedish economy has been unexpectedly high so far this year, with a strong development on the labour market. The employment rate has risen and unemployment has fallen back and is at roughly the same level as prior to the pandemic. The good development in demand has meant that companies have to a large degree had the opportunity to pass on their cost increases to consumer prices and have in this way contributed to the broad upturn in prices.

Stable long-term expectations of future inflation

Inflation in Sweden has risen rapidly to a very high level, which we have not seen since the beginning of the 1990s, when the inflation target was introduced, but the

[2] See also the article "The significance of the krona for inflation" in the Account of Monetary Policy 2018, Sveriges Riksbank.

[3] See also the article "What indicates that inflation will fall back next year?" in Monetary Policy Report, September 2022, Sveriges Riksbank.

long-term inflation expectations have remained stable. Although inflation is expected to fall back during 2023, it will still be at a level next year that exceeds the Riksbank's inflation target. Various measures of inflation expectations in the short term have remained high during the autumn, although the most recent outcome shows that expectations for 2 years ahead have declined. The Riksbank assesses that inflation will remain just below 10 per cent for a further few months before falling back. However, the decline does not mean that most prices are expected to fall next year, but rather that they will continue to rise, albeit at a slower pace.

The fact that inflation is expected to fall comparatively rapidly next year is largely due to many of the shocks and imbalances that have pushed up inflation having waned now. Energy prices are not expected to continue rising to the same extent as over the past year. The pandemic-related supply problems have declined and demand is slowing down via tighter monetary policy around the world. This gives less upward pressure on prices and costs. It will both dampen companies' cost increases and make it more difficult to pass on their costs to consumer prices going forward.

The Riksbank is determined to bring down inflation. The speed at which this can be attained and the degree of monetary policy tightening this requires will depend, among other things, on what inflation expectations price-setters and wage negotiators base their actions on (see the article "Alternative scenarios for inflation and monetary policy"). According to more volatile market-based measures, long-term inflation expectations have subsided and are now clearly below 2 per cent (see Figure 1). Expectations 5 years ahead according to various surveys, have continued to remain relatively stable at just over 2 per cent. This indicates that economic agents expect inflation in the slightly longer term to be close to the inflation target.

Figure 1. Long-term inflation expectations

Per cent

Note. The market-based measure of inflation expectations refers to a 5-year period starting in 5 years' time, calculated on the basis of bond yields. Both market expectations and expectations from Prospera refer to the CPI.

Sources: Kantar Prospera and the Riksbank.

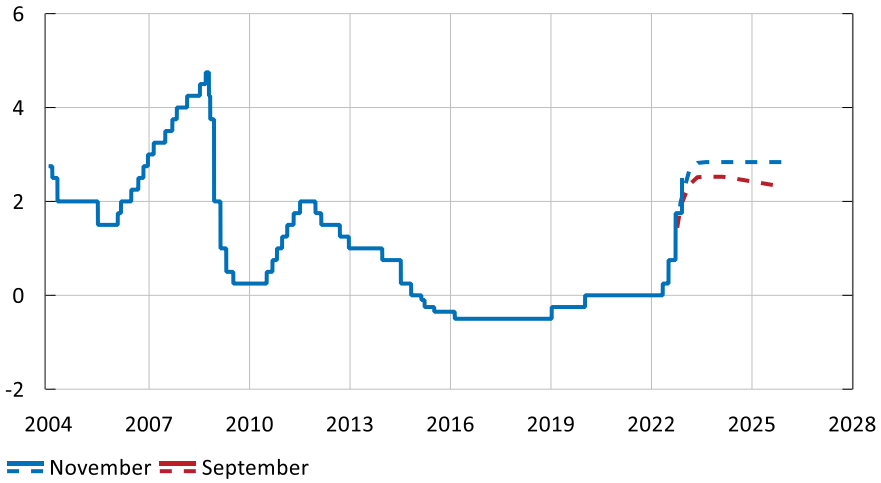
1.2 Monetary policy continues to be tightened

Policy rate raised by 0.75 percentage points to 2.5 per cent

To bring down inflation and safeguard the inflation target, the Executive Board has decided to raise the Riksbank's policy rate by 0.75 percentage points to 2.5 per cent. The forecast indicates that the policy rate will probably be raised further at the beginning of next year to then be just under 3 per cent (see Figure 2).

Figure 2. 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.

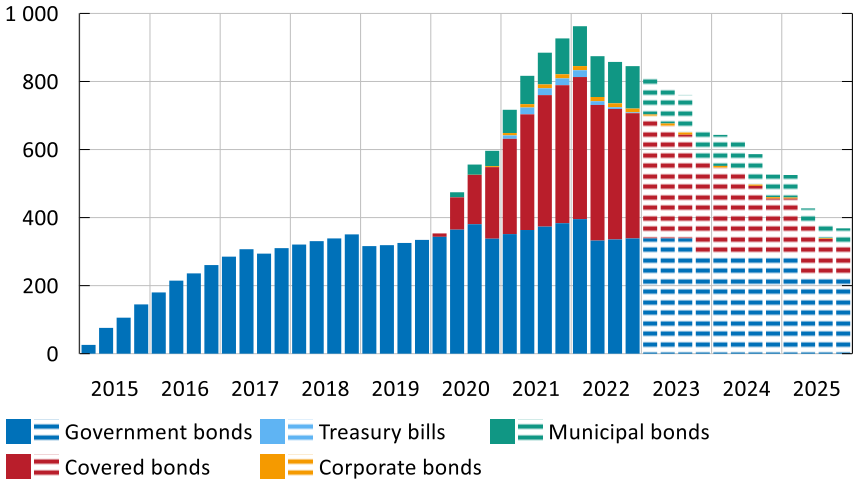
Source: The Riksbank.

Asset holdings more than halved the coming years

In addition to a higher policy rate, the Executive Board assesses it is also appropriate that the Riksbank's asset holdings in the coming years continue to decline as a part of the monetary policy tightening. The total maturities so far this year have been greater than the purchases decided by the Riksbank and the holdings have thus declined somewhat. The Riksbank's asset holdings as motivated for monetary policy purposes were around SEK 860 billion in mid-November. Purchases will cease at the end of the year and securities holdings will thereafter gradually decrease through maturities. The development means that the holdings are expected to decrease by almost SEK 490 billion, thus being more than halved by the end of 2025 (see Figure 3). A large part of these maturities, about SEK 290 billion, are in covered bonds, which have a shorter maturity than government bonds. Compared to Federal Reserve, ECB and Bank of England, the Riksbank's asset holdings as a share of GDP are fairly small and mature relatively quickly.

Figure 3. Riksbank's asset holdings

Nominal amounts, SEK billion



Note. The solid bars refer to executed and decided purchases, broken one to forecasts for the holdings. The forecast is based on no further asset purchases after 2022.

Source: The Riksbank.

Far too high inflation

An important explanation for consumer prices having risen so quickly around the world is the price increases on energy. The large upturns in energy prices have entailed a challenge for the shaping of monetary policy, as it has been difficult to assess to what extend they would spread and lead to broader price increases.[4] Since the monetary policy meeting in September, energy prices have fallen, which has also entailed lower CPIF inflation than in the Riksbank's forecast. Forward pricing for electricity indicates that energy prices will not be as high as was feared during the coming six months, and the forecast for CPIF inflation has therefore been revised down somewhat in the near term (see Figure 4). However, even taking this into account, inflation is far too high and the substantial fluctuations in energy prices underline the fact that developments going forward are uncertain (see the article "Alternative scenarios for inflation and monetary policy").

There are several signs that underlying inflationary pressures are higher than in the Riksbank's previous assessment. When the energy price component is excluded, inflation has become higher than expected and the forecast has been revised up. Inflation and wage increases in our neighbouring area have become higher than expected and demand in the Swedish economy has been high so far this year, at the same time as the Swedish krona has weakened. Companies' price plans have certainly dampened somewhat, but still include price increases that are larger than normal.

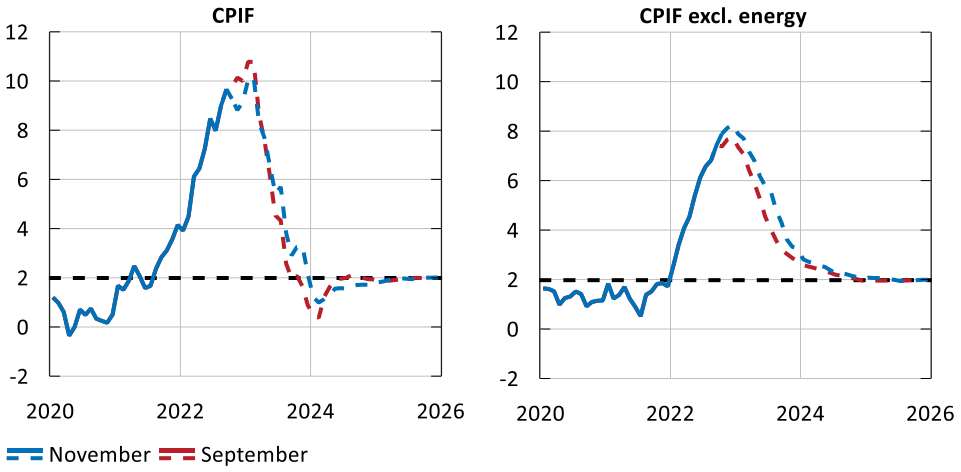
Given this, and as the risk that the high inflation will become entrenched still remains, the Executive Board assesses that the policy rate will need to be raised more than was

[4] 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.

assessed in September. In addition, the forecast for the policy rate has been revised up and indicates that the policy rate will probably be raised further at the beginning of next year to then be just under 3 per cent. The higher policy rate underlines the fact that the Riksbank will ensure that inflation returns to the target level within a reasonable period of time. By the Riksbank raising the policy rate more now, the risk of high inflation for a long time is reduced, as is the risk of an even greater monetary tightening further ahead.

Figure 4. The CPIF and the 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.

Monetary policy considerations

Inflation has risen rapidly during 2022, in a way that cannot be counteracted in the short term. But it is important that households and companies have confidence that deviations from the inflation target, particularly large ones, will not last too long. The target shall function as a benchmark for price-setting and wage-formation in the economy. When economic agents have a common picture of how prices will develop in the future, the uncertainty is reduced and it becomes easier to plan for the long term. This, in turn, improves the conditions for favourable economic development with good and stable growth.

In Sweden, there are institutional requisites in place to avoid protracted high inflation in the form of our frameworks for monetary policy, fiscal policy and wage formation.[5] When the economic-policy decision-makers and other agents act within the scope of these frameworks, and at the same time interact well with one another, there are good prospects for inflation being relatively quickly brought back to target and for the economy otherwise gradually being able to develop beneficially. The wage bargaining rounds have now begun in a challenging economic environment with high inflation

[5] See the article "The economic-policy framework facilitates a return to the target", *Monetary Policy Report,* September 2022, Sveriges Riksbank.

and declining economic activity. The parties have signalled that they have a long-term perspective and that they are assuming that inflation will be back on target relatively soon.

Inflation expectations that are firmly anchored and smoothly functioning price-setting and wage-formation are of central importance for monetary policy. The Riksbank will do what is required to bring down inflation, and in this way prevent a price-wage spiral arising. If inflation is too high for too long, the negative consequences for Sweden´s growth and labour market will be much greater.

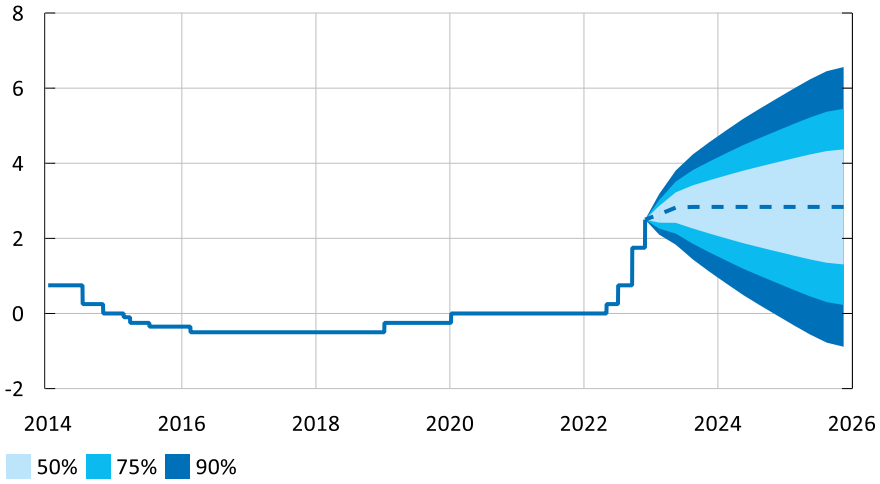
The Riksbank now needs to raise the policy rate for inflation to return to the target. It is difficult to assess the size of the cooling of the economy that is required to prevent the high inflation from becoming more protracted is difficult to assess and this needs to be continuously analysed. In an historical perspective, the policy rate is admittedly not particularly high, but nor has it ever been raised this quickly since the introduction of an inflation target. It is difficult to know how rapid the impact of monetary policy will be and how large the effects on the real economy and inflation will be. There are factors that indicate a faster impact. For instance, the high indebtedness among households and companies means that a change in interest rates will affect the real economy more and faster now than it would have done one or more decades ago.[6] Interest-rate sensitivity also means that rising interest rates can have major real economic effects through falling housing prices reducing households' ability to obtain loans.

It is difficult to assess beforehand how much the policy rate needs to be raised going forward for inflation to return to the target in a reasonable time perspective. The uncertainty is illustrated in Figure 5 with an interval around the forecast for the policy rate. With the planned monetary policy the real interest rate will become higher (see Figure 31).

[6] See the article "Higher sensitivity to interest rates in the Swedish economy" in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

Figure 5. 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.

Easier to dampen inflation when the interaction between different policy areas works well

The current high inflation undermines households' purchasing power and makes it difficult for both companies and households to plan their finances. The situation entails a risk for conflicts of interest between monetary policy and fiscal policy.

The Riksbank's task is to bring inflation back to the target and to prevent the high inflation being embedded into the expectations of economic agents. Fiscal policy has other objectives and means and fiscal policy decisions about measures can lead to monetary policy needing to be tightened even further to safeguard the inflation target. However, with good interaction between the policy areas, the short-term socio-economic costs of bringing inflation back to the target can be kept down.

The Riksbank assesses that the size of unfinanced measures in the budget presented by the Government on 8 November, even including the high-cost protection to compensate households and companies for high electricity prices, is in line with normal fiscal policy, given the economic situation and has not tangibly altered the Riksbank's forecasts.

The effects of higher prices, higher interest rates and weaker economic activity affect households and companies in different ways. However, fiscal policy has the possibility to aim support measures at groups that are particularly hard hit, without this needing to create any major conflict of objectives with regard to monetary policy. Targeted labour market measures can, for instance, slow down the upturn in unemployment without having any significant effects on wages and prices.

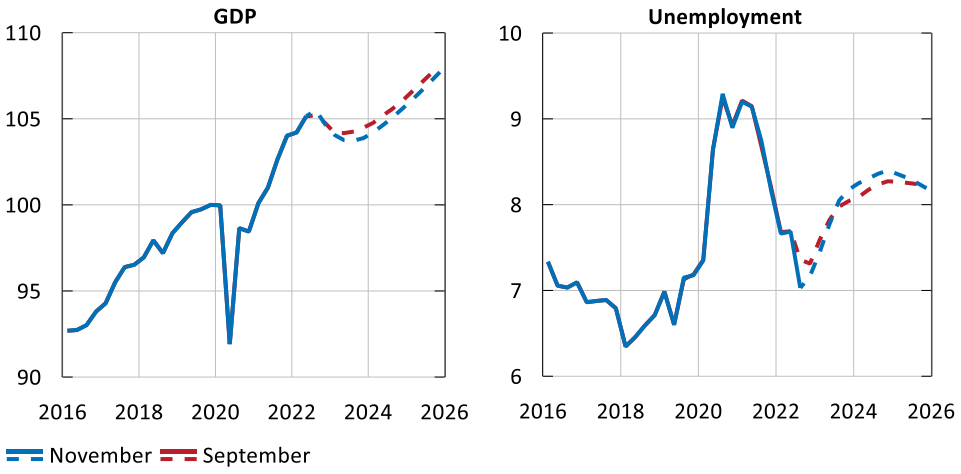
Higher policy rate will contribute to inflation close to 2 per cent in 2024

Rising prices and interest rates will now make demand slow down noticeably. It is, above all, households that are reducing their demand. Indicators point to consumption having begun to fall already, and it is expected to continue falling next year as households' real disposable incomes dampens. Housing prices are falling and this reinforces the economic slowdown, primarily because housing investment is falling. Policy rates are also rising faster abroad and slowing down international economic activity, which means that Swedish exports develop more weakly. GDP is expected to shrink in 2023, which is visible in the labour market, where the employment rate is falling and unemployment is rising.

With the monetary policy pursued, inflation is expected to fall back next year and to stabilise close to 2 per cent in 2024. Compared with the assessment in September, a somewhat greater cooling down of the economy is now needed, with lower GDP growth and higher unemployment as a consequence (see Figure 6). Resource utilisation is expected to be lower than normal, but to recover in 2025, when GDP growth recovers. Then there is also expected to be less uncertainty in the world economy, policy rates that are no longer being raised, a faster increase in real wages and an upturn on the housing market. This will contribute to a more rapid increase in household demand.

Figure 6. GDP and unemployment 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.

1.3 Several factors make the forecasts uncertain

There are several factors that make it difficult to determine how the development of economic activity abroad and in Sweden will look. Ultimately, these can also affect Swedish inflation prospects and the Riksbank's monetary policy. The uncertainty regarding monetary policy is illustrated in Figure 5.

The development of the war in Ukraine – and its economic effects – is still very uncertain. One effect of the war is the disruptions to the energy markets in Europe, with sharply rising electricity prices. Even if the prices have fallen back recently, developments going forward are very difficult to predict, and they can be either higher or lower than the Riksbank's forecast.

Another uncertainty regarding the economic outlook is how economies are affected when the central banks raise their policy rates quite a lot and quickly. Demand could slow down more than expected, so that growth becomes lower than in the Riksbank´s forecast. Interest-rate sensitivity is higher than before in the Swedish economy, and there is considerable uncertainty regarding the way that heavily indebted households in Sweden will be affected by rising interest rates. If such a scenario also entails inflation falling back faster than expected, monetary policy would become more expansionary than is now assumed in the forecast.

Developments on the Swedish housing market comprise a risk for domestic demand in the coming years. Housing prices have already fallen substantially from the peak at the beginning of the year. The Riksbank's forecast is that they will continue to fall in the coming years, to around the level prevailing prior to the pandemic. However, there is a risk that the process of adapting will be more abrupt and that housing prices will fall more than is being assumed now. This could cause both housing investment and household consumption, and thereby also inflation, to develop more weakly than in the forecast.

There are many indications that inflation will relatively soon begin to fall back towards the target. However, there is considerable uncertainty, among other things because of the geopolitical developments and the situation on the energy market. The krona exchange rate comprises a further uncertainty factor. Over the year, the krona has weakened, which is probably largely connected to the difficulty in predicting the outlook for inflation and economic activity (see the article "Why has the krona weakened this year?"). Going forward, the krona is expected to appreciate, but there is always considerable uncertainty regarding exchange rate forecasts. At the same time, it is worth pointing out that the krona´s exchange rate has not had a crucial bearing on the sharply rising inflation this year and it is not expected to have any decisive effect on the clear fall in inflation next year. If the krona appreciation in the current forecast does not occur, however, it may be somewhat more difficult to bring inflation down to the target.

2 Rising interest rates and considerable uncertainty on the financial markets

The high rate of inflation is continuing to characterise developments in the financial markets in Sweden and abroad. Uncertainty over the future development of inflation, interest rates and other financial prices remains high, which has contributed to yield spreads between more and less high-risk assets having increased since the start of the year. To bring inflation down, the central banks have raised their policy rates and signalled further raises in the period ahead. Overall, the financial conditions both in Sweden and abroad have become tighter.

The transmission of the Riksbank's monetary policy is functioning well. Since the start of the year, lending rates to households and companies have risen approximately in line with the policy rate rises and the signals of continued rises. Several measures of long-term inflation expectations in Sweden are close to but slightly above the inflation target of two per cent. The krona is roughly unchanged since the publication of the Monetary Policy Report in September, but remains weaker than at the start of the year.

2.1 Higher policy rates in Sweden and abroad

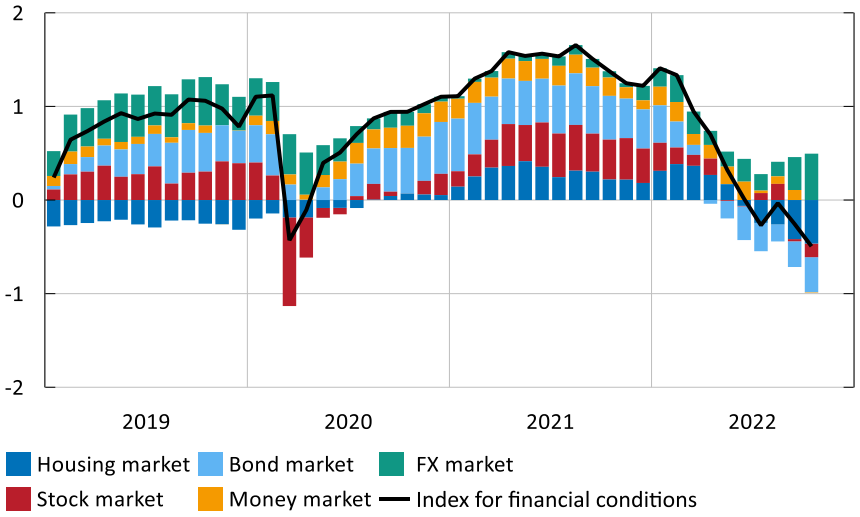
Inflation and short-term inflation expectations remain at high levels and central banks around the world are continuing to tighten monetary policy. Both policy rates and market rates are now significantly higher than at the start of the year. It remains very uncertain how inflation will develop in the period ahead, how central banks will react and how the tighter monetary policy will affect economic developments. Over the year, this has led to high volatility on the financial markets.

Since the start of the year, the krona has weakened by just over six per cent, as measured by the KIX. This has helped strengthen competitiveness for Swedish export companies, but has also contributed to rising purchase prices for Swedish import companies. Since the start of the year, lending rates to households and companies have risen – approximately in line with increases in the policy rate and the signals of continued increases. Over the same period, housing prices have fallen by about 11 per cent.[7] Overall, this has led to a continued tightening of the financial conditions in Sweden (see Figure 7).

[7] According to Valueguard HOX index.

Figure 7. Index for financial conditions in Sweden

Standard deviations. A higher value indicates more expansionary financial conditions



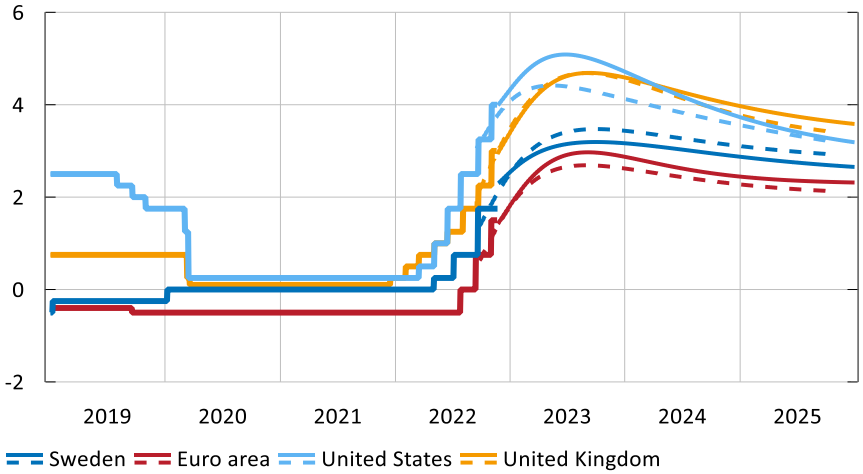
Source: The Riksbank.

The Central banks are continuing to tighten monetary policy

Like the Riksbank, many central banks have raised their policy rates over the year and have signalled further raises going forward. Market participants expect policy rates to continue to be raised until mid-2023 (see Figure 8).

Figure 8. Policy rates and rate expectations according to market pricing

Per cent



Note. The figure shows policy rates and market-based expectations of future policy rates. Solid lines represent expectations 22 November 2022. Broken lines represent expectations immediately prior to the monetary policy meeting in September.

Sources: National central banks.

The Federal Reserve raised its policy rate by a total of 1.5 percentage points at its meetings in September and November, meaning that the interval for the policy rate is now 3.75–4 per cent (see Table 1). The European Central Bank (ECB) raised its policy rates by 0.75 percentage points at its meeting in October. The deposit rate is now

1.5 per cent. Both the Federal Reserve and the ECB are signalling continued policy rate hikes going forward, but emphasise that monetary policy will be adjusted to economic developments. The Bank of England raised its policy rate by a total of 1.25 percentage points, to 3 per cent, at its meetings in September and November.

Market pricing indicates that participants in the financial markets expect the US policy rate to be about 4.7 per cent, the ECB deposit rate to be about 2.9 per cent and the British bank rate to be about 4.6 per cent at the end of next year (see Figure 8).

Other central banks have also continued to raise their policy rates (see Table 1 and Figure 9). The Bank of Canada raised its policy rate by 0.5 percentage points in October and Norges Bank raised its policy rate by a total of 0.75 per cent at its meetings in September and November. Several central banks are also reducing their asset holdings. The Federal Reserve is allowing its holding to decline by up to USD 95 billion per month. The ECB will continue with reinvestments to compensate for maturing bonds under both the pandemic programme, PEPP, and the general programme, APP. However, at its meeting in October, the ECB signalled that it would announce principles for winding down the asset holdings in December. The Bank of England has begun selling off both government bonds and corporate bonds.

Table 1. Overview of the monetary policy conducted by a number of central banks

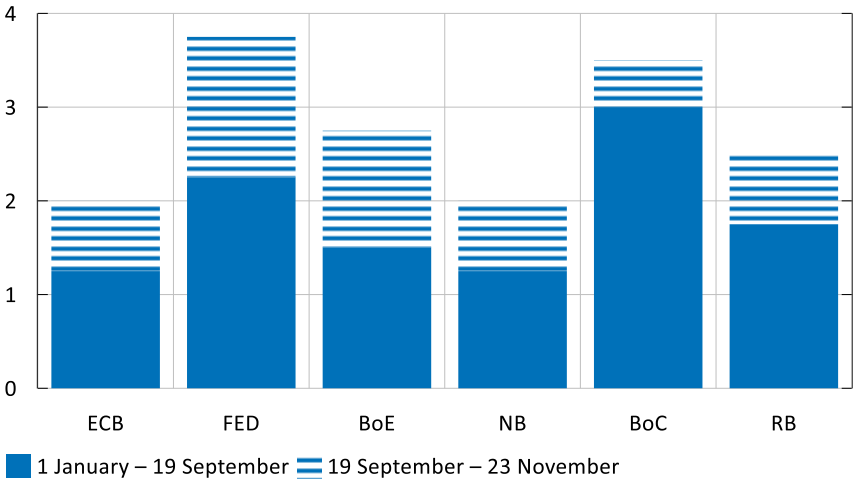
	Policy rate in January 2022	Current policy rate	Expected policy rate at end of 2022	Status of asset holdings
ECB	-0.5	1.50	1.8	Compensates fully for maturities
Fed	0-0.25	3.75-4.00	4.3	Partly compensating for principal payments
Bank of England	0.25	3.00	3.4	No compensatory purchases Begun sales in November
Norges Bank	0.50	2.50	2.8	-
Bank of Canada	0.25	3.75	4.1	No compensatory purchases
Riksbank	0	2.50	2.5	Partly compensating for principal payments

Note. Per cent. For the ECB, policy rate refers to the deposit rate. Expected policy rate according to market pricing, 22 November 2022. Norges Bank has not purchased assets for monetary policy purposes.

Sources: Bloomberg, National central banks and the Riksbank.

Figure 9. Different central banks' rate rises in 2022

Change in policy rate, percentage points



Note. The figure shows raises after 21 September, when the Riksbank's previous policy rate decision began to apply. The abbreviations refer to Norges Bank (NB), the Riksbank (RB), European Central Bank (ECB), Bank of England (BoE), Federal Reserve (FED) and the Bank of Canada (BoC).

Sources: National central banks and the Riksbank.

Higher interest rates on the money market since the spring

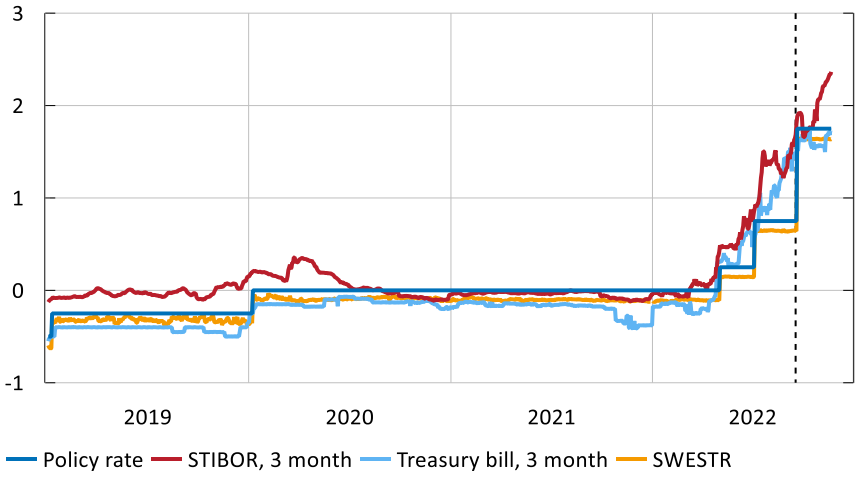
Market pricing indicates that the Riksbank is expected to raise the policy rate to around 3.2 per cent by the end of 2023 (see Figure 8). In Kantar Sifo's Prospera survey from November, money market participants expected, on average, a policy rate of about 2.7 per cent towards the end of 2023 and about 2.3 per cent towards the end of 2024.

Since the Riksbank started its policy rate hikes in April, the hikes have had an impact on short-term market interest rates in much the same way as during earlier periods of hikes in Sweden. The reference rate, SWESTR, has also risen and is now at the same level as the Riksbank's deposit rate (see Figure 10).[8] Over large parts of the year, the interbank rate with a maturity of three months (STIBOR 3M) has been higher than the policy rate, which can be explained by expectations that the policy rate will rise in the period ahead.

[8] 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 10. The Riksbank's policy rate and short-term 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 September.

Sources: Macrobond, Refinitiv and the Riksbank.

Yields on government bonds have risen over the year

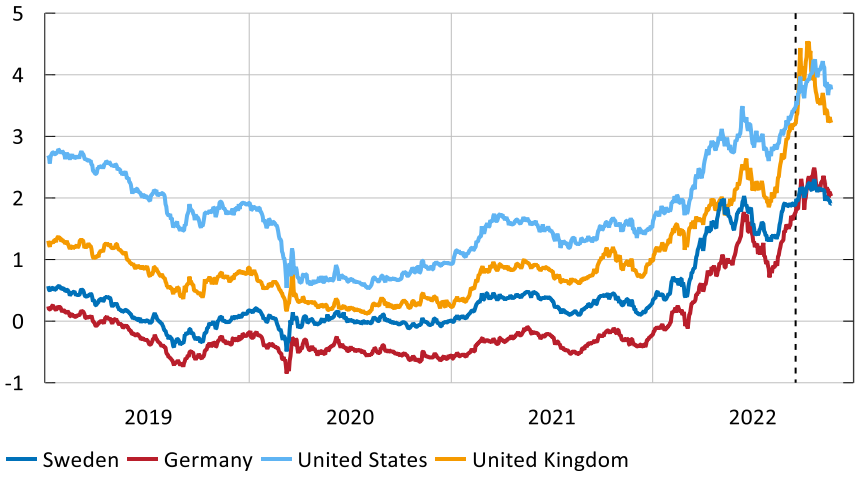
Nominal government bond yields have risen since the start of the year in many countries, including Sweden (see Figure 11). The underlying cause of this is that the central banks have raised their policy rates and market participants expect policy rates to remain high in the period ahead (see Figure 8). The volatility of the yields has also risen to high levels and reflects investors' uncertainty regarding their future development (see Figure 14). Government bond yields in many countries, including Sweden, have remained approximately unchanged since the monetary policy meeting in September. One exception is the United Kingdom, where yields have declined slightly after a few weeks of elevated rate levels (see Figure 11).

Since the start of the year, government bond yields in Sweden have risen less than market participants' expectations of average future yields with a short maturity (see Figure 12).[9] This is an expected pattern in times of heightened uncertainty, when investors tend to turn to safer assets.

[9] The expected short-term rates are measured with the aid of yields on so-called interest-rate swaps. An interest-rate swap is a financial contract that makes it possible for two parties to exchange interest flows during a fixed period. The swap rate reflects the market participants' expectations of what a given interbank rate (such as the STIBOR, 3 month) will be, on average, during the duration of the contract. This rate therefore mainly reflects expectations of the policy rate. It is also affected by the banking system's credit risk, which however in normal times is very low.

Figure 11. Yields on 10-year government bonds

Per cent

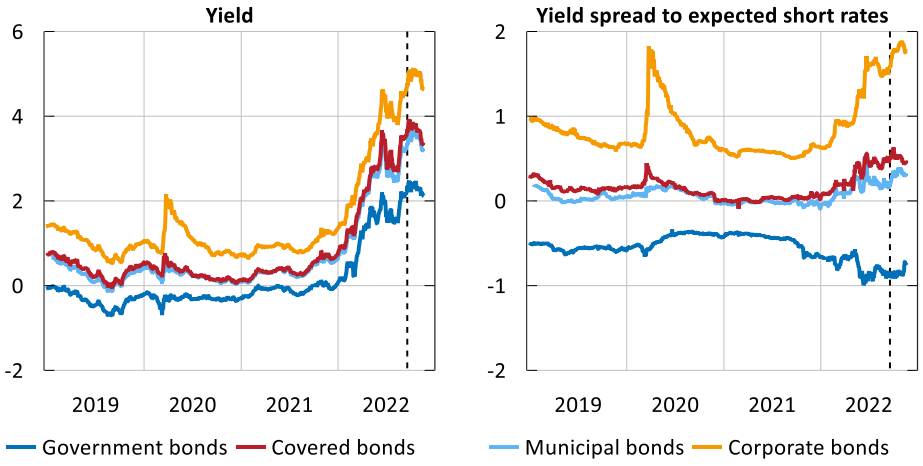


Note. Nominal yields refer to zero coupon rates for Sweden, Germany and the United Kingdom, as well as benchmark rates for the United States. The broken line marks the date of the monetary policy meeting in September.

Sources: Bank of England, Deutsche Bundesbank, Refinitiv, US Treasury and the Riksbank.

Figure 12. Swedish yields for various types of bond, 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. Expected short-term rates are measured according to the swap rate, which reflects an average of expected short-term rates over the duration of the swap rate. The broken line marks the date of the monetary policy meeting in September.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

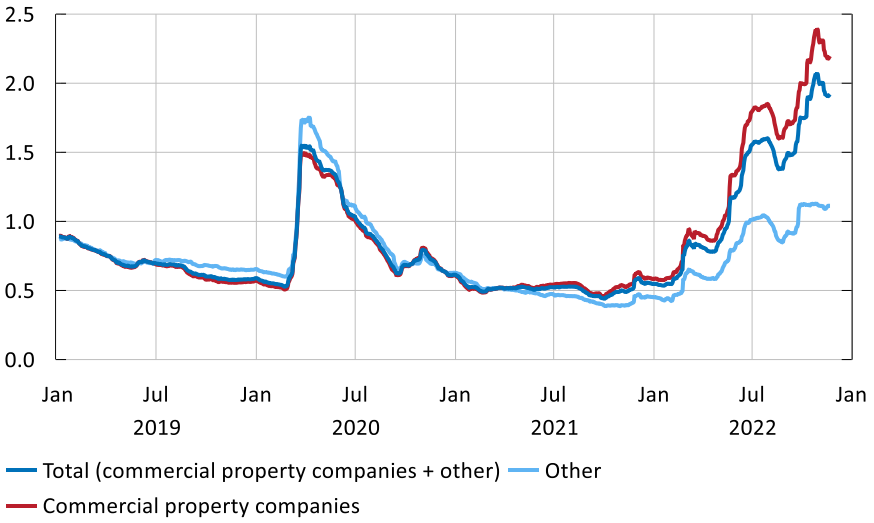
Yields on high-risk assets have risen clearly

The high level of uncertainty on the financial markets in the United States has been noticeable in the pricing of financial contracts that reflect expected volatility on the bond market and also, to some extent, the corresponding contracts for the stock market (see Figure 14). In Sweden, the differences have increased this year between

yields on covered bonds and average yields with a short maturity that are expected to apply during the remaining maturity of the bonds.[10] Such differences are now about the same size as during the initial phase of the pandemic (see Figure 12). This also applies to the corresponding yield spread for corporate bonds. One reason for this is that property companies make up a relatively large share of the Swedish corporate bond market and most of these companies are particularly sensitive to rising interest rates. Bond yields for property companies have increased a lot more than yields for companies in other sectors (see Figure 13). However, there is considerable dispersion between different property companies, as some companies are deemed to have a significantly lower debt-servicing ability than others.[11]

Figure 13. Yield spread for bonds issued by various Swedish companies

Percentage points



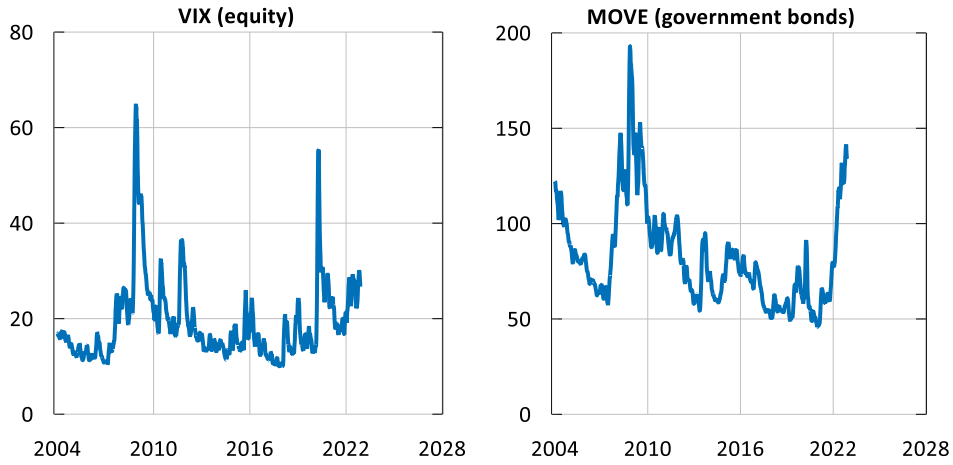
Note. Refers to spreads between corporate bond rates and average expected short-term rates over the maturity of the bond, measured with the aid of swap rates. The yield spreads are an average of bonds with varying maturities, issued in SEK by non-financial corporations, with credit ratings corresponding to investment grade.

Source: Bloomberg.

[10] This refers to expected yields with short maturities as measured using so-called interest-rate swaps. See Footnote 10 above.

[11] See *Financial Stability Report* 2022:2, Sveriges Riksbank.

Figure 14. Volatility on the stock and government bond markets in the United States
Index, 30-day moving average



Note. VIX and MOVE are indices that illustrate the expected volatility on the US equity and bond markets.

Sources: Chicago Board Options Exchange and Merrill Lynch.

Rising long-term inflation expectations abroad

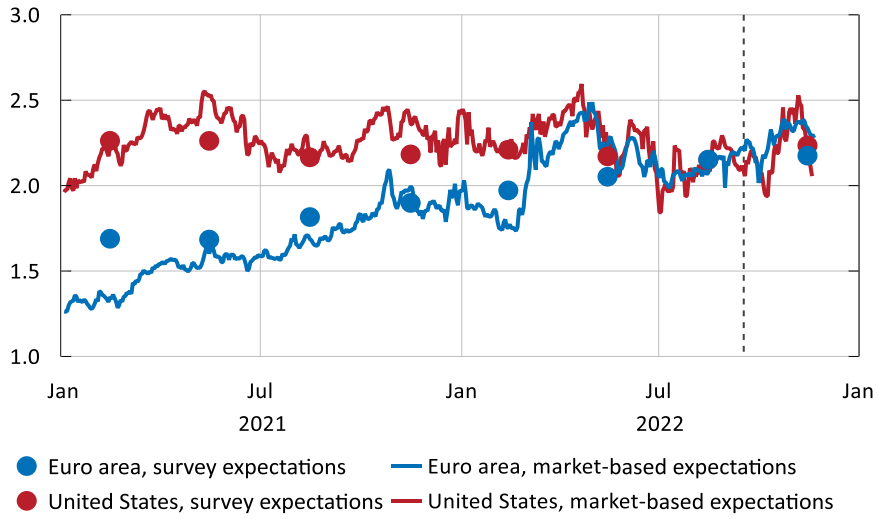
Long-term inflation expectations in both the United States and the euro area have risen somewhat since the monetary policy decision in September, according to market-based measures (see Figure 15). The movements in Swedish market-based measures have been unusually large and since the monetary policy meeting in September these measures have fallen substantially (see Figure 1 in Chapter 1). However, as the Riksbank has pointed out in earlier Monetary Policy Reports, there is a high risk that these measures do not fairly reflect market participants' inflation expectations. One contributing factor to this is that the markets for government bonds, in particular the one for real government bonds, have functioned poorly recently. That the market for government bonds is functioning poorly is more likely due to a shortage of liquidity.[12]

Kantar Sifo's Prospera survey shows that short-term expectations of Swedish inflation have remained high during the autumn (see Figure 16). The survey was conducted at the beginning of November, and then money market participants were than expecting, on average, prices measured as the CPI one year ahead to increase by about 5.5 per cent. This is lower than the Riksbank's forecast, which entails consumer price increases of around 6.2 per cent in the corresponding period. According to the Prospera survey, inflation is expected to fall to about 2.3 per cent five years ahead, very similar to the survey responses in recent months (see Figure 16).

[12] The situation on the Swedish government bond market is being analysed under the framework of the stability council by the Riksbank, the Swedish National Debt Office and Finansinspektionen.

Figure 15. Long-term inflation expectations in the euro area and United States

Per cent

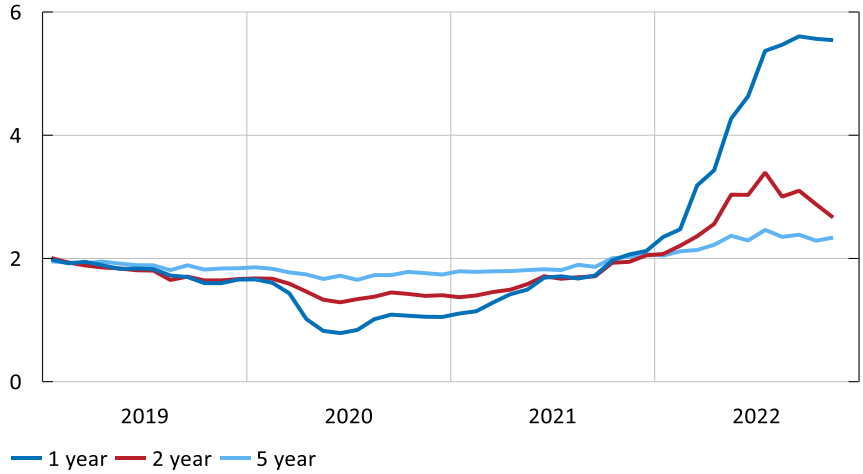


Note. Market-based measures of inflation expectations refer to a 5-year period starting in 5 years' time. For the euro area, they are calculated on the basis of inflation swaps and refer to the HICP excluding tobacco. For the United States, the market-based measure is calculated on the basis of bond yields and refers 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 date of the monetary policy meeting in September.

Sources: Bloomberg, Macrobond and the Riksbank.

Figure 16. Inflation expectations among money market participants in Sweden

Per cent



Note. Inflation expectations refer to the CPI.

Source: Kantar Prospera.

Weaker krona since the start of the year

Since the start of the year, uncertainty among investors on the financial markets has been high and, in such an environment, the krona tends to depreciate. Over this period, the krona has weakened by just over 6 per cent, as measured with the KIX (see Figure 17). Depreciation against the US dollar has been much greater than against the euro. Since the monetary policy meeting in September, the krona has been more or less unchanged. However, movements in the exchange rates have been strong and have developed in line with different measurements of uncertainty among investors. For more information on the developments of the currency market, see the article "Why has the krona weakened this year?"

Figure 17. 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 date of the monetary policy meeting in September.

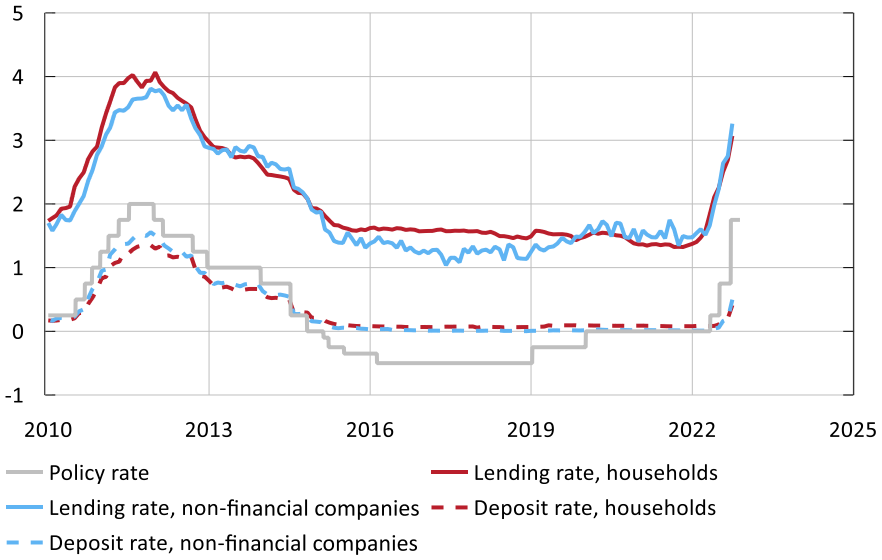
Source: The Riksbank.

2.2 Swedish households and companies are facing rising interest rates

Since the Riksbank started to raise its policy rate in April, both variable and fixed lending rates have risen in line with the policy rate and market expectations of the future policy rate over the loans' fixation period. The banks mainly finance themselves through deposits from the general public and by issuing bonds, such as covered bonds, on the financial markets. As mentioned above, bond yields have risen substantially since the start of the year (see Figure 12) and have contributed to increased funding costs for the banks. On the other hand, deposit rates have gone up less than lending rates have (see Figure 18).

Figure 18. The Riksbank's policy rate and average deposit and lending rates

Per cent



Note. Deposit and lending rates are volume-weighted averages of monetary financial institutions' deposits and lending at all maturities for new and renegotiated loans. Household lending rate refers to loans for housing purposes.

Sources: Statistics Sweden and the Riksbank.

Tighter monetary policy entails higher lending rates

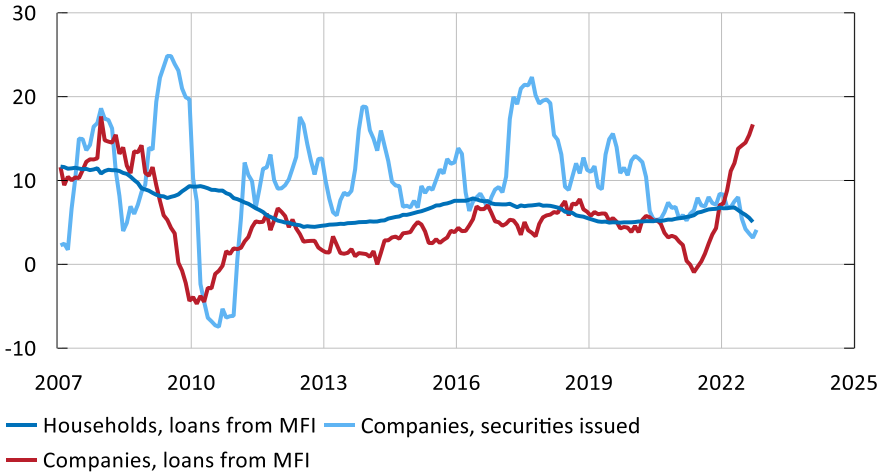
Swedish companies primarily fund themselves via bank loans, although borrowing via certificates and bonds has become more common in recent years, particularly in the property sector. During 2022, however, the growth rate in the volume of debt securities issued has fallen, while bank lending has instead increased strongly (see Figure 19). This is most likely because the financing conditions companies face at the banks are more beneficial than the conditions on the securities market.

The continued high borrowing by companies can probably be explained by their investments having risen rapidly since 2021. The Riksbank's credit database (KRITA) shows that the need for loans is primarily being driven by major companies and corporate acquisitions. Previously, the increase in corporate borrowing was driven by the property sector but, this year, it is being driven by the rest of the corporate sector.

Average interest rates for companies' new and renegotiated loans increased to over 3 per cent in September (see Figure 18). The rise in interest rates was greater for loans with a longer maturity than for those with a short maturity, which shows that market participants are expecting interest rates on loans with short maturities to continue rising (for greater detail see "Transmission of monetary policy in 2022" below). The Riksbank's overall assessment is that the monetary policy transmission to companies' borrowing costs functions well.

Figure 19. 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.

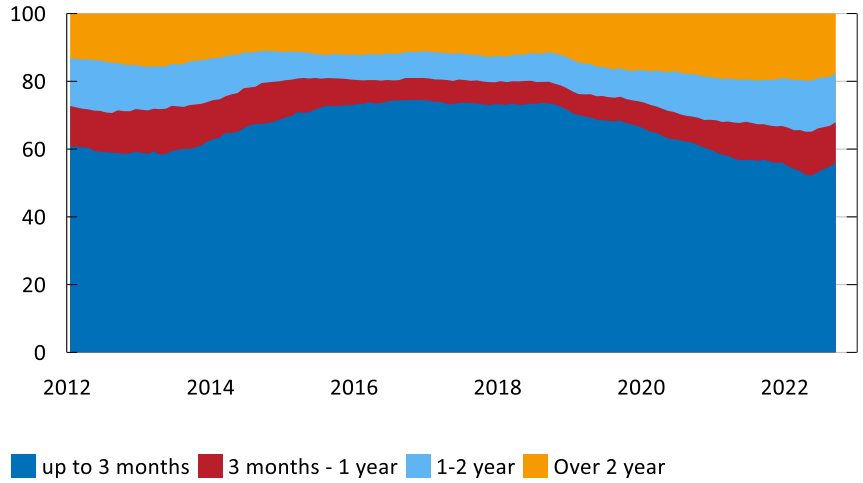
On average, Swedish households have large loans relative to their incomes and about 80 per cent of this debt consists of mortgages.[13] Compared with many other countries, the interest-rate fixation period is very short in Sweden. 80 per cent of loans have a remaining fixation period of 2 years or less (see Figure 20). This is contributing to rate hikes having a relatively rapid impact on households' finances.

Households also have consumer loans. These are, on average, not as large as mortgages but, as the interest rates are higher and amortisation requirements greater, they may represent a significant proportion of loan expenditure for some households. This has been particularly pronounced in recent years when mortgage rates have been very low. However, now that interest rates are rising, both for consumer loans and mortgages, mortgage loans can be expected to constitute an increasing share of households' loan expenditures.

[13] The household loan-to-income ratio, which is to say 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.

Figure 20. Residual interest-rate fixation period for households, total loans from MFIs

Per cent

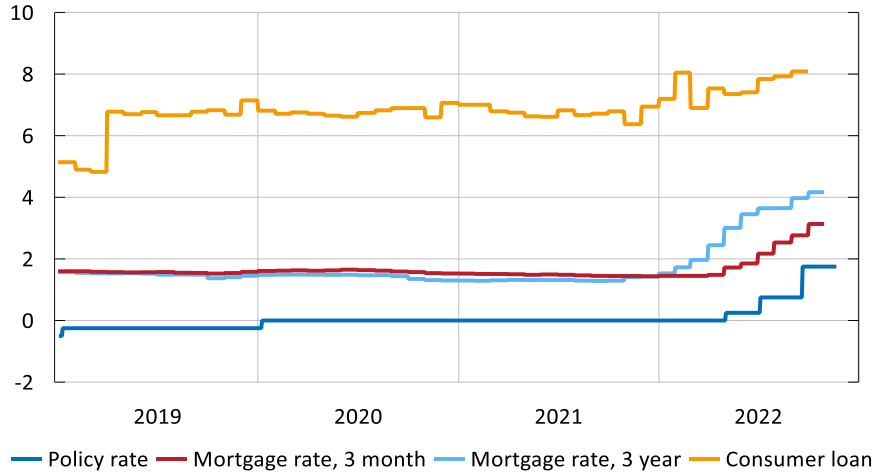


Source: Statistics Sweden.

In September, households' mortgages increased by just over 5 per cent at an annual rate and households' total loans increased by almost the same amount (see Figure 19). These growth rates have fallen clearly in 2022 and one explanation is the higher interest rates faced by households. Interest rates on mortgages with longer interest-rate fixation periods had already started to rise at the start of the year, in step with rising yields on the bond market (see Figure 12 and Figure 21). In September, the average mortgage rate with a maturity of three years was around 4.2 per cent, which is almost 3 percentage points higher than in January.

Figure 21. The Riksbank's policy rate and lending rates to households

Per cent



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

Sources: The respective mortgage actor and the Riksbank.

BOX – Transmission of monetary policy in 2022

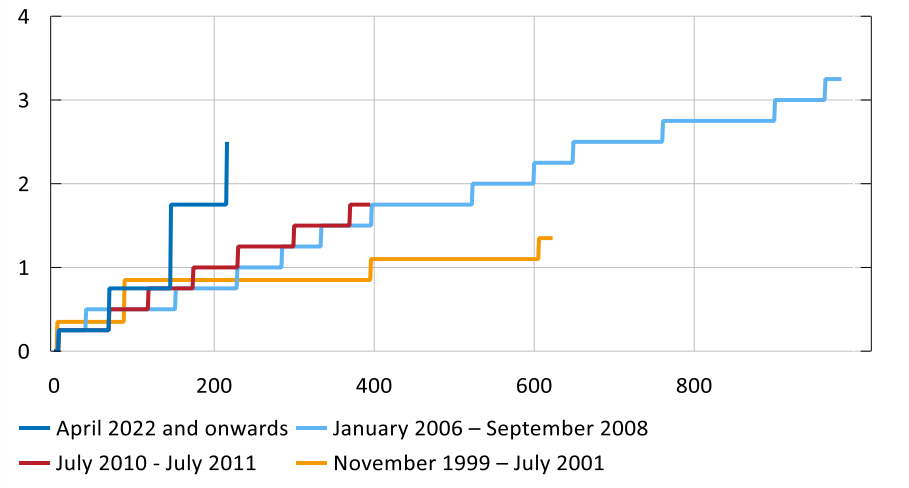
Monetary policy mainly affects the economy via changes to the Riksbank's policy rate spreading to market rates and to the deposit and lending rates of banks and mortgage institutions. Monetary policy can also affect interest rates through asset purchases. The interest rates faced by households and companies affect their financial decisions and ultimately economic activity and inflation. This process is usually called the monetary policy transmission mechanism.

Since April, the Riksbank has raised the policy rate by 2.5 percentage points. Compared with previous periods in which the policy rate was raised, the Riksbank has raised the policy rate at a fast pace this year (see Figure 22). Even though monetary policy is now being tightened faster, the pass-through to other interest rates seems to be functioning like in earlier periods of policy rate hikes.

Interest rates with short interest-rate fixation periods have risen slightly more than the policy rate this year. One can see in Figure 23 that the difference between the mortgage rate with a three-month interest-rate fixation period and the policy rate has increased slightly until September. The same development applies to the corporate rate with a three-month interest-rate fixation period as well as, to a certain extent, to interest rates on consumer loans to households, which tend to have short interest-rate fixation periods. One reason for this is that lending rates also reflect expectations of continued policy rate rises over the next three months.

Figure 22. Policy rate changes in periods of rising interest rates in Sweden

Percentage points



Note. The horizontal axis specifies the number of days after the first rise of the repo rate.

Source: The Riksbank.

Interest rates with longer maturities are affected by a number of different factors, including the level of the policy rate and the policy rate expected during the maturity period. The policy rate forecast is aimed at showing market participants, households and companies which policy rate they can expect in the future and is thus a tool that the Riksbank can use to affect rates with longer maturities. One way of assessing how the transmission of monetary policy to long interest rates has worked is to study the

difference between a long-term interest rate and the average policy rate in the Riksbank's forecast for the same duration. Figure 24 shows the difference between long-term lending rates and the average policy rate according to the Riksbank forecast. The transmission to both long-term mortgage rates and long-term corporate rates has been good, but long-term corporate rates, in particular, have risen slightly more than the policy rate path indicates. This can be explained by the presence of sdditional factors, for example risk premiums, which affect interest rates.

Risk premiums are often measured as the spread between different interest rates, such as the spread between the rate for corporate bonds and the average expected short-term rate, measured using the swap rate.[14] Another such yield spread is the one between covered bonds and the swap rate. It is particularly important as the banks use covered bonds to fund household mortgages. If this yield spread increases, so do the banks' funding costs, which could lead the banks to raise mortgage rates. Lending rates to companies could also rise, for similar reasons. Risk premiums can increase for various reasons, including investors deeming that borrowers' debt-servicing ability has deteriorated or investors becoming less willing to hold high-risk assets.

When the prospects for economic activity are deteriorating and uncertainty in the financial markets is high – like the situation we have today – it is normal for risk premiums to rise. The Riksbank's decision to reduce its bond holdings is also contributing to rising risk premiums. As mentioned above, yield spreads have also risen since the start of the year (see Figure 12). The spread between the covered bond yield and the swap rate has risen by about 0.5 percentage points, which is about as much as the increase in the spread between long lending rates to companies and the average level of the policy rate in the Riksbank´s forecasts (see Figure 24). The higher risk premiums may have contributed to short lending rates also having risen more than the policy rate. This is because covered bonds are an important source of funding for mortgages with both short and long interest-rates fixation periods. Another source of funding for the banks is deposits from the general public. Figure 18 makes clear that deposit rates have not risen as much as the policy rate.

The tightening of financial conditions over the year is thus due both to the tighter monetary policy and to rising risk premiums. It is important that the financial conditions are tightened in an orderly manner, with a continued well-functioning credit supply. The cost of borrowing money needs to rise but it must remain possible to borrow for those companies and households that meet the terms of credit assessments. One prerequisite for this is that the markets for securities continue to function and that the banks remain willing to offer loans. This would also seem to be the case at present. The banking sector is in a favourable starting position thanks to its good liquidity, relatively large capital buffers and high profitability.[15] At the same time, the securities markets seem to be functioning well, even if there have been few new issues on the market for corporate bonds over the summer and autumn. As the Riksbank has pointed out previously, there are structural problems on the market for corporate bonds that are increasing the risk that the transmission of monetary policy

[14] See footnote 9 above.

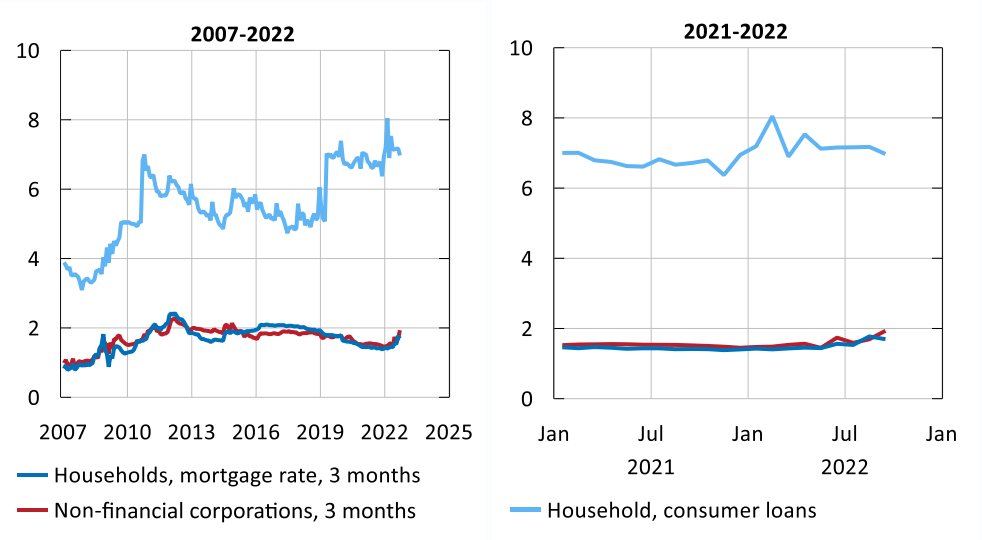
[15] See *Financial Stability Report* 2022:2, Sveriges Riksbank.

to these market rates may begin to function less well than normally. The Riksbank carefully monitors these markets that are central to the monetary policy transmission.

Overall, the pass-through of monetary policy to the lending rates faced by households and companies seems to be in line with the increases of the policy rate and interest rate path. In addition, interest rates have risen slightly further, because the risk premiums have increased in step with the deteriorating economic outlook and increasing uncertainty.

Figure 23. Difference between short-term lending rates and policy rate

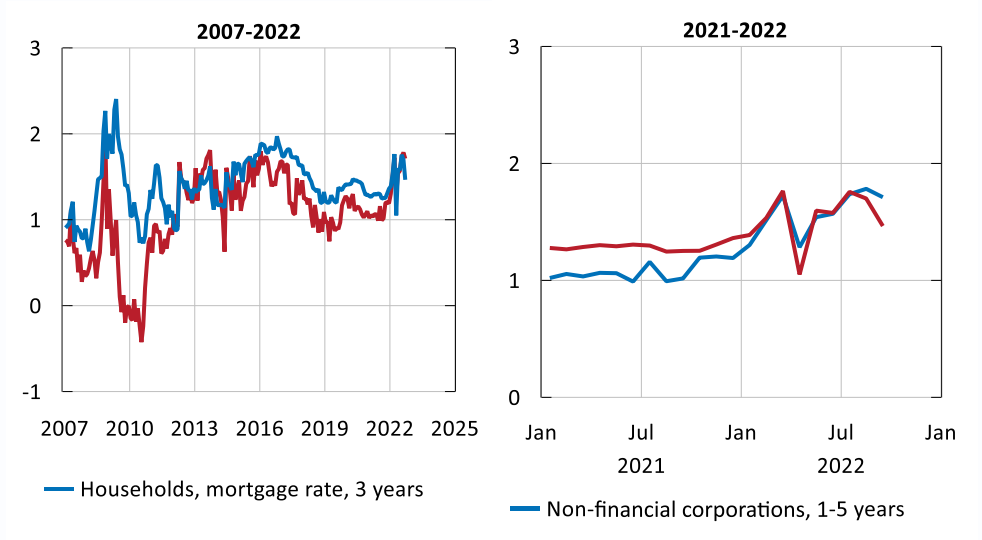
Yield spread, percentage points



Sources: Statistics Sweden and the Riksbank.

Figure 24. Spread between long-term lending rates and policy rate

Yield spread, percentage points



Note. The policy rate path refers to the average policy rate in the Riksbank's policy rate forecast for the next three years at each forecast date.

Sources: Statistics Sweden and the Riksbank.

3 Inflation and growth will fall next year

Economic activity has been strong over the last year, both in Sweden and in large parts of the rest of the world. However, forward-looking indicators point to economic activity slowing down and to GDP performing weakly in the near term. The relatively high level of resource utilisation in Sweden is therefore expected to fall back and be below normal next year. Both in Sweden and the world around us, GDP is expected to fall next year, at the same time as the employment rate falls and unemployment rises.

Inflation in Sweden and abroad remains very high. Inflation is expected to remain at about the same high level over the coming months, before rapidly falling back next year. The downturn is due to energy prices ceasing to rise and to the expectation that pandemic-related supply chain disruptions in the world economy will continue to decline, at the same time as the increasingly tight monetary policy in Sweden and large parts of the world dampens demand. During 2024, inflation is expected to be close to 2 per cent again.

3.1 Lower demand and energy prices will make inflation in Sweden and abroad fall next year

Inflation is high and during the autumn has continued to rise in many countries, including Sweden. This is partly because the rapid economic recovery after the coronavirus crisis pushed up prices for many commodities, central input goods and transportation on the world market. Another important reason is the war in Ukraine that led to higher world market prices, particularly for cereals but also other agricultural products, energy and a number of other goods. In addition, the high energy prices have had indirect effects on inflation via, for instance, rising prices for transports and other input goods for companies.[16] In a situation with high demand, companies have found it unusually easy to pass on their increased production costs to consumer prices.

The situation is now different, the imbalances between supply and demand have declined and companies' cost increases have been slowed down. Moreover, monetary policy is being tightened which on the whole is expected to lead to rapidly falling inflation in Sweden and abroad next year. At the same time, the demand for labour is still high in Sweden, and among our trade-weighted partners, which to a varying

[16] See the article "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*, April 2022, Sveriges Riksbank.

degree contributes to higher wage increases. This can have considerable significance for inflationary pressures over the coming years.

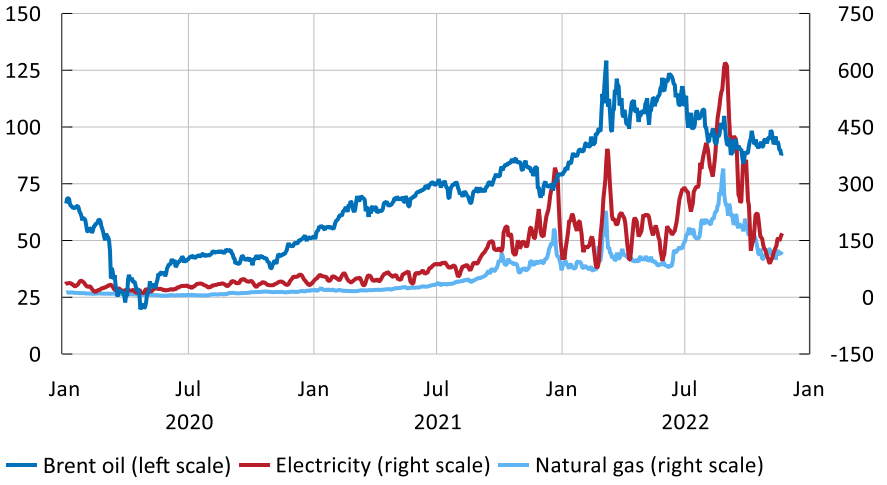
In the United States, the rate of increase in prices for goods has slowed down this year, while price rises for services rose until October, when they fell slightly. In Sweden and the euro area, the rate of increase in consumer prices for both goods and services has continued to raise and indicates that the price rises still remain broad. In October, around 65 per cent of prices of all goods and services in Sweden and the euro area rose by more than 4 per cent rate annually and around 80 per cent of the prices rose more than 2 per cent.

Energy supply has improved

The effects of the major disruptions to the European energy markets have abated recently, as uncertainty over the energy supply has declined rapidly, which has made energy prices on the spot market fall (see Figure 25). One reason is the unusually warm weather, which has reduced households' need to heat their homes, at the same time as the manufacturing industry's energy consumption has decreased somewhat. Another important reason is that many countries have swiftly managed to replace natural gas from Russia with liquefied natural gas from other countries. The gas stocks have thus been replenished at a faster pace than the target set by the European Commission and they are now at a relatively high level. Energy prices have also fallen in Sweden.

Figure 25. Energy prices

USD/barrel (left axis) and EUR/MWh (right axis)



Note. Prices of electricity and natural gas for Germany. The electricity price refers to the 5-day moving average. The natural gas price refers to the forward price for the coming month.

Sources: The Iberian Energy Derivatives Exchange and Intercontinental Exchange.

Governments in various countries, including Sweden, have recently presented fiscal policy support packages for households and companies that may become extensive. The size of these is largely linked to energy prices and the measures are mainly aimed at mitigating the consequences of significantly higher energy prices than those we are experiencing today and can expect in the future. However, the recent decline in energy prices will mean that the support packages are paid out to a lesser extent. The

support is therefore expected to have relatively minor effects on inflation and to provide limited fiscal stimulus, but they constitute a kind of assurance for households and companies should energy prices rise rapidly. In Sweden, around 60 per cent of electricity price compensation is expected to go to companies, which means there is less need to raise prices charged to consumers. However, there are differences between countries both with regard to the size of the electricity price compensation and their effects on inflation (see the Fact Box below).

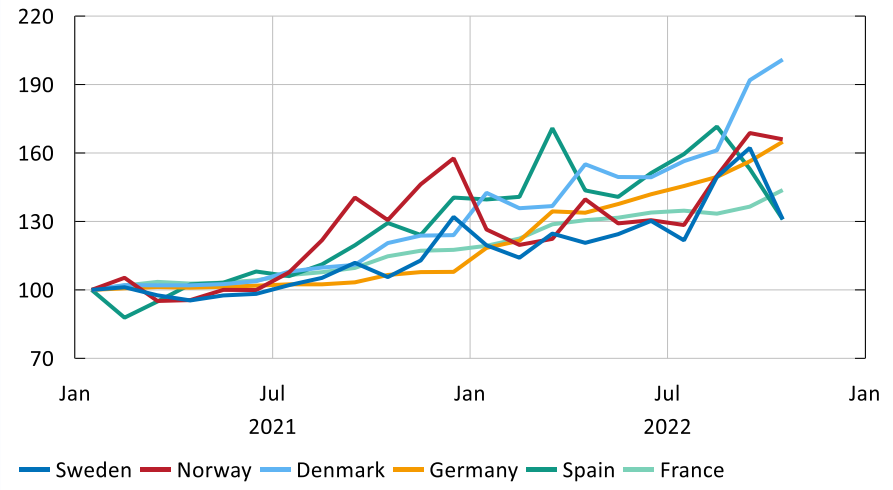
BOX – Large variations in how market prices of energy affect inflation in different countries

Energy prices in Europe have risen substantially over the past year, particularly as a result of high gas prices that also affect electricity prices. These, in turn, are a consequence of Russia substantially reducing its exports of gas to Europe since last summer and further following the invasion of Ukraine. In recent months, however, the situation has improved, and market prices of both natural gas and electricity have fallen. Forward pricing also indicates that the expectations of prices this winter have decreased, although they remain at historically high levels.

Despite almost all countries in Europe having faced a similar development on the wholesale market for gas and electricity, the impact in the consumer channel has differed quite substantially between countries (see Figure 26).

Figure 26. Electricity and gas prices in consumer channels in different countries

Index, January 2021 = 100



Note. The figure shows the development of the sub-index for electricity, gas and other fuels (COICOP 04.5) in the HICP.

Source: Eurostat.

There are several reasons for this, but one important explanation is that the system for pricing electricity and gas to households and companies differs between countries. Some countries have large elements of administratively-set prices, some have major elements of longer contracts with fixed prices, while prices in other countries follow the price on the wholesale market more directly. Another explanation is the large differences in the size of the government support and how this has been designed.

In Germany, for instance, there is a large element of contracts with fixed prices that run over a longer period of time. This means that the impact of fluctuations in the price on the wholesale market is slower there. In France, they have limits on how fast electricity prices charged to households and companies can be raised, which means that electricity prices paid by households have only increased to a limited extent, despite the sharp rise in prices on the wholesale market. This is a measure that directly affects the price and therefore also the measured rate of inflation. Norway has introduced a system where the state accounts for 70-90 per cent of the cost when the spot price of electricity exceeds 0.70 NOK per kWh, which limits the impact from the wholesale channel. These measures have a direct effect on the measured cost of electricity in the CPI and have contributed to inflation in Norway in 2022 having been a couple of percentage points lower than it would otherwise have been. In other countries that have chosen measures that are not directly connected to the price, such as direct subsidies to households, the high energy prices have a greater impact on the rate of inflation.

In Sweden, the link between what households pay for its energy and the price on the wholesale market is very strong, which means that prices charged to households rose substantially when the wholesale market prices rose. As a result of the high electricity price and thus the large price differences between electricity areas in northern and southern Sweden, large so-called bottleneck income has gathered in Svenska Kraftnät.[17]

Svenska Kraftnät has now decided how it intends to allocate the income received so far. The large items are measures to reduce or to avoid increases in network charges and also an electricity price compensation that is to be paid out to households and companies in southern Sweden. The electricity price compensation is expected to amount to a total of SEK 55 billion and to be divided between users in the electricity areas 3 and 4. The size of the compensation is determined by the historical usage between October 2021 and September 2022, and will be paid out to all users regardless of whether they have variable or fixed prices during the period. For users in electricity area 4, the compensation amounts to 79 öre per kWh used and in electricity area 3 it is 50 öre per kWh used. Based on usage during the period, around one third of the compensation should fall to households.

As the support in Sweden is based on historical usage and is not directly linked to the price, the support will not have any direct effect on the measured rate of inflation, but will be reported as a transfer to households, companies and other users. The measures to reduce or prevent increases in network charges will, however, have a direct effect if they entail network charges to end-users such as households and companies being held back. The indirect effects on inflation, through households having a larger disposable income and companies having lower costs, will act in opposite directions and the total effect is therefore not expected to be particularly large.

[17] For a more detailed description, see for instance the article "What effect can measures to dampen electricity prices have on inflation?", in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

Lingering supply chain disruptions from the pandemic are subsiding

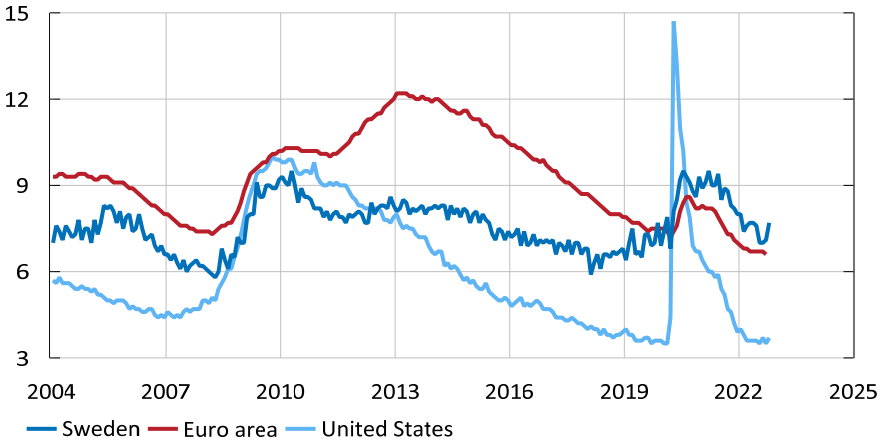
Many companies in Sweden and abroad found it difficult last year to meet the rapid recovery after the pandemic with sufficiently high production. However, these production disruptions have decreased this year. One sign of this is that delivery times have returned to normal and global freight prices have stopped rising or even begun to fall to more normal levels. In surveys, such as the Riksbank's Business Survey from November, fewer companies are reporting a shortage of material as an obstacle to production, even if some problems persist.[18] Although the pandemic-related disruptions are expected to continue to affect a number of agents, these disruptions have eased off and will continue to subside as demand is expected to fall over the coming quarters.

The real economy will weaken in the period ahead

The economic situation abroad developed strongly earlier this year and there is at present limited spare capacity in the labour market. This applies not least to the United States and the euro area, where unemployment is very low in an historical comparison (see Figure 27). The development of the labour market has also been strong in Sweden.

Figure 27. Unemployment in Sweden, the euro area and the United States

Percentage of the labour force, seasonally-adjusted data



Note. Refers to 15–74 years in Sweden and the euro area and 16 years and older in the United States.

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

However, GDP growth in Sweden and abroad has weakened and confidence indicators suggest a further slowdown in the period ahead. In China, which is burdened by problems in the property sector and its ongoing zero tolerance strategy against COVID-19, the economy grew slowly in the third quarter, in a historical comparison, and growth is also expected to remain subdued in the period ahead. During the third quarter, GDP

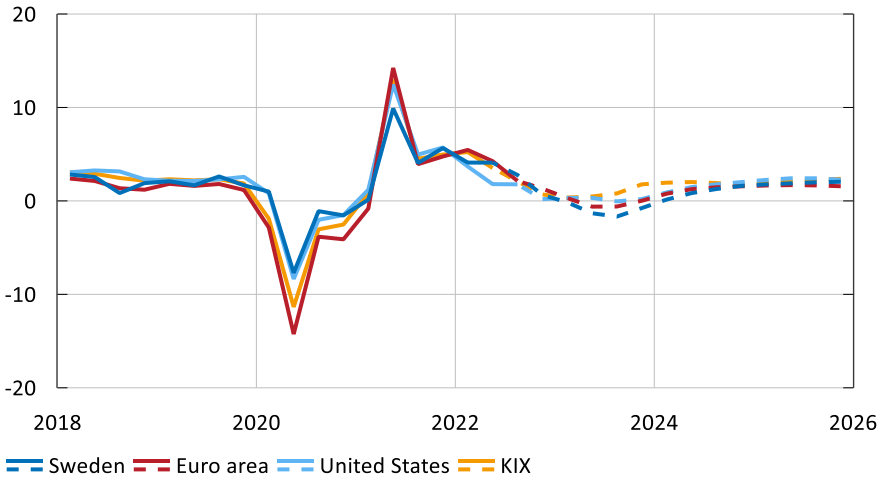
[18] For example, the construction industry says that there is still a shortage of construction materials, such as windows, wooden flooring and fan systems, but that it is not as tangible as in the spring; see "Costs accelerating, economy slowing down", *Riksbank's Business Survey*, November 2022, Sveriges Riksbank.

in the United States rose, driven by strong export growth, while household consumption was weak and investments fell. In the euro area, GDP growth was weak during the third quarter. Confidence among households and companies has subsequently continued to fall and some statistics indicate that economic activity slowed down at the start of the fourth quarter.

The pent-up consumption demand that arose after the pandemic has gradually been satisfied and is thus not expected to hold consumption up to the same extent going forward. Demand is slowing down even more in that real disposable incomes fall when inflation is high. At the same time, policy rates continue to be raised and credit conditions to be tightened. In the forecast, GDP in both Sweden and the euro area fall slightly in 2023, while US GDP rises marginally (see Figure 28). After this, a cautious recovery starts in all three economies. Real incomes are forecast to begin rising again as inflation is expected to fall rapidly over the course of next year and start of 2024. Moreover, the strong labour market has contributed to higher wage agreements being concluded in the euro area. Strikes have broken out in support of higher wages in several of the large economies in the euro area. In some countries, such as Belgium, a large part of wages is indexed against inflation, meaning high wage growth. Wages are also rising at a fast pace in the United States. Although the rate of wage increase will slow down further ahead in the forecast horizon as unemployment rises, the scope for consumption is expected to increase on the whole when inflation falls back.

Figure 28. GDP in Sweden and abroad

Annual percentage change, seasonally adjusted data



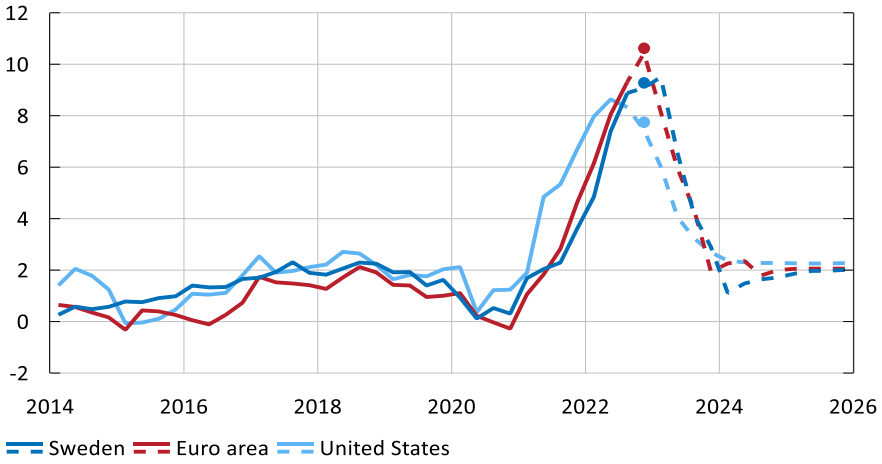
Note. The KIX is an aggregate of 32 countries that are important for Sweden's international trade. Solid line refers to outcome, broken line represents the Riksbank's forecast.

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

Inflation in Sweden and the euro area is still very high, and is expected to remain at roughly the same high level in the coming months, and then to rapidly fall back. In the United States, there are signs that inflation has already begun to fall (see Figure 29).

Figure 29. Consumer prices in various countries and regions

Annual percentage change



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

Sources: Eurostat, Statistics Sweden, US Bureau of Labor Statistics and the Riksbank.

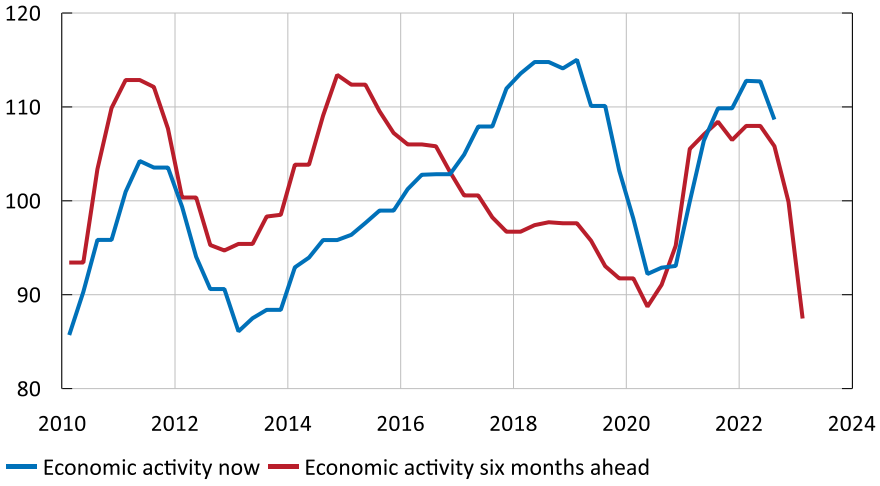
3.2 Economic activity in Sweden cools down

GDP and employment will fall next year

Economic activity in Sweden has been strong over the past year. The employment rate has continued to rise to a historically high level and demand has not limited production, according to the companies. In the Riksbank's Business Survey from November, many companies stated that the economic situation is good and that the rates of production and sales are high. In addition, more companies than normal plan to continue to expand their workforces. However, increasing numbers of companies are preparing for a downturn in the period ahead and the economic situation is expected to be significantly worse in six months' time (see Figure 30).

Figure 30. The economic situation now and in six months

Net figures, standardised data, mean = 100, standard deviation = 10



Note. From the Riksbank's Business Survey in November. The red line, the economic situation in six months' time, has been moved forward two quarters. The series for the economic situation has been smoothed out with a moving average based on three observations.

Source: The Riksbank.

During the third quarter, GDP rose by 0.7 per cent, compared with the previous quarter. But during the autumn and winter, activity is expected to fall rapidly in the Swedish economy. Above all, this is because households' purchasing power continues to be eroded by high inflation and rapidly rising interest rates, at the same time as housing and equity prices are falling, contributing to households cutting back on their consumption. The falling housing prices, combined with high construction costs and rising funding costs, are also contributing to reduced housing construction. Exports, imports and investments will also be subdued when both Swedish and global demand falls. The ever-declining demand is expected to lead to employment starting to fall slightly in early 2023.

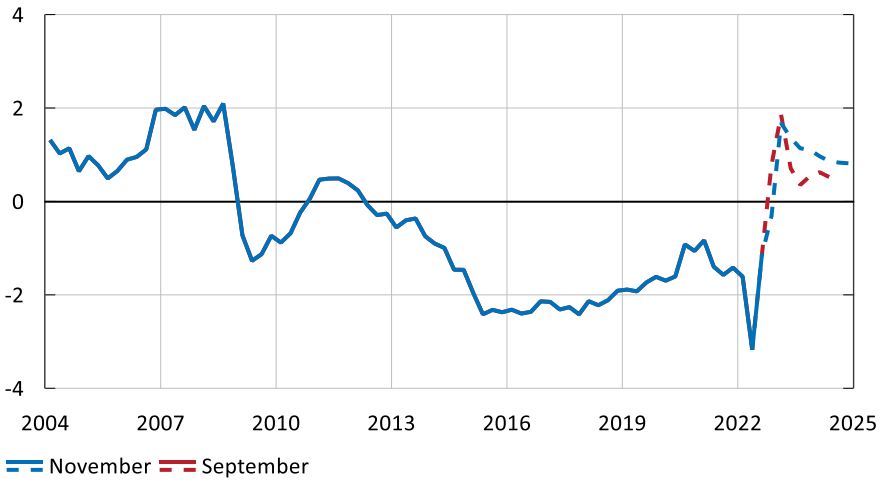
Next year, GDP growth in Sweden is expected to fall (see Figure 28). The factors restraining GDP at present will also continue to affect it next year, monetary policy being tightened, employment falling and inflation remaining high (see Figure 31, 32 and 41). However, at the same time, there are factors that will contribute positively to GDP over large parts of the forecast period. Swedish export companies' competitiveness benefits from the weak krona and by the fact that Swedish wages are expected to grow more slowly than those abroad, and net exports are therefore expected to contribute positively to growth.

Fiscal policy is also expected to contribute positively to GDP as several measures mean that public consumption and especially public investment will increase at a relatively rapid pace next year. Consumption expenditure and investment will increase at a particularly rapid pace in nominal terms, as inflation is so high. The budget bill for 2023 contained unfinanced measures of just over SEK 40 billion. In addition to the unfinanced measures, a compensation of SEK 55 billion for high energy prices has been announced, aimed at households, companies and other electricity users.

The Riksbank's overall assessment is that the measures are in line with normal fiscal policy, given the economic situation.

Figure 31. Real policy rate

Per cent

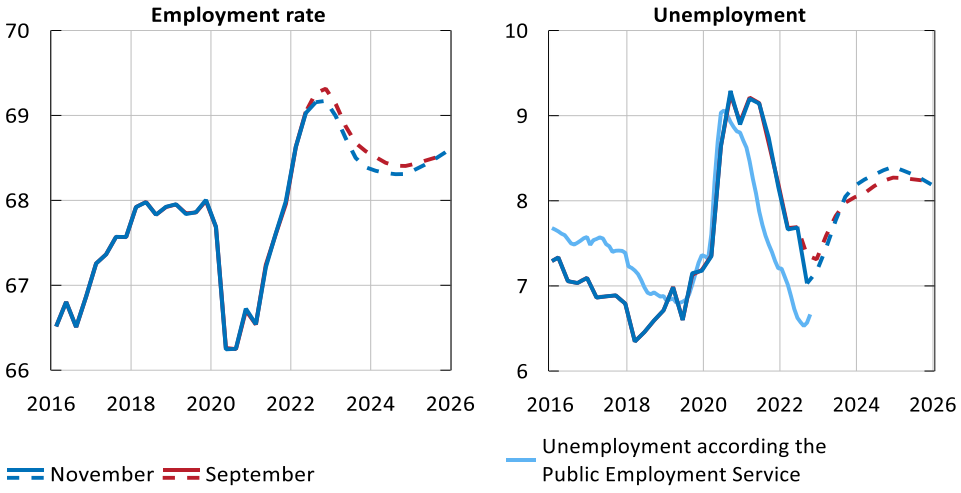


Note. The real policy rate is the Riksbank's expected real interest rate, calculated as a quarterly mean value of the Riksbank's policy rate forecast one year ahead minus the inflation forecast (CPIF) for the corresponding period. As the real interest rate is a forward-looking variable, the outcomes are also based on forecasts. The outcomes are calculated on the basis of the most recently published forecasts at that point in time.

Source: The Riksbank.

Figure 32. Employment rate and unemployment in Sweden

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



Note. Seasonally adjusted data. Employment rate and unemployment according to LFS in dark blue and red line refer to age 15-74 years; unemployment according to Arbetsförmedlingen refers 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.

In 2024 and 2025, household purchasing power improves as wages rise slightly faster and inflation becomes lower. Demand abroad and in Sweden gradually strengthens,

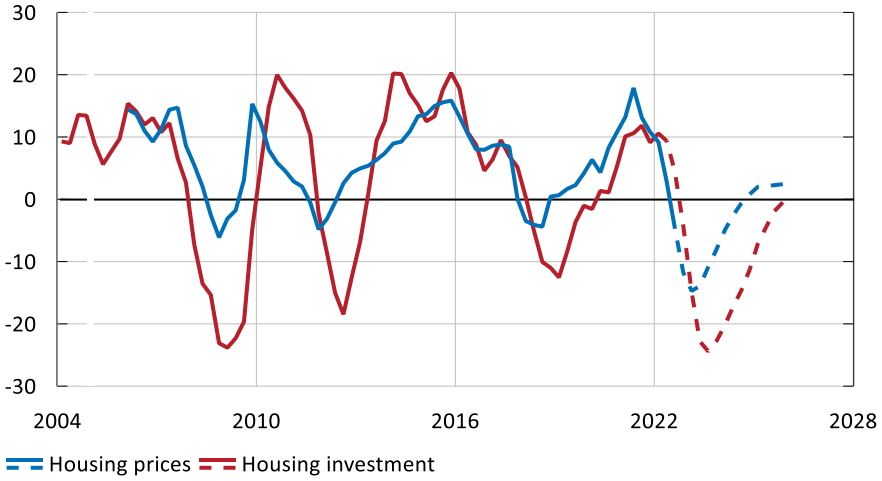
Swedish exports and companies' willingness to invest rise and GDP growth recovers. As economic activity increases, employment will stop falling and start to rise again. Unemployment stops rising and, at the end of the forecast period, it is expected to be just over 8 per cent (see Figure 32).

Housing prices are continuing to fall and fewer homes are being constructed

After having risen to very high levels during the pandemic, housing prices have started to fall (see Figure 33).[19] Prices for single-family dwellings and larger flats have fallen more rapidly than those for other types of housing. The main factors behind the fall in housing prices are assumed to be rising mortgage rates and the weak development of incomes. It is also possible that the shift in preference that took place during the pandemic, when households demanded more and larger housing as they were spending more time at home, has shifted back somewhat. Housing prices are expected to continue to fall in the coming years, holding back both household consumption and housing construction. The fact that housing prices are falling at the same time as construction costs are very high and financing costs are increasing means that construction companies' profitability declines. The number of housing starts is expected to be halved in 2024, compared with 2021.

Figure 33. Housing prices and housing investment

Annual percentage change



Note. Housing prices refer to HOX Sweden price index for tenant-owned apartments and houses, the broken line refers to the Riksbank's forecast.

Sources: Valueguard and the Riksbank.

[19] Housing prices in Sweden have fallen by about 11 per cent since the start of the year. This is more than in many other countries and can partly be explained by the relatively high indebtedness and the large proportion of loans with short interest-rate fixation periods in Sweden. Swedish housing prices are therefore affected more by rate rises than housing prices in many other countries.

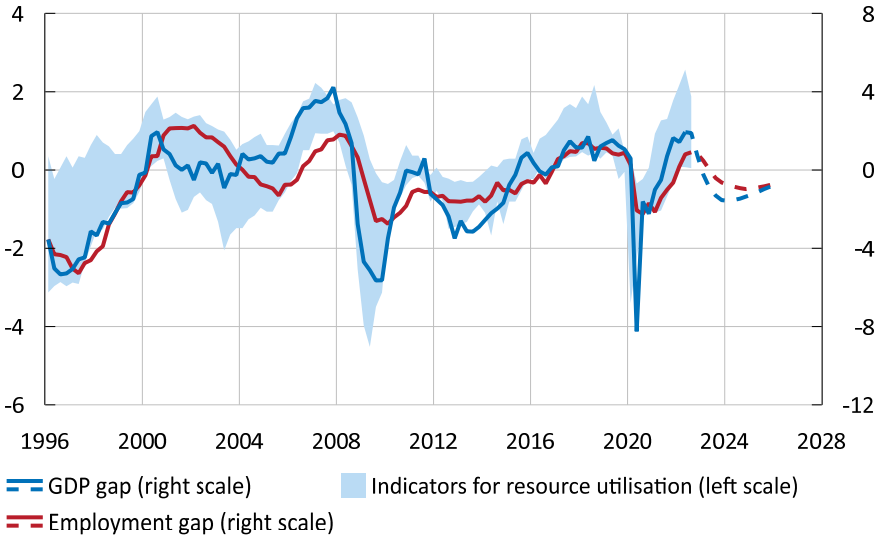
Resource utilisation in the Swedish economy expected to decline from a high level

Resource utilisation or the amount of spare capacity in the economy affects the development of wages and prices and is therefore of considerable interest for monetary policy. Resource utilisation cannot be measured exactly and the Riksbank therefore estimates it using a variety of statistics.

The Riksbank's assessment is that resource utilisation in the economy is higher than normal at present.[20] This is illustrated by the Riksbank's estimated GDP and employment gap being positive (see Figure 34).[21] Unemployment has also fallen to relatively low levels at the same time as the employment rate is at a record-high level. As monetary policy becomes tighter, demand dampens and resource utilisation is expected to be lower than normal from mid-2023.

Figure 34. 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: Employment Service, National Institute of Economic Research, Statistics Sweden and the Riksbank.

[20] The proportion of companies reporting in the Economic Tendency Survey that they have labour shortages is at a record-high level and the number of vacancies according to Statistics Sweden is high in relation to the number of people in unemployment. The picture that there is a shortage of labour is also supported in the Riksbank's Business Survey (see in particular the article on a shortage of labour and wage drift in "Costs accelerating, economy slowing down", *Riksbank's Business Survey*, November 2022, Sveriges Riksbank).

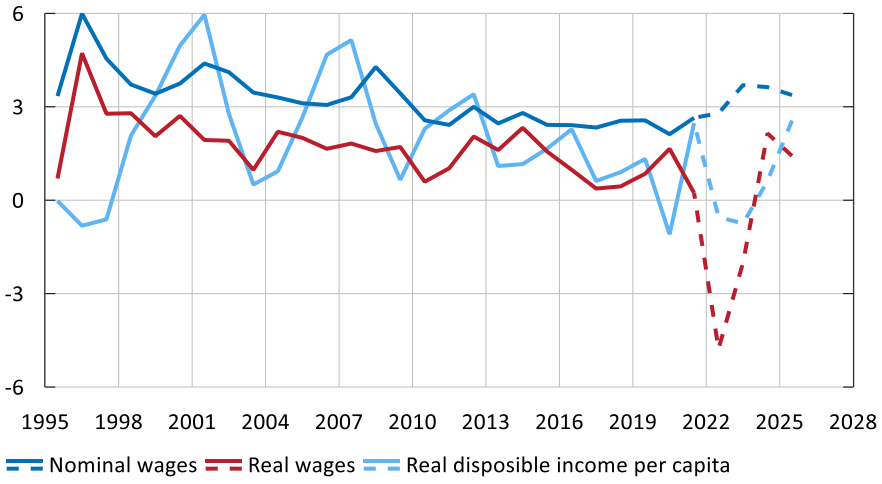
[21] The Riksbank's various gap measures refer to deviations in GDP from the Riksbank's assessed long-term trends, and therefore do not capture short-term fluctuations in production capacity, which can, for instance, be due to a shortage of inputs. This means that the GDP gap can become lower in connection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

Weak development of income this year and next year

As there is a labour shortage, inflation is high, and profit shares are higher than they have been in recent years, the local pay reviews are expected to result in faster wage increases over the autumn and winter. Wage statistics to the end of August show that wages increased by almost 3 per cent, which is a faster pace than at the beginning of the year. Overall, wage growth is expected to be slightly higher than it was last year. However, the upturn in inflation is significantly greater, meaning that real wages, which have risen every year since the mid-1990s, will fall significantly this year (see Figure 35).

Figure 35. Nominal and real wages, as well as real disposable income per capita

Annual percentage change



Note. Real wages are calculated as the difference between wage growth and the rate of increase in the CPIF. Real disposable income is calculated using the deflator for households' consumption expenditure, which usually increases at about the same rate as the CPIF. Unbroken lines refer to outcomes, broken lines to the Riksbank's forecasts.

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

At the beginning of next year, the wage agreements for 2023 will be negotiated in the manufacturing sector. The agreement demands presented by the Swedish unions within Industry amount to 4.4 per cent, which is a high level compared to demands made in the last 20 years. Negotiations between the parties in the manufacturing sector will take place in the New Year.[22] The agreements concluded will form what is known as the benchmark for the entire labour market. Compared with when the current agreements were concluded, in the pandemic year of 2020, unemployment is now lower and inflation significantly higher, at the same time as wages abroad are expected to increase faster than in recent years. Combined with a rising profit share, this will contribute to wages being expected to increase faster going forward, especially in 2023 when wages are expected to increase on average by 3.7 per cent.

[22] According to a compilation prepared by the National Mediation Office, negotiations over the last 20 years have resulted, on average, in agreements corresponding to about 75 per cent of the demands made by the Swedish Unions within Industry.

When inflation is also falling, this means that real wage development will recover from 2024 onwards.

Even if real wages fall by almost 5 per cent this year, real disposable income per capita is expected to decrease to a significantly lesser degree (see Figure 35). This is partly due to the number of employed increasing this year and to pensions being raised and taxes cut. Next year, employment is expected to fall somewhat, and this, combined with rising interest rates, is expected to lead to households' real disposable income per capita to continue falling.[23] Not until 2024, when wages increase faster than inflation and interest rates stop rising, will households' real disposable incomes show an upturn. The household sector as a whole has saved heavily for many years and saving increased further during the pandemic. Over the next few years, households are expected to save less of their incomes in order to maintain consumption.

When mortgage rates rise, households' disposable incomes shrink. High household indebtedness also means that interest rate adjustments will now have a greater impact than previously.[24] Household interest expenditure as a share of their disposable incomes is expected to increase from about 2.5 per cent this year to 6.5 per cent by the end of 2025. For an average new mortgagor with SEK 2.8 million in loans, this means that interest expenditure after tax relief will increase by about SEK 5,000 per month.[25]

Inflation still high

CPIF inflation has continued to rise somewhat since the publication of the Monetary Policy Report in September, and amounted to 9.3 per cent in October. This is an upturn from 9.0 per cent in August, which was the last inflation outcome prior to publication of the Monetary Policy Report in September, but a downturn from the outcome in September (which was 9.7 per cent). CPIF inflation excluding energy has also risen and was 7.9 per cent in October. The Riksbank's forecast is that CPIF inflation will remain high over the next few months before starting to fall back at the start of next year. The forecast for inflation this winter is highly uncertain, among other reasons because the price of electricity is varying heavily due to the weather and the disruptions on the energy markets in Europe. Measured excluding energy prices, inflation is expected to remain on approximately the same level as in October over the next few months before starting to cool off. Prices within all major subcomponents have risen rapidly over the last year and the rates of increase are unusually high in relation to their historical averages (see Figure 36).

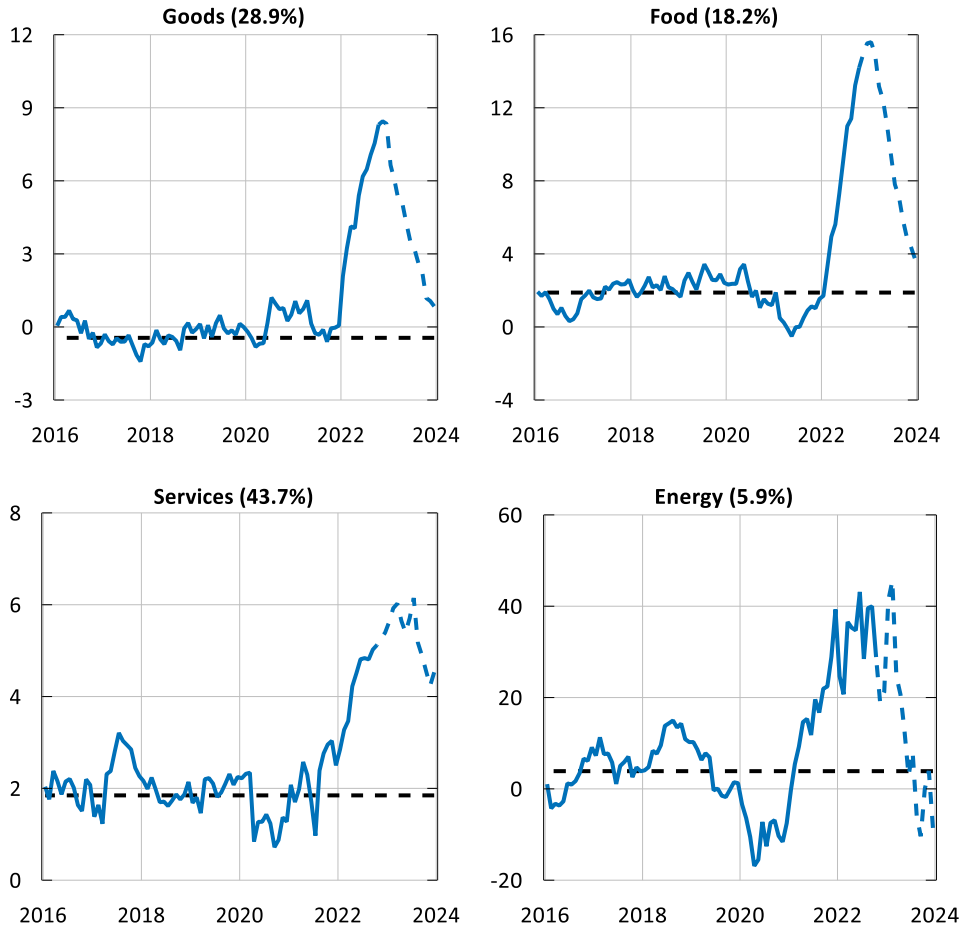
[23] The forecast assumes that the proposed electricity compensation to electricity users in southern Sweden of SEK 55 billion for October 2021 until September 2022 is paid out at the start of 2023. In addition, further support for coming years is assumed so that the total support in 2023-2024 will be around SEK 110 billion, which corresponds to around 2 per cent of GDP. The compensation will probably be financed with the surplus given by the capacity charges to Svenska Kraftnät.

[24] See the article "Higher sensitivity to interest rates in the Swedish economy" in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

[25] Average loan amount is taken from *The Swedish Mortgage Market 2022*, April 2022, Finansinspektionen.

Figure 36. 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. Weight in the CPIF according to the Riksbank's classification is indicated within brackets. 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.

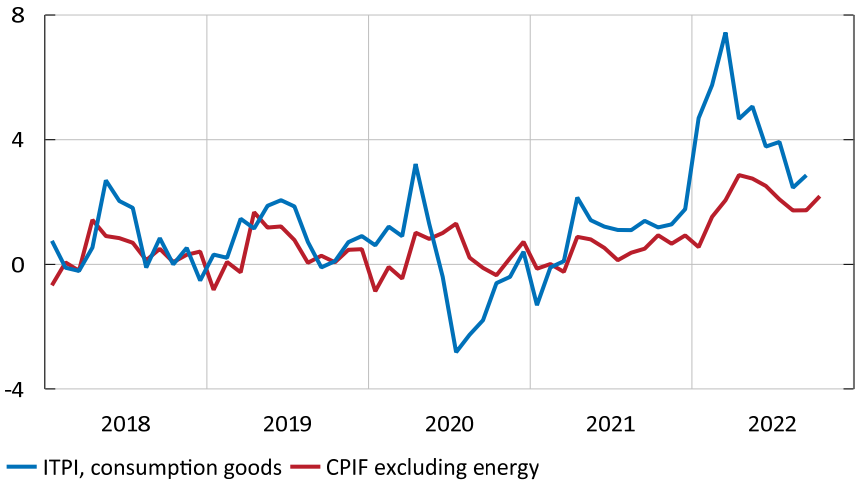
Overall, the Riksbank's forecast means that inflation will remain high over the next few months before gradually falling over 2023. This does not mean that prices will begin to fall, but rather that they will rise at a slower pace.

This picture is supported by the monthly rate of price increase in consumer prices having slowed down in recent months (see Figure 37).[26]

[26] Inflation is usually stated as an annual percentage change, which, in turn, corresponds to the sum of the last 12 percentage monthly changes. An upturn in the level in a given month will thus affect inflation over the next 12 months. This is to say that what looks like higher inflation over a whole year, before inflation falls back again, may thus be a rise in the level of prices for one single month. Read more in the fact box "Link between price level and inflation rate" in *Monetary Policy Report,* September 2021, Sveriges Riksbank.

Figure 37. Producer prices and consumer prices excluding energy

Percentage three-monthly change



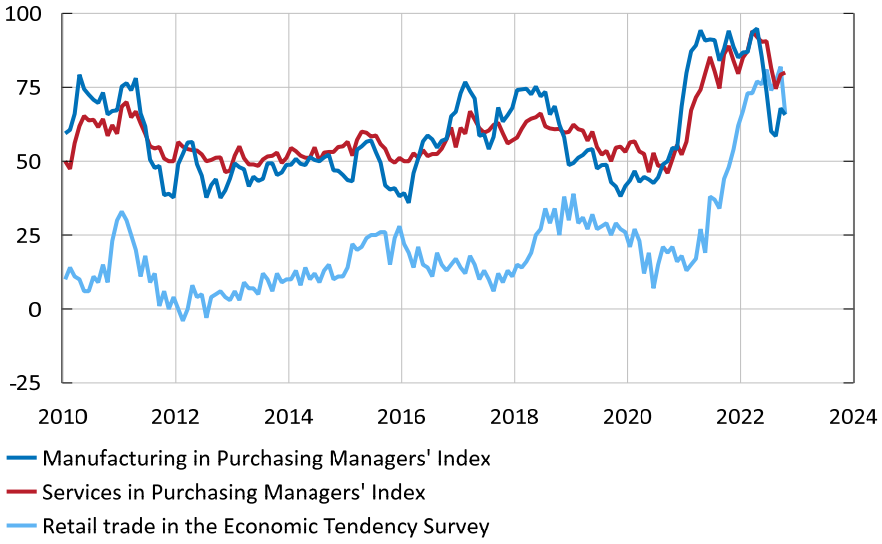
Note. ITPI refers to the price index for Sweden's domestic supply, which is a composite of import prices and domestic market prices (prices of goods manufactured and sold in Sweden).

Source: Statistics Sweden.

Other indicators also suggest that the greatest price increases are behind us. For instance, the earlier high global freight prices have begun to fall. Several commodity prices have also gradually fallen back from their earlier extremely high levels, which prevailed particularly in 2021 and after the outbreak of war in the spring of 2022. Price plans according to the Purchasing Managers' Index and the Economic Tendency Survey have also slowed down, although they are still at high (see Figure 38).

Figure 38. Companies' price plans

Net figures (Economic Tendency Survey) and diffusion index (Purchasing Managers' Index) respectively, percentage



Note. The question to the manufacturing industry concerns how they will adjust prices over the next few months. The question to service companies concerns how they consider that intermediate goods prices have changed in recent months. The question to the retail trade concerns how these companies plan to adjust prices over the next three months.

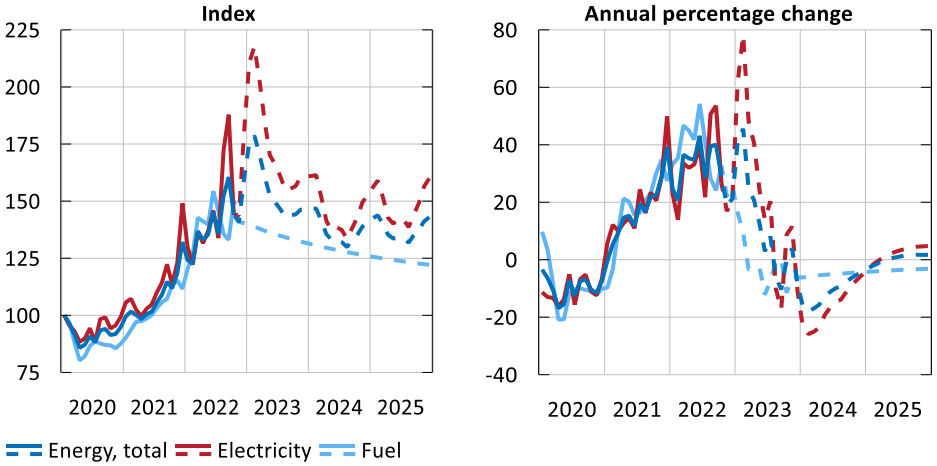
Sources: National Institute of Economic Research and Silf/Swedbank.

Electricity prices have slowed down but remain very high

Since the publication of the Monetary Policy Report in September, electricity prices on both the spot and forward markets have fallen back from extremely high levels. However, even after this downturn, prices remain on a historically high level. At the start of 2023, Swedish consumer prices for electricity are expected to be around 70 per cent higher than in 2022 (see Figure 39).[27]

Figure 39. Energy prices in the CPIF

Index, January 2020 = 100 (left), and annual percentage change (right)



Note. In 2022, the weights are as follows, in per cent; total energy 5.9, electricity 3.2 and fuel 2.2. Solid line refers to outcome, broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

The Riksbank bases its forecast for electricity prices on pricing on the forward market and, according to this, electricity prices for the winter of 2023–2024 are expected to be significantly lower than those for the coming winter. This is probably based on expectations that both political measures and energy investments in various parts of Europe will increase output without dependence on Russian gas.

At the same time, fuel prices have become slightly higher than expected since the monetary policy decision in September. The forecast nevertheless entails that the contribution made by energy prices to inflation will be strongly restrained and that CPIF inflation will thus fall back next year. As a result of the energy situation in Europe, however, the forecast is very uncertain (see the discussion in the article "Alternative scenarios for inflation and monetary policy" in this report).

Inflation close to 2 per cent again in 2024

The slowing down of inflation going forward is to a fairly large degree due to monetary policy continuing to be tightened in many parts of the world, which holds back demand. In addition, the pandemic-related supply shocks have abated, which, taken together, means that the rate of price increase for companies' input goods will

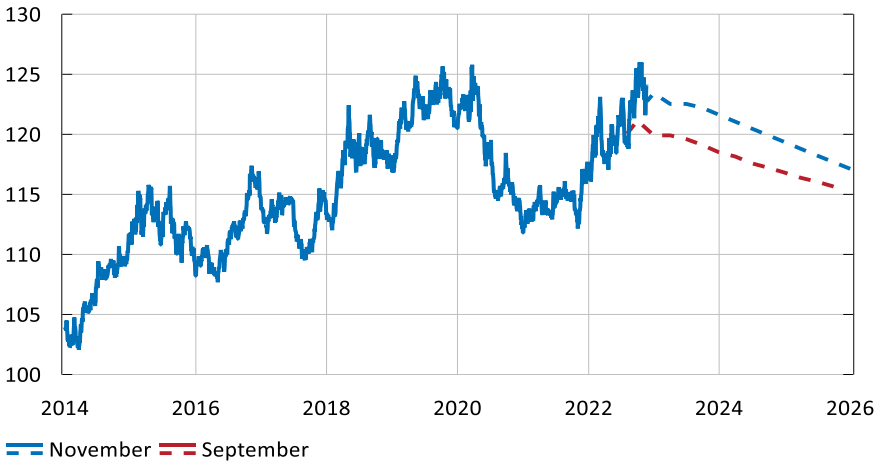
[27] The announced electricity price compensation of SEK 55 billion will not have any direct effect on the price of electricity as measured in the CPIF (see the Fact Box below).

slow down. The upturn in service prices, which has also been due to the rapid increase in demand for some contact-intensive services after the pandemic, is also expected to decline when demand becomes lower. It will make it more difficult for companies to pass on their cost increases as quickly as they have done in the past year. However, rents and housing cooperative fees are expected to increase more rapidly in the next few years, which is expected to contribute to holding inflation up instead.

The summer and autumn have been characterised by high volatility on the financial markets and increasingly tight monetary policy abroad. In this type of environment, the krona tends to depreciate, which has also been the case this year (see the article "Why has the exchange rate weakened this year?"). This contributes to slightly higher inflation in the near term. However, the krona is expected to appreciate slowly in the coming years (see Figure 40). It is important to point out that the krona exchange rate has not had any significant bearing on the sharply rising inflation this year and nor is it expected to have any decisive effect on the clear fall in inflation next year.

Figure 40. 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 has been excluded. A higher value indicates a weaker exchange rate. Outcomes are daily rates and forecasts refer to quarterly averages. Unbroken line refers to outcomes, broken line to the Riksbank's forecast.

Source: The Riksbank.

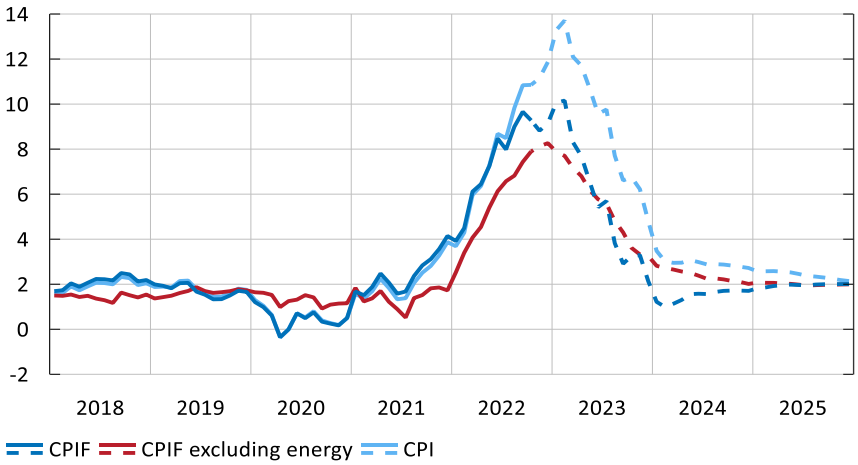
Even if short-term inflation expectations have risen over the year and are high, long-term inflation expectations are expected to remain compatible with the inflation target of 2 per cent. The Riksbank's forecast assumes that negotiations between employer and employee organisations, together with local wage formation, will result in wages increasing slightly faster in the next few years compared with recent years. Above all, wage growth is expected to be slightly higher in 2023.

When mortgage rates rise, household interest expenditure will increase, causing CPI inflation to be higher than CPIF inflation. However, the differences in the forecasts are

greatest in 2023 and, towards the end of the forecast period, CPI inflation will also be close to 2 per cent (see Figure 41).

Figure 41. 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.

ARTICLE – Alternative scenarios for inflation and monetary policy

The Riksbank's monetary policy is focused on getting inflation back to the target of 2 per cent within a reasonable time frame. The forecast in the main scenario involves inflation falling rapidly next year and being close to 2 per cent during 2024. However, there is significant uncertainty and a risk that inflation will be higher than forecast. The extent to which monetary policy would have to react in this case depends on the driving forces behind the development of inflation.

One uncertainty factor is the development of energy prices, which have varied sharply during the year. The possibility of them rising faster than forecast and driving up CPIF inflation above the Riksbank's forecast cannot be ruled out. As inflation is already very high, it is likely that monetary policy may need to be tightened further in that case. This article illustrates a scenario with the help of a macroeconomic model. The scenario implies a more unfavourable development, in which inflation goes higher than in the Riksbank's main scenario and becomes entrenched in the expectations of economic agents. Monetary policy must then become significantly tighter than in the main scenario to bring inflation down to the target.

There is good reason to assume that inflation will shift downwards significantly next year, which is described in more detail in Chapter 3. However, inflation is at its highest level in 30 years, at the same time as outcomes over most of the year have surprised on the upside. Future developments are therefore very hard to judge and there is a risk that inflation will become higher than in the Riksbank's main scenario. In this case, monetary policy may have to be adjusted in a tighter direction. By how much, however, depends on the underlying causes of the continued high inflation.

Unexpectedly high energy prices may demand tighter monetary policy

Energy prices have been high and variable over the last year and the Riksbank has regularly discussed the uncertainty surrounding both the energy prices themselves and the spillover effects they may have on other prices.[28] A scenario with higher

[28] See, for example, the article "Higher energy prices – how will other consumer prices be affected?", in *Monetary Policy Report*, February 2022, Sveriges Riksbank, and the article "What indicates that inflation will fall back next year?", in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

energy prices than in the Riksbank's forecast cannot be ruled out. In this case, inflation would also be unexpectedly high, as a result of several different effects.

Energy prices are included in the consumer price index, with a weight of approximately 6 per cent (see Figure 36 in Chapter 3 for an overview of price development in various components of the CPIF). A higher rate of increase in energy prices has therefore a *direct effect* on CPIF inflation.

Energy price rises also give rise to spillover effects on other prices, known as *indirect effects*. Some examples of such effects include higher fuel prices leading to more expensive taxi travel and higher electricity prices pushing up the price of hotel stays. There is a particularly strong link between energy and food prices. Rising energy costs usually affect the entire supply chain in the food industry, from farming to transport, processing, storage and sale.[29] In turn, food makes up almost 20 per cent of the basket in the CPIF.

Normally, higher energy prices would not necessarily have to lead to any adjustment at all of monetary policy. But in a situation when inflation is already very high, and the increase also depends to a high degree on the direct and indirect effects of rising energy prices, there are strong reasons for monetary policy to react, as there is a substantially higher risk than normal that inflation will rise further and more persistently. In the Riksbank's Business Survey, companies also confirm that energy costs are not normally very important for pricing but that they will have major significance going forward.[30] As was mentioned above, there is a clear link between the development of energy and food prices via indirect effects. Research also indicates that households' inflation expectations are substantially affected by goods that they purchase often and whose prices are easy to observe, as is the case with energy and food.[31]

In a scenario with unexpectedly high inflation driven by rising energy prices, tighter monetary policy can help to limit the spillover effects to other prices, i.e. the indirect effects.[32] The tighter monetary policy can also help long-term inflation expectations remain relatively unaffected and anchored at the inflation target. This reduces the risk of the higher energy prices affecting companies' pricing behaviour and wage formation, i.e. that *secondary effects* arise.

[29] See the article, "Many indications that inflation will be high this year and next year" in *Monetary Policy Report*, April 2022, Sveriges Riksbank.

[30] See "Costs accelerating, economy slowing down", *Riksbank's Business Survey*, September 2022, Sveriges Riksbank.

[31] See, for example, Vlasenko, P. and S.R. Cunningham (2015), "Capturing the Inflation that People Experience: The Everyday Price Index vs. the Consumer Price Index", *Working Paper* No 004, American Institute of Economic Research.

[32] The tighter monetary policy via a stronger krona can also marginally mitigate the direct effects by lowering energy prices measured in Swedish kronor.

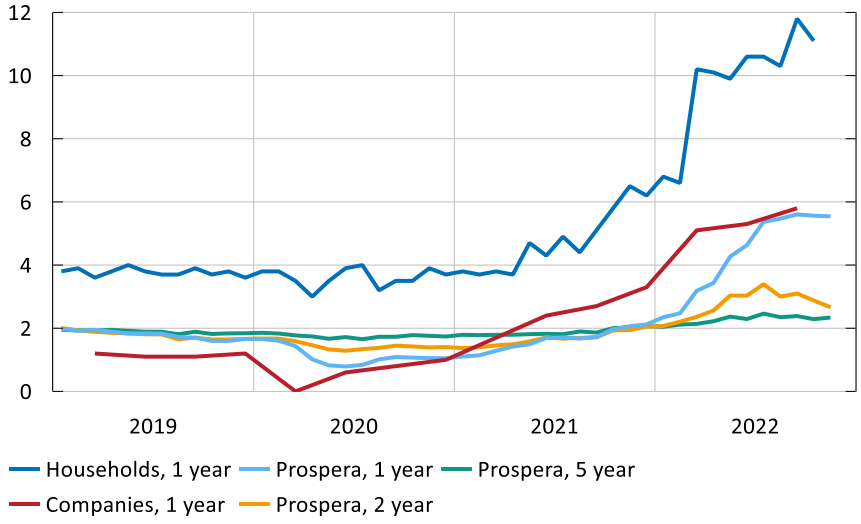
If inflation becomes entrenched in price and wage formation, a powerful monetary policy reaction will be required

Expectations among economic agents is affected by the inflation observed. High inflation over a longer time may increase the risk that price- and wage-setting will be affected by higher inflation expectations. One way to understand this is that agents' expectations become increasingly backward-looking, or adaptive, if inflation deviates considerably and for a long time from the inflation target so that confidence in the target weakens.[33]

Figure 42 shows that short-term inflation expectations in Sweden have risen heavily in step with the increasingly higher inflationary outcomes over the year. This particularly true of households. One conceivable explanation for this, as discussed above, is that they base their expectations to a large extent on food and energy prices, which have risen faster than inflation as a whole (see Figure 36 in Chapter 3). However, short-term expectation are also high among companies and money market participants (see Figure 42). On the other hand, inflation expectations five years ahead are relatively unaffected by the high inflation, which is an indication that confidence in the inflation target remains.

Figure 42. Inflation expectations

Per cent



Note. Quarterly data for companies, monthly data for others. Prospera refers to money market agents.

Sources: Kantar Prospera and National Institute of Economic Research.

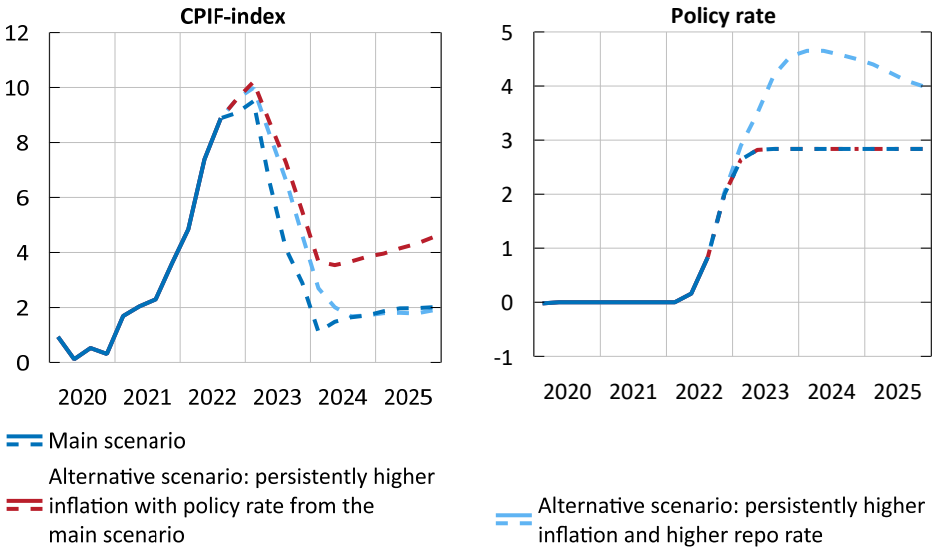
[33] For a description, see, for example, the speech by C. Mann (2022), 5 September 2022, "Inflation expectations, inflation persistence and monetary policy strategy", Bank of England.

A scenario in a macroeconomic model

A more unfavourable scenario would be inflation being driven up by higher domestic price pressures and rising inflation expectations. The scenario presented here is based on simulations in the Riksbank's macroeconomic model MAJA.[34] Earlier in the year, the Riksbank has previously described similar scenarios in the Monetary Policy Report.[35]

In the scenario, high inflation outcomes in the near term are assumed to be distributed across a broad set of product and service groups. We can understand this in terms of most prices in the CPIF, apart from energy, rising more rapidly than in the forecast.[36] This implies that economic agents start to expect that inflation will exceed 2 per cent also in the longer term. Companies would then start to raise their prices significantly and wages would rise substantially faster than in the Riksbank's main scenario. These factors would result in persistently high CPIF inflation if monetary policy does not react.[37] This is illustrated by the red line in the left-hand image in Figure 43.

Figure 43. Alternative scenario with persistently higher inflation
Annual percentage change and per cent



Sources: Statistics Sweden and the Riksbank.

Counteracting such a development requires a significantly higher policy rate than in the main scenario, as shown by the light blue line in the right-hand chart in Figure 43. Such a monetary policy is needed to ensure that inflation falls back and is close to

[34] For a detailed description of MAJA, see V. Corbo and I. Strid (2020), "MAJA: A two-region DSGE model for Sweden and its main trading partners", *Working Paper* No 391, Sveriges Riksbank.

[35] See the article "High energy prices – how will other consumer prices be affected?" in *Monetary Policy Report*, February 2022, Sveriges Riksbank, and Chapter 1 in *Monetary Policy Report*, April 2022, Sveriges Riksbank.

[36] Energy prices are assumed to develop in line with the Riksbank's main scenario.

[37] Underlying inflation, measured as the CPIF excluding energy, would reach approximately the same level as CPIF inflation at the end of the forecast period, around 4 per cent.

2 per cent at the end of the forecast period, as shown by the light-blue line in the left-hand chart in Figure 43.

In this scenario, considerable monetary policy tightening is required to bring inflation back to target. The tighter monetary policy in this inflationary scenario also entails greater strains for the real economy. GDP growth would be substantially lower and unemployment significantly higher than in the Riksbank's main scenario during the forecast period.

It is difficult to say in advance how monetary policy will react

The alternative scenario just described should be seen as an illustration of a possible monetary policy strategy when inflation becomes unexpectedly high. In practice, monetary policy could act differently. There may be information other than inflation outcomes indicating that a more or less significant monetary policy reaction is needed than in the alternative scenario. For example, a changed economic outlook can affect the scope of companies for increasing prices. In addition, the MAJA model has been estimated using data collected since 1995 and captures average effects since then. The effects look different today. Firstly, inflation has been low and stable for most of the period since 1995, meaning that companies and households have not taken much account of it in their economic decisions. There is a much greater willingness to do this in the current high inflation environment, which can be seen in companies' pricing behaviour, for example. This phenomenon is usually called *rational inattention*.[38] Secondly, the effects of a changed monetary policy may be greater than described in the scenario in MAJA, as households' high indebtedness and short interest-rate fixation periods are increasing the interest-rate sensitivity in their consumption.[39]

It is worth pointing out that inflation may also turn out to be lower than in the Riksbank's main scenario. However, such a scenario would probably be significantly easier to manage, primarily by deferring continued policy rate rises.

[38] The Federal Reserve, among others, has highlighted this; see the speech by J. Powell (2022), 26 August 2022, Jackson Hole. "Monetary Policy and Price Stability".

[39] See the article "Higher sensitivity to interest rates in the Swedish economy", in *Monetary Policy Report*, September 2022, Sveriges Riksbank, and P. Stockhammar, I. Strid and P. Tornese (2022), "How has the impact of the policy rate on consumption changed when the debt-to-income ratio has risen?", *Economic Commentaries* No. 9, Sveriges Riksbank.

ARTICLE – Why has the krona weakened this year?

The krona has weakened against several currencies in 2022. The most important explanation for this is Russia's invasion of Ukraine and its consequences of high inflation and uncertainty in international financial markets. A further explanation for the depreciation of the krona is supplied by the rapid rate increases from the Federal Reserve, which have contributed to relatively higher US interest rates and a stronger dollar. As long as uncertainty in financial markets remains, it is likely that the Swedish krona will continue to be volatile. In the long term, however, the krona is expected to strengthen. Changes in the krona exchange rate affect inflation. But the Riksbank's assessment is that the sharp increase in inflation has primarily been driven by factors other than the depreciation of the krona.

In November 1992, the fixed exchange rate was abandoned in Sweden and the inflation target was introduced in January 1993.[40] The Riksbank thus has no target for the Swedish krona exchange rate. However, changes in the krona exchange rate can affect both inflation and the real economy. For the Riksbank, the effects on inflation are particularly important to analyse and understand.[41] The krona has weakened since the turn of the year and this is helping to push the already high inflation up further. We will now examine some conceivable explanations for the weak krona exchange rate in more detail.

Global financial uncertainty has led to a stronger dollar and weaker krona ...

The year has been characterised by the consequenses of the COVID-19 pandemic and Russia's invasion of Ukraine. This has led to rapidly rising inflation and unpredictability regarding both growth in the real economy and monetary policy challenges for the world's central banks. Monetary policy has become tighter and uncertainty on the global financial markets has increased. In an environment of elevated financial uncertainty, currencies in small open economies like Sweden have a tendency to depreciate.[42] In trade-weighted terms, the krona has depreciated by just over six per cent since the turn of the year (see Figure 17 in Chapter 2). Depreciation has been greatest against the US dollar (see Figure 44).

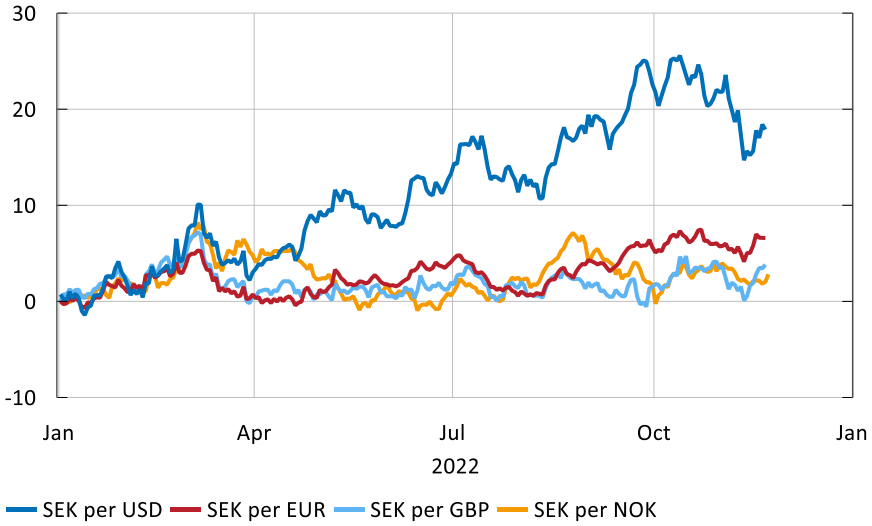
[40] This started to apply from 1995.

[41] See the article "The significance of the krona for inflation" in *Account of Monetary Policy*, 2018, Sveriges Riksbank, for a review of how a change in the exchange rate affects inflation.

[42] See, for example, P. Bacchetta and P. Chikhani (2021), "On the weakness of the Swedish krona", *Economic Review* No. 1, Sveriges Riksbank.

Figure 44. The krona has weakened most against the US dollar

Per cent

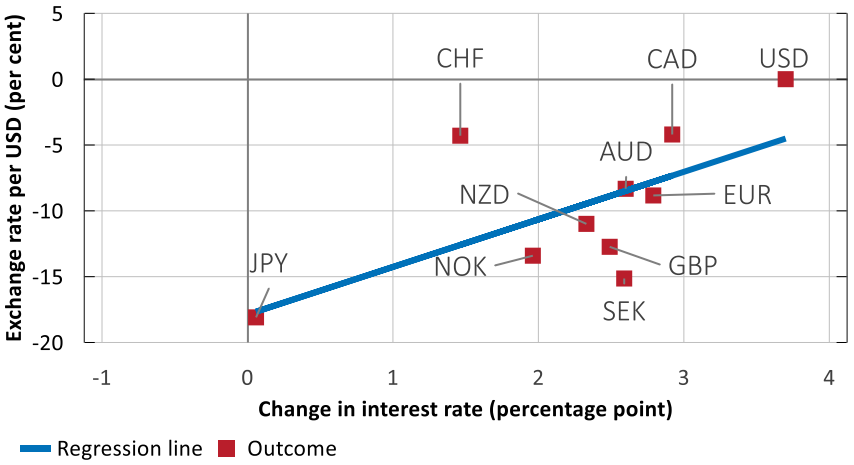


Sources: Bank of England, Macrobond and the Riksbank.

Figure 45 shows that the dollar has strengthened since the turn of the year against a large number of currencies and that yields have risen more in the United States than in other countries. The war in Ukraine has affected the general security situation and energy prices more in Europe than in the United States, which could be one explanation for the dollar's general strength against European currencies over the year.

Figure 45. The US dollar has strengthened against other currencies at the same time as the yield spread between the United States and other countries has increased

Per cent and percentage points



Note. The figure's y-axis shows the change in the countries' currencies against the dollar since the turn of the year. Negative values indicate that the dollar has strengthened against each country's currency respectively. The figure's x-axis shows how the countries yield spread compared to US yield has changed during the same period. German yield has been used for the euro area. The regression line indicates that the exchange rate has weakened more against the dollar for countries with larger negative yield spread compared to US yield. The observation for USD has only been added to the figure and is not included in the estimate.

Source: Macrobond.

The krona has not just weakened against the dollar but also against many other currencies, albeit to a lesser extent (see Figure 44 and Figure 45). One further conceivable explanation for the weak krona that has sometimes been discussed concerns the risks on the Swedish housing market.[43] The falling housing prices over the year could have led foreign investors to want to reduce their Swedish exposures, which may have contributed to a weaker krona.

... but higher US interest rates have probably also contributed

As inflation started to rise earlier in the United States than in many other areas, the Federal Reserve started its policy rate increases relatively early. The increased yield spreads in relation to other countries have probably also contributed to the strengthening of the dollar (see Figure 45). Since the start of the year, the Federal Reserve has raised its policy rate by 3.75 percentage points, at the same time as it has indicated that continued raises of just over one percentage point are likely.[44] The Riksbank has also raised its policy rate significantly since the start of the year, albeit to a lesser extent than the Federal Reserve. This has led to an increased spread between

[43] See, for example, "Svenska kronan befinner sig i ett bottenläge" (Swedish krona reaches rock bottom) | SvD, "Danske spår rekordsvag krona mot dollarn" (Danske Bank forecasts record weak krona against dollar) (di.se) and "Svenska kronan – därför är den så svag mot Euro och dollar" (The Swedish krona – why it's so weak against the euro and dollar)| SvD.

[44] See press release from Federal Reserve, 2 November 2022. Federal Reserve Board - Federal Reserve issues FOMC statement.

Swedish and US yields, which, in turn, has contributed to the weakening of the krona. However, a statistical model of the krona's exchange rate against the dollar and euro provides empirical evidence that the most important explanation for the krona's depreciation over the year is the impaired risk sentiment in global financial markets. Yield spreads only seem to explain a smaller part.[45]

Several factors indicate that the krona will strengthen in the long run

The Riksbank's assessment of the future development of the krona can be divided into a short-term analysis and an assessment of the long-term equilibrium exchange rate.[46]

The short-term analysis aims to investigate how conditions in financial markets will affect the krona's movements in the next quarters. The Riksbank assesses that the financial uncertainty over the year provides an important explanation for the weakened krona exchange rate. As long as uncertainty remains, it is likely that the Swedish krona will continue to be volatile. But as the picture becomes clearer as regards how much ventral banks in the United States and other countries need to raise the policy rate for inflation to fall back, uncertainty in financial markets is expected to wane and the krona expected to strengthen.

In the longer term, the Riksbank's krona forecast is based on an assessment of the development of the real exchange rate.[47] The real exchange rate reflects the price level in Sweden compared to the rest of the world, measured in the same currency. A theory in order to determine the long-term real exchange rate seizes on the assertion that the price level measured in the same currency is higher in richer countries. Another theory is based on the real exchange rate moving in a way that leads to balance in foreign trade. A measure of Sweden's wealth in comparison with other countries is GDP per capita compared to the rest of the world. Another measure of this is how export prices develop compared to import prices, also known as the terms of trade. The idea is that a country that exports expensive goods and imports cheap goods gets richer. A current account surplus would indicate that the real exchange rate needs to strengthen to balance the surplus in the longer term, as a stronger real exchange rate tends to increase imports and decrease exports. A statistical estimate using these explanatory factors indicates that the real krona exchange rate is currently weaker than its equilibrium level. In the long run, the real krona exchange rate should therefore strengthen. As the price level in Sweden compared to the rest of the world moves relatively slowly, the forecast for the nominal exchange rate follows a similar path to the real one, implying an appreciation over the next few years (see Figure 40 in Chapter 3).

[45] The model explains the krona exchange rate in terms of the price of oil, yield spreads and the US stock market index, with the stock market index being used as an indicator of global financial risk sentiment. For a more detailed description, see A.M. Ceh (2020), "Forecasting short-term movements in the Swedish krona", *Staff Memo*, November, Sveriges Riksbank.

[46] See the article "The Riksbank's exchange rate forecasts", in *Account of Monetary Policy*, 2019, Sveriges Riksbank.

[47] For an overview, see the articles "Analysing exchange rates – a few key concepts" and "The Riksbank's exchange rate forecasts" in *Account of Monetary Policy*, 2019, Sveriges Riksbank.

The high inflation is explained primarily by factors other than a weak krona

Changes in the krona exchange rate can affect inflation via different channels. The most direct channel is via import prices at the producer level. If the import price is contracted in foreign currency, a weakening of the krona leads immediately to a changed import price in kronor. But several circumstances mean that the exchange rate has a significantly weaker correlation to aggregate consumer prices.[48]
The Riksbank's previous estimates indicate that a 10-percent depreciation in the krona exchange rate leads to higher inflation of approximately 0.5 percentage points.[49]

According to KIX, the krona has depreciated by around 5 per cent this year and CPIF inflation has risen from below 4 to just over 9 per cent, an increase of approximately 5 percentage points. The Riksbank's assessment is therefore that the upturn in inflation has primarily been driven by factors other than the depreciation of the krona. Similarly, an appreciation of the krona exchange rate is not expected to be a decisive factor in the expected decline in inflation during the forecast period. If the krona does not appreciate in accordance with the forecast, however, it may be somewhat more difficult to bring inflation down to target than it otherwise would have been. Consequently, it is important for the Riksbank to continue to monitor and analyse the development of the krona.

[48] See the article "The significance of the krona for inflation" in *Account of Monetary Policy*, 2018, Sveriges Riksbank, for a review of how a change in the exchange rate affects inflation.

[49] See the article "The impact of the exchange rate on inflation" in *Monetary Policy Report*, December 2016, Sveriges Riksbank.

Forecast tables

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

Table 1. Policy rate forecast

Per cent, quarterly averages

	2022q3	2022q4	2023q1	2023q4	2024q4	2025q4
Policy rate	0.83 (0.82)	2.00 (1.90)	2.64 (2.35)	2.84 (2.53)	2.84 (2.44)	2.84

Source: The Riksbank.

Table 2. Inflation

Annual percentage change, annual average

	2021	2022	2023	2024	2025
CPIF	2.4 (2.4)	7.6 (7.8)	5.7 (5.1)	1.5 (1.6)	2.0
CPIF excl. energy	1.4 (1.4)	5.9 (5.8)	5.5 (4.6)	2.4 (2.3)	2.0
CPI	2.2 (2.2)	8.3 (8.6)	9.3 (8.5)	3.0 (2.2)	2.4
HICP	2.7 (2.7)	7.9 (8.1)	5.8 (5.3)	1.5 (1.7)	1.9

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

	2021	2022	2023	2024	2025
Household consumption	6.0 (6.0)	3.7 (3.8)	-0.8 (-0.6)	1.6 (1.8)	1.9
Public consumption	2.8 (2.8)	-0.2 (-0.2)	1.4 (1.2)	1.4 (1.5)	0.9
Gross fixed capital formation	6.3 (6.3)	5.0 (5.0)	-4.3 (-2.8)	-1.3 (-1.0)	1.9
Inventory investments*	0.4 (0.4)	1.1 (1.1)	-0.5 (-0.2)	0.0 (0.0)	0.0
Exports	7.9 (7.9)	4.6 (4.8)	0.4 (1.1)	1.8 (2.1)	2.4
Imports	9.6 (9.6)	8.1 (8.6)	-0.5 (0.9)	1.4 (1.9)	2.3
GDP	5.1 (5.1)	2.7 (2.7)	-1.2 (-0.7)	1.0 (1.1)	1.7
GDP, calendar-adjusted	4.9 (4.9)	2.7 (2.7)	-1.0 (-0.5)	1.0 (1.1)	1.9
Final domestic demand*	5.0 (5.0)	2.8 (2.9)	-1.1 (-0.7)	0.8 (0.9)	1.6
Net exports*	-0.3 (-0.3)	-1.2 (-1.3)	0.4 (0.1)	0.2 (0.1)	0.1
Current account (NA), percentage of GDP	5.4 (5.4)	3.3 (3.3)	3.8 (3.5)	4.5 (4.0)	4.9

*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 specified

	2021	2022	2023	2024	2025
Population, aged 15-74	0.0 (0.0)	0.3 (0.3)	0.3 (0.3)	0.4 (0.4)	0.4
Potential hours worked	-0.2 (-0.1)	0.6 (0.6)	0.6 (0.6)	0.6 (0.6)	0.6
Potential GDP	1.7 (1.8)	1.6 (1.7)	1.5 (1.7)	1.5 (1.7)	1.5
GDP, calendar-adjusted	4.9 (4.9)	2.7 (2.7)	-1.0 (-0.5)	1.0 (1.1)	1.9
Hours worked, calendar-adjusted	2.2 (2.2)	2.2 (2.3)	-0.1 (0.2)	0.0 (-0.2)	0.7
Number of employed	1.0 (1.0)	2.7 (2.9)	-0.2 (0.0)	-0.1 (-0.2)	0.6
Labour force	1.2 (1.2)	1.2 (1.4)	0.4 (0.4)	0.4 (0.2)	0.6
Unemployment	8.8 (8.8)	7.4 (7.5)	7.9 (7.9)	8.3 (8.2)	8.3
GDP gap**	0.2 (-0.1)	1.5 (1.0)	-1.0 (-1.2)	-1.5 (-1.8)	-1.1
Hours gap**	-1.4 (-1.6)	0.1 (0.1)	-0.6 (-0.3)	-1.2 (-1.1)	-1.1

* Per cent of labour force
**Percentage deviation from the Riksbank's assessed potential levels

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 unless otherwise specified

	2021	2022	2023	2024	2025
Hourly wage, NMO	2.6 (2.6)	2.8 (2.8)	3.7 (3.6)	3.6 (3.3)	3.4
Hourly wage, NA	2.7 (2.7)	4.0 (4.0)	3.7 (3.5)	3.6 (3.4)	3.4
Employer's contributions*	0.7 (0.7)	-0.2 (-0.2)	0.0 (0.0)	0.0 (0.0)	0.0
Hourly labour costs, NA	3.4 (3.4)	3.8 (3.8)	3.7 (3.5)	3.6 (3.4)	3.4
Productivity	2.6 (2.6)	0.5 (0.4)	-0.9 (-0.7)	1.0 (1.3)	1.2
Unit labour costs	1.6 (1.6)	3.3 (3.4)	4.6 (4.2)	2.6 (2.1)	2.1

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

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

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

Table 6. International forecasts

Annual percentage change unless otherwise specified

GDP	PPP weights	KIX weights	2021	2022	2023	2024	2025
Euro area	0.12	0.47	5.3 (5.2)	3.3 (3.2)	-0.2 (0.2)	1.3 (1.5)	1.6
United States	0.15	0.09	5.9 (5.7)	1.8 (1.7)	0.2 (0.8)	1.5 (1.7)	2.3
China	0.19	0.09	8.6 (8.6)	3.3 (3.3)	4.4 (4.9)	4.5 (5.0)	4.6
KIX weighted	0.75	1.00	5.7 (5.6)	2.9 (2.7)	0.9 (1.1)	1.9 (2.0)	2.2
The world (PPP	1.00	—	6.0 (6.1)	3.3 (3.1)	2.4 (2.9)	3.1 (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	2021	2022	2023	2024	2025
Euro area (HICP)	2.6 (2.6)	8.5 (8.1)	5.0 (5.3)	2.1 (2.1)	2.1
United States	4.7 (4.7)	8.1 (8.1)	4.0 (3.9)	2.3 (2.4)	2.3
KIX weighted	3.1 (3.1)	8.1 (7.6)	5.1 (4.5)	2.5 (2.3)	2.3

	2021	2022	2023	2024	2025
International policy rate, per cent	-0.3 (-0.3)	0.5 (0.5)	2.9 (2.4)	2.8 (2.3)	2.5
Crude oil price, USD/barrel Brent	70.7 (70.7)	99.9 (100.9)	88.2 (88.5)	80.4 (81.4)	76.0
Swedish export market	9.1 (9.1)	7.8 (6.3)	1.4 (2.0)	3.0 (3.5)	3.2

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

	2021	2022	2023	2024	2025
The Riksbank's policy rate	0.0 (0.0)	0.7 (0.7)	2.8 (2.5)	2.8 (2.5)	2.8
10-year rate	0.3 (0.3)	1.5 (1.5)	2.3 (2.1)	2.5 (2.4)	2.7
Exchange rate, KIX, 18 November 1992 = 100	114.3 (114.3)	121.0 (119.9)	122.2 (119.3)	120.2 (117.4)	118.0
General government net lending, percentage of	-0.1 (-0.1)	0.6 (0.7)	-0.2 (0.0)	-0.5 (-0.3)	-0.3

Sources: Statistics Sweden and the Riksbank.

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