Monetary Policy Report

June 2023

Monetary Policy Report

Regularly or upon request, the Riksbank shall submit an account of monetary policy operations to the Riksdag's Committee on Finance (Chapter 11, Section 1, Sveriges Riksbank Act [2022:1568]). These accounts are presented both in specific material for assessing monetary policy and in the Monetary Policy Reports.

The Riksbank's Monetary Policy Report is published five times a year. The purpose of the report is to summarise the basis for the monetary policy decisions and the assessments made by the Executive Board of the Riksbank. The report describes the deliberations made by the Executive Board when deciding on 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 Executive Board currently considers to be well-balanced.

Through the Monetary Policy Reports, the Riksbank also informs the general public about monetary policy, which makes it easier for external parties to follow, understand and evaluate the Riksbank's actions.

The Executive Board made a decision on the Monetary Policy Report on 28 June 2023. The report can 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 – The Riksbank's strategy" 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 – The Riksbank's strategy

- According to the Sveriges Riksbank Act, the overriding objective of monetary policy is to maintain permanently low and stable inflation. The Riksbank has defined the objective as a target of 2 per cent for the annual change in the consumer price index with a fixed interest rate (the CPIF). The inflation target should function as a benchmark for price- and wage-setting in the economy.
- Without neglecting the inflation target, the Riksbank shall moreover contribute to a balanced devel¬opment of production and employment. The Riksbank thus conducts a policy of flexible inflation targeting. In connection with each monetary policy decision, the Executive Board assesses which monetary policy is well-balanced. If inflation deviates from the inflation target, it is normally a question of finding a balance between how rapidly it shall be brought back to target and the effects on real economic developments.
- It is neither possible nor desirable to conduct a monetary policy that always keeps inflation at exactly 2 per cent. Changes occur constantly in the economy that make inflation vary in a way that cannot be predicted with sufficient precision, or counteracted in the short term. The important thing is that households and companies have confidence in the target. Prolonged deviations from the target risk affecting expectations of the normal level of inflation in the economy.
- As it takes time for monetary policy to impact fully on inflation and the real economy, monetary policy is guided by economic forecasts. There is no general answer to the question of how quickly the Riksbank aims to bring inflation back to 2 per cent if it deviates from the target. Too rapid a return may in some situations have very negative effects on production and employment, while too slow a return may weaken the credibility of the inflation target.
- The Riksbank can weigh risks linked to developments in the financial markets into its monetary policy decisions as long as confidence in the inflation target is clearly anchored, and expected and overall target achievement regarding inflation, production and employment is improved when viewed over a longer horizon. With regard to preventing an unbalanced development of asset prices and indebtedness, however, it is of prime importance that there is an efficient financial regulatory framework and effective supervision.
- The Riksbank's main monetary policy tool is the policy rate. When necessary, this can be supple¬mented with other measures, including purchases or sales of government securities, for example to ensure that monetary policy impacts effectively on the interest rates faced by households and companies. The Riksbank may buy and sell assets other than government securities if there are exceptional grounds. Such exceptional grounds may arise during times of financial turmoil or crisis, for example.
- The Riksbank strives for open and clear communication. This makes it easier for economic agents to make sound economic decisions and monetary policy will also be easier to evaluate. The Riksdag's Committee on Finance, the National Audit Office and the General Council of the Riksbank monitor and evaluate the conducted monetary policy in different ways within their respective remits.
- The Executive Board normally holds five monetary policy meetings a year. The monetary policy decision and Monetary Policy Report are presented together with a press release at 09.30 on the day following the monetary policy meeting. The Monetary Policy Report describes economic develop¬ments and justifies the monetary policy decision. The decision and press release make it clear how the individual Executive Board members voted and provide the main justification for any reserva¬tions entered. A press conference is held later the same day. Just under two weeks after each monetary policy meeting, minutes from the meeting are published, which set forth the reasoning of the different Executive Board members.

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IN BRIEF – Monetary policy June 2023

Inflation is falling but is still far too high. This affects households with small margins in particular, but has a negative impact on the whole economy. To ensure that inflation continues downwards and stabilises around the target within a reasonable period of time, monetary policy needs to be tightened further. The Executive Board has therefore decided to raise the policy rate by 0.25 percentage points to 3.75 per cent. The Executive Board has also decided to increase the pace of the sales of government bonds from SEK 3.5 to 5 billion per month.

In Sweden, CPIF inflation continued to fall in April and May, to a level somewhat below the Riksbank's most recent forecast. One important explanation for this development is the surprisingly large falls in energy and food prices. However, stripped of energy prices, inflation is declining more slowly and is marginally higher than expected. This is mainly because service prices are increasing faster than expected, which could reflect continued high demand pressures in parts of the Swedish economy. The weak krona also contributes to keeping inflation up, and there is a risk that the pass-through of the Krona to price increases is greater in the current high-inflation situation.

Demand in the Swedish economy needs to dampen to enable inflation to fall back towards the target within a reasonable period of time. The policy rate is now at a level that is contractionary, which contributes to the expectation that GDP will fall somewhat going forward, at the same time as the labour market cools. CPIF inflation is expected to fall and to be close to the target in 2024.

The forecast is that the policy rate will be raised at least one more time this year and after that will remain at a contractionary level for a relatively long period of time. However, there is still considerable uncertainty, and new information and how it is assessed to affect the economic outlook and inflation prospects will be decisive in determining the design of monetary policy.

1 Inflation is falling but is still far too high

Following the rapid upturn last year, global inflation has begun to fall back from high levels. Many central banks are continuing to tighten monetary policy to bring inflation down to the target.

In Sweden, CPIF inflation continued to fall in April and May, to a level somewhat below the Riksbank's most recent forecast. One important explanation for this development is the surprisingly large falls in energy and food prices. However, stripped of energy prices, inflation is declining more slowly and is marginally higher than expected. This is mainly because service prices are increasing faster than expected, which could reflect continued high demand pressures in parts of the Swedish economy. The weak krona also contributes to keeping inflation up, and there is a risk that the pass-through of the Krona to price increases is greater in the current high-inflation situation. For inflation to return to the target of 2 per cent within a reasonable period of time, the Executive Board assesses that monetary policy needs to be tightened further.

The Executive Board has therefore decided to raise the Riksbank's policy rate by 0.25 percentage points, to 3.75 per cent. Moreover, the Executive Board has decided to increase the pace of the sales of government bonds from SEK 3.5 to 5 billion per month. The forecast is that the policy rate will be raised at least one more time this year. However, there is still considerable uncertainty, and new information and how it is assessed to affect the economic outlook and inflation prospects will be decisive in determining the design of monetary policy.

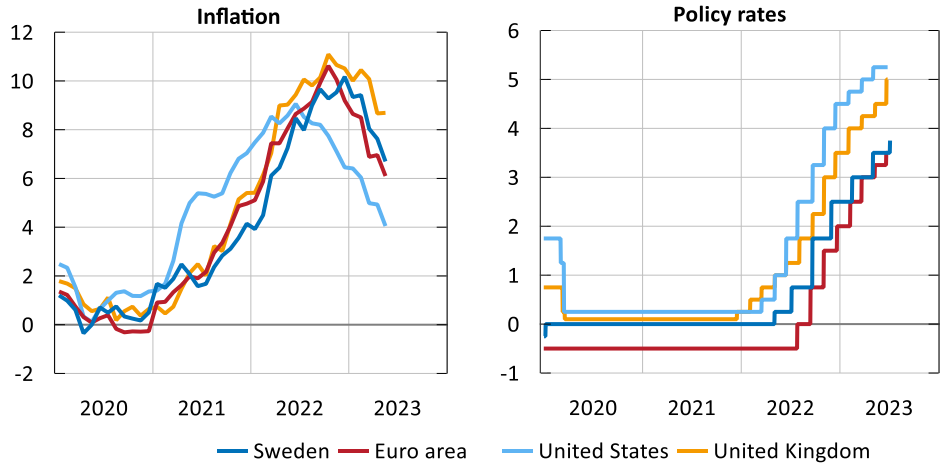
1.1 Inflation is falling but uncertain how quickly

Continued monetary tightening abroad

Following the rapid upturn in inflation abroad in recent years, price increases are now on the way down (see figure 1). This is largely due to sharply falling energy prices, but also to food prices increasing significantly more slowly than before. Following the rapid policy rate hikes last year, central banks abroad have continued to adapt monetary policy in a contractionary direction (see the description in Chapter 2). The banking turmoil that characterised a large part of the monetary policy discussion in March and April has recently calmed down significantly, due largely to rapid interventions by central banks, governments and authorities in the United States and Europe.

Figure 1. Inflation and policy rates

Per cent



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

Sources: Eurostat, Statistics Sweden, US Bureau of Labor Statistics, U.K. Office for National Statistics, Bank of England, ECB, Federal Reserve and the Riksbank.

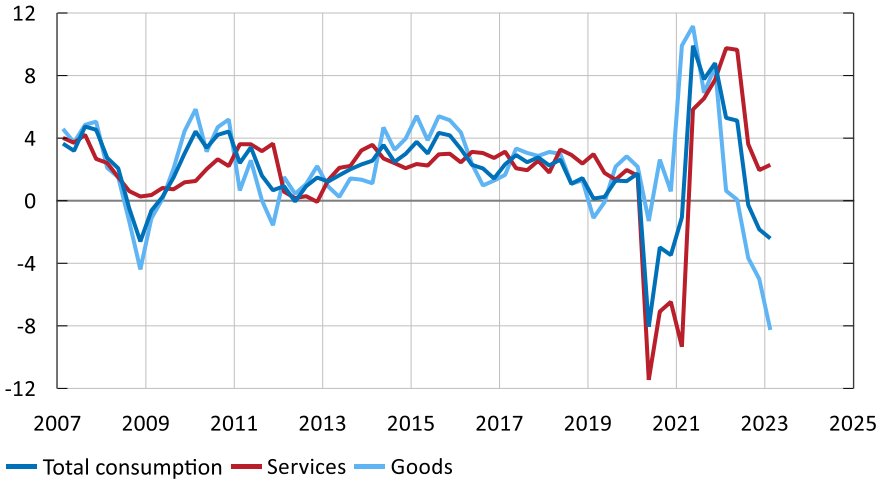
Growth around the world has been in line with the Riksbank's previous assessment. However, the developments of the labour market has remained stronger than expected, and unemployment is still at historically low levels in both the United States and the euro area (see the article “Strong labour market in Sweden and abroad”). The slowdown in growth this year is nevertheless expected to result in unemployment eventually rising.

Growth in Sweden unexpectedly high at the beginning of the year, but interest rate sensitive sectors show clear signs of weakness

GDP growth for the first quarter was somewhat higher than expected, at the same time as the outcomes for 2021 and 2022 were revised upwards. A closer examination of the National Accounts shows that developments differ considerably between different parts of the economy. For instance, exports and investment excluding housing are developing strongly. But household consumption is slowing down rapidly. While the demand for services such as hotel and restaurant visits has been sustained fairly well, demand for goods is falling considerably (see figure 2). Housing prices and housing investment, which are affected substantially by rising interest rates, have fallen quickly, although some stabilisation of housing prices can be detected during the first half of the year.

Figure 2. Household consumption

Annual percentage change



Note. Household consumption according to the National Accounts.

Source: Statistics Sweden.

As in many parts of the world, the labour market in Sweden has been stronger than expected. One possible explanation for this is that demand for staff-intensive services such as hotel and restaurant visits has been strong in the recovery from the pandemic. A further possible and partly related explanation is that companies are retaining their workforces to a greater degree over the business cycle. This is probably because the difficulties in recruiting staff after the pandemic are still fresh in their memories. The fact that real wages have fallen may also have helped strengthen the demand for labour (see further the article “Strong labour market in Sweden and abroad”).

Inflation is falling – but from historically high levels

Last year, Swedish inflation rose to levels not seen since the early 1990s – prior to the introduction of the inflation target. The high inflation is being felt by households with small margins in particular.[2] But inflation is also problematic for the economy as a whole. Against this backdrop, it is extremely important that it falls back to 2 per cent within a reasonable period of time, so that confidence in the inflation target can be maintained. And now there are several signs that developments are moving in the right direction.

Global market prices for commodities and energy have fallen substantially. Consumer prices for energy and food, which have earlier risen rapidly, are now falling and contributing to the slowdown in inflation. CPIF inflation continued to fall in April and May and is somewhat lower than expected. It now amounts to 6.7 per cent, according to the most recent outcome for the month of May. Underlying inflation, measured as the CPIF excluding energy, has also been slowing down for some time. But here the

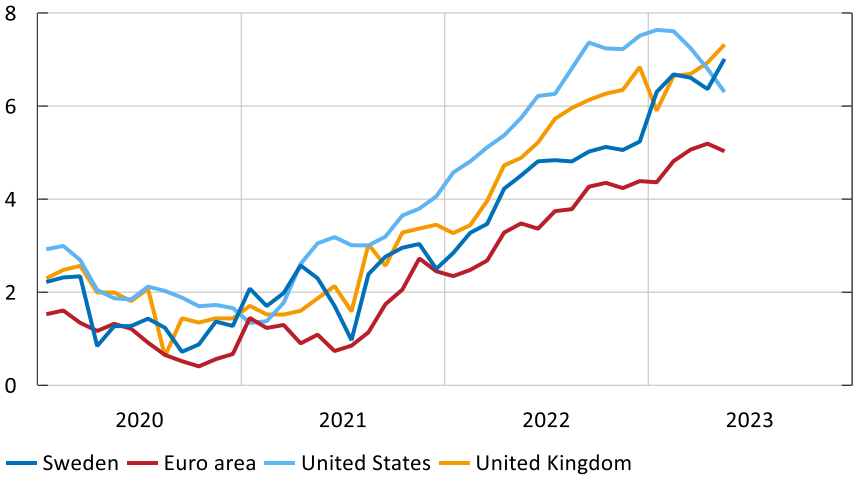
[2] For a discussion of the experiences of various households in the United States, see for example ”Variation in the Inflation Experiences of Households”, speech by L. Brainard, 5 April 2022, Federal Reserve. For a description of developments in Sweden, see ”Den personliga inflationen påverkas av vad som konsumeras” (Personal inflation is affected by what is consumed), an article in *Sveriges ekonomi – statistiskt perspektiv*, no. 12, 2022, Statistics Sweden.

decline is slower. CPIF inflation excluding energy is now 8.2 per cent according to the most recent outcome for the month of May, which is marginally higher than the Riksbank's previous forecast.

Although inflation is falling, it is still far too high, and the picture of how prices will develop going forward is not clear. Some indicators point to prices rising at a slower pace, for instance, prices at earlier stages of production and plans for price increases in the National Institute of Economic Research's Economic Tendency Survey. On the other hand, the outcome for May showed that service prices are increasing faster than expected, which could reflect continued high demand pressures in parts of the Swedish economy. Although household consumption has fallen substantially recently, the demand for services has been maintained relatively well, which means that service prices are expected to continue to increase relatively rapidly for some time to come. In addition, the household sector as a whole has had access to large savings after the pandemic, which could be used for consumption (see also Chapter 3). Services account for almost 50 per cent of the CPIF. The continued rapid increase in service prices follows an international pattern and points to risks that inflation both in Sweden and abroad may linger at a high level (see figure 3).

Figure 3. Services prices

Annual percentage change



Note. Refers to services prices in the CPIF for Sweden, in the HICP for the euro area and in the CPI for the United Kingdom and the United States.

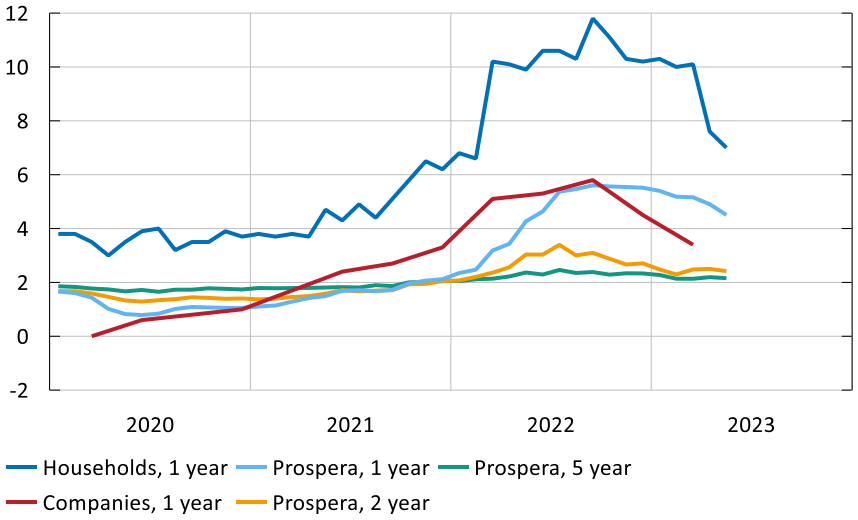
Sources: Eurostat, Statistics Sweden, U.K. Office for National Statistics and U.S. Bureau of Labor Statistics.

The conditions for inflation to fall back are improved by inflation expectations having continued to fall (see figure 4). The fact that long-term expectations have been close to the target despite inflation rising sharply is a sign of the strength of monetary policy. The Industrial Agreement was clear confirmation that the social partners have considerable confidence in the inflation target. However, the settlement also includes a clear expectation that if necessary the Riksbank should continue to adjust monetary policy to bring down inflation within the fairly near future, so that real wages can begin to increase again.

The fact that the high inflation is a major socioeconomic problem has also made its mark on fiscal policy. The Government has clearly communicated that the proposed reforms shall not hamper the Riksbank's ambition to bring down inflation.
The Riksbank's forecast assumes that fiscal policy will not on the whole affect the pre-requisites for bringing down inflation significantly.

Figure 4. 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.

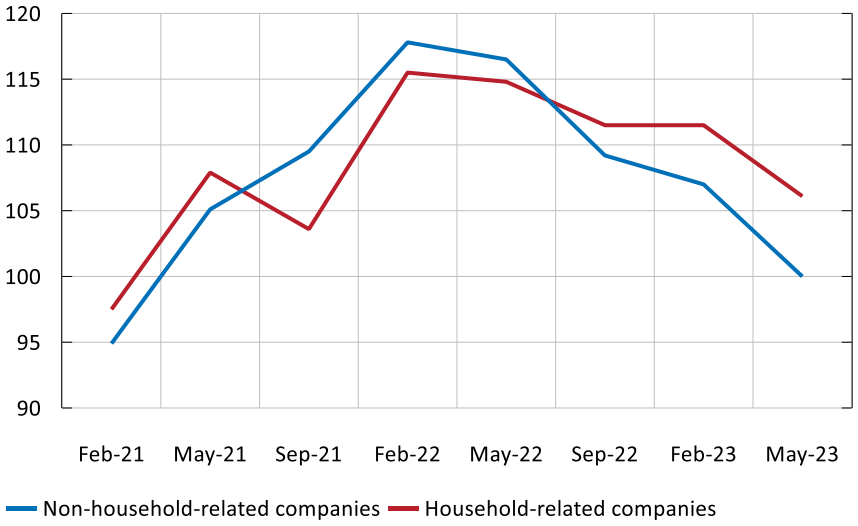
1.2 Monetary policy needs to be tightened further

Companies' price plans dampening but at a slow pace

Both the Tendency Survey of the National Institute of Economic Research and the Riksbank's Business Survey show that the price plans have been dampened, although this is mainly in the manufacturing sector. Among the companies in household-related sectors, price plans are still clearly elevated (see figure 5).[3]

Figure 5. Price plans according to the Riksbank's Business Survey

Index, mean value = 100, standard deviation = 10.



Note. Refers to price plans for the coming 12 months. The index figures show a standardised value of the net figures for companies responding to the question on whether sales prices will be raised or lowered in the coming twelve months. Non-household-related companies refer to manufacturing and construction companies and those companies that mainly sell services to companies. Household-related companies refer to the trade sector and those companies that mainly sell services to households.

Source: The Riksbank.

Depreciation of the krona counteracts downturn in inflation

Following the previous monetary policy decision, the krona exchange rate has reached the weakest levels since the financial crisis 2008–2009. The Riksbank has previously identified two main possible explanations for the weak krona.[4] Firstly, financial turmoil tends to reduce demand for currencies in small open economies like Sweden. And secondly, interest rates over the past year have risen more abroad than in Sweden, which reduces the relative return on krona investments. A third factor highlighted by currency analysts is international investors' unease regarding the interest-rate sensitivity in the Swedish economy, linked to the problems in the real estate

[3] See "Bargain hunting intensifies", *the Riksbank's Business Survey*, May 2023, Sveriges Riksbank.

[4] See the article "Why has the krona weakened this year?" in *Monetary Policy Report*, November 2022, Sveriges Riksbank.

sector and the highly indebted households. Set against this are the fact that the Swedish banks are profitable and well-capitalised and are well-placed to manage a worse situation.[5] Nor have there been any significant fluctuations in financial prices recently that can be connected to risks in the Swedish banking system.[6] Moreover, Sweden has very strong public finances, which also reduces the risks in the economy as a whole. The Riksbank's forecast that the krona will strengthen going forward is based on an assessment of the real exchange rate's long-term level (see further in Chapter 3).

The Riksbank's assessment is that the development of the krona is neither the main reason for the upturn in inflation last year, nor the factor that will determine whether inflation falls going forward. However, relationships based on data from when inflation was low may have led to the pass-through from changes in the krona exchange rate to inflation being underestimated. The fact that companies have had a greater tendency to pass on their cost increases to consumer prices when inflation is high probably also applies to cost increases due to the weak krona causing import prices to rise (see also the Fact Box "Pass-through of the exchange rate when inflation is high").

The Riksbank's Business Survey also mentions the krona as an important factor behind planned price increases at consumer-related companies.[7] The fact that the krona has depreciated – and is expected to be weaker in the coming years, in relation to the assessment in April – contributes to raising the forecast for inflation and thereby also the need for monetary tightening. But there is considerable uncertainty regarding both the future krona exchange rate and its pass-through to inflation. Section 1.4 describes a scenario where inflation is higher than expected, due to a combination of a weaker krona and a greater pass-through to inflation.

It is also important to point out that Sweden has a floating exchange rate, combined with an inflation target. The Riksbank therefore has no target for the Swedish krona exchange rate.

[5] See *Financial Stability 2023:1*, Sveriges Riksbank.

[6] This applies, for instance, to the yields on covered bonds, which the banks use to fund their mortgage lending, and the costs of ensuring themselves against future credit losses in Swedish banks, so-called CDS-premiums (credit default swaps).

[7] See "Bargain hunting intensifies", *the Riksbank's Business Survey*, May 2023, Sveriges Riksbank.

FACT BOX – Pass-through of the exchange rate when inflation is high

The Riksbank does not have a target for the exchange rate, but follows the development of the krona closely, as changes in the exchange rate affect inflation. Since the beginning of 2022, the krona exchange rate has had a weakening trend.[8] This has coincided with the rapid upturn in inflation, which has raised the questions of what significance the exchange rate has had for developments. If companies have had a greater tendency than before to raise their prices and pass on higher costs to their customers, the exchange rate may have been an unexpectedly large factor behind the price increases via more expensive imports. The pass-through of the exchange rate to inflation may thus have been greater than normal.

Many studies have analysed and tried to estimate how important changes in the exchange rate are for companies' pricing. They have found, for instance, that the pass-through of the exchange rate to producer prices tends to be greater than the pass-through to consumer prices. There are also differences between different countries, where a greater pass-through is normally found in small open economies. Based on historical correlations for Sweden, a simple rule of thumb indicates that if the exchange rate weakens permanently by 10 per cent according to the KIX index, this will be followed by an inflation rate that is around 0.5 percentage points higher after one year.[9]

One research question that has been in particular focus recently is whether the pass-through varies, depending on the state of the economy. One argument in favour of this is that companies become more eager to pass on increased costs in a more uncertain environment where there is concern that costs will remain high over a longer period of time, which is the case in an environment where inflation is high. The pass-through from the exchange rate and high import costs could then be relatively larger. Last year, inflation rose quickly, which could have meant that the pass-through of the exchange rate has increased.

Although the data are limited – after all, the period of high inflation extends only one year back in time – new research has attempted to investigate this in various ways. The results indicate, for instance, that the pass-through can be greater when inflation is high, when one is expecting a high rate of inflation going forward, and when uncertainty over economic developments and the geopolitical situation in general is

[8] For a discussion of the reasons behind the depreciation last year and the development of the krona in a longer perspective, see the article "Why has the krona weakened this year?" in the *Monetary Policy Report* November 2022 and C-J. Belfrage, J. Hansson and A. Vredin (2023), "How should we view the development of the krona?", *Economic Commentaries. no.* 3, Sveriges Riksbank.

[9] See the article "The impact of the exchange rate on inflation" in the *Monetary Policy Report* December 2016 , Sveriges Riksbankand the article "The significance of the krona for inflation" in the *Account of Monetary Policy* 2019, Sveriges Riksbank. Other studies also attain results in line with this rule of thumb, see for instance E. Ortega and C. Osbat (2020), Exchange-rate pass-through in the euro area and EU countries, *Occasional Paper* No.241, ECB.

considerable.[10] This would support the hypothesis that the pass-through of the exchange rate to inflation was greater last year than the usual rule of thumb has indicated. It also means that there are unusually large risks in the assessment of the exchange rate pass-through for some time to come (see the scenarios in Section 1.4).

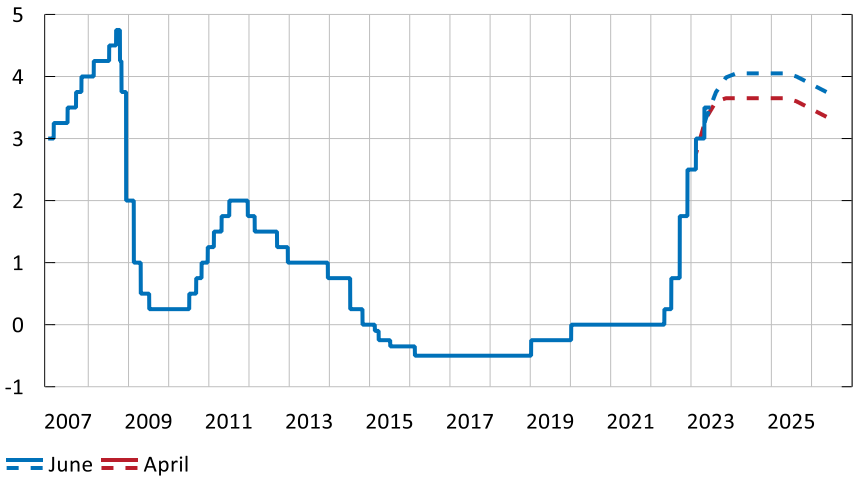
Policy rate raised by 0.25 percentage points to 3.75 per cent

In April, the Riksbank communicated that the interest rate would probably be raised by 0.25 percentage points in June or September. Despite inflation falling, it is still far too high. Underlying inflation measured as the CPIF excluding energy is declining at a slower pace than CPIF inflation, which is linked to the strong growth in service prices. To ensure that inflation continues downwards and stabilises around the target within a reasonable period of time, monetary policy needs to be tightened further.
The Executive Board has therefore decided to raise the policy rate by 0.25 percentage points to 3.75 per cent.

The forecast is that the policy rate will be raised at least one more time this year and after that will remain at a contractionary level for a relatively long period of time (see figure 6). However, there is still considerable uncertainty regarding how much monetary policy tightening will be required for inflation to fall and stabilise close to the target of 2 per cent. But the Riksbank will do what is required. New information and how it is assessed to affect the economic outlook and inflation prospects will be decisive in determining the monetary policy stance.

Figure 6. The Riksbank's policy rate

Per cent



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

Source: The Riksbank.

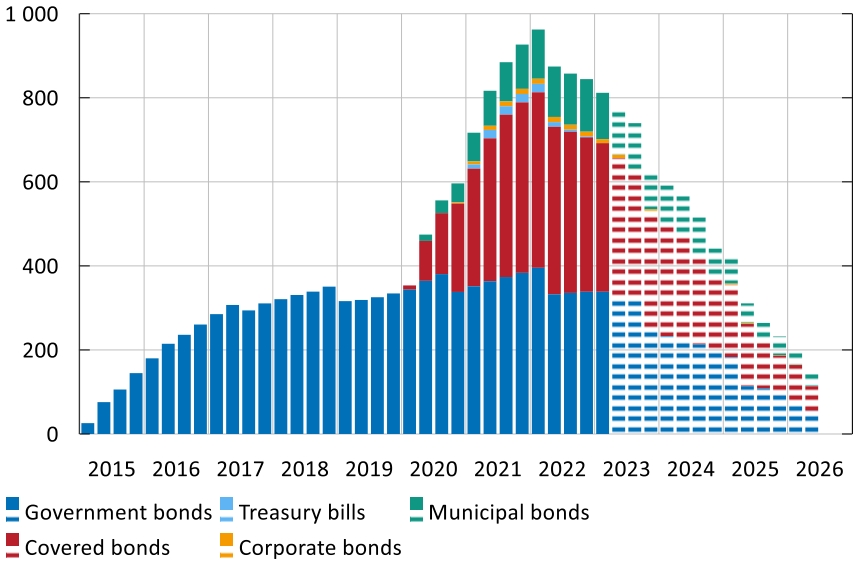
[10] See Y. Swallow, M. Firat, D. Furceri and D. Jiménez (2023), "State-Dependent Exchange Rate Pass-Through", *Working Paper* No. 2023/086, IMF; C. Anderl and G. Caporale (2023), "Nonlinearities in the exchange rate pass-through: The role of inflation expectations", *International Economics*, 173; N. Cheikh, Y. Zaied and H. Ameur (2023), "Recent Developments in Exchange Rate Pass-Through: What Have We Learned from Uncertain Times?", *Journal of International Money and Finance*, article no. 102805.

The Riksbank extends the sales of government bonds

In April, the Riksbank initiated sales of government bonds at a value of SEK 3.5 billion per month. The sales have functioned well, with good demand from the market. The Executive Board assesses that it is appropriate to increase the pace of the normalisation of the Riksbank's balance sheet somewhat, by extending the sales from SEK 3.5 to 5 billion per month with effect from September this year. If the sales continue at the pace now decided, and other bonds are kept until maturity, the asset holdings will amount to just below SEK 150 billion at the end of the forecast period (see figure 7).

Figure 7. Riksbank's asset holdings

Nominal amounts, SEK billion



Note. The striped bars represent a forecast based on maturities and decisions that no asset purchases will be made after 2022 and that government bonds will be sold at a nominal value of SEK 3.5 billion per month from April and SEK 5 billion per month September and onwards.

Source: The Riksbank.

The yields on Swedish government bonds are still unusually low in relation to the expected policy rate (see also Chapter 2). The Riksbank assesses that increased sales of government bonds will contribute to a slight rise in government bond yields, but that the pass-through to deposit and lending rates to households and non-financial companies will be limited. The measure will also increase the amount of safe and easily marketable assets in the Swedish market. It may make it easier for foreign agents to invest in Swedish assets and also improve the functionality of the financial markets. All in all, this can contribute to a stronger krona and improve the Riksbank's capacity to reduce inflation.

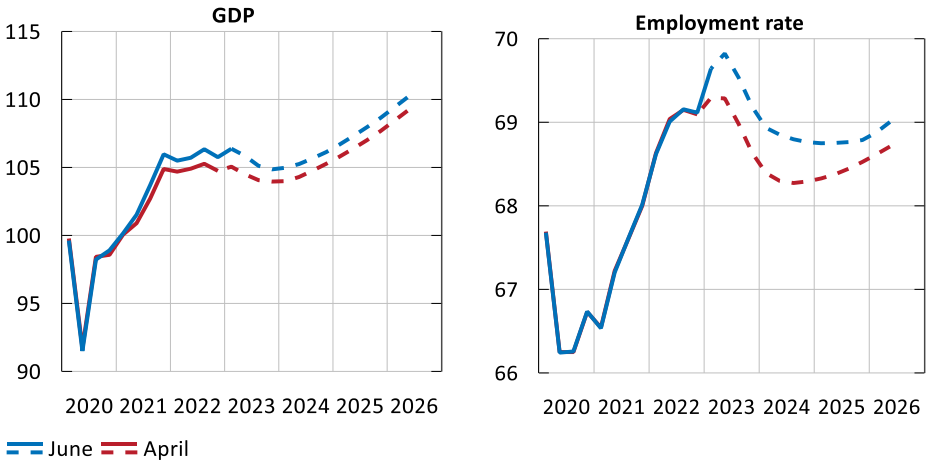
The Riksbank is not planning to sell its holding of non-government bonds. If monetary policy needed to be tightened further, increases in the policy rate are the main and most effective tool. Sales of government bonds should be characterised by predictability and contribute to a gradual normalisation of the Riksbank's balance sheet.

Economic activity slowing down and inflation falling towards the target

Demand in the Swedish economy needs to dampen to enable inflation to fall back towards the target within a reasonable period of time. The policy rate is now at a level that is contractionary, which contributes to the expectation that GDP will fall somewhat going forward, while the employment rate declines (see figure 8). Together with an expected strengthening of the krona in the coming years, this will help CPIF inflation to fall back and be close to the target in 2024. It will take a little longer for inflation measured as the CPIF excluding energy to come close to 2 per cent (see figure 9). The forecasts are described in more detail in Chapter 3.

Figure 8. GDP and the employment rate in Sweden

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

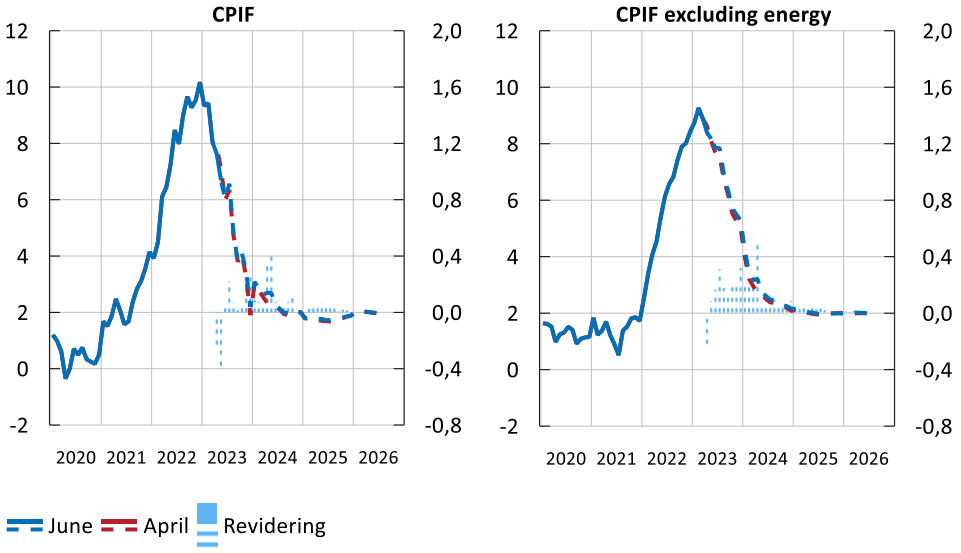


Note. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Figure 9. The CPIF and the CPIF excluding energy

Annual percentage change (left) and percentage points (right)



Note. Solid line refers to outcome, dashed line represents the Riksbank's forecast. The revision refers to the current forecast compared with the Monetary Policy Report in April.

Sources: Statistics Sweden and the Riksbank.

1.3 Continued high uncertainty regarding the economic outlook

There are several factors that make economic developments abroad and in Sweden uncertain. Ultimately, these factors can also affect Swedish inflation prospects and the Riksbank's monetary policy.

At the end of February last year, Russia began its invasion of Ukraine. A significant economic effect of the war was a substantial rise in electricity and food prices last year. Global market prices for commodities and electricity prices have fallen back substantially recently, but developments in the coming years are still uncertain. Food prices could also start to rise again as a result of problems with transports from Ukraine to the rest of Europe. There is also uncertainty regarding climate and weather with regard to food prices. Southern Sweden and parts of Europe are already experiencing droughts, which could cause food prices to rise faster again later this year.

The international banking turmoil that arose in March has decreased further since the monetary policy meeting in April. Signs of a tightening of financial conditions have primarily been visible in the US economy, and the problems in foreign banks have had a relatively small impact on financial markets in Sweden. The focus in Sweden has instead been to a greater degree directed at the highly indebted commercial real estate sector. Some companies have recently encountered difficulties as a result of the rising interest rates. There are considerable differences between different real estate companies, however, and those with lower leverage are better equipped to deal with higher interest rates. Moreover, the banks are well placed to continue

lending to robust companies, and many real estate companies are now taking measures to reduce indebtedness. But in a bad scenario, the problems in the highly indebted commercial real estate companies can lead to more serious negative consequences for financial stability and thereby also for developments in the real economy. [11]

The Riksbank has for a long time been pointing out that Swedish households have become more sensitive to interest rates than before. This is due to their increased indebtedness and the short interest-rate fixation periods on their mortgages.[12] But despite the short interest-rate fixation periods, the policy rate hikes implemented so far have not fully impacted all households with mortgages (see a more detailed description in Chapter 2). There is a risk that household demand will slow down more than expected when the interest hikes take full effect. The household sector as a whole built up large savings during the pandemic that have been used to sustain consumption. But as there is no up-to-date microdata on how households' savings are distributed, it is difficult to assess how households will adapt their consumption to the rising interest rates.

One factor that could lead to unexpectedly high demand is the stronger-than-expected development of the Swedish labour market over the past year. If this development continues and the employment rate is maintained, it could lead to disposable incomes, and therefore also demand, probably being higher than in the Riksbank's forecast.

One sector of the Swedish economy that has already been affected fairly substantially by the Riksbank's policy rate hikes is the housing market. Housing prices have fallen by almost 15 per cent from the peak at the beginning of 2022. Even if there have been signs of stabilisation recently, the Riksbank's forecast is still that prices will fall somewhat further in the coming year. If price developments instead continue to stabilise, so that prices are higher than in the Riksbank's forecast, household consumption in particular could develop more strongly than expected, and perhaps also housing investment. But there is also a risk that prices will fall even further than is now being assumed, with the reverse effect on demand and inflation.

1.4 Alternative scenarios for inflation and monetary policy

The risks to economic activity abroad and in Sweden can indirectly affect inflation prospects and monetary policy in Sweden, so that the policy rate is different from in the main scenario. But there are also more direct risks regarding the development of inflation going forward, both in Sweden and abroad.

The Riksbank's assessment is that the risks for future inflation during the year have become more symmetrical. This section therefore describes two scenarios for

[11] See *Financial Stability 2023:1*, Sveriges Riksbank.

[12] See the fact box "More households choosing variable interest rates", in *Financial Stability* 2023:1, Sveriges Riksbank.

inflation: one where inflation does not fall back as expected in the near term, and one where inflation falls faster than expected. The scenarios are based on simulations in the Riksbank's macroeconomic model MAJA, like those published in the April Monetary Policy Report.[13]

One difference compared to April is that the scenario with higher inflation than expected is based on an unexpectedly weak krona, combined with a greater exchange rate pass-through, which affects inflation in Sweden via higher import prices. The scenario with lower inflation than expected is similar to that presented in April and based on domestic factors. Both scenarios show the development of underlying inflation measured as the CPIF excluding energy.

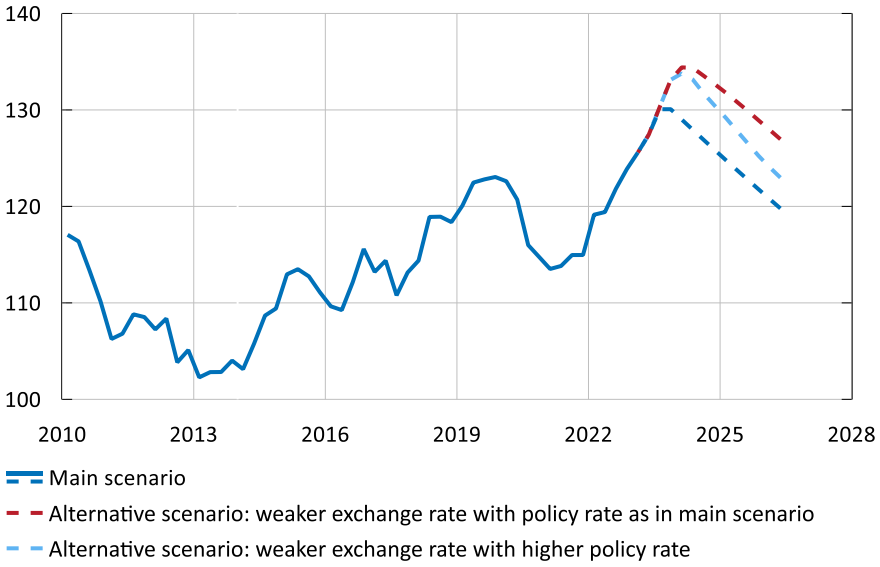
Weaker krona and stronger pass-through lead to higher inflation and policy rate

In an alternative scenario with higher inflation than expected, it is assumed that the krona will continue to depreciate and remain at a weaker level than in the forecast over the coming years (see figure 10). The reason for the weaker krona is assumed to be increased uncertainty in international financial markets, which causes investors to move financial assets away from smaller currencies, such as the Swedish krona, to larger and more liquid currencies. The red line in figure 10 shows how the exchange rate could develop in that scenario, if monetary policy does not react. The depreciation of the krona will continue until the beginning of next year, and it will eventually be 5 per cent weaker than in the forecast.

[13] See Section 1.4 in *Monetary Policy Report*, April 2023, Sveriges Riksbank.

Figure 10. Scenario with weaker exchange rate than in the main scenario

Index, 18 November 1992 = 100

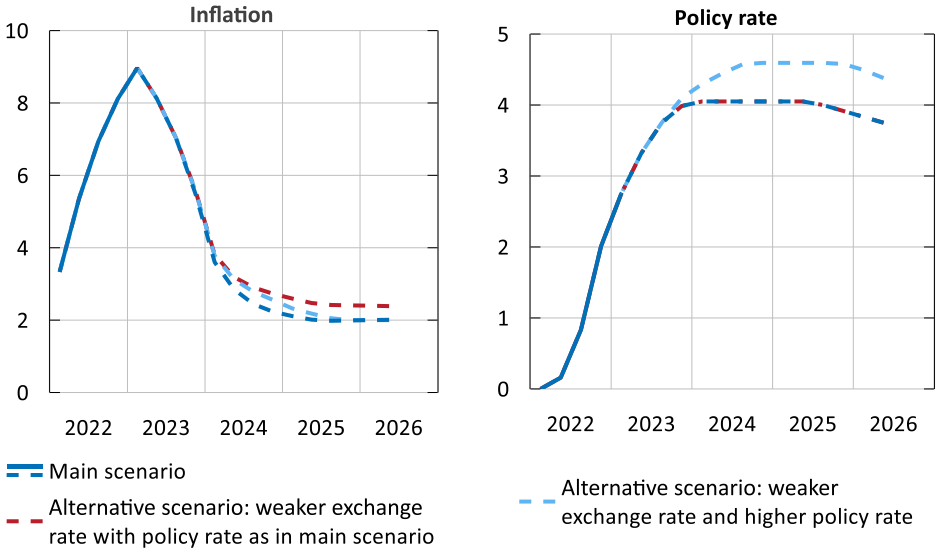


Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. Since 28 March 2022, the index has been calculated against 31 countries as the Russian rouble has been excluded. A higher value indicates a weaker exchange rate.

Source: The Riksbank.

Figure 11. Inflation and policy rate in the scenario with a weaker exchange rate than in the main scenario

Annual percentage change and per cent



Note. Inflation refers to the CPIF excluding energy.

Sources: Statistics Sweden and the Riksbank.

In this scenario, the weaker krona is expected to occur in combination with a larger exchange-rate pass-through to import prices and inflation (see Fact Box "Pass-through of the exchange rate when inflation is high"). The assumption in the scenario is that

the pass-through is roughly twice as large as in the Riksbank's forecast. The red line in the right-hand image in figure 11 above shows that inflation would not fall all the way back to the target, if monetary policy is unchanged.

There are strong reasons for monetary policy to react with a higher policy rate if inflation proves to be higher than expected. Even if movements in the exchange rate can be observed daily, it is difficult to determine how large their pass-through will be to inflation. It is assumed in the scenario that the Riksbank will gradually realise that the pass-through is greater than normal. Towards the end of the year, it is therefore assumed that the Riksbank will raise the policy rate more than in the forecast, and that the increases will also continue next year. This is illustrated by the light blue line in the left-hand image in figure 11. The monetary policy reaction in this scenario means that the policy rate becomes just over 0.5 percentage points higher than in the forecast. In this way, inflation can come close to the target towards the end of the forecast period. However, compared with the forecast, it will take somewhat longer.

The pale blue line in figure 10 illustrates an important point: The tighter monetary policy that stabilises inflation around the target does not mean that the krona rate is back at the same level as in the forecast. It reflects the fact that monetary policy is aimed at the inflation target and not at attaining a specific level for the krona exchange rate.

The higher policy rate also dampens the real economy, so that the GDP level falls and unemployment becomes higher. However, compared with monetary policy not reacting quickly and instead needing to raise the policy rate at a later stage, the real economic costs are small. If monetary policy takes a passive stance with regard to unexpectedly high inflation, there is a risk that economic agents will lose confidence in the inflation target, which could cause inflation to become entrenched at a high level. This would then require the policy rate to be raised sharply to bring inflation back to the target, with major stress for the real economy.

If inflation falls back faster than expected, the policy rate will be lower – but not immediately

There are now increasingly strong indications that the largest price increases are now behind us, and that inflation will fall in the near term. For instance, prices for energy and commodities have fallen, as well as food prices. The declining household demand also reduces the opportunities to pass on cost increases to consumer prices.

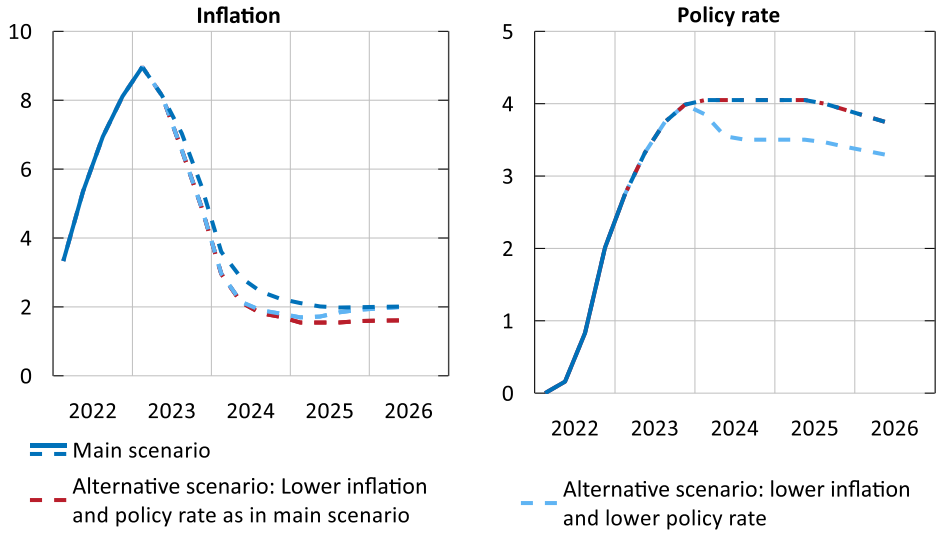
These circumstances make it conceivable that inflation will fall faster than in the Riksbank’s main scenario, which is shown in the red line on the left-hand image in figure 12. If monetary policy develops as in the forecast, inflation would continue to fall and more sustainably attain a level just below the target of 2 per cent.

A significant share of the earlier large cost increases has been passed on to consumers, which indicates a shift in pricing behaviour among companies. There is a possibility that rapidly falling costs going forward could correspondingly have a more dampening effect than normal on consumer prices.

It is more likely that inflation will fall back faster than expected if demand is weaker than in the forecast, as companies' opportunities to raise their prices are then further reduced. The alternative scenario therefore also assumes a weaker development of the real economy than in the forecast.

Figure 12. Scenario with lower inflation than in the main scenario

Annual percentage change and per cent



Note. Inflation refers to the CPIF excluding energy.

Sources: Statistics Sweden and the Riksbank.

The Riksbank has previously communicated that lower-than-expected inflation would be much less of a problem than continued higher-than-expected inflation. It would probably therefore be necessary for inflation to be lower than expected over a slightly longer period of time before the policy rate is cut. The light blue line in the right-hand image in figure 12 shows a possible monetary policy in a scenario with a faster downturn in inflation. Such a monetary policy could mean that the interest rate cuts do not begin until next year, when it is clear that inflation has become much lower than in the Riksbank's forecast. Thanks to the lower interest rate, inflation would after a time stabilise closer to 2 per cent, which is shown by the light blue line in the left-hand image in figure 12. As monetary policy does not need to be as contractionary to bring down inflation, the real economic developments will also be stronger than otherwise, so that GDP and unemployment are closer to the Riksbank's forecast.

Several other conceivable scenarios for inflation and monetary policy going forward

The scenarios illustrated here aim to describe some important factors and circumstances that could make inflation become higher or lower than in the Riksbank's forecast. In practice, however, deviations from the forecast are often very difficult to explain and have many different causes. It is therefore difficult to say in advance exactly how monetary policy may need to be designed to return inflation to the target if it were to develop in an unexpected manner going forward.

2 Calmer financial markets despite elevated risks

The financial markets have stabilised after the banking turmoil at the start of March, but a development that still risks quickly deteriorating. According to market pricing, policy rates are expected to increase further, but the time at which policy rates are expected to peak differs among central banks. The krona weakened in 2022 and this depreciation has continued since the monetary policy meeting in April. Several factors may have contributed to this but, as the Riksbank has previously pointed out, the krona depreciation is not compatible with the development of interest rate differentials and other fundamental factors.

Overall, the transmission of the Riksbank's monetary policy is deemed to be functioning well. As many households and companies are highly indebted and have short interest-rate fixation periods, policy rate hikes have a relatively rapid impact on the Swedish economy. Credit growth continues to slow for both households and companies and is now on historically low levels.

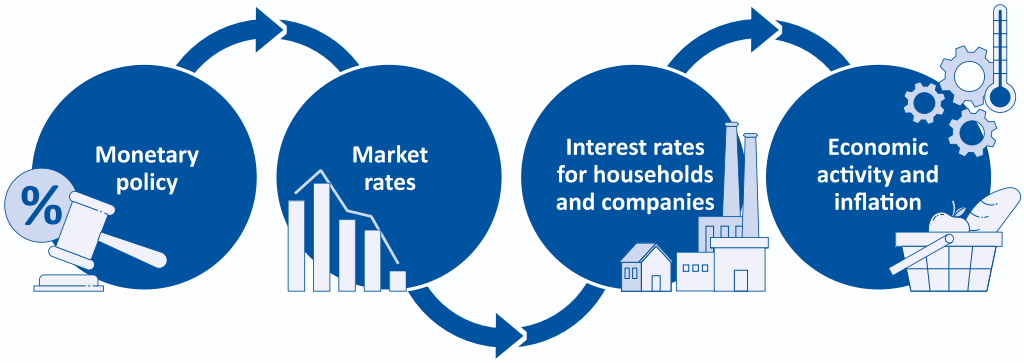
2.1 Financial markets have stabilised

The banking turmoil that marked the financial markets in March has subsided following resolute measures by central banks and authorities in the United States and Europe. These events show how vulnerabilities in the financial system can be exposed when economic conditions change rapidly and unexpectedly, and how difficult it is to predict where problems will arise. Since the Monetary Policy Report in April, the financial markets have stabilised but the risk that a stressed situation will arise remains elevated. This is partly reflected by equity prices for US banks in particular, which remain below the levels reported in early March. The risk of further turmoil in the financial markets also increased at the end of May, when the United States approached its debt ceiling and risked defaulting on interest payments and other obligations. This unease decreased again with the decision to suspend the debt ceiling temporarily.[14]

[14] This decision applies until 1 January 2025.

Transmission – from monetary policy to inflation[15]

The policy rate has a direct effect on short-term market rates, such as the rates on interbank loans and treasury bills. However, expectations surrounding the future policy rate also affect the development of longer-term market rates, such as the yields on government bonds, covered bonds and corporate bonds. Some market rates affect the banks' funding costs and, through that, the interest rates faced by households and companies too. In turn, these interest rates affect consumption, investment and, ultimately, inflation.



Many central banks are continuing to raise policy rates

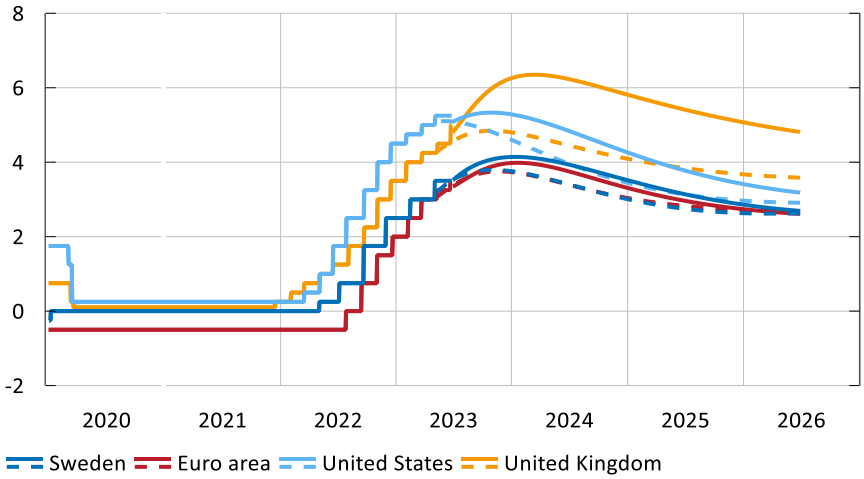
Like the Riksbank, many central banks have raised their policy rates rapidly over the last year (see figure 13 and table 1). During the spring, some central banks communicated that monetary policy seems to be having a restraining effect on the economy and that future rate hikes may be made at a slower pace or paused. However, several central banks that had paused rate rises have raised the rate at more recent meetings, highlighting the prevailing uncertainty around economic developments. No central bank has signalled that it would be appropriate to start cutting interest rates. Instead, the intention was rather to wait and analyse the effects of earlier rate hikes.

The economic situation remains characterised by high inflation and central banks are signalling that incoming data will affect the pace, scope and direction of monetary policy in the period ahead. Monetary policy decisions are being taken on a meeting-by-meeting basis and interest rates may be raised again if outcomes indicate a stronger future inflation trend. However, the ECB has clearly signalled that it intends to raise the rate at its July meeting. Currently, market pricing suggests that policy rates will rise further but expectations differ among central banks as to when policy rates will peak. In the longer term, market participants expect lower policy rates (see figure 13).

[15] The fact box briefly describes how monetary policy affects inflation via the interest rates faced by households and companies. However, monetary policy also acts via other channels. One important such channel is the effect monetary policy has on inflation expectations, which, in turn, affect price- and wage-formation. Examples of other channels include the exchange rate and household wealth. For a more detailed description of the transmission mechanism, see: https://www.riksbank.se/en-gb/monetary-policy/what-is-monetary-policy/how-monetary-policy-affects-inflation/.

Diagram 13. Policy rates and policy 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 27 June 2023. Dashed lines represent expectations immediately prior to the monetary policy meeting in April.

Sources: National central banks and the Riksbank.

Table 1. Monetary policy abroad

	Policy rate at start of 2022	Current policy rate	Expected policy rate at end of December 2023	Status of asset holdings
ECB	-0.50	3.50	4.0	Partly compensating for maturing bonds in one of the asset portfolios[16]
Federal Reserve	0–0.25	5–5.25	5.3	Partly compensating for maturing bonds
Bank of England	0.25	5.00	6.3	Initiated sales in autumn 2022
Norges Bank	0.50	3.75	4.3	Has not purchased any assets for monetary policy purposes
Bank of Canada	0.25	4.75	5.1	No compensatory purchases
Riksbank	0	3.75	4.1	Sales initiated in April 2023

Note. Per cent. Expected policy rate according to market pricing 27 June 2023, rounded to the nearest tenth of a percentage point.

Sources: Bloomberg, national central banks and the Riksbank.

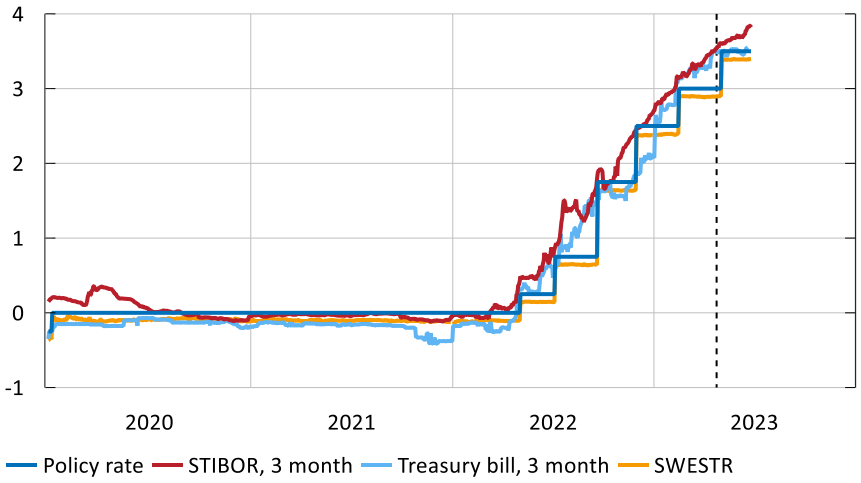
[16] The ECB has chosen to terminate compensatory purchases for the asset portfolio APP (Asset Purchase Programme) as of July. Compensatory purchases for the central bank's other asset portfolio PEPP (Pandemic Emergency Purchase Programme) are planned to continue until at least the end of 2024.

Short-term interest rates signal expectations that interest rates about to peak

The Riksbank's policy rate hikes, initiated in April 2022, have been transmitted to both short-term and long-term market rates (see figure 14 and figure 15). The decisions in February to sell government bonds and increase the volume of Riksbank Certificates offered have also marginally contributed to the rising rates. Short-term interest rates are close to the policy rate.

Diagram 14. The Riksbank's policy rate and short-term market rates

Per cent

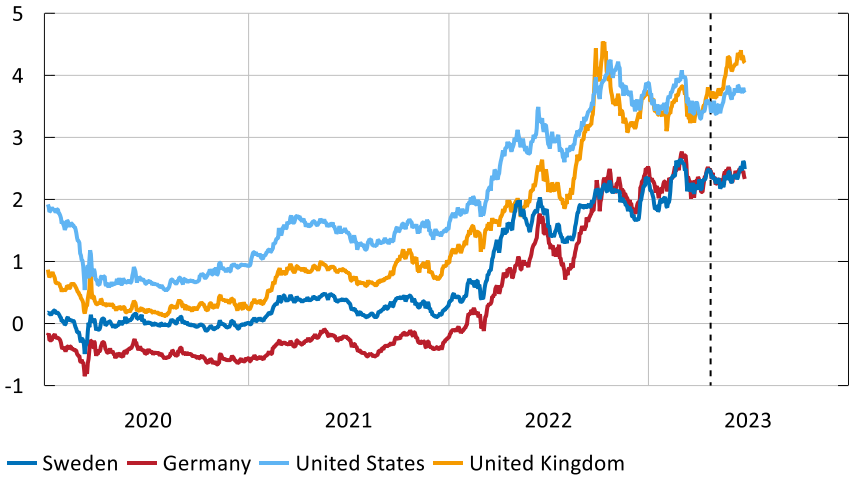


Note. SWESTR falls very sharply on the last banking day of each year, values that have been omitted from this figure. The dashed line marks the date of the monetary policy meeting in April.

Sources: SFBF, Refinitiv and the Riksbank.

Diagram 15. Yields on 10-year government bonds

Per cent



Note. 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 time of the monetary policy meeting in April.

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

In 2022, yields on risky bonds in Sweden rose more than the expected policy rate, as measured using so-called swap rates (see figure 16).[17] It is common for these spreads to increase when uncertainty is high and investors are turning to safer assets.[18] Of these risky yields, it is yields on corporate bonds that have increased most, although covered bonds and municipal bonds have also increased. Covered bond yields were previously on about the same level as municipal bond yields but have risen signify-cantly more over the last year. This is probably due to concern over the more interest-rate sensitive real estate market and to the Riksbank concluding its net purchases of covered bonds in 2021 and discontinuing asset purchases completely the following year.

Government bond yields have risen less than the swap rates since the end of 2021, reflecting rising demand for safe assets in turbulent times. However, market rates for risky bonds have recently started to stabilise and are now marginally higher than at the time of the April Monetary Policy Report (see figure 16).

Historically, volatility on the Swedish financial markets has clearly covaried with volatility on the US financial markets. US measures are thus a good indicator also of volatility on the Swedish markets. Financial contracts reflecting expected volatility on the bond market in the United States, measured according to the so-called MOVE index, increased in conjunction with the rate hikes of 2022 and also slightly in conjuncttion with the banking turmoil in March (see figure 17). Elevated volatility on

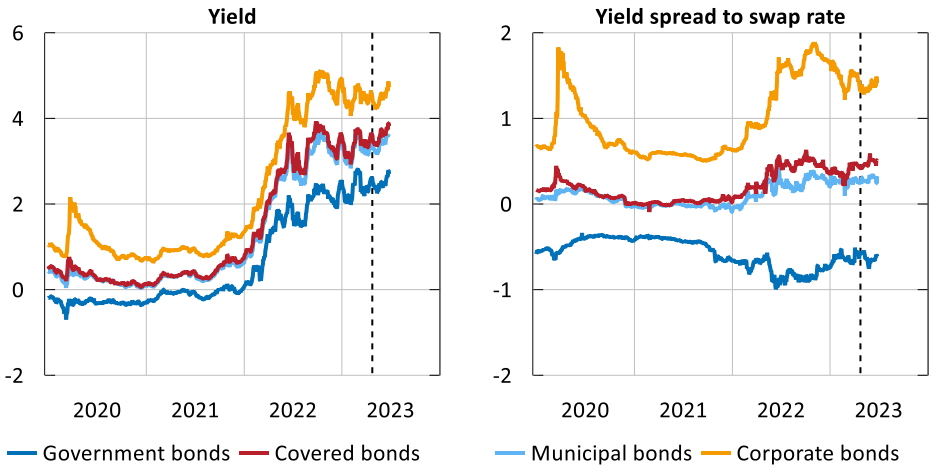
[17] See the article “What is a swap rate?” in *Monetary Policy Report*, February 2023, Sveriges Riksbank.

[18] Risky bonds refers to covered bonds, municipal bonds and corporate bonds, for example. Yields on covered bonds are important for the banks’ funding costs and yields on corporate bonds are important final rates for non-financial companies. The Riksbank therefore carefully monitors how policy rate rises are affecting these yields.

the financial markets can negatively affect the transmission of monetary policy and the Riksbank is therefore closely monitoring developments.

Diagram 16. Swedish yields for various types of bonds, 5-year maturity

Percentage (left) and percentage points (right)

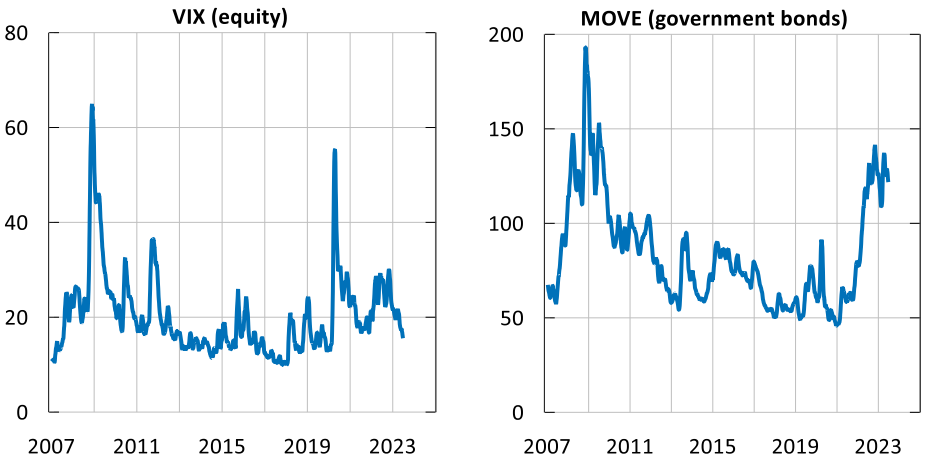


Note. Calculated zero coupon rate. Corporate bonds refer to bonds/companies with investment grade credit ratings. Covered bonds refer to bonds issued by Stadshypotek and municipal bonds are issued by Kommuninvest i Sverige AB. The dashed line marks the date of the monetary policy meeting in April.

Sources: Bloomberg, Refinitiv and the Riksbank.

Diagram 17. 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.

Real estate companies continue to face high interest rates

One reason why interest rates on corporate bonds have risen particularly high since the beginning of 2022 is that that real estate companies make up a relatively large share of the Swedish corporate bond market. Many real estate companies are highly indebted and may thus encounter problems when interest rates rise, as the Riksbank has long pointed out. The companies issuing corporate bonds are a heterogeneous group and these companies therefore also pay different interest rates (see figure 18).

Bond yields for real estate companies have increased a lot more than they have for companies in other sectors (see figure 18). However, the dispersion is also large between different real estate companies, which is mainly because some companies are deemed to have a lower debt-servicing ability than others. For example, larger real estate companies with institutional support tend to pay lower interest rates than private real estate companies with weaker financial positions. As market rates have risen, it has become more expensive for real estate companies to obtain funding on the bond market and they have largely refinanced their bonds by raising fresh bank loans.[19] Although banks have sufficient capital buffers to meet such a borrowing need, it is uncertain to what extent they will do so. This will probably depend on the adjustments real estate companies themselves make to reduce their loans.[20]

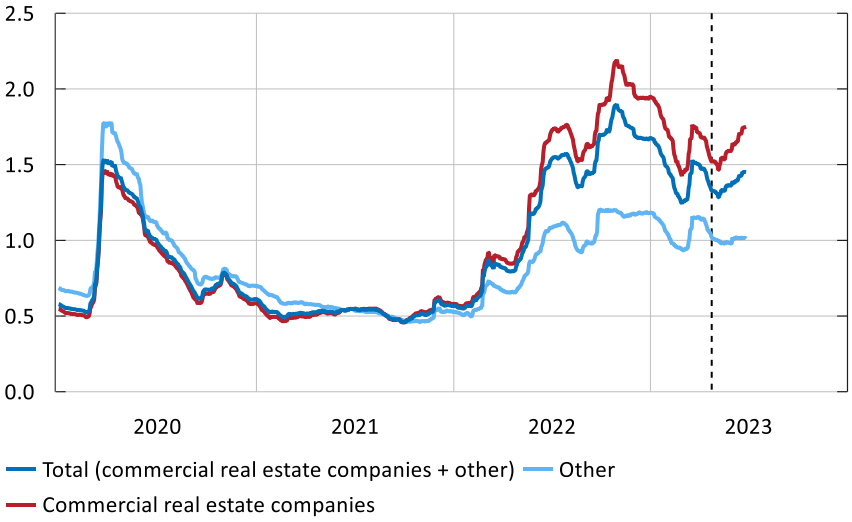
Since the April Monetary Policy Report, interest rates for real estate companies have risen in comparison with the expected policy rate, while the corresponding spread for other companies is more or less unchanged. However, the yield spreads between the yields of real estate companies' bonds and the expected policy rate have fallen from their very highest levels in October 2022.

[19] See *Financial Stability* 2023:1, Sveriges Riksbank, for more information.

[20] See section 2.2 for more information on corporate funding.

Diagram 18. Spreads against swap rates for bonds issued by various Swedish companies

Percentage points



Note. Unweighted average. Refers to spreads between corporate bond yields and swap rates. The spreads are an average of bonds with varying maturities, issued in SEK by non-financial corporations, with investment grade credit ratings. Almost 60 per cent of the bonds in the sample were issued by real estate companies. The dashed line marks the date of the monetary policy meeting in April.

Sources: Bloomberg and the Riksbank.

The krona has weakened

Since the April monetary policy decision, the krona has weakened significantly, by just over 3 per cent, measured as the KIX index (see figure 19). Since the start of 2022, the krona has depreciated by almost 11 per cent and, over the last year, the development of the krona exchange rate has been weaker than the Riksbank's forecasts.[21]

One reason for the depreciation of the krona since the start of 2022 is that risk appetite has deteriorated in the financial markets, among other things due to Russia's invasion of Ukraine and uncertainty over the future development of inflation and economic activity. In such an environment, currencies in small open economies like Sweden have a tendency to depreciate. Another explanation that has been proposed by some analysts could be international investors' concerns regarding the interest-rate sensitivity in the Swedish economy, linked to the real estate sector and the highly indebted households. However, financial prices do not indicate that confidence in the Swedish banking system has fallen. Moreover, Sweden has very strong public finances, which also reduces the risks in the economy as a whole.

At the same time, market rates in several countries have risen more than in Sweden, which is also probably contributing to weakening the krona (see figure 13 and

[21] See the article "Why has the krona weakened this year?" in *Monetary Policy Report*, November 2022, Sveriges Riksbank.

figure 15). However, it is difficult to explain why the krona has weakened as much as it has, given the development of the real economy in Sweden and abroad.[22]

Diagram 19. 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 as the Russian rouble has been excluded from it. A higher value indicates a weaker exchange rate. The dashed line marks the date of the monetary policy meeting in April.

Source: The Riksbank.

2.2 Swedish households and companies are facing increasingly high interest rates

Higher interest rates have improved the banks' profitability

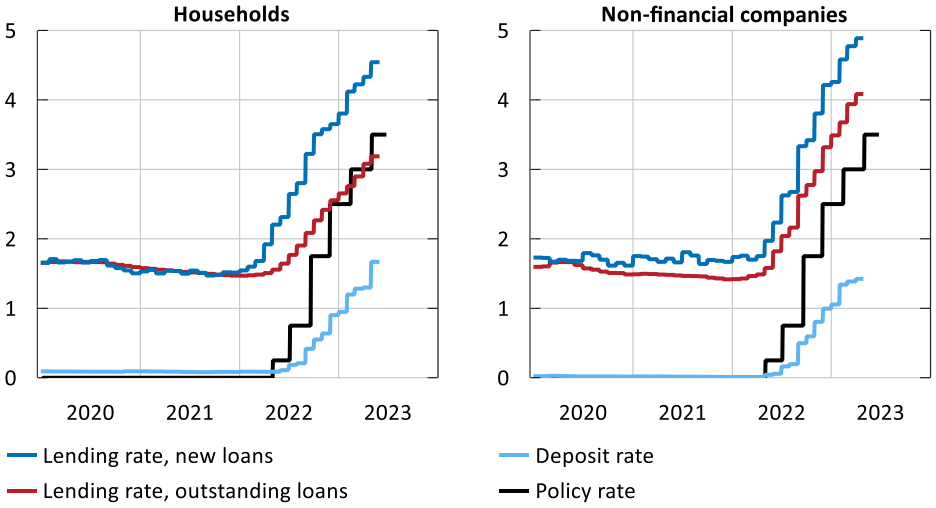
The level of the interest rates that the banks offer for loans to households and companies largely depends on the costs of funding loans. The banks partly fund their lending to households and companies by issuing bonds, such as covered bonds, on the financial markets. Yields on these bonds have continued to rise slightly since the monetary policy meeting in April.

Another significant source of funding is deposits from the general public. As the policy rate hikes have had a considerably greater pass-through to banks' lending rates than to the deposit rates, banks' net interest income has increased rapidly over the last year (see figure 20). However, if tighter financial conditions lead households to reduce saving to maintain consumption, competition for savings may be expected to push deposit rates up in the period ahead.

[22] For an analysis of the development of the krona, see C-J. Belfrage, J. Hansson and A. Vredin (2023), "How should we view the development of the krona?", *Economic Commentary* no. 3, Sveriges Riksbank, and J. Hassler, P. Krusell and A. Seim (2023), "Utvärdering av penningpolitiken 2022" [Evaluation of monetary policy 2022], Sveriges Riksdag.

Diagram 20. Policy rate and average deposit and lending rates for new loans and outstanding loans, respectively

Per cent



Note. Volume-weighted averages of monetary financial institutions' deposit and lending rates at all maturities. Household lending rate refers to loans for housing purposes. New loans also includes renegotiated loans.

Sources: Statistics Sweden and the Riksbank.

Companies are facing increasingly high interest rates

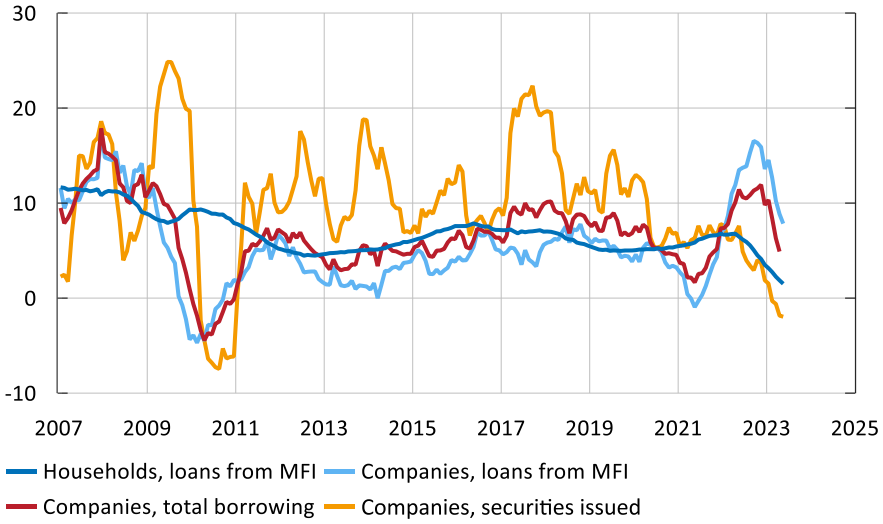
Swedish companies mainly obtain funding via bank loans. Since the start of 2022, the average interest rate on new and renegotiated corporate loans has risen by just over three percentage points (see figure 20). Interest-rate fixation periods on bank loans are usually short, meaning that policy rate hikes rapidly reach companies.[23] The average interest rate on all outstanding loans has also risen clearly, by about two and a half percentage points (see figure 20). This means that about a quarter of the policy rate increase has yet to reach companies but can be expected to do so as loans are renegotiated. The transmission to corporate interest rates is thus good and in line with historical patterns.

Swedish companies also obtain funding via the securities markets by issuing commercial paper and bonds. Since the summer of 2022, the issued volumes of interest-bearing securities have grown increasingly slowly and growth is now close to zero. Bank lending increased heavily in 2022 but growth peaked after the summer. Since then, lending has clearly slowed down (see figure 21). This development is due to companies outside the real estate sector first sharply increasing their loans and then increasing their borrowing at a significantly lower rate. In contrast, lending to real estate companies has been stable. The current rapid fall in credit growth suggests that policy rate rises are contributing to tighter credit conditions.

[23] According to Statistics Sweden, about 90 per cent of bank loans have an original maturity of one year or less, which means that the interest-rate fixation periods for these loans are one year or less.

Diagram 21. Household and corporate borrowing

Annual percentage change



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

Source: Statistics Sweden.

Now that interest rates are rising, increasing numbers of companies are unable to use the corporate bond market to obtain funding. In particular, this applies to many of the smaller private real estate companies that may find it difficult to refinance their upcoming bond maturities. These kinds of problems for the real estate companies may also lead to loan losses for the banks, thus contributing to further tightening of financial conditions.

Growth in household borrowing at historically low levels

On average, Swedish households have large loans in relation to their incomes, with housing loans making up about 80 per cent of the loan volume.[24] In addition, compared with many other countries, the interest-rate fixation period is short in Sweden. Almost 90 per cent of the loan volume has a remaining fixation period of two years or less (see figure 22). This proportion has increased clearly since the start of 2022, which may partly be due to long-term interest rates having been on high levels.[25] The short interest-rate fixation periods and high indebtedness mean that policy rate hikes impact household economies relatively rapidly.[26]

Since the start of 2022, the average mortgage rate for new and renegotiated loans has risen by almost three percentage points, corresponding to about 80 per cent of the

[24] The household loan-to-income ratio, which is to say debt in relation to disposable income, amounts to about 180 per cent.

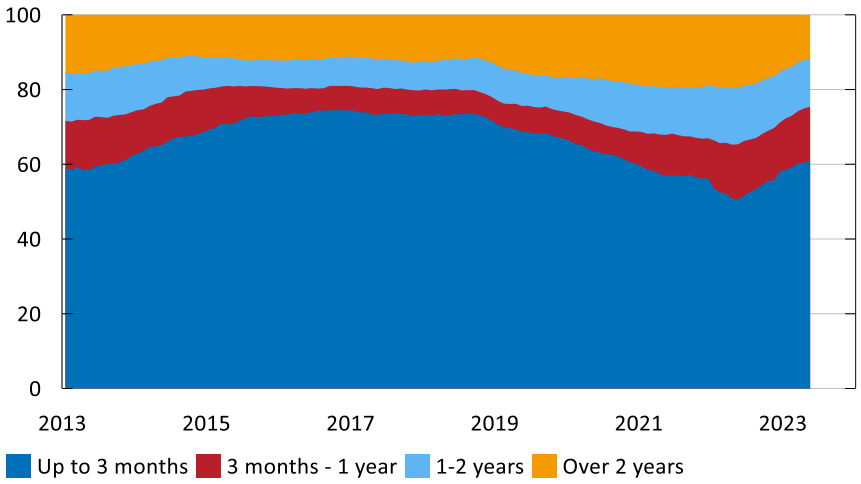
[25] For more information on this, see the article “More households choosing variable interest rates” in *Financial Stability*, 2023:1, Sveriges Riksbank.

[26] See the article “Higher interest-rate sensitivity in the Swedish economy” in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

policy rate rises (see figure 22). This is in line with historical experiences and suggests that the monetary policy transmission is functioning well. The average interest rate in the stock of outstanding loans has risen by just over one and a half percentage points, meaning that about half of the policy rate rise has reached households so far. About two-thirds of household mortgages have been reached by at least part of the rate rises in the form of higher mortgage rates. As loans are renegotiated, policy rate hikes will contribute to household mortgage rates rising further.

Diagram 22. Breakdown of households' remaining interest-rate fixation periods

Per cent



Note. Refers to the stock of outstanding loans from monetary financial institutions.

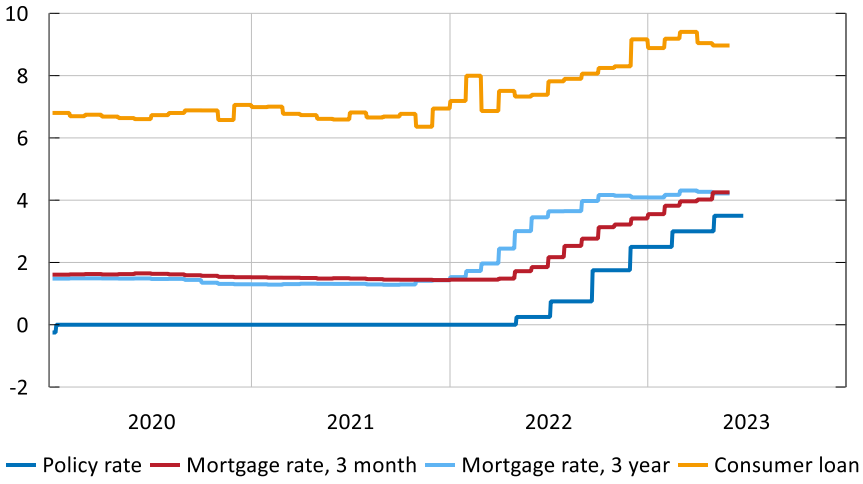
Source: Statistics Sweden.

Mortgage rates with short maturities have approached the longer mortgage rates and the difference is now the smallest since the policy rate hikes were initiated. The difference from the policy rate is also small from a historical perspective (see figure 23). One probable reason for this is that the market considers that the policy rate is now close to peaking (see section 2.1).

In April, households' bank loans increased by 1.9 per cent at an annual rate, a very low rate from a historical perspective (see figure 21). This development was similar for mortgages, consumer loans and other loans. The rate of increase has fallen clearly over the last year. There are several reasons for the slower growth of mortgages. Higher interest rates make it more expensive to own a home, both directly via a higher mortgage rate and indirectly through tenant-owner housing associations needing to charge higher fees to fund their borrowing. In addition, housing prices have fallen, further restricting borrowing capacity. Overall, this means that willingness and ability to take out new mortgages are decreasing, at the same time as incentives to amortise existing mortgages are increasing.

Diagram 23. 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. Daily data for the policy rate, monthly data for other interest rates.

Sources: Respective mortgage provider, Statistics Sweden and the Riksbank.

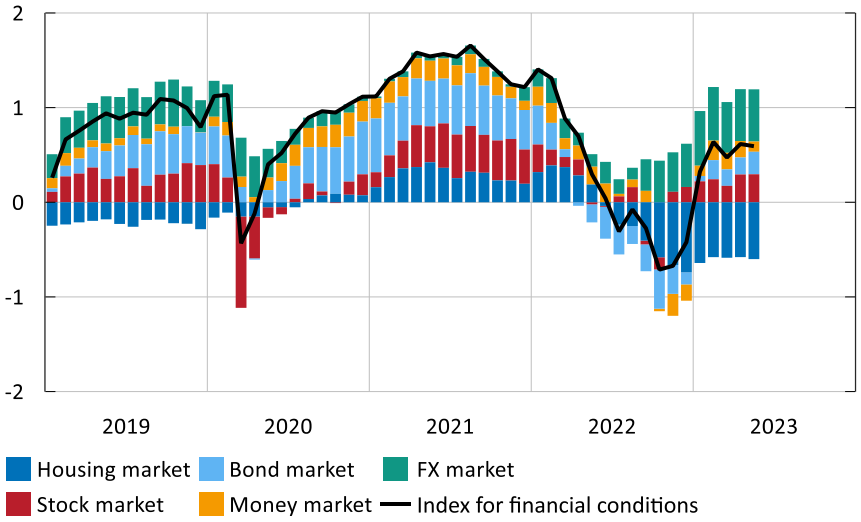
2.3 Small movements in financial conditions

The Riksbank's index for financial conditions in Sweden is almost unchanged compared with April and shows continuing expansionary conditions (see figure 24). These expansionary conditions are mainly due to the krona being weak. But they are also due to long-term interest rates and volatility on the stock market being low and corporate bond yields being low in relation to the expected policy rate (see figure 16). The development of prices on the housing market has also stabilised after last year's fall.

On the other hand, the index does not fully capture the fact that many households and companies are facing increasingly tight conditions as the interest they pay rises. Neither does it take into account the rising volatility on the fixed-income market over the spring. The depreciation of the Swedish krona, measured as the KIX index, is contributing to expansionary conditions according to the Riksbank's measure. However, if the krona is depreciating due to increased financial uncertainty and concerns over the Swedish property market, the financial conditions may be tighter than the Riksbank's measure reflects. In addition, the expansionary contribution made by the weak krona mainly applies to companies in the export industry. For households and import companies, the weaker krona instead has a contractionary effect.

Diagram 24. Index for financial conditions in Sweden

Standard deviations



Note. A higher value indicates more expansionary financial conditions.

Source: The Riksbank.

3 Economic activity to slow down this year and inflation to fall

Demand in Sweden and abroad has been weakening since the end of last year and some indicators point to a continued slowdown. GDP growth in Sweden is therefore expected to fall this year. Although the labour market has still not shown any signs of weakening, the employment rate is expected to decline slightly and unemployment to rise when demand falls. As from next year, however, a gradual recovery in production and employment is expected.

Inflation in Sweden and abroad has fallen recently but remains very high. This year, energy and producer prices are expected to continue to fall, while the tight monetary policy cools demand in the economy. This means that Swedish inflation will fall this year and stabilise close to the target of 2 per cent during 2024.

3.1 Lower demand and energy prices will bring down inflation abroad

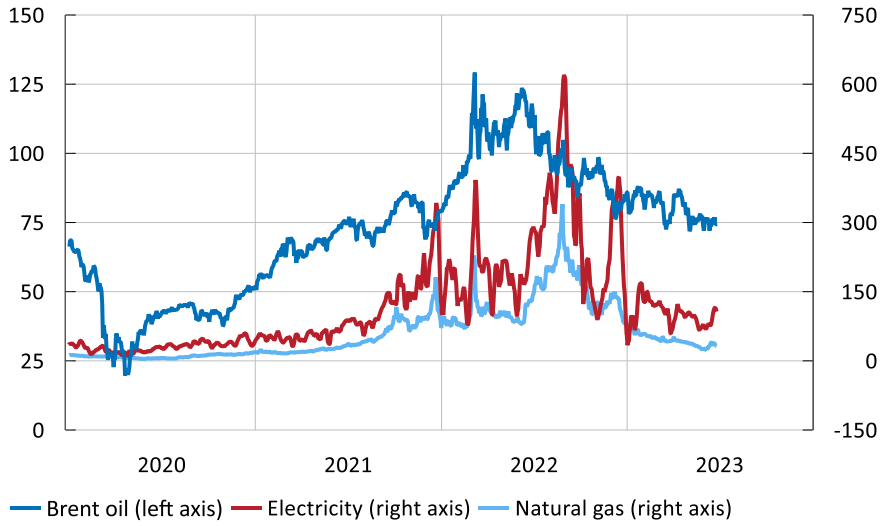
The inflationary downturn started in the United States

Inflation both abroad and in Sweden has peaked and fallen relatively rapidly in recent months. The downturn is largely due to energy prices falling back, but inflation excluding energy has also begun to decline, especially in the United States (see figure 25 and figure 26). This is mainly due to many of the factors that pushed up inflation in 2021 and 2022 now increasingly clearly having started to wane. For example, the pandemic-related shocks in global value chains have practically disappeared and freight costs have returned to their pre-pandemic levels. At the same time, the monetary policy tightening and falling real incomes are contributing to a slowdown in demand for most households. There are also signs that price increases in food and other goods have started to cool and that price pressures in earlier stages of production have eased.[27] There are strong indications that inflation will continue to fall in the coming year. The expected continued fall in the rate of increase in energy prices is a contributor to this.

[27] See Figure 46 in the article "How quickly will inflation fall?" in *Monetary Policy Report*, April 2023, Sveriges Riksbank.

Figure 25. Energy prices

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

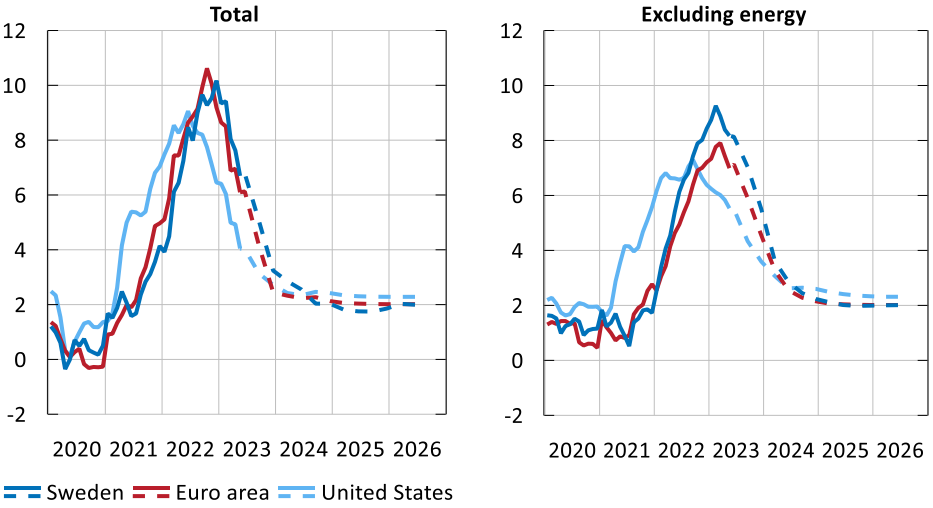


Note. Prices of electricity and natural gas for Germany. The electricity price refers to the 5-day moving average. Natural gas refers to the forward price for the coming month.

Sources: The Iberian Energy Derivatives Exchange and Intercontinental Exchange.

Figure 26. Consumer prices in various countries and regions

Annual percentage change



Note. Refers to the CPIF for Sweden, the HICP for the euro area and the CPI for the United States. Outcomes at monthly frequency and forecasts at quarterly frequency. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

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

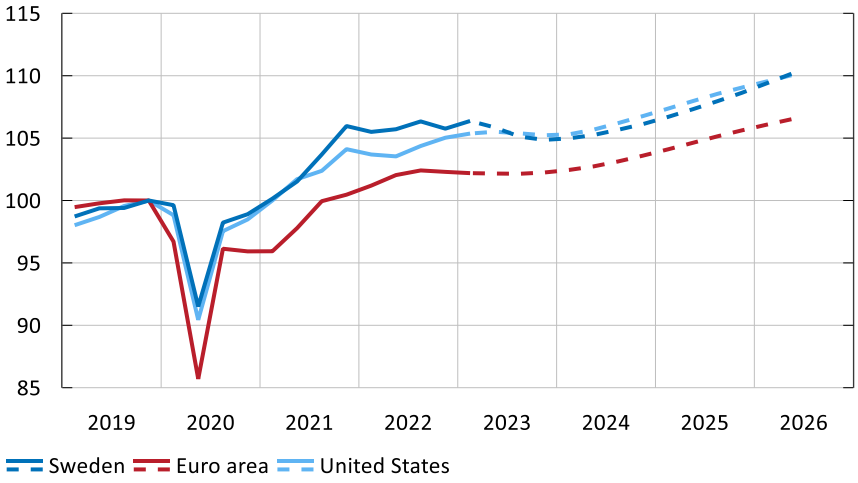
Weaker economic activity abroad this year

As in the final quarter of last year, euro area GDP fell during the first quarter of this year. The 0.1 percent decline was due to the fall in both private and public consumption and to a negative contribution from stocks. The weak demand is also reflected by falling imports. Consumption has been strong in the United States so far this year and

initial concerns over developments in the banking sector have eased. But investment and consumption in both the euro area and the United States are expected to decline over the next year or so. There are several causes of this: central bank policy rate hikes, tighter credit conditions over the past year and the declining room for consumption as real household income falls. In 2022 and early 2023, wages in the United States and the euro area rose significantly faster than for many years, but they still did not keep pace with price increases.[28] These lower real wages will contribute to a slowdown in GDP growth during the year (see figure 27).

Figure 27. GDP in Sweden and abroad

Index, 2019 Q4 = 100, seasonally adjusted data



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

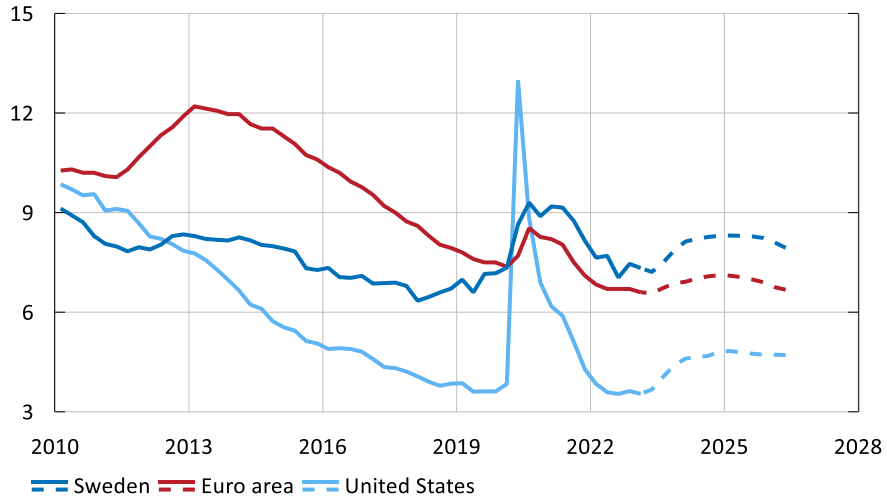
Sources: Eurostat, Statistics Sweden, U.S. Bureau of Economic Analysis and the Riksbank.

The labour market has continued to surprise on the upside and unemployment has fall to close to record levels in the euro area and the United States (see figure 28). But as GDP growth will be weak in 2023, unemployment is expected to start to gradually increase, although this is happening from historically low levels. Cooling inflation and high nominal wage increases are expected to cause real wages in the United States and euro area to start to rise later this year. Real wages are also expected to start to rise in Sweden as from the end of the year. This will increase room for consumption, contributing to a rise in GDP growth and helping the labour market to recover towards the end of the forecast period.

[28] In Germany, increasing numbers of companies have made one-off payments to their employees.

Figure 28. Unemployment in Sweden, the euro area and the United States

Percentage of the labour force, seasonally-adjusted data



Note. Unemployment among 15–74 year-olds for Sweden and the euro area and among persons 16 years or older for the United States. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

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

3.2 In Sweden, growth will be negative this year while inflation will fall

Swedish GDP will fall in 2023

Growth in the Swedish economy has recently declined, but this is from a high level of demand, and resource utilisation is expected to be slightly higher than normal in the starting position. In connection with the publication of the latest outcome of the National Accounts, Statistics Sweden revised up GDP for 2021 and 2022. The new GDP level indicates that demand in recent years has been significantly higher than the statistics previously indicated.

In recent quarters, developments have differed in different parts of the economy. Household consumption and housing investment have weakened at the same time as exports and business sector investment excluding housing have continued to increase. In the second half of last year and start of this year, overall household consumption has fallen by just over 3 per cent. This is a large reduction in historical terms and it is clear that the fall in real incomes is now being felt by households. Overall, however, total GDP growth has not been as weak as previously expected as other demand components have continued to grow.

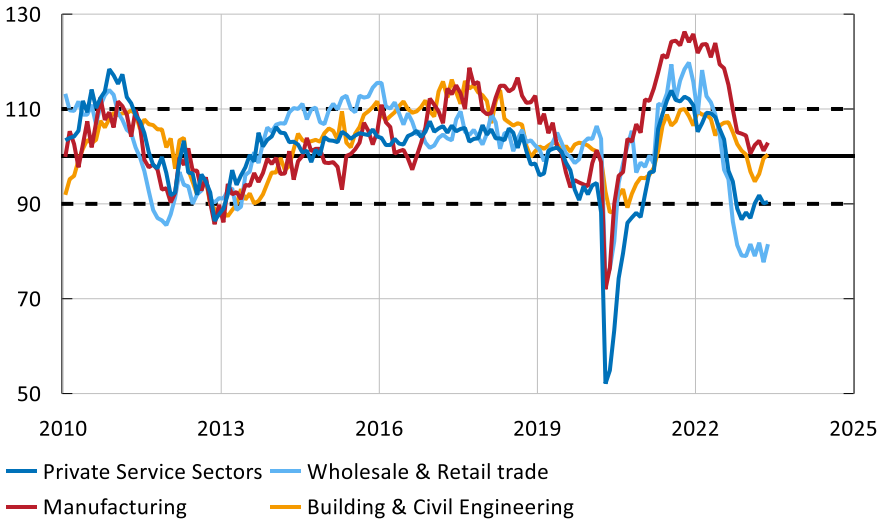
In the first quarter of this year, consumption fell by 1.2 per cent compared to the quarter before. A large downturn in housing construction also led to decreased housing investment. Despite this, GDP increased by 0.6 per cent compared with the previous quarter. Much of the upswing can be explained by stock build-up and

exports, but also by other business sector investment, and public sector investment and consumption.

The divided picture in the business sector can also be seen in surveys. According to the Economic Tendency Survey, growth is expected to remain weak in the retail trade and private service sectors, but strengthen in the manufacturing and construction sectors (see figure 29). A partly similar picture is given in the Riksbank's most recent business survey, in which companies in the retail trade and construction sectors in particular paint a very gloomy picture of their own current situation.[29] In contrast, companies in the manufacturing sector describe an economic situation that remains strong, along with a need to continue to invest at a fast pace to meet the demands of electrification and green transition.

Figure 29. Confidence indicators in the business sector

Index, average = 100, standard deviation = 10



Note. The solid horizontal line illustrates the mean value and the dashed horizontal lines illustrate a standard deviation above and below the mean value. Confidence indicators are calculated as the mean value of the net figures for a number of questions about, for example, pending orders, production volume, number of employees and sales volume.

Source: National Institute of Economic Research.

Consumption is expected to remain weak going forward. Rising prices and increasingly high interest expenses are continuing to restrict household purchasing power and the Economic Tendency Survey indicates that, while consumer confidence may have increased slightly since the start of the year, it remains at a very low level. Consumption is thus expected to continue to fall over the next few quarters and to be lower overall in 2023 than it was last year.

Inflation and tighter monetary policy have also affected the housing market. So far this year, housing prices in total have remained approximately unchanged compared to the end of last year, but while prices for houses continue downwards, prices for tenant-owned apartments are rising slightly again. As both housing supply and

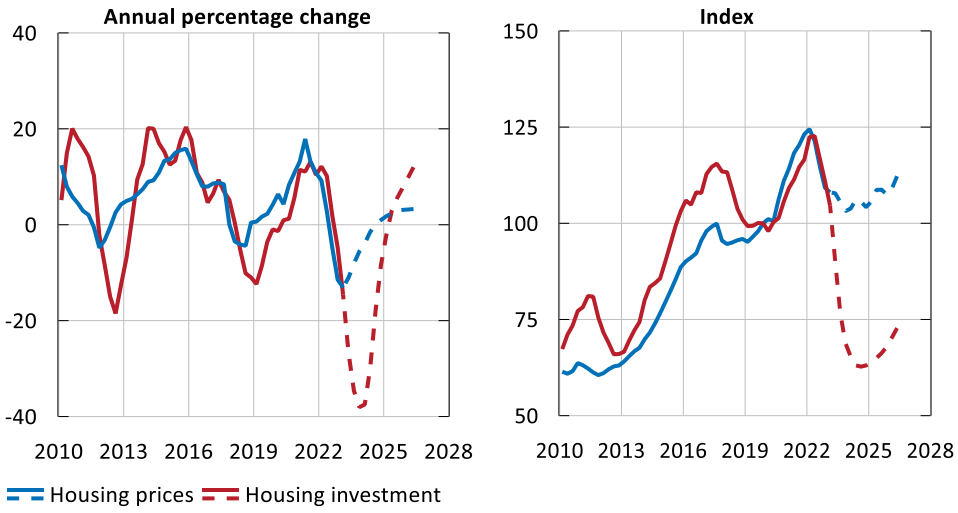
[29] See "Bargain hunting intensifies", *The Riksbank's Business Survey*, May 2023, Sveriges Riksbank.

turnover have fallen and mortgage rates are higher, housing prices are expected to fall further over the autumn before stopping at a decline of 15–20 per cent from the peak in February 2022. This is a somewhat smaller decline than was predicted by the Riksbank in the April Monetary Policy Report, and is due to stronger-than-expected outcomes during the spring.

As demand for newly built housing has been low and construction and funding costs have risen, the number of housing starts has decreased significantly. Housing construction is expected to fall significantly during the year and the decline will be considerable in a historical perspective. Housing investment will weigh on Swedish GDP both this year and next year (see figure 30).

Figure 30. Housing prices and housing investment

Annual percentage change (left) and index respectively, 2019 Q4 = 100 (right)



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

Sources: Statistics Sweden, Valueguard and the Riksbank.

On the one hand, business sector investment excluding housing is being affected negatively by the gloomy prospects for household consumption. This is partly reflected by the responses from retail trade representatives in the Riksbank's Business Survey, many of whom say that only necessary investments and those already under way are being implemented. Some report that all investment has been stopped. On the other hand, the manufacturing sector reports that the green transition and new technology now require major investment. Overall, it is very difficult to say how business sector investment (excluding housing) will develop going forward, but the Riksbank's assessment is that it will be slightly weaker than normal over the next year. However, investment growth will be nowhere near as weak as in previous economic slowdowns. This is because not only cyclical factors but also structural investment needs will affect investment growth going forward.

This year, the government is implementing unfunded measures for about SEK 50 billion. Public consumption and investment, for example investments in defence,

are expected to make a positive contribution to domestic demand. Demand will also be strengthened temporarily this year by the electricity price support to households and companies.[30]

It is thus primarily households' falling consumption and low housing investment that will lead to a decline in GDP this year. Growth in Swedish exports is slowing down, but as the krona is weak and the slowdown abroad is less than it is here, net exports will nevertheless rise this year and soften the fall in GDP.

Weaker developments in the labour market over the next year

At the beginning of the year, employment has strengthened significantly more than GDP. And indicators of developments in the labour market going forward are also stronger than the corresponding indicators for the total economy. There are several feasible explanations for the relative strength of the labour market (see the article "Strong labour market in Sweden and abroad"). One is that real wages have fallen, so that labour has become cheaper in relation to capital and helped to strengthen the demand for labour. Another is that, according to a new indicator from the National Institute of Economic Research, companies have largely chosen to retain their workers even though they expect weak output in the period ahead (see figure 51).[31] This probably has something to do with companies still having the recruitment difficulties they experienced after the pandemic fresh in their memories.

Industries employing many foreign-born persons, for example hotels and restaurants, were hard-hit during the pandemic and many foreign-born persons became unemployed. But the same industries have seen strong growth in the past year.[32] Already by the end of 2021, the employment rate among foreign-born persons had recovered and it has since continued to rise rapidly (see figure 31). A contributory factor could be that those who arrived in Sweden in 2014 and 2015 have now been here for longer, which increases the likelihood of them finding a job.

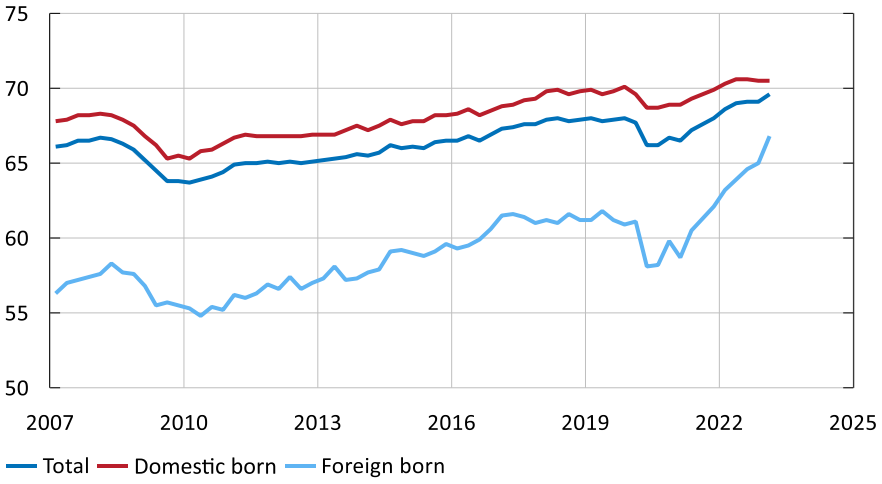
[30] A total of SEK 27 billion in electricity price support has been disbursed to households this year.

[31] See "Labour hoarding-indikatorn i Konjunkturbarometern" [The labour-hoarding indicator in the Economic Tendency Survey], April 2023, National Institute of Economic Research.

[32] According to register-based labour market statistics (RAMS), almost 45 per cent of those working in hotels and restaurants are foreign-born (see "Utrikes födda driver sysselsättningstillväxten" (Foreign-born driving employment growth), November 2022, Statistics Sweden).

Figure 31. Employment rate among those Swedish-born and foreign-born persons

Per cent



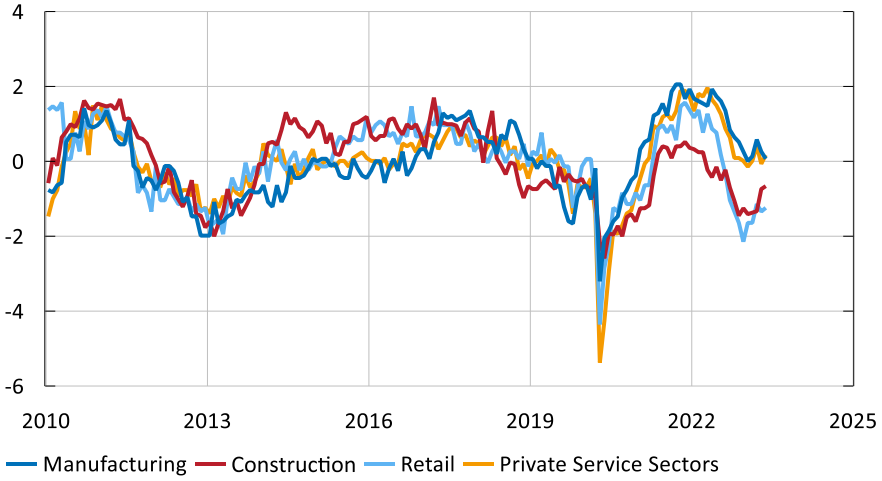
Note. Seasonally adjusted data, 15–74 years.

Source: Statistics Sweden.

Some indicators, such as recruitment plans according to the Economic Tendency Survey, indicate that employment will continue to be relatively strong in the period ahead (see figure 32).[33] But when demand decreases further, companies are expected to gradually reduce their workforce. The employment rate is therefore expected to fall and unemployment to rise during the year (see figure 33).

Figure 32. Recruitment plans by sector

Standardised data, mean = 0, standard deviation = 1



Source: National Institute of Economic Research.

[33] Recruitment plans in the construction sector indicate that companies are planning to reduce their workforce. About 10 per cent of all employees in the construction sector are foreign workers not captured in the Labour Force Surveys (LFS). This means that the number of employees according to LFS could be affected less than the real number of employees if companies choose to lay off their foreign workers.

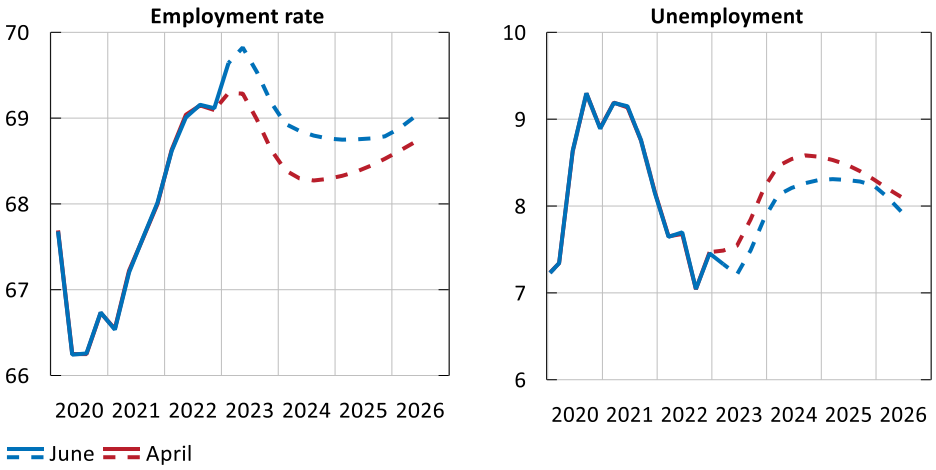
Demand will start to recover in 2024

In 2024, inflation is expected to again be close to the inflation target of 2 per cent and real disposable household income will rise again. This will strengthen household consumption and also contribute to a gradual recovery in the housing market and housing investment will stop falling during the second half of 2024.

Demand abroad will also rise gradually from 2024, which will strengthen Swedish exports and boost companies' propensity to invest. Overall, this will mean that GDP will start to grow faster than the long-term trend towards the end of 2024. As economic activity increases, the demand for labour will also rise. Unemployment is expected to peak at the end of 2024, and then begin to fall when employment increases again at a faster pace (see figure 33).

Figure 33. Employment rate and unemployment in Sweden

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



Note. Seasonally adjusted data, 15–74 years. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

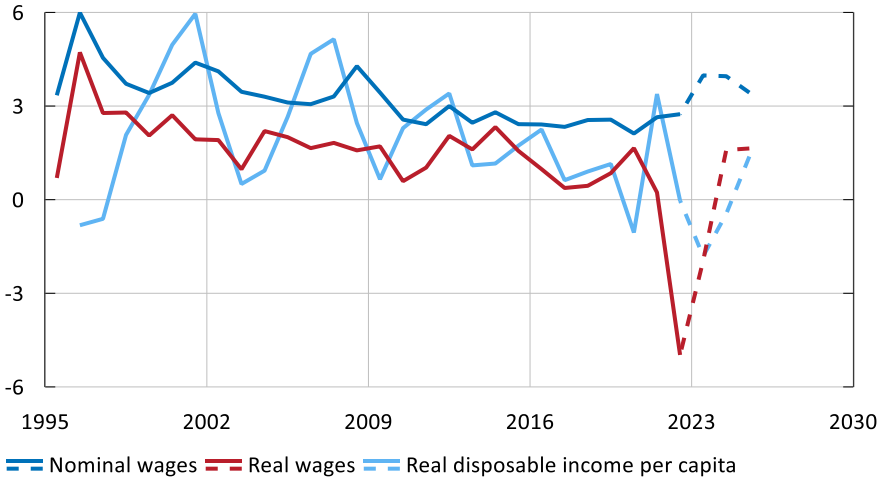
Real wages will continue to fall this year but will increase from 2024 onwards

The wage agreements signed so far entail higher wage growth this year and next year than over the last year. The agreements are based on the Industrial Agreement which stretches over two years and gives an aggregate wage increase of 7.4 per cent, divided into 4.1 per cent the first year and 3.3 per cent the second year.[34] Agreements in other areas have been reached for similar levels. The high inflation and strong labour market are important reasons why the wage agreements were signed at a higher level than the previous agreements negotiated in the pandemic year of 2020.

Despite nominal wages rising at a faster rate, real wages will fall again this year as a result of the high inflation (see figure 34). Next year, however, when inflation is expected to be back around the target, real wages are expected to rise again. Low real wages, rising interest rates and lower employment are expected to lead to a fall in real disposable household income per capita of 1.8 per cent this year.

Figure 34. 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 with the deflator for households' consumption expenditure. Solid lines refer to outcomes, dashed lines to the Riksbank's forecasts.

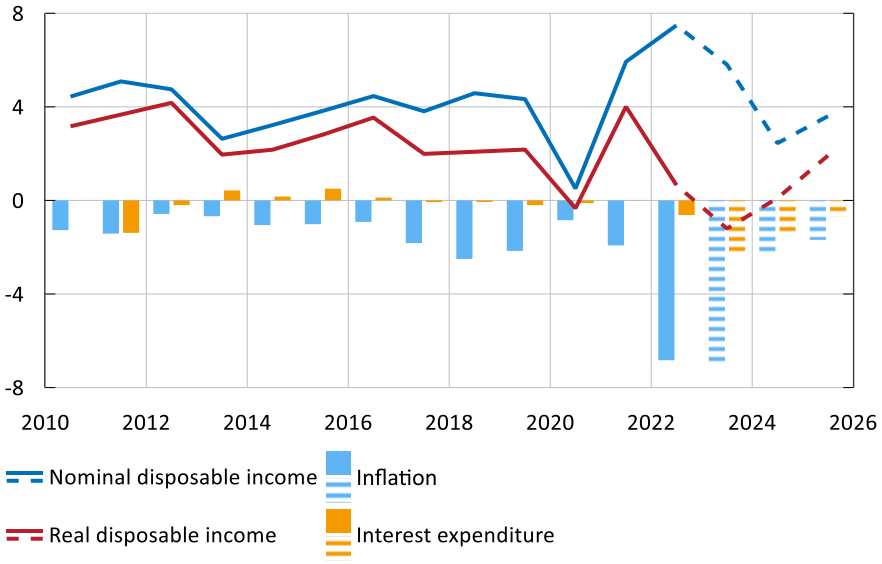
Sources: National Mediation Office, Statistics Sweden and the Riksbank.

The inflation has affected households' purchasing power and real disposable incomes to a greater degree than the interest rates they are facing. Next year, incomes are expected to recover but not until employment starts to rise again will real disposable income increase significantly (see figure 35). The burden placed on real disposable incomes by inflation and interest expenses will gradually decrease.

[34] However, new wage negotiations will start in one year. Unless inflation has fallen significantly, wage increases may be much higher going forward.

Figure 35. Disposable income and the contribution of inflation and interest rates to annual growth

Annual percentage change and percentage points respectively



Note. Real disposable income is calculated with the deflator for households' consumption expenditure. The contribution from inflation refers to the difference between nominal and real disposable income. Interest expenditure is stated excluding FISIM (Financial Intermediation Services Indirectly Measured), after 30 per cent tax deduction and as a contribution to nominal disposable income. Solid line and bars refer to outcome, dashed line and bars represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

As many fixed interest rate contracts expire and new contracts are signed at higher interest rates, households' interest expenses as a percentage of their disposable incomes, known as the interest-to-income ratio, will increase going forward. The interest-to-income ratio is expected to peak at just over 6 per cent in the middle 2025 (see figure 36).[35]

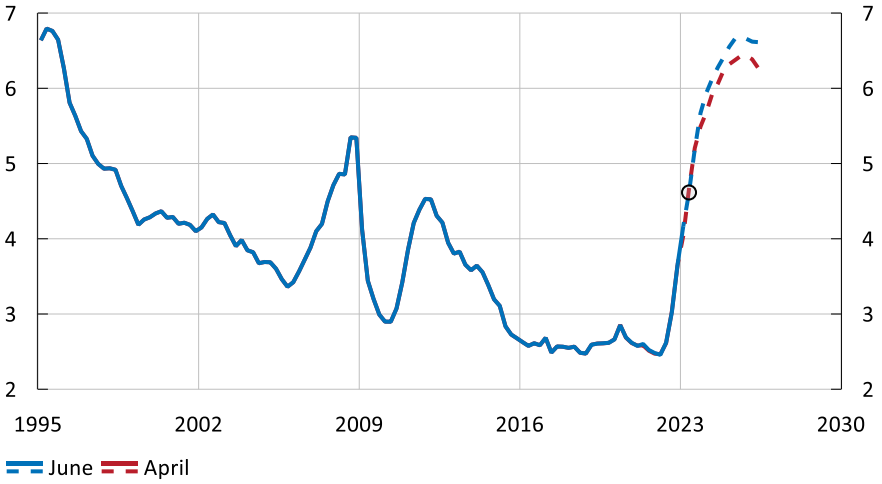
Households built up substantial financial savings during the pandemic that they could use last year to sustain consumption (see figure 37). The assessment is that savings will increase this year, but that consumption thereafter will rise at approximately the same pace as income. The large accumulated savings, in combination with the lack of up-to-date microdata on how households' savings are distributed, make it difficult to assess how households will adapt their consumption to the rising interest rates.[36]

[35] For an average mortgagor with SEK 1.3 million in mortgage loans, this means that interest expenditure after tax relief will be around SEK 2500 higher per month at the beginning of 2025, compared with when the Riksbank began to raise the policy rate in April 2022. New mortgagors have higher loans averaging SEK 2.8 million.

[36] However, households' own financial savings as a share of disposable income, the saving ratio, does not increase in the forecast but is largely unchanged. The increase in adjusted accumulated own financial savings is due to the saving ratio in the forecast being higher than the average for 2015–2019.

Figure 36. Interest-to-income ratio

Percentage of disposable income

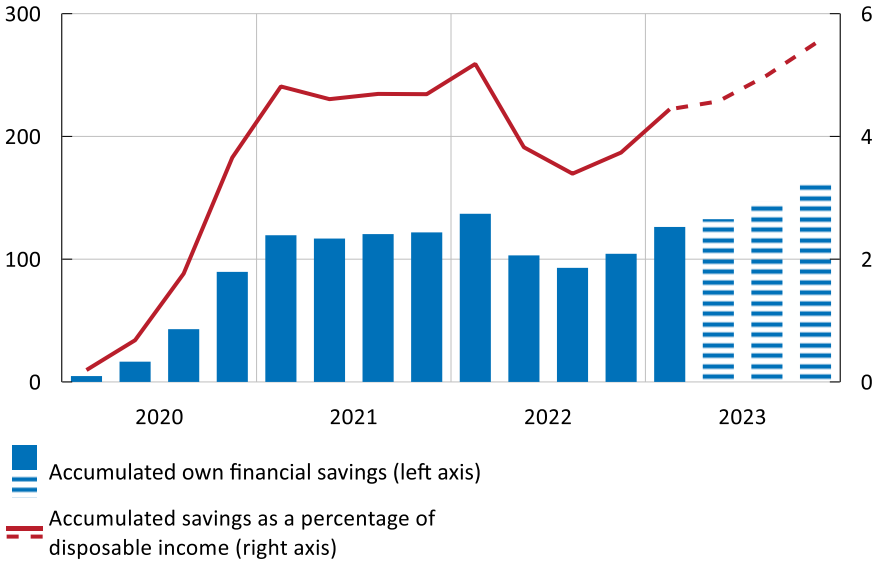


Note. Solid line refers to outcome, dashed line represents the Riksbank's forecast. The dot indicates as assessment of the current situation. Disposable income has been seasonally adjusted.

Sources: Statistics Sweden and the Riksbank.

Figure 37. Accumulated savings

SEK billion and per cent



Note. Adjusted accumulated savings refer to own financial savings minus average own financial savings in 2015–2019. Seasonally adjusted data.

Sources: Statistics Sweden and the Riksbank.

Resource utilisation expected to fall over the next year

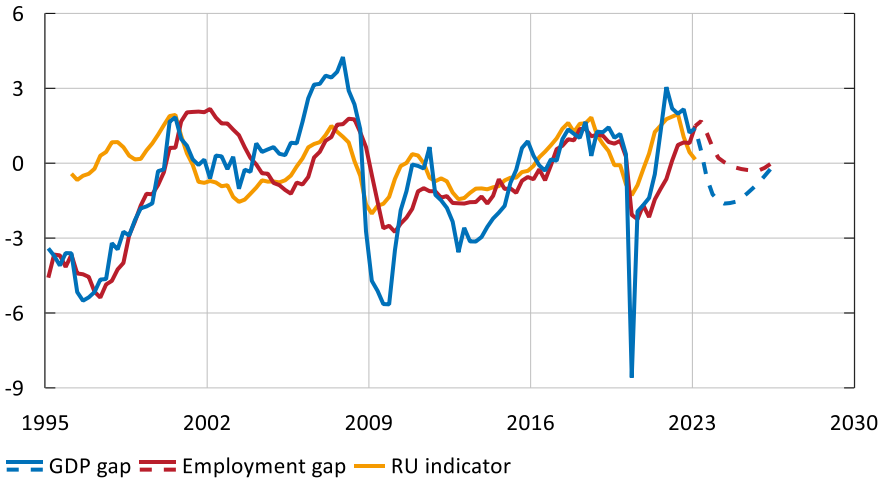
The Riksbank's monetary policy is aimed at stabilising inflation around the inflation target and production and employment around sustainable long-term levels – that is to say, normal resource utilisation.[37] Resource utilisation is affected by developments in wages and prices. As resource utilisation cannot be measured exactly, the Riksbank makes an assessment based on several different data sources.

The Riksbank's resource utilisation indicator, which is an aggregate of different indicators, suggests that resource utilisation has fallen and is now close to normal.[38] According to both Statistics Sweden and the Economic Tendency Survey, however, capacity utilisation within the manufacturing sector is relatively high and many companies are reporting labour shortages. The Riksbank's overall assessment is that resource utilisation has fallen but remains slightly higher than normal. This is illustrated by the Riksbank's estimated GDP and employment gap being positive (see figure 38).

As monetary policy slows economic activity, demand will decline further and resource utilisation is expected to be lower than normal. However, the downturn is expected to be smaller than during the financial crisis of 2008–2009, for example.

Figure 38. Measures of resource utilisation

Standard deviation and per cent



Note. The gaps refer to the deviation in GDP and employment from the Riksbank's projected trends. The RU indicator is a statistical measure of resource utilisation; from Q1 1996 to Q1 2023, it has been normalised so that the mean value is 0 and the standard deviation is 1. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

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

[37] According to the new Riksbank Act, which came into force on 1 January 2023, the Riksbank shall contribute to a balanced development of production and employment without neglecting the price stability target. The Riksbank has also previously conducted what is known as flexible inflation targeting, and this is now prescribed by law. For more information, see the article "The new Riksbank Act and the monetary policy framework" In *Monetary Policy Report*, February 2023, Sveriges Riksbank.

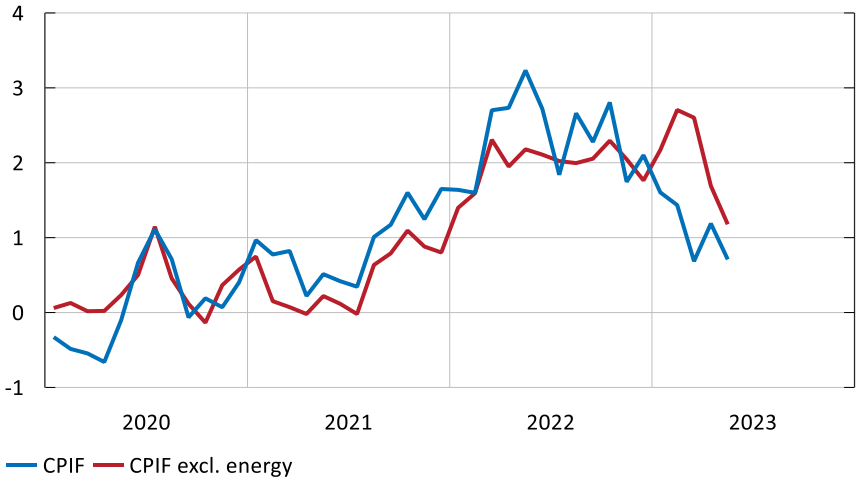
[38] See H. Lovéus (2023), "New indicators of resource utilisation", *Economic Commentaries* no. 4, Sveriges Riksbank.

Clear fall in inflation in recent months

CPIF inflation peaked in December 2022 at 10.2 per cent and has since then fallen and amounted to 6.7 per cent in May. However, three-monthly changes already began falling about a year ago (see figure 39). Three-monthly changes for the CPIF excluding energy have also started to decline in recent months.

Figure 39. The CPIF and the CPIF excluding energy

Three-monthly change in per cent



Note. Seasonally adjusted data.

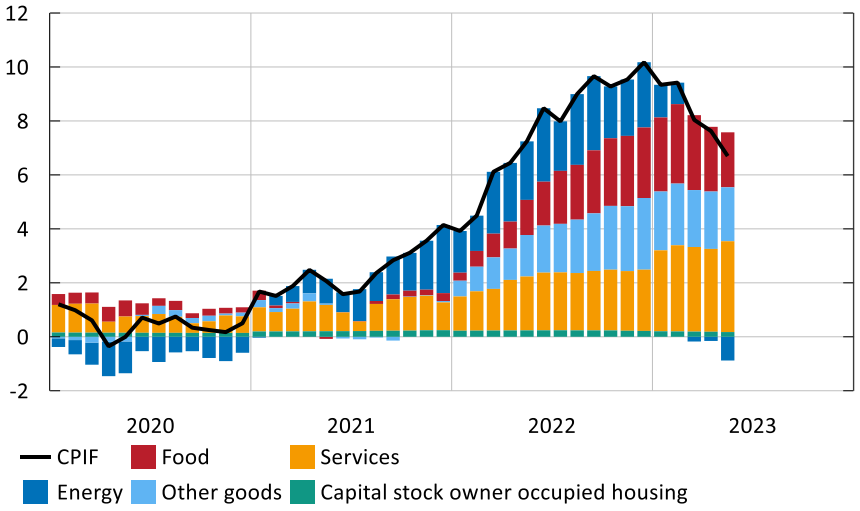
Sources: Statistics Sweden and the Riksbank.

The most important explanation so far for the decline is that energy prices have fallen back from very high levels (see figure 40). Adjusted for energy prices, inflation is still higher, but it has nevertheless fallen in recent months and amounted to 8.2 per cent in May. The other measures of underlying inflation monitored by the Riksbank have also begun to fall in recent months (see figure 41).

However, prices for services are still increasing rapidly, due in part to high demand and relatively fast price increases in those service sectors that have seen strong growth after the pandemic. Rapidly rising service prices are also an international phenomenon (see figure 3). In May, prices in the hospitality sector rose unusually rapidly in Sweden. This may in part be due to exceptionally high demand as a result of unusually high numbers of tourists in Sweden. The depreciation of the krona may have contributed to an unusually large number of tourists coming to Sweden and to a higher number of Swedish people choosing to consume in Sweden.

Figure 40. Contributions to CPIF inflation

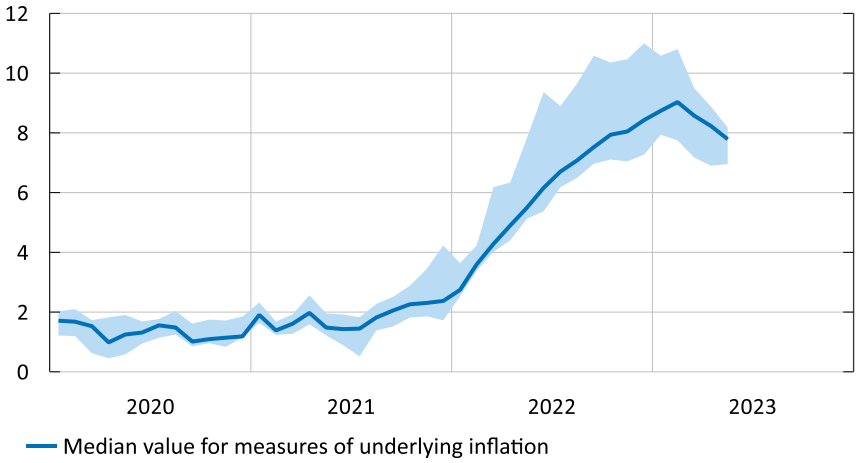
Annual percentage change and percentage points respectively



Sources: Statistics Sweden and the Riksbank.

Figure 41. Different measures of underlying inflation

Annual percentage change



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

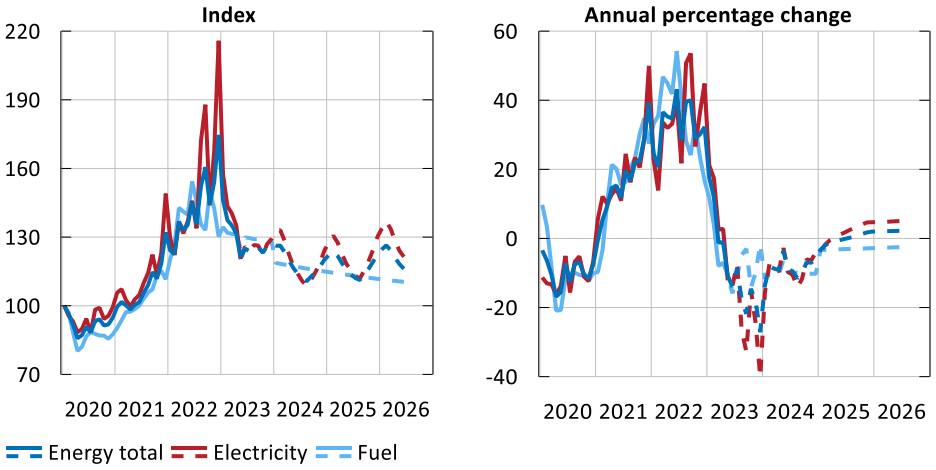
Sources: Statistics Sweden and the Riksbank.

A lot of statistics indicate more subdued price developments this year

Several reasons for why inflation is expected to fall going forward were discussed in the April Monetary Policy Report.[39] Since then, sCPIF inflation has fallen slightly more than was predicted at that time while inflation stripped of energy prices has developed more or less in line with the assessment in April. An important explanation for why inflation is expected to fall is that electricity and fuel prices, according to pricing on the forward market, are expected to be lower over the next year than over the last year (see figure 42).

Figure 42. Energy prices in the CPIF

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



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

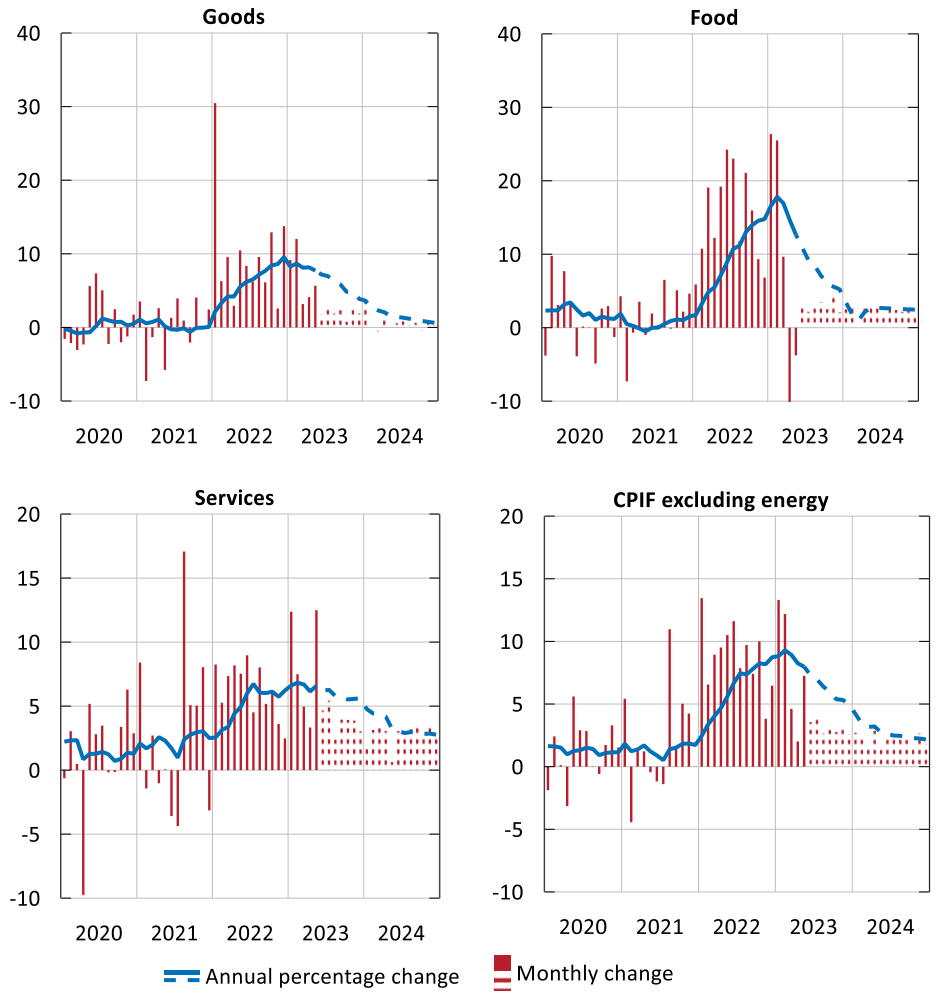
Sources: Statistics Sweden and the Riksbank.

The fact that energy prices continue to fall will also be important going forward but other prices are also expected to continue to rise at a slower pace (see figure 43). Energy and food prices have increased more slowly than was expected in April, while service prices have risen slightly more than expected. Among the various services, price increases were unusually large for foreign travel, accommodation and restaurant visits.

[39] See the article "How quickly will inflation fall?" in *Monetary Policy Report*, April 2023, Sveriges Riksbank.

Figure 43. CPIF excluding energy and sub-groups

Annual percentage change (line) and monthly percentage change in seasonally adjusted indices calculated as an annual rate (bar).



Note. To better be able to distinguish price changes from changes in indices due to the so-called basket effect, the calculations in this figure are based on adjusted indices where the so-called year-to-month links are adjusted using 2023 weights in 2022–2024.

Sources: Statistics Sweden and the Riksbank.

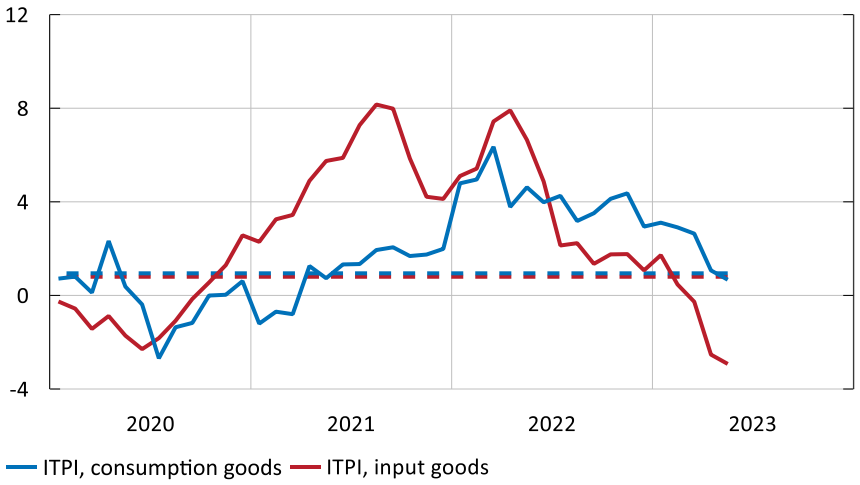
In total, CPIF inflation excluding energy is expected to continue to fall in the coming months, but more slowly than the CPIF.[40] An important part of this assessment is that there are also several other indicators and factors suggesting that the highest price rises are now behind us. For instance, global freight prices have declined significantly and several commodity prices have also gradually fallen back from the extremely high levels noted particularly in 2021 and after Russia's invasion of Ukraine in spring 2022. In Sweden, the rate of increase in producer prices, such as for input goods, has fallen markedly since the middle of last year. Prices of consumer goods have also continued

[40] However, a slowdown in inflation does not mean that prices have to start to fall. It is enough for them to rise at a slower pace than they have done over the past year; see the fact box "Link between price level and inflation rate" in *Monetary Policy Report*, September 2021, Sveriges Riksbank.

to fall at the producer stage, and the rate of price increase is now close to the historical average (see figure 44).

Figure 44. Producer prices

Three-monthly change in per cent



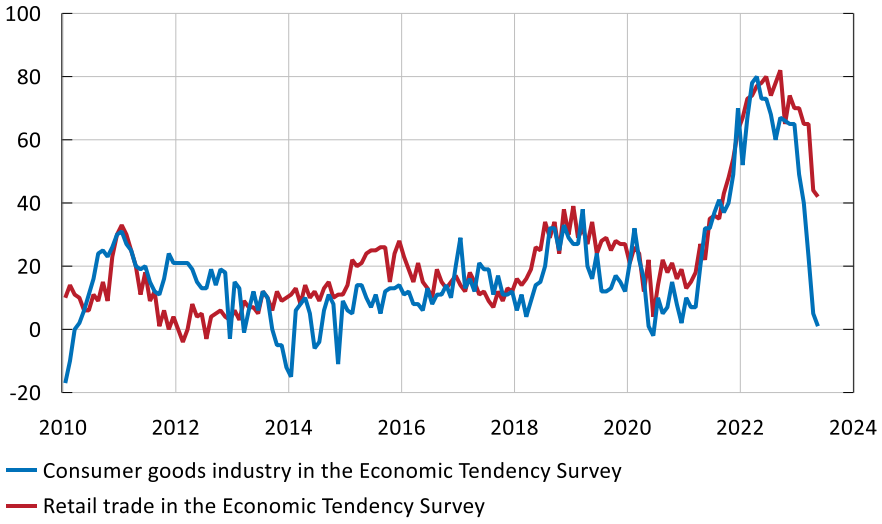
Note. ITPI refers to the price index for domestic supply, which is a composite of import prices and domestic market prices (prices of goods manufactured and sold in Sweden). The horizontal dashed line represents the mean value 2000–2019. Seasonally adjusted data.

Source: Statistics Sweden.

In recent months, fewer retail companies say that they are planning to increase their prices, but the share remains high (see figure 45). In the consumer goods sector, the share of companies planning to increase their prices is unusually low. At the same time, purchasing managers' indices show that the costs of commodities and input goods in the manufacturing sector are back at normal levels. These costs also seem to have fallen for service companies but not quite to the same extent as for the manufacturing sector.

Figure 45. Companies' price plans

Net figures



Note. The question concerns how companies plan to adjust prices over the next three months. The net figures show how many companies are planning to increase their prices minus how many are planning to reduce them.

Source: National Institute of Economic Research.

There are however factors that make the development of inflation going forward uncertain

Despite several reasons to expect inflation to fall going forward, there are a couple of factors indicating that it will not slow down as quickly as in the forecast.

One is that service prices, which make up almost 50 per cent of the CPIF, have increased considerably and the monthly rate in May was high (see figure 43). In the forecast, the rate of increase in service prices will remain high in the summer, primarily due to a high rate of increase in prices for foreign travel, but then start to fall in the autumn. However, there are concerns that the high demand for services and the weak krona will lead to the rate of increase in service prices not slowing as rapidly as in the forecast. With the large weight of service prices in the CPIF, this would affect inflation as a whole.

Another important factor is the krona. Since just over a year ago, the financial markets, due in part to Russia's invasion of Ukraine, have been characterised by high volatility and increasingly tight monetary policy both in Sweden and abroad. Interest rates abroad have also risen more than in Sweden, while Swedish real estate companies, for example, now have worse funding conditions, which may have led foreign investors to reduce their exposure to Sweden. In such an environment, the krona tends to depreciate, which has also been the case.[41] This will contribute to somewhat

[41] See the article "Why has the krona weakened this year?" in *Monetary Policy Report*, November 2022, Sveriges Riksbank.

higher inflation in the near term and increase the need for monetary tightening.[42] There is also support in the literature indicating that the pass-through of an exchange rate change on inflation may be greater when inflation and/or uncertainty are high, which could have a greater than normal effect on inflation (see the fact box “The pass-through of the exchange rate when inflation is high” in this report. The Riksbank's latest Business Survey also mentions the krona as an important factor behind planned price increases.[43]

At the same time, there are signs that the real krona exchange rate is undervalued.[44] If the exchange rate deviates from what we think is its equilibrium value, it should eventually return to this value. According to theory and empirical data, interest rate rises should also contribute to this.[45] The krona is therefore expected to appreciate slowly by 3 per cent per year in the coming years and thus contribute to lower inflation (see figure 46). But the uncertainty around both the future development of the krona and its pass-through to inflation is considerable.[46]

[42] E. Ortega and C. Osbat (2020), ”Exchange rate pass-through in the euro area and EU countries”, *Occasional Paper* No. 241, ECB, find that a 10-percent depreciation of the krona leads to at most between zero and one percentage point higher inflation in Sweden. This is also in line with the Riksbank’s own assessment, see the article “The impact of the exchange rate on inflation” in *Monetary Policy Report*, December 2016, Sveriges Riksbank.

[43] See “Bargain hunting intensifies”, *the Riksbank's Business Survey*, May 2023, Sveriges Riksbank.

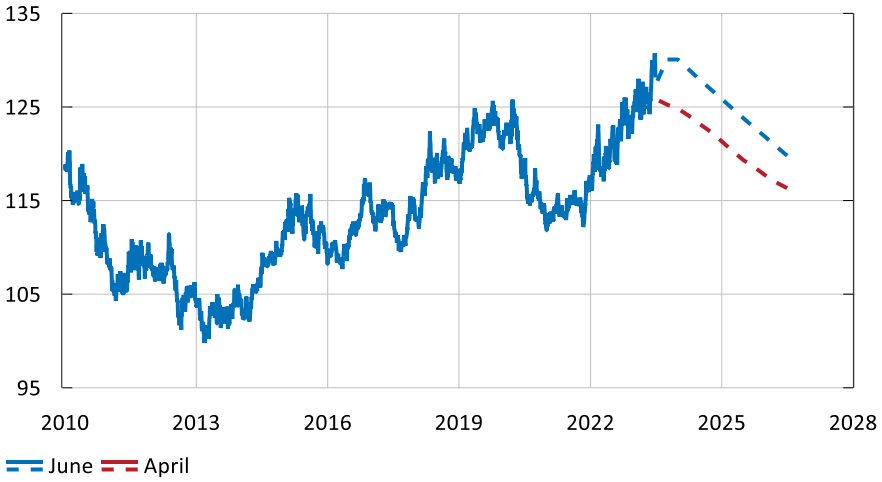
[44] See, for example, P. Bachetta och P. Chikhani (2021), “On the weakness of the Swedish krona”, *Economic Review* 2021:1, Sveriges Riksbank who stated that the real krona exchange rate has demonstrated “a growing undervaluation” since 2014. See also the discussion in C. J. Belfrage, J. Hansson, J. and A. Vredin (2023), “How should we view the development of the krona?”, *Economic Commentaries* No. 3, Sveriges Riksbank.

[45] Sales of government bonds can also, at least at the margin, help to increase the pass-through of monetary policy to the exchange rate, see Chapter 1.

[46] See Section 1.4 for a scenario with a weaker krona and greater exchange-rate pass-through.

Figure 46. Nominal exchange rate, KIX

Index, 18 November 1992 = 100



Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. 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. Solid line refers to outcomes, dashed line to the forecast.

Source: The Riksbank.

Finally, in a situation where costs rise considerably and rapidly, and where demand is high, companies will also be more prone to take these cost increases into consideration. This could be seen, for example, in companies' pricing behaviour at the beginning of 2022.[47] Previously, cost increases have not been fully passed on to consumers, at least not in the short term, but this happened to a great extent in 2021 and 2022.[48] Similarly, it cannot be ruled out that rapidly falling costs going forward could dampen consumer prices more than normal. What companies do in this situation is difficult to assess and depending on their actions, inflation can fall both more slowly and more rapidly than in the forecast.

But there are strong signs that inflation will be close to target in 2024

However, the tighter monetary policy and a better balance between supply and demand means there are strong indications that inflation measured as the CPIF and the CPIF excluding energy will be close to 2 per cent sometime next year. The long-term inflation expectations are close to 2 per cent (see figure 4), which suggests that economic agents continue to have confidence in the inflation target. The wage agreements also suggest that wages will rise at a pace that – given economic developments otherwise – are compatible with inflation returning to target. However, rents and housing cooperative fees are expected to increase more rapidly in the next few years, which will contribute to keeping inflation up.

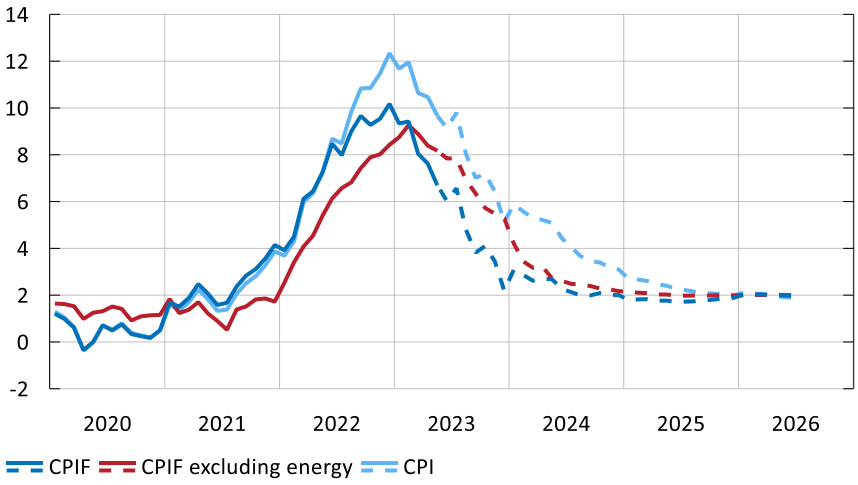
[47] See "I've never before experienced customers accepting price increases so easily", *The Riksbank's Business Survey*, February 2022, Sveriges Riksbank.

[48] See "Price setting by Swedish companies in 2022", *Special studies*, December 2022, National Institute of Economic Research.

When mortgage rates rise, household interest expenditure will increase, causing CPI inflation to be higher than CPIF inflation. By 2025, inflation measured as the CPI will also be close to 2 per cent (see figure 47).

Figure 47. CPIF, CPIF excluding energy and CPI

Annual percentage change



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

Sources: Statistics Sweden and the Riksbank.

ARTICLE – Strong labour market in Sweden and abroad

Unemployment has decreased and the employment rate has increased both in Sweden and abroad following the pandemic. This development has been sustained, even though the high inflation has led to monetary policy tightening and despite restrained GDP growth. The strength of the labour market is partly due to households' pent-up interest in consuming services after the pandemic. Another reason is that companies have chosen to continue to recruit even though demand has slowed down, presumably because they have previously had large labour shortages. In addition, real wages have fallen and this too may have contributed to higher demand for labour.

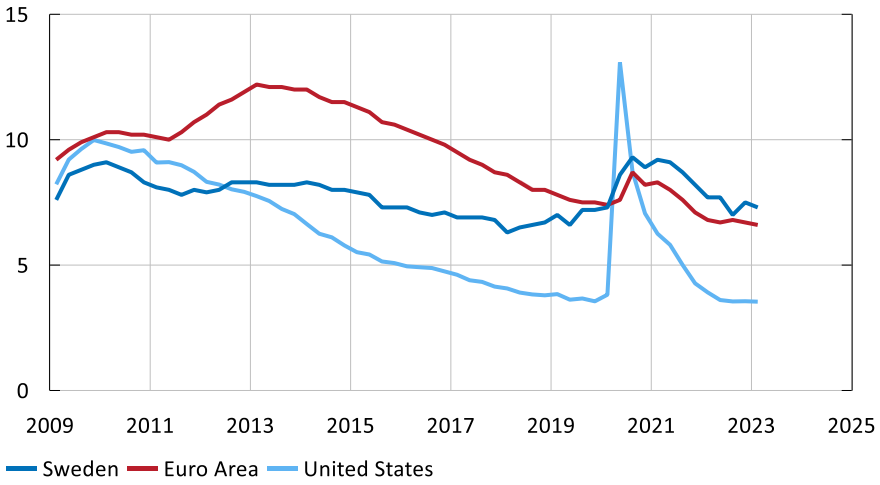
Since mid-2021, employment in Sweden has developed approximately in line with the historical correlation with GDP growth. However, employment growth in the first quarter of this year was stronger than this and several labour market indicators suggest that employment will continue to increase over the next few months. The recently concluded wage agreements on the Swedish labour market indicate that, although wage increases over the next two years will in fact be higher than normal, they will still be lower than those abroad. Sweden should therefore have better preconditions than other countries for a strong labour market, with high employment, while simultaneously being able to bring inflation down. Nevertheless, our assessment is that employment will fall slightly when demand cools off.

The labour markets have recovered well after the pandemic both in Sweden and abroad. Unemployment has fallen and the employment rate has increased (see figure 48 and figure 49). Last year, inflation rose strongly and central banks around the world started tightening monetary policy. Consumer confidence fell drastically, companies' confidence indicators dropped and the GDP growth slowed down. Nevertheless, however, the labour markets in the euro area, United States and Sweden have continued to develop strongly. Development in Sweden resembles that abroad, despite large differences in the way the labour market functions and how expansionary fiscal policy has been.[49] In the euro area and Sweden, the employment rate is higher than before the pandemic, while it has not fully recovered in the United States. The recovery of GDP has been stronger in Sweden than in the United States

[49] For example, there are major differences between countries in how wages are set and how flexible the labour markets are in terms of job security, unemployment benefits and the rules and costs for termination of employment.

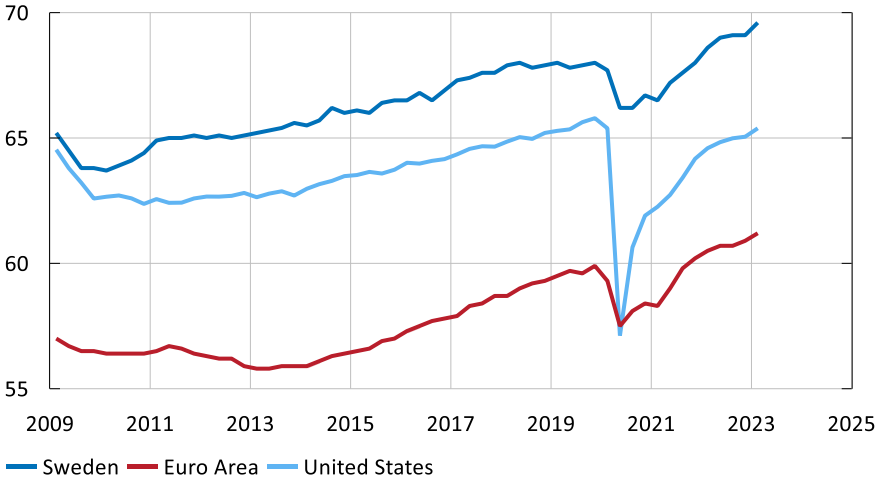
and euro area, which could explain why the Swedish employment trend compares favourably in an international comparison.

Figure 48. Unemployment rate in Sweden, the euro area and the United States
Per cent of labour force, 15–74 years



Sources: Eurostat, the OECD and Statistics Sweden.

Figure 49. Employment rate in Sweden, the euro area and the United States
Per cent of the population, 15–74 years



Sources: Eurostat, the OECD and Statistics Sweden.

The pandemic is an important explanation for this development

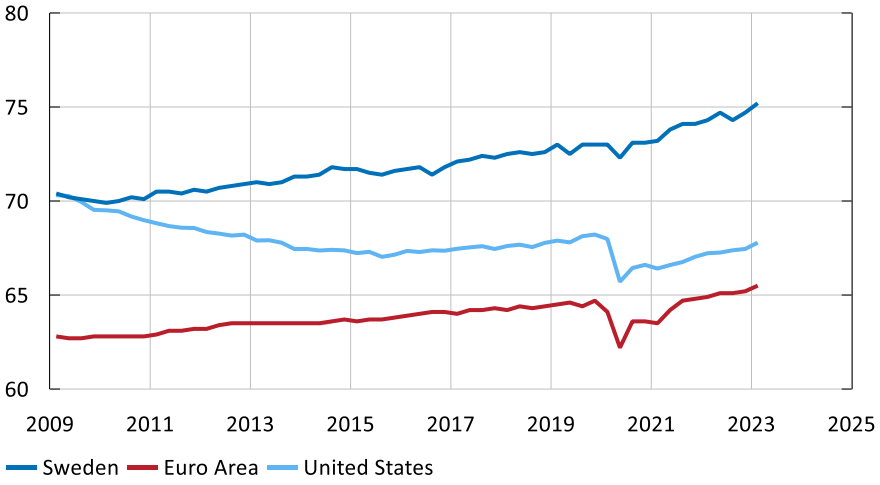
Understanding why the labour market is presently so strong requires an examination of how the pandemic affected the situation. The pandemic changed the labour supply in the euro area, United States and Sweden, but in different ways. In many countries, the supply of labour has decreased. The factors often highlighted as causes of this are that immigration was lower during the pandemic and that many people changed their

preferences concerning working life, such as how much they want to work. Also, in some countries, many older people have retired and left the labour market permanently (primarily in the United States).

In Sweden, the labour force participation rate is very high and it did not decrease appreciably during the pandemic either (see figure 50). This is also the reason that we continue to have relatively high unemployment in Sweden.[50] But the pandemic affected the supply of labour here too. Many chose to retrain or change sector. The labour supply therefore decreased in certain service sectors, even if the total labour force participation rate did not decline. Consequently, many companies have found it difficult to recruit staff with the desired levels of competence after the pandemic.

Figure 50. Labour force participation rate in Sweden, the euro area and the United States

Per cent of the population, 15–74 years



Sources: Eurostat, the OECD and Statistics Sweden.

There are also factors that have affected demand for labour. During the pandemic, fiscal policy was strongly expansionary in many countries and both households and companies received support. Government support for short-time work in Sweden and many other European countries is one example of crisis measures that contributed to many employees being able to keep their jobs and to unemployment increasing less than it would have without this support. It enabled the rapid recovery of output after the pandemic. Due to short-time work, household incomes in Sweden were also affected to a lesser degree than they would have been had more people become unemployed.[51] In the United States, households were instead given large government

[50] The numbers participating in the labour force differ greatly from country to country and is partly influenced by the structure of the population and various institutional factors, such as the design of the education, social insurance, pension and tax systems, as well as various traditions, laws and rules that regulate the labour market. A relatively large share of unemployment in Sweden is due to high unemployment among young persons in upper secondary and higher education. The high youth unemployment in Sweden compared to other countries can largely be explained by differences in educational systems. If unemployment in the core labour force (25–54 years) is compared, Swedish unemployment is closer to the levels seen in other countries.

[51] In contrast, in many European countries, employees covered by short-time working receive unemployment benefits.

grants during the pandemic. These different kinds of support meant that households in Sweden and abroad could save money, particularly because they could not travel and consume as normal.

Demand for labour increased rapidly after the pandemic when it became possible to return to a life without restrictions. This resulted in resource utilisation rising and many companies reported labour shortages. Many people wanted to travel, go to restaurants and do other things they were unable to do during the pandemic, which meant that demand for staff increased rapidly in certain sectors.

Companies have retained more staff than they believe demand requires in the short term

High savings during the pandemic have made it possible for households to continue consuming services, even though living costs have now increased heavily. The high demand for services seems to be persisting, even if Sweden's total household consumption has decreased in recent quarters. In addition, the weak krona has contributed to higher exports and thereby also to higher demand for labour in the export industry and in the service sectors that are closely linked to the exporting manufacturing industry.[52] The green transition in the manufacturing industry has made a positive contribution to labour demand and is expected to do so for a long time to come.

At least in Sweden, there are signs that companies that have long had labour shortages and recruitment difficulties have been unwilling to reduce their workforces, even when they expect a deterioration in demand. The National Institute of Economic Research's new indicator of labour hoarding, which measures the proportion of companies choosing to have more staff than required by output over the short term, has been at a relatively high level and remains higher than normal (see figure 51). The recent fall in the indicator seems to be due to companies taking a slightly brighter view of demand in the period ahead. Companies' recruitment plans have also been surprisingly positive in recent months. This may indicate that companies do not expect the downturn in demand to be particularly deep or persistent.

One further factor that may have contributed to increasing labour demand in Sweden is the heavy fall in real wages due to the high inflation. Labour has become less costly relative to capital, as well as relative to labour costs in other countries, where nominal wage increases have been higher. The Industrial Agreement, which applies from the second quarter of the year, provides wage increases totalling 7.4 per cent over two year, divided into 4.1 per cent the first year and 3.3 per cent the second year. The wage agreements concluded since then seem to comply with the manufacturing sector's benchmark. According to the National Mediation Office, agreed wages will increase by a nominal 3.3 per cent in 2023 and 3.5 per cent in 2024.[53]

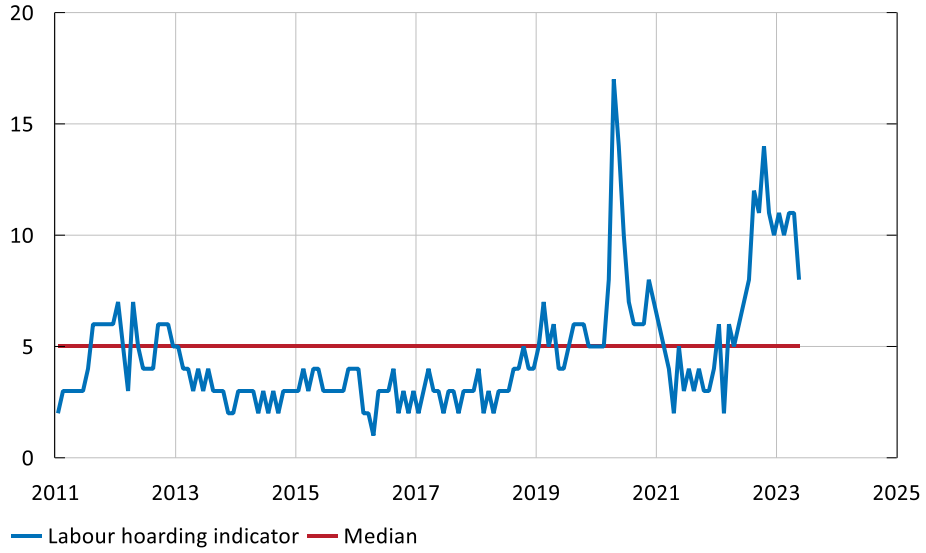
[52] See "Bargain hunting intensifies", *Riksbank's Business Survey*, May 2023, Sveriges Riksbank.

[53] Wage increases for the calendar years 2023 and 2024 are affected by the new agreements applying from the second quarter and onwards this year.

Aggregated wage growth is also being affected by changes in the composition of employees and by wage increases over and above agreements. The Riksbank deems that overall wages will rise at a pace that – given economic developments otherwise – are compatible with inflation returning to target. The forecast implies that real wages will continue to fall this year and will not increase until next year, which could counteract falling labour demand to an extent. For good real wage growth in the long run, it is important that inflation subsides to stabilise around the target again. However, productivity growth is also an important element for real wages to rise over the long term. Higher productivity growth will allow for higher wage increases without them pushing up inflation.

Figure 51. Labour hoarding in the business sector as a whole

Per cent



Note. The labour hoarding indicator is calculated as the proportion of companies expecting an increased or unchanged number of employees at the same time as they expect demand to deteriorate.

Source: National Institute of Economic Research.

Employment growth in Sweden after the pandemic has been approximately in line with historical GDP correlations

One way of investigating whether the development of the labour market has been stronger than expected is to compare actual employment growth with how it would have been if it had followed GDP growth according to historical patterns. This is done by using Okun's law to estimate the correlation between percentage changes in

employment and real GDP growth for the period 1995–2019.[54] After this, actual GDP outcomes are used to make a projection of the number of persons employed until the end of the first quarter of 2023. The solid lines in figure 52 show outcome for the number of persons employed in the euro area, United States and Sweden, while the light blue fields show what employment would have been if developments had followed historical correlations with GDP growth, estimated using different models.[55]

In Sweden, employment developed less favourably than indicated by historical correlations until the end of the second quarter of 2021 (see figure 52). One explanation for this is that the pandemic was quite a different crisis that entailed large changes for both the economy and society as a whole. Among other things, the pandemic entailed a strong decrease in the consumption of many employment-intensive services, such as hotels, restaurants and cultural and leisure activities. On the other hand, industrial production did not fall as sharply. The manufacturing sector has considerable significance for Sweden's GDP growth, which largely explains why GDP growth was better than employment growth until mid-2021.

The recovery in 2021 also deviated slightly from normal patterns. In an economic upswing, hours worked by existing employees are usually increased before any new recruitment takes place. However, after the pandemic, companies instead increased the number of employees more than the number of hours worked. From the second half of 2021 until the end of 2022, the number of persons employed in Sweden increased approximately in line with the historical correlation with GDP growth and, at the start of 2023, employment growth was even somewhat stronger.[56, 57]

Employment had fully recovered by the fourth quarter of 2021. Due to short-time working, the number of hours worked fell much more than employment during the pandemic and did not recover until the second quarter of 2022 (see figure 53).

[54] The correlation between changes in unemployment and real GDP growth is often estimated, which is also the case in the original study, A. M. Okun (1962), "Potential GNP: Its Measurement and Significance" in *Proceedings of the Business and Economics Statistics Section*. Alexandria, VA: American Statistical Association. However, employment is a better measure of economic activity and a fairer measure from an international comparison, as there are such large structural and cyclical differences in the labour force participation rate from country to country.

[55] The results differ slightly, depending on the model specification. The figure shows the lowest and highest projection for each quarter from the different model estimates. Two models are used for the euro area and United States, one based on annual percentage change and one based on quarterly percentage change. The models also include lagged variables to allow for a certain time lag in the correlation between GDP and employment. In addition, a specification based on an assessed GDP and employment gap is included for Sweden. The models for Sweden also include what is known as a BVAR model with 11 variables that are conditional on outcomes for all variables except employment.

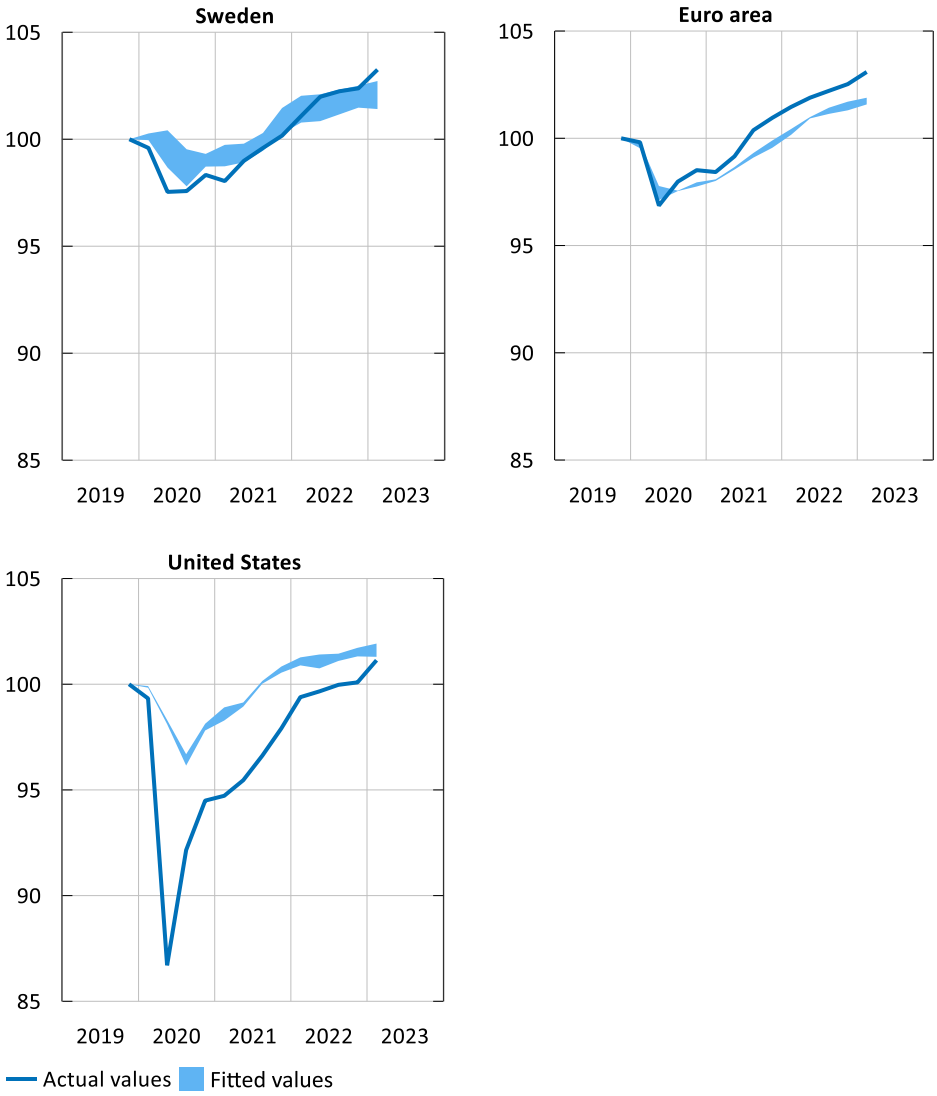
[56] In conjunction with the publication of GDP for the first quarter of 2023, historical GDP outcomes were revised upwards, particularly for 2021. Before this revision, estimates showed that employment had developed more strongly than GDP. The upward revision of GDP growth means that employment has now developed more in line with GDP, except for in the first quarter of 2023.

[57] It may be surprising to find that employment growth according to Okun estimates has developed approximately in line with GDP at the same time as the labour-hoarding indicator has been on a high level. However, there are several conceivable explanations for the inconsistency between the Okun estimates and the labour-hoarding indicator. For example, companies may have been surprised by the strength of demand. In addition, GDP consists of more components than just companies' output, for example public consumption and public investment.

Figure 52 shows that, following the pandemic, employment growth in the euro area has been stronger than the historical correlation with GDP. On the other hand, hours worked have developed more weakly than employment in the euro area (see figure 53). For the United States, estimates show that employment development has been significantly weaker than historical correlations would suggest, which is partly due to demographic changes such as relatively large groups retiring and reduced immigration. The development of hours worked has also been relatively weak in the United States. Real wages have developed more strongly abroad than in Sweden, which could be one possible explanation for employment being higher in Sweden than abroad. Hours worked have also developed strongly in Sweden since the second half of 2022.

Figure 52. Outcome and projection of number of persons employed in Sweden, the euro area and United States

Index, quarter 4 2019 = 100

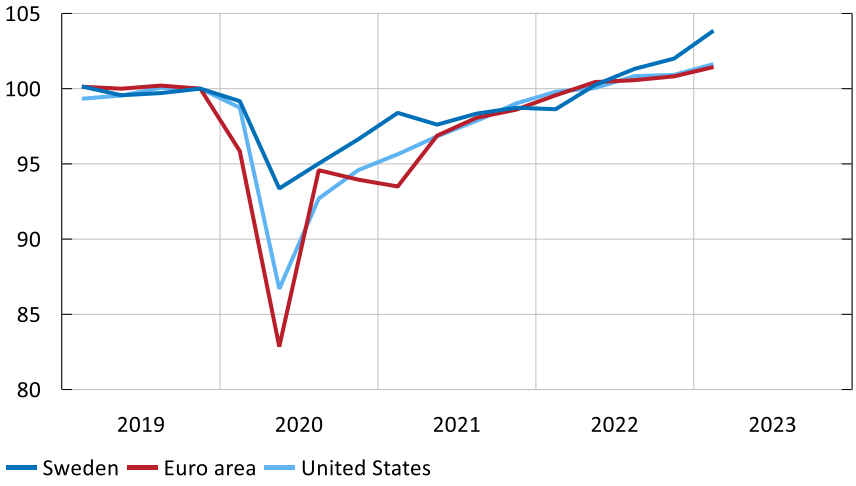


Note. The field shows the lowest and highest estimated value from various models. For Sweden, three Okun estimates and a BVAR estimate are included. For the euro area and United States, two Okun estimates are included.

Sources: Eurostat, the OECD, Statistics Sweden and the Riksbank.

Figure 53. Number of hours worked

Index, quarter 4 2019 = 100



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

Uncertain how much the labour market will cool down in the period ahead

The rapid increase in demand that followed the pandemic led to many companies experiencing labour shortages, and they now seem to be hoarding labour. In addition, demand for labour may have been positively affected by heavily reduced real wages. These factors explain, at least partly, why the labour market has resisted tightening so well. According to the Economic Tendency Survey, recruitment plans remain somewhat positive and both households and companies have recently become a little less pessimistic about the future. The recently concluded wage agreements on the Swedish labour market indicate that, although wage increases over the next two years will in fact be higher than normal, they will still be lower than those abroad. The conditions for Sweden to have a strong labour market in terms of employment, while simultaneously being able to bring inflation down, should therefore be better than for other countries.

Nevertheless, the Riksbank's assessment is that employment will fall slightly as demand slows down in the period ahead. The cooling of the labour market and falling resource utilisation should lead to lower inflationary pressures. There is significant uncertainty in this forecast, however. Major shocks to the economy, such as the pandemic, change the way the labour market functions, temporarily or permanently, and mean that developments do not necessarily follow historical correlations. This, in turn, means that forecasts based on such correlations are becoming less reliable. In addition, analyses in real time are complicated by GDP statistics being revised retrospectively and that these revisions are sometimes relatively extensive.

Forecast tables

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

Table 1. Policy rate forecast

Per cent, quarterly averages

	2023Q1	2023Q2	2023Q3	2024Q2	2025Q2	2026Q2
Policy rate	2.75 (2.75)	3.32 (3.32)	3.75 (3.60)	4.05 (3.65)	4.05 (3.65)	3.75 (3.35)

Source: The Riksbank.

Table 2. Inflation

Annual percentage change, annual average

	2021	2022	2023	2024	2025
CPIF	2.4 (2.4)	7.7 (7.7)	5.9 (5.9)	2.4 (2.3)	1.8 (1.8)
CPIF excl. energy	1.4 (1.4)	5.9 (5.9)	7.4 (7.3)	2.8 (2.6)	2.0 (2.0)
CPI	2.2 (2.2)	8.4 (8.4)	8.9 (8.9)	4.3 (4.0)	2.3 (2.3)
HICP	2.7 (2.7)	8.1 (8.1)	5.9 (5.8)	2.4 (2.3)	1.8 (1.8)

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	6.3 (6.3)	1.9 (2.1)	-2.4 (-1.2)	0.7 (0.6)	1.9 (2.0)
Public consumption	3.3 (2.8)	0.1 (0.0)	1.6 (1.3)	1.6 (1.6)	1.3 (1.3)
Gross fixed capital formation	7.1 (6.0)	6.1 (5.2)	-2.6 (-4.6)	-3.0 (-2.8)	2.2 (2.0)
Stock investments*	0.4 (0.5)	1.1 (1.0)	-0.6 (-0.8)	-0.2 (-0.1)	0.0 (0.0)
Exports	11.1 (10.0)	7.0 (6.6)	2.5 (2.0)	0.5 (0.9)	2.1 (2.2)
Imports	11.6 (11.5)	9.4 (8.7)	-0.4 (-1.2)	0.1 (0.3)	2.1 (2.1)
GDP	6.1 (5.4)	2.8 (2.6)	-0.5 (-0.7)	0.0 (0.2)	1.8 (1.8)
GDP, calendar-adjusted	6.0 (5.3)	2.8 (2.7)	-0.2 (-0.5)	0.0 (0.2)	2.0 (2.0)
Final domestic demand*	5.4 (5.0)	2.4 (2.2)	-1.4 (-1.4)	-0.1 (0.0)	1.7 (1.7)
Net exports*	0.3 (-0.1)	-0.6 (-0.6)	1.5 (1.5)	0.2 (0.3)	0.1 (0.1)
Current account (NA), percentage of GDP	6.8 (6.5)	4.8 (4.4)	6.0 (6.5)	6.7 (7.3)	7.2 (7.9)

* 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 stated

	2021	2022	2023	2024	2025
Population, aged 15–74	0.0 (0.0)	0.3 (0.3)	0.5 (0.5)	0.5 (0.5)	0.5 (0.5)
Potential employment	0.8 (0.8)	0.8 (0.8)	0.7 (0.7)	0.7 (0.7)	0.6 (0.6)
Potential hours worked	0.4 (-0.2)	0.7 (0.7)	0.6 (0.6)	0.6 (0.6)	0.6 (0.6)
Potential GDP	2.2 (1.7)	1.6 (1.7)	1.6 (1.6)	1.6 (1.5)	1.5 (1.5)
GDP, calendar-adjusted	6.0 (5.3)	2.8 (2.7)	-0.2 (-0.5)	0.0 (0.2)	2.0 (2.0)
Hours worked, calendar-adjusted	2.3 (2.2)	2.3 (2.3)	2.2 (0.9)	-1.3 (-1.0)	0.6 (0.5)
Employed persons	1.0 (1.0)	2.7 (2.7)	1.4 (0.6)	-0.6 (-0.6)	0.4 (0.6)
Labour force	1.2 (1.2)	1.2 (1.3)	1.4 (1.0)	0.2 (0.2)	0.4 (0.5)
Unemployment*	8.8 (8.8)	7.5 (7.5)	7.5 (7.8)	8.2 (8.5)	8.3 (8.4)
Employment gap**	-1.3 (-1.3)	0.6 (0.6)	1.3 (0.5)	0.0 (-0.8)	-0.3 (-0.8)
GDP gap**	-2.0 (-1.4)	-0.3 (0.2)	1.2 (0.5)	-0.8 (-1.2)	-0.8 (-1.3)
Hours gap**	0.6 (0.4)	1.9 (1.5)	0.0 (-0.6)	-1.6 (-2.0)	-1.1 (-1.5)

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

Note. Potential hours worked, potential employment and potential GDP refer to the long-run sustainable level according to the Riksbank's assessment.

Sources: Statistics Sweden and the Riksbank.

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

Annual percentage change, calendar-adjusted data unless otherwise stated

	2021	2022	2023	2024	2025
Hourly wage, NMO	2.6 (2.6)	2.7 (2.7)	4.0 (4.0)	4.0 (3.9)	3.4 (3.4)
Hourly wage, NA	2.8 (2.6)	4.0 (3.9)	3.2 (4.0)	4.0 (3.9)	3.4 (3.4)
Employers' contribution*	0.6 (0.7)	-0.5 (-0.6)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)
Hourly labour cost, NA	3.5 (3.4)	3.4 (3.3)	3.3 (4.0)	4.0 (3.9)	3.4 (3.4)
Productivity	3.7 (2.9)	0.5 (0.3)	-2.4 (-1.3)	1.3 (1.2)	1.4 (1.5)
Unit labour cost	0.7 (1.3)	3.0 (3.0)	5.9 (5.4)	2.6 (2.6)	2.0 (1.8)

* 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	0.46	5.3 (5.3)	3.5 (3.5)	0.2 (0.4)	0.8 (0.8)	1.8 (1.8)
United States	0.15	0.08	5.9 (5.9)	2.1 (2.1)	1.2 (1.1)	0.6 (0.6)	2.1 (2.2)
China	0.19	0.10	8.9 (8.9)	3.0 (3.0)	5.7 (5.7)	4.7 (4.5)	4.7 (4.5)
KIX weighted	0.75	1.00	5.8 (5.8)	3.2 (3.2)	1.1 (1.2)	1.6 (1.5)	2.3 (2.2)
The World (PPP)	1.00	—	6.3 (6.3)	3.4 (3.4)	2.8 (2.7)	2.9 (2.9)	3.3 (3.3)

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)	8.4 (8.4)	5.1 (5.0)	2.2 (2.2)	2.0 (2.0)
United States	4.7 (4.7)	8.0 (8.0)	3.9 (4.3)	2.4 (2.6)	2.3 (2.4)
KIX weighted	3.1 (3.1)	8.4 (8.4)	5.6 (5.6)	2.8 (2.7)	2.4 (2.4)

	2021	2022	2023	2024	2025
International policy rate, per cent	-0.3 (-0.3)	0.5 (0.5)	3.6 (3.5)	3.9 (3.6)	3.2 (3.0)
Crude oil price, USD/barrel Brent	70.7 (70.7)	98.6 (98.6)	77.5 (82.2)	72.4 (78.0)	69.9 (73.8)
Swedish export market	9.2 (9.2)	8.2 (8.0)	-0.5 (2.0)	2.2 (2.3)	3.1 (3.1)

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)	0.8 (0.8)	3.5 (3.3)	4.1 (3.7)	4.0 (3.6)
10-year rate	0.3 (0.3)	1.5 (1.5)	2.5 (2.4)	3.1 (2.9)	3.2 (3.0)
Exchange rate, KIX, 18 Nov 1992 = 100	114.3 (114.3)	121.1 (121.1)	128.3 (125.4)	127.4 (122.7)	123.3 (119.0)
General government net lending, per cent of GDP	0.0 (0.0)	0.8 (0.7)	0.0 (-0.1)	-0.7 (-0.7)	-0.6 (-0.8)

Sources: Statistics Sweden and the Riksbank.

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