

Monetary Policy Report

April 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 what is an appropriate monetary policy¹. 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 adopted the Monetary Policy Report on 25 April 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 development 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 supplemented 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 developments 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 reservations 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 April 2023



Inflation is still far too high and far from the inflation target. The high inflation has a negative effect on the whole economy, but particularly affects households that have small margins. For inflation to fall and stabilise around the target within a reasonable period of time, the Executive Board has decided to raise the policy rate by 0.5 percentage points to 3.5 per cent.



Because of the rapid upturn in inflation, the Riksbank has raised the policy rate unusually rapidly since April 2022, from zero per cent to 3.0 per cent in February 2023. The rate increases have not yet had full impact on economic activity and inflation. But the effects are becoming increasingly clear and CPIF inflation has fallen in recent months, roughly in line with the Riksbank's latest forecast. However, the downturn is due to falling energy prices. CPIF inflation excluding energy has been much higher than in the Riksbank's forecasts during the first months of the year.



It is important for confidence in the inflation target that inflation falls back. Low and stable inflation is a necessary condition for good economic development and real wage increases. Monetary policy is therefore still aimed at bringing inflation to the target within a reasonable period of time. To ensure that this happens, the policy rate needs to be raised further.



The forecast for the policy rate has been revised up and indicates that the policy rate will most likely be increased by a further 0.25 percentage points in June or September. Monetary policy has a tightening effect on the economy and the Executive Board assesses that following the April meeting there will be scope to adjust the policy rate in smaller steps. 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 for the conduct of monetary policy.

1 Higher policy rate for inflation close to target

After a year of rapid interest rate hikes, monetary policy in many countries is contractionary. This has led to lower growth in demand, which combined with the supply disruptions subsiding last year, indicates that global inflation will fall back this year.

However, in Sweden, as in other countries, inflation is still too high and far from the inflation target. CPIF inflation has fallen in recent months, roughly in line with the Riksbank's most recent forecast, but this is due to falling energy prices. CPIF inflation excluding energy fell somewhat in March, but the outcomes during the first months of the year have been much higher than the Riksbank's forecast. It is important for confidence that inflation falls clearly this year. Low and stable inflation is a necessary condition for good economic development and real wage increases. Monetary policy is therefore still aimed at bringing inflation back to the target within a reasonable period of time. To ensure that this happens, the policy rate needs to be raised further.

The Executive Board has decided to raise the Riksbank's policy rate by 0.5 percentage points, to 3.5 per cent. The forecast for the policy rate has been revised up and indicates that the policy rate will most likely be increased by a further 0.25 percentage points in June or September. Given the rapid policy rate hikes over the past year, monetary policy has a tightening effect on the economy and the Executive Board assesses that following the April meeting there will be scope to adjust the policy rate in smaller steps. 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 for the conduct of monetary policy.

1.1 Monetary policy abroad entering a new phase

Higher policy rates dampen growth and inflation

In recent years, the global economy has been marked by supply shocks, high demand, strong labour market developments and rapidly rising inflation. As employment has risen and households have begun to use their savings from the pandemic years for consumption, demand has been held up abroad. However, during 2022 inflation and

interest rate hikes gradually slowed down global demand, not least when falling real incomes and rising interest expenditure reduced households' purchasing power.

Last year, both growth in demand and supply shocks began to decline and this indicates that global inflation will fall back this year. After a year of rapid interest rate hikes, monetary policy in many countries is tight and several of the major central banks have signalled that their policy rates are now at a level where it may be appropriate to proceed more slowly or to wait before making further increases. Following the collapse of the US bank Silicon Valley Bank on 10 March, there was turmoil in financial markets (see further description in Chapter 2). This turmoil was met with forceful measures from authorities, governments and central banks, which have reduced the uncertainty. Nevertheless, the developments have contributed to households and companies, particularly in the United States, now facing tighter credit conditions, which is expected to dampen both GDP and inflation. The need for further monetary policy tightening is thus expected to be somewhat smaller.

The banking turmoil has affected expectations of future policy rates among financial market participants. Pricing was very volatile in March and now indicates that participants are expecting much lower policy rates going forward compared to before the banking turmoil at the beginning of March, in particular with regard to expectations of the Federal Reserve (see Figure 11 in Chapter 2). An overview of the monetary policy conducted and expected in a selection of foreign central banks and the Riksbank can be found in Table 1 in Chapter 2.

The financial system is strongly interlinked at a global level, but the Riksbank assesses at present that the spill over effects of the banking turmoil on Sweden will be limited. Although uncertainty has declined, there is still some concern that the problems will spread to other banks and further in the global financial system, resulting in even tighter credit conditions. At the same time, the resilience of the Swedish banking system is assessed as good, partly due to the banks showing high profitability and being well capitalised in an international perspective.

Domestic demand is declining in Sweden, but underlying inflation is still high

New information since the February monetary policy meeting indicates that demand and resource utilisation in the Swedish economy is somewhat higher than expected. For instance, the employment rate has continued to rise to new peaks (see Figure 4). However, the aggregate measures hide a divided development, where the Swedish export sector is continuing to do well, while domestic demand is increasingly weak. According to the National Accounts, consumption fell by more than 2 per cent during the second half of last year. Households are still under pressure from falling real incomes and rising interest expenditure. Some forward-looking indicators point to export growth also slowing down. All in all, a further slowdown in the Swedish economy is expected this year, and GDP is expected to fall by 0.7 per cent. The weak growth is also expected to entail that unemployment rises towards the end of the year.

Since the meeting in February, the inflation outcomes for the first three months of the year have also been published. CPI inflation has fallen in line with the Riksbank's forecast, but this is explained by the volatile energy prices falling faster than expected. Inflation excluding energy prices amounted to 8.9 per cent in March, which is clearly higher than in the forecast from February.

Properly functioning frameworks and stable expectations indicate that inflation will fall relatively quickly

The monetary policy that is needed depends, among other things, on what price-setters and wage negotiators believe future inflation will be. If they assume that inflation will once again be low and stable in a not too distant future, monetary policy will not need to be tightened as much as otherwise.

The long-term inflation expectations expressed in surveys remain stable and close to, albeit just over, the inflation target of 2 per cent (see Figure 1). The market-based long-term inflation expectations are still at levels clearly below the inflation target. Market-specific circumstances have contributed to large movements in these measures since the beginning of 2022 and they should therefore be interpreted with caution. The overall picture is that there is confidence among the participants that inflation will return to 2 per cent within a reasonable period of time.

Figure 1. Long-term inflation expectations



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

Sources: Kantar Prospera and the Riksbank.

Confidence in the inflation target is also very important for the ongoing collective wage bargaining rounds. On 31 March, the social partners in the manufacturing sector signed agreements that apply for two years and entail wage increases of 4.1 per cent in the first year and 3.3 per cent in the second year. While the agreements entail a total rate of wage increase that is somewhat higher than the Riksbank's forecast in

February, the new agreement nevertheless reduce the risk of a problematic price-wage spiral arising.² If wage drift follows a normal historical pattern, wages are assessed to rise at a pace that - given economic developments in general - is compatible with inflation being close to the target in 2024. The agreement includes a clear expectation that the Riksbank will continue to adjust its monetary policy to bring down inflation in the fairly near future so that real wages once again can begin to increase.

In Sweden, there are favourable conditions for avoiding prolonged high inflation, thanks to the frameworks for monetary policy, fiscal policy and wage formation. When the economic policy makers and other agents act within the scope of these frameworks, there are good prospects for the Riksbank to be able to bring inflation back to target relatively rapidly and for the economy develop fairly favourably. A good interaction between the policy areas makes it possible to keep down the short-term socioeconomic costs of bringing inflation back to the target.

In the current situation with a very high inflation, expansionary fiscal policy could push inflation up further. The Riksbank would then need to raise the policy rate more and thus counteract the demand effects of fiscal policy. However, the Government can conduct active fiscal policy without being in a clear conflict of interests with monetary policy, if overall fiscal policy is not inflationary. Since the February Monetary Policy Report, the Government has announced unfunded expenditure in the spring budget bill corresponding to a further SEK 4 billion. This is assessed on the whole to not tangibly affect inflation prospects.

1.2 Tighter monetary policy to reach the inflation target within a reasonable period of time

Inflation rose rapidly last year and is now 8.0 per cent, measured in terms of the CPIF. There are several, partly interacting, factors behind inflation being so far above the target. The inflationary impulse in the wake of the pandemic was reinforced by disruptions primarily to the European energy markets caused by Russia's invasion of Ukraine. As a result of the rapid upturn in inflation, the Riksbank has raised the policy rate at every monetary policy meeting since April 2022, from zero per cent to 3.0 per cent in February 2023. The increases have been unusually rapid and have not yet had full impact on economic activity and inflation. However, the effects on demand in the Swedish economy are becoming increasingly clear and CPIF inflation has begun to fall back. It is important that this downturn continues and that underlying inflation also falls.

Bank turmoil has limited, but difficult to assess effects

In the United States, the banking turmoil has contributed to somewhat tighter credit conditions, which is expected to dampen economic activity. In Sweden, there are so far few signs of a credit crunch resulting from the turmoil, but it is not unlikely that

² A large share of the agreements covered by the collective wage bargaining rounds have been signed and so far they are all in line with the so-called benchmark.

lending or investment activity may also be dampened here, particularly if the turmoil in financial markets returns.

Inflation still too high

It is important for confidence in the inflation target that inflation falls clearly this year. Low and stable inflation is a necessary condition for good economic development and real wage increases. CPIF inflation has fallen somewhat in recent months, roughly in line with the Riksbank's most recent forecast, but this is explained by falling energy prices. CPIF inflation excluding energy also declined somewhat in March, but was clearly higher than expected in the Riksbank's forecast in February. The surprisingly high outcomes at the beginning of the year have meant that the Riksbank revised up its forecast for inflation (see Figure 5).

The forecast error for CPIF inflation excluding energy can to some extent be explained by an unusually large annual adjustment of the weights in the CPI basket, which meant that the inflation rate measured at the beginning of the year was unusually high. This affected in particular the rate of increase in service prices. The forecast error was also due to unexpectedly high food prices, which are not expected to increase as quickly going forward. But prices of other goods and services have continued to increase faster than expected during the first months of the year (see the article "How quickly will inflation fall?"). Monetary policy is still aimed at bringing inflation back to the target of 2 per cent within a reasonable period of time. To ensure that this happens, the policy rate needs to be raised further.

Stable krona despite financial turbulence

The problems in certain US and European banks in March triggered considerable turbulence in financial markets. Despite the krona usually weakening in these situations, it has been relatively stable and is in the initial situation somewhat stronger than the Riksbank forecast in February. This is probably partly because the turbulence caused expectations of international policy rates to clearly fall, while the movements in expectations of the Swedish policy rate were less.

The fact that the Riksbank is continuing to tighten monetary policy is expected to provide some support for the krona. The krona exchange rate has not been a decisive factor behind the substantial rise in inflation over the past year, but the weak krona has contributed to somewhat higher inflation. Nor is the krona expected to have a decisive effect on the expected decline in inflation this year, but all else being equal a stronger krona would be beneficial for inflation. Measured in terms of the KIX, the krona has weakened by around 10 per cent over the past two years. If the krona were to continue to follow the weakening trend of recent years, monetary policy would most likely need to be tightened more than was now assumed in the forecast.

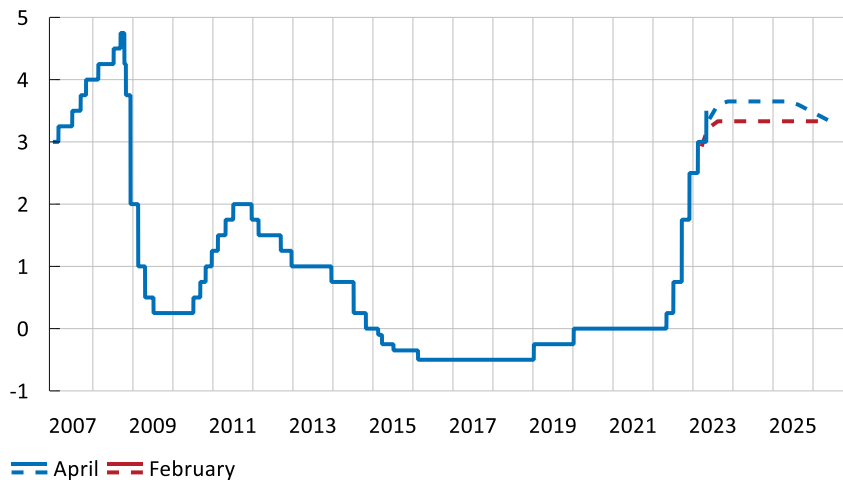
Policy rate raised by 0.5 percentage points to 3.5 per cent

Inflation is still too high. The very high inflation affects in particular households that have small margins to begin with, but the development is negative for the whole economy. To make inflation fall and stabilise around the target within a reasonable

period of time, the Executive Board has decided to raise the policy rate by 0.5 percentage points to 3.5 per cent (see Figure 2). Monetary policy needs to remain tight to ensure that inflation returns to the target. The forecast for the policy rate has been revised up and indicates that the policy rate will most likely be increased by a further 0.25 percentage points in June or September. 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 for the conduct of monetary policy.

Figure 2. 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.

With a policy rate of 3.5 per cent, the Riksbank assesses that monetary policy has a tightening effect on the economy. Household consumption has already fallen significantly and their interest expenditure as a percentage of their disposable income is expected to rise further this year and next year (see Figure 34). In the forecast demand continues to slow down and resource utilisation in the Swedish economy is expected to be lower than normal from the middle of 2023. This contributes to inflation returning to the target during 2024.

The Executive Board assesses that after the April meeting there is scope to adapt the policy rate in smaller steps than during the past year. The two-year collective agreements signed in the labour market create greater predictability and stability with regard to companies' costs. The settlement thus contributes to reducing the risk of a price and wage spiral in the Swedish economy. Moreover, tighter credit conditions for households and companies abroad mean that resource utilisation and global inflation will be lower, which will dampen economic activity and prices in Sweden, too.

It takes time for monetary policy to have a full impact and this makes it difficult to know in advance how much the policy rate needs to be raised for inflation to stabilise close to the target. Swedish households' high indebtedness and short interest-rate fixation periods have increased the economy's interest-rate sensitivity. The impact of the policy rate hikes on resource utilisation and inflation may therefore be greater

than before (see further Section 1.3). At the same time, the labour market and total demand have been unexpectedly strong. After a year of interest rate hikes, monetary policy is assessed to be contractionary. The Riksbank will continue to regularly evaluate how the economy responds to the policy rate hikes already implemented and will adjust monetary policy accordingly.

In the forecast, the policy rate remains at just over 3.5 per cent for the rest of the year. The underlying inflation rate is expected to fall rapidly, but policy rate cuts will not begin until it has been close to the target for a while. At the end of the forecast period, the policy rate is expected to be 3.4 per cent. However, there is considerable uncertainty, and to illustrate this, Section 1.4 “Alternative scenarios for inflation and monetary policy” describes examples of what might cause inflation and the policy rate to become higher or lower than in the Riksbank's forecast.

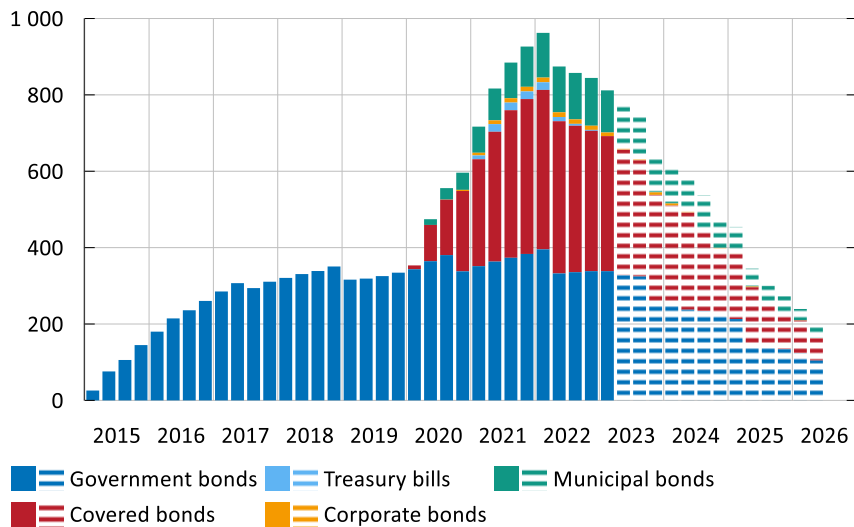
Riksbank’s asset holdings decline through maturities and sales of government bonds

At the same time as the policy rate is raised, the Executive Board assesses that it is appropriate for the Riksbank to continue to reduce the asset holdings for monetary policy purposes through maturities and the sales of government bonds as decided in February.³ The sales began in April and demand at the Riksbank's auctions has been good. The decision to sell government bonds applies until further notice. On the assumption of sales for SEK 3.5 billion every month, and of other bonds being kept until maturity, the asset holdings will amount to just below SEK 200 billion at the end of the forecast period (see Figure 3).

³ See Basis for decision, Annex to the minutes A: Decision on policy rate.

Figure 3. Riksbank's asset holdings

Nominal amounts, SEK billion



Note. The dashed 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 for a nominal value of SEK 3.5 billion per month.

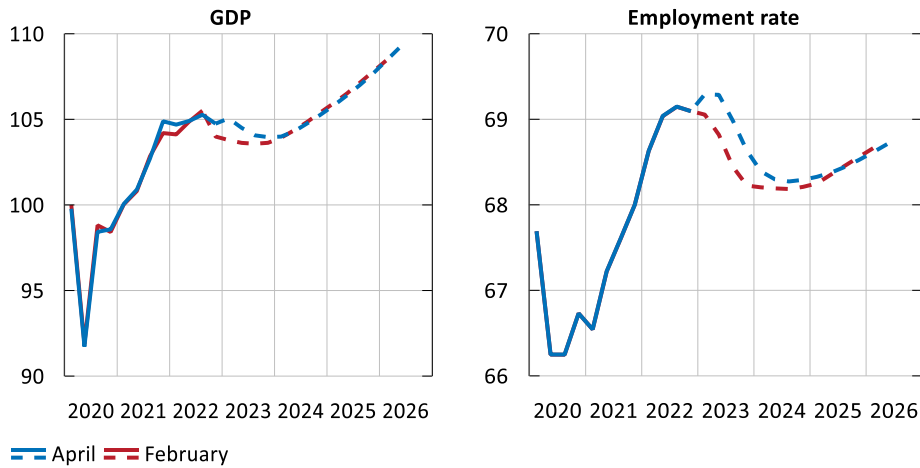
Source: The Riksbank.

Lower demand in the Swedish economy and inflation close to target in 2024

To bring down the high inflation within a reasonable time and ensure that inflation is anchored at 2 per cent, activity in the Swedish economy needs to be dampened. The Riksbank shall also, without neglecting the inflation target, contribute to a balanced development of production and employment. Monthly statistics point to both GDP and the employment rate having been higher than expected at the beginning of the year. With the monetary policy decision in April consumption and investment are further dampened in relation to the assessment in February, but the monetary policy tightening is assessed as necessary to bring down inflation and thereby contribute to good economic development in the slightly longer term. According to the Riksbank's forecast, resource utilisation will fall back so that in 2023 and 2024 it is lower than normal. GDP will be at its lowest at the end of 2023 and the employment rate is expected to bottom out somewhat later (see Figure 4). This will contribute, together with declining supply problems and a strengthening of the krona, to dampening inflation. Both CPIF inflation and CPIF excluding energy will fall during 2023 and stabilise close to the target in 2024 (see Figure 5).

Figure 4. 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)

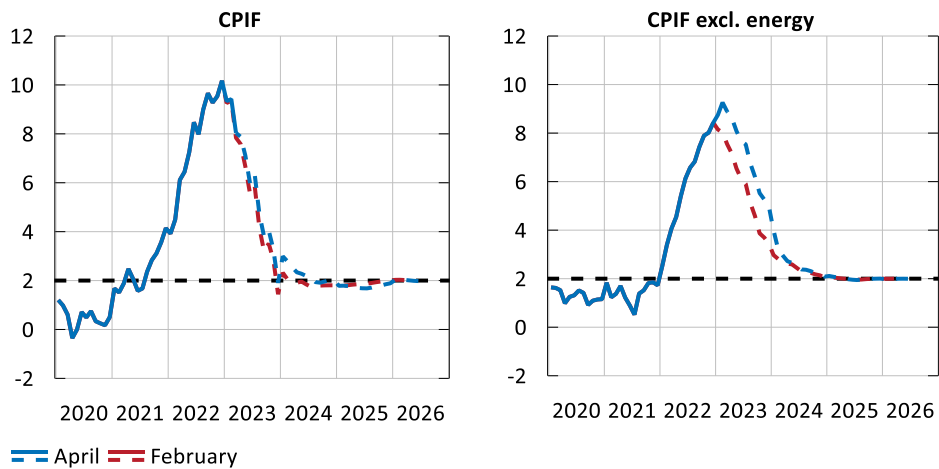


Note. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Figure 5. The CPIF and the CPIF excluding energy

Annual percentage change



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

Sources: Statistics Sweden and the Riksbank.

1.3 Continued high uncertainty regarding 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.

A significant risk that economic activity will deteriorate has arisen since February, namely the international banking turmoil.⁴ Global interest rates were very low and relatively stable for more than a decade. Last year, they then rose rapidly and unexpectedly, as central banks needed to raise their policy rates to parry inflation. When the conditions changed so dramatically, it was not entirely unexpected that some financial agents might experience problems. The Riksbank has also pointed out in the Monetary Policy Reports over the past year the difficulty of knowing how economic agents could be affected by the sharp rise in global interest rates.

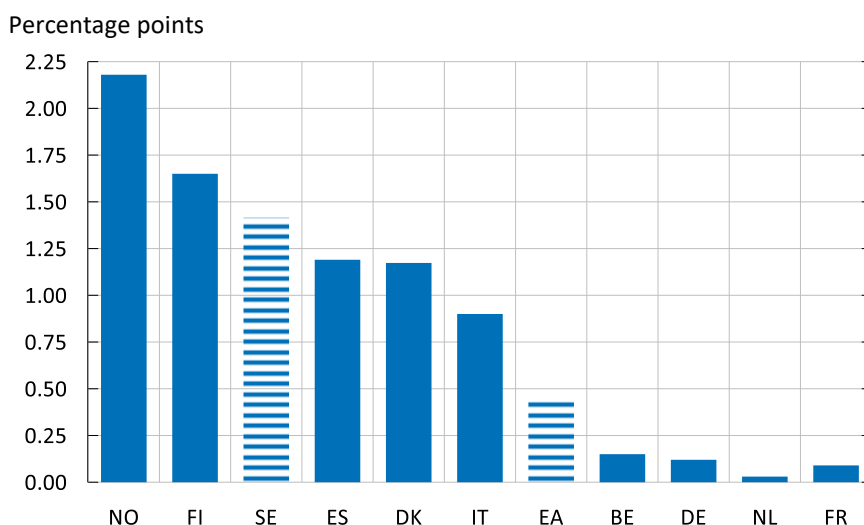
The banking turmoil is expected to some extent to have consequences for monetary policy in several parts of the world, which is illustrated by expectations among market participants regarding coming rate hikes by central banks having shifted downwards. This applies in particular in the United States, where the turmoil first arose, but also in the euro area and to some extent Sweden (see further description in Chapter 2). A natural consequence of the turmoil is that credit conditions tighten, which reduces the need for further policy rate increases to dampen demand and bring down inflation. However, this effect has so far primarily been noticed in the United States. The forecast are based on the assumption that uncertainty in global financial markets does not escalate again.⁵ Although the Swedish banks are well equipped with good capital and liquidity coverage, increasing turmoil could nevertheless affect their funding possibilities and lending and therefore further dampen economic activity in Sweden.

We are in a time of unusually severe geopolitical tension, which risks affecting the global economy. It is now more than a year since Russia began its invasion of Ukraine. The war has contributed among other things to increasing volatility in financial markets and hampering international trade. One significant economic effect of the war has been the disruptions to the energy markets in Europe, which resulted among other things in sharply rising electricity prices last year. Food prices have also been affected by the war. Global market prices for commodities have certainly fallen back somewhat recently, but developments in the coming years remain uncertain.

One factor that affects the global economy in the opposite direction is China's decision at the beginning of the year to open up large parts of its economy following closures during the pandemic. This is assessed to have a positive effect on growth abroad during the forecast period, partly through increased demand for euro area exports, and there is a possibility that growth will be even stronger than in the Riksbank's forecast. In this scenario commodity prices could probably also increase faster.

⁴ See Section 2.1 for a more detailed description.

⁵ See also "Box 1.3. Risk Assessment Surrounding the World Economic Outlook Projections" in *World Economic Outlook*, April 2023, International Monetary Fund.

Figure 6. Change in average interest rates charged to households since December 2021

Note. The change refers to the entire loan stock. EA refers to the euro area.

Sources: Macrobond and Statistics Sweden.

There are also several uncertainty factors regarding domestic demand. Swedish households are more interest-rate sensitive than before, as a result of their increased indebtedness and the short interest-rate fixation periods on their mortgages.⁶ Figure 6 above also shows that households' average interest rates have so far risen relatively much since the Riksbank began raising its policy rate. In addition, household indebtedness is also higher in Sweden than in many other countries, which means that interest rate adjustments have a greater impact. This indicates that interest-rate sensitivity among households in Sweden is also high in an international perspective.

However, despite the short interest-rate fixation periods, all of the Riksbank's rate increases so far have not yet had full impact on the mortgage rates charged to households.⁷ There is a risk that household demand may be dampened more than expected by the interest hikes implemented so far when they have full impact.

The household sector as a whole built up substantial savings during the pandemic that it has so far been able to use to maintain consumption. But as there is no up-to-date microdata on how households' savings are allocated, it is difficult to assess how households will adapt their consumption to the rising interest rates. Households could continue to cut back on their savings going forward and to a greater extent than is assumed in the Riksbank's forecast, so that demand becomes stronger than expected.

A further factor that could lead to an unexpectedly strong demand is that the Swedish labour market has been unexpectedly strong over the past year, despite interest rates rising. If this development continues and the employment rate is maintained, it could

⁶ See the article "Higher interest-rate sensitivity in the Swedish economy" in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

⁷ Chapter 2 contains a more detailed description of the impact of monetary policy on household mortgage rates.

lead to disposable incomes, and therefore also demand, 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 around 15 per cent from the peak at the beginning of 2022. Even if there have been signs of stabilisation in some markets recently, the Riksbank's forecast is still that prices will fall further in the coming year for the country as a whole. If prices instead continue to stabilise so that prices are higher than in the Riksbank's forecast, housing investment and household consumption, and thereby also inflation, could develop stronger than expected. 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 develops differently from the main scenario. But there are also more direct risks regarding inflation developments in Sweden in the coming period, which are related to inflation expectations among households and companies, wage formation and how companies set their prices. These risks can lead to inflation being either higher or lower than in the main scenario in the coming years.

One means of illustrating how monetary policy can be impacted by an unexpected development in inflation is to use as a base scenarios in the Riksbank's macro-economic model MAJA.⁸ Last year, the Riksbank presented several such scenarios.⁹ As inflation has been surprisingly high over the past year, the scenarios have understandably focused on an unexpectedly high inflation. The possibility of inflation being lower than expected has been assessed as a minor problem when it has in the the initial situation been far above than the Riksbank's target.

Recently, however, the upside and downside risks have become more symmetrical (see the article "How quickly will inflation fall?"). One reason for this is that the risk of a price-wage spiral has declined with the signing of a new Industrial Agreement. Another reason is that energy prices have fallen faster than expected, although the underlying inflation has been higher than was forecast in February. This section therefore describes two scenarios for inflation: one where inflation does not fall back as expected in the near term, and one where inflation falls faster than expected.¹⁰

⁸ For a detailed description of MAJA, see V. Corbo and I. Strid (2020), "MAJA: A two-region DSGE model for Sweden and its main trading partners", *Working Paper No 391*, Sveriges Riksbank.

⁹ See, for instance, Section 1.3 in *Monetary Policy Report*, April 2022, Sveriges Riksbank and the article "Alternative scenarios for inflation and monetary policy", *Monetary Policy Report*, November 2022, Sveriges Riksbank.

¹⁰ The scenarios describe the development of underlying inflation measured as the CPIF excluding energy.

If inflation becomes entrenched, further monetary policy tightening will be needed

The Riksbank's forecasts over the past year have underestimated underlying inflation. One possible scenario is that it will take longer to fall back than in the Riksbank's main scenario. The reason could be that the high outcomes so far affect inflation expectations and how companies set their prices. Although long-term inflation expectations are close to 2 per cent, the expectations for the coming year are still very high, among households and companies, as well as money market participants. According to the Riksbank's most recent Business Survey, many companies are also planning to raise prices more than usual going forward.¹¹

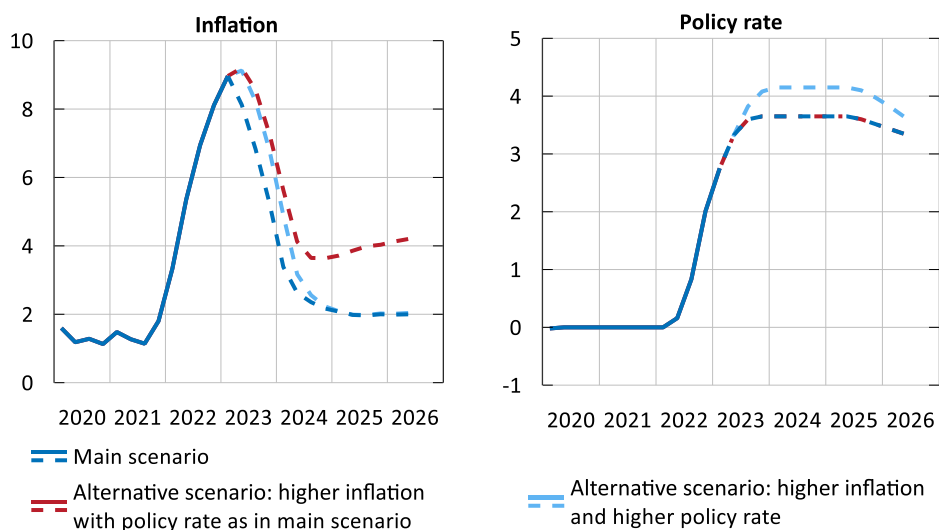
It is assumed in the scenario with higher inflation that the real economy will develop in line with the Riksbank's forecast. The red line in the left-hand image of Figure 7 shows how inflation would develop in that scenario, if monetary policy does not react. The scenario is based on the assumption that confidence in the inflation target weakens so that both price setting and wage formation in the economy are negatively affected. Inflation would then be lastingly higher than the inflation target.

The Riksbank has recently had full focus on bringing the too high inflation down towards the target within a reasonable time perspective. When inflation has become higher than expected there has not been any hesitation in further tightening monetary policy. If inflation were to become much higher than expected, without monetary policy reacting, there is a tangible risk that economic agents would begin to lose confidence in the monetary policy intentions and begin to expect that inflation will overshoot the target even in the longer run. Companies will then also begin to raise prices at a faster pace again.

¹¹ See "Price increases continuing, but discounts increasingly common", *The Riksbank's Business Survey*, February 2023, Sveriges Riksbank.

Figure 7. Scenario with higher 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 new Industrial Agreement over two years contains a clear expectation that the Riksbank will continue to adjust its monetary policy to bring down inflation in the fairly near future, so that real wages can begin to rise again. If inflation is higher than expected and monetary policy does not react, there is a risk that the social partners on the labour market will lose confidence in the inflation target and prior to the next collective wage bargaining rounds assume a higher rate of inflation than 2 per cent in their negotiations. A further risk is that the wage increases over and above the collective agreements, what is known as wage drift, will begin to rise at an early stage. Companies would then raise their prices further and inflation would become entrenched above the target, which is shown clearly in the red line in the left-hand image in Figure 7. However, something that is not shown in the figure is that the policy rate would gradually need to be raised to much higher levels to get inflation to return to the target, which in turn would entail major strains on the real economy.

If, on the other hand, monetary policy reacts directly and tightens further, there is good opportunity to continue dampening inflation and stabilising it around the target, which is shown in the light blue line in the left-hand image in Figure 7. The monetary policy reaction in this scenario is assumed to mean that confidence in the inflation target remains intact. Confidence among economic agents that the Riksbank will bring down inflation within a reasonable period of time can be retained, and companies' price increases can slow down. And wage formation will continue being based on the inflation target in the slightly longer run, which further dampens the rate of price increase. But to attain this, a higher policy rate will be needed during the forecast period. At most, it is roughly half a percentage point above the forecast in the main scenario, as shown in the light blue line in the right-hand image in Figure 7. 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 initially

and instead needing to raise the policy rate at a later stage, the real economic costs are small.

If inflation falls faster than expected, less monetary policy tightening will be needed

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. In addition, demand in the Swedish economy has clearly slowed down, which reduces companies' possibilities to pass on cost increases to consumers.

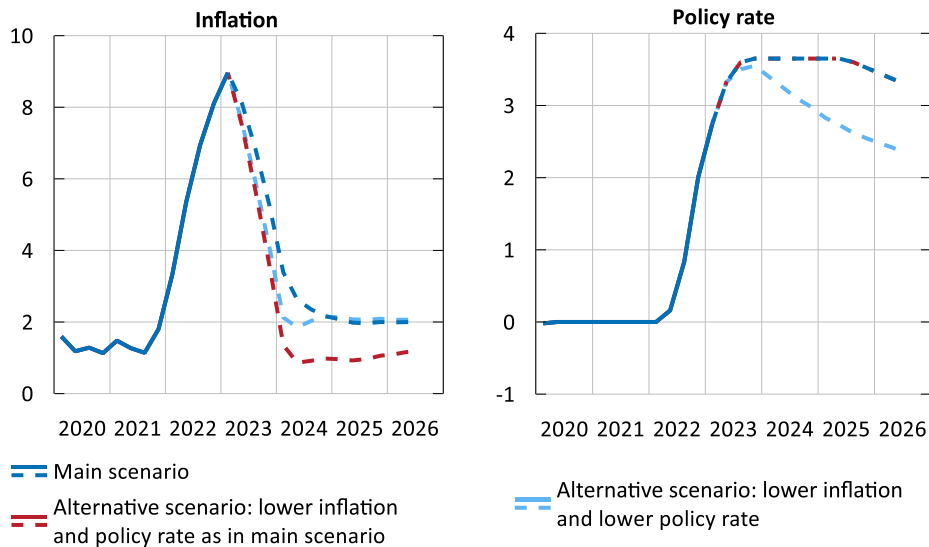
It is therefore conceivable that inflation will fall faster than in the Riksbank's main scenario. The discussion regarding rising food prices has been intense during the spring, and several players in the industry have notified frozen or reduced prices. This could imply that the possibilities of continued price rises for consumers are limited. 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 develops 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. As described in the previous section, there are several possible reasons why this could happen, for instance, that Swedish households' consumption is affected more than expected by the interest rate increases implemented so far. In this scenario, inflation falls faster than expected in the near term, which is shown by the red line in the left-hand image in Figure 8. If monetary policy develops as in the forecast, inflation would continue to fall rapidly in the coming years and gradually reach a level just below the target of 2 per cent.

The question is which monetary policy response would be appropriate in such a scenario. The Riksbank has previously communicated that a lower inflation than expected would be much less of a problem than a 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 monetary policy changes direction. The light blue line in the right-hand image in Figure 8 shows a possible monetary policy in a scenario with a faster downturn in inflation. A monetary policy like this would mean that the interest rate increases were concluded in the near future, at the same time as the policy rate would be lowered sooner and faster than forecast. In this way, inflation could fall somewhat more slowly and stabilise closer to 2 per cent, which is shown by the light blue line in the left-hand image in Figure 8. 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.

Figure 8. 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.

Several other conceivable scenarios for inflation and monetary policy going forward

The scenarios illustrated here aim to describe what could make inflation and the policy rate higher or lower than in the Riksbank's forecast. However, there are a number of other possible reasons why inflation and the policy rate could deviate from the forecast in the main scenario. It is therefore difficult to say in advance exactly how monetary policy may need to be conducted to bring inflation close to the target if it were to develop in an unexpected manner going forward.

2 Financial markets marked by higher interest rates and banking turmoil

Since the monetary policy meeting in February, the problems faced by some US and European banks have created turmoil and volatility in financial markets around the world. Yields on government bonds, which reflect market participants' expectations of central bank policy rates, have varied considerably. However, the situation has stabilised following powerful measures from central banks, governments and other authorities. Overall, the market's policy rate expectations according to forward pricing, in particular above all for the Federal Reserve, are now lower than at the start of March.

Movements in forward rates have been smaller in Sweden than in other countries. Yield spreads between more and less risky assets have decreased slightly since February at the same time as housing prices have shown signs of stabilising in certain markets. The krona exchange rate is at about the same level as in February. However, it is still uncertain how the economy will develop in the period ahead. The banking turmoil has shown that financial conditions are being affected by the rapid rate rises and may tighten rapidly should new problems arise in the international banking system. The short interest-rate fixation periods and high indebtedness among households and companies suggest that increases in the policy rate are continuing to have a relatively rapid impact on the Swedish economy. Overall, the transmission of the Riksbank's monetary policy is deemed to be functioning well.

2.1 Greater uncertainty in financial markets

Concern about US banks has caused turbulence in financial markets

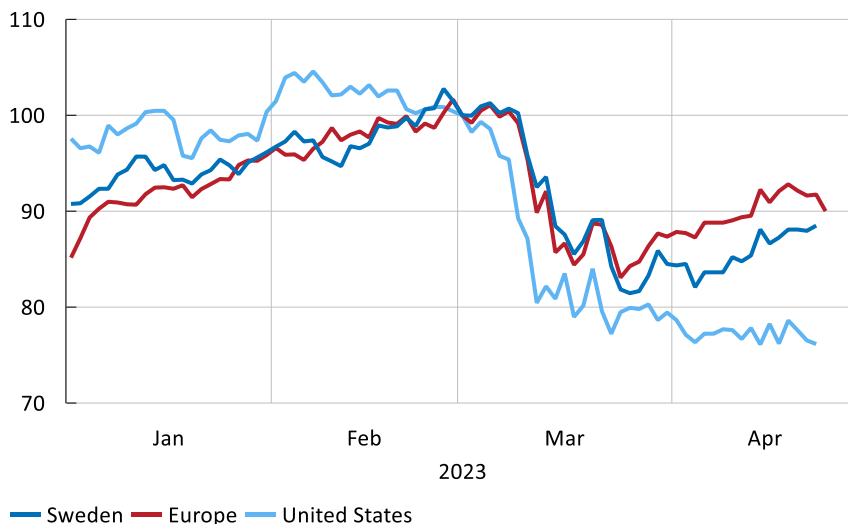
At the start of March, the US niche bank Silicon Valley Bank collapsed because large losses had led to a bank run by customers. Within a couple of days, another smaller US bank, Signature Bank, had failed and concerns spread that more of the smaller banks could find themselves in the same situation. Bank shares fell across the world (see Figure 9) and the cost of buying protection against the suspension of payments rose for most banks.¹² The turmoil also spread to a couple of European banks. A major

¹² Agents can purchase protection against suspended payments via what are known as credit default swaps (CDSs). These are aimed at transferring the credit risk of an asset from one agent to another. The party purchasing a credit default swap purchases credit protection from the seller. If a payment is suspended, the buyer transfers the insured asset to the seller, who pays the nominal value of the asset.

Swiss bank, Credit Suisse, encountered liquidity problems and the price of credit default swaps for the German bank Deutsche Bank rose rapidly.

Figure 9. Index for bank shares in Sweden, Europe and the United States

Index, 1 March 2023=100.



Note. Refers to OMX Stockholm Banks PI for Sweden, STOXX 600 Banks for Europe and KBW Bank Index for the United States.

Sources: Bloomberg and Macrobond.

The banking turmoil was met with forceful measures from central banks, authorities and governments. To reduce the risk of a comprehensive banking crisis, the US Federal Reserve let banks pledge certain assets with it at their nominal values, which in many cases widely exceeded their market values. The US authorities also raised the ceiling for the deposit guarantee so that it covered all deposits in Silicon Valley Bank and Signature Bank. To prevent the major bank Credit Suisse from failing, the Swiss National Bank (SNB) and other authorities in Switzerland negotiated a solution entailing the acquisition of Credit Suisse by the private bank UBS. This agreement involved some of Credit Suisse's debts being written off, the government issuing guarantees to cover certain future losses and SNB offering support loans with government guarantees.

Following the adoption of these comprehensive support measures, the financial markets have started to stabilise and the risk that the problems will spread further has decreased. The banks affected have had specific problems linked to areas such as risk management and, so far, there have been no signs that otherwise well-managed banks have been affected by general liquidity problems. However, the financial system is sensitive and the high level of inflation has entailed unusually rapid rate rises over the last year. It cannot be ruled out that new problems will arise in the period ahead.

In times of financial turbulence, it is natural that banks will be less inclined to grant loans. When credit conditions in the economy are tightened, consumption and investment decrease, thereby contributing to lower inflation. The market thus expects that

central banks will not have to tighten monetary policy as much to overcome the high inflation. In particular, credit conditions are expected to tighten in the United States, while there are fewer signs of a corresponding effect in Europe. This can be clearly seen in expectations of the US policy rate, which are now noticeably lower than in February, according to forward pricing.

The Swedish banks are profitable, have plenty of capital and have good access to liquidity. Nor has the cost of insurance against suspension of payments increased by much during this turbulent period, which suggests that the financial markets have strong confidence in the Swedish banks. The bank shares that initially fell have now stabilised and started to recover (see Figure 9). However, the turbulence has led to the market expecting fewer future rate rises, both in Sweden and abroad, compared with at the start of March. One interpretation of this is that the markets see a risk that problems in the banking sector may arise in the period ahead, but simultaneously expect central banks, governments and authorities to continue to address such problems with decisive measures to prevent a deeper crisis.

The central banks' monetary policies reach households and companies via the financial system and the banks therefore play a central part for transmission through deposits from and lending to households and companies. Given the turbulence we have seen on the financial markets, it is possible that the banks will become more cautious going forward and will cut back on their lending so as to build up larger capital buffers.

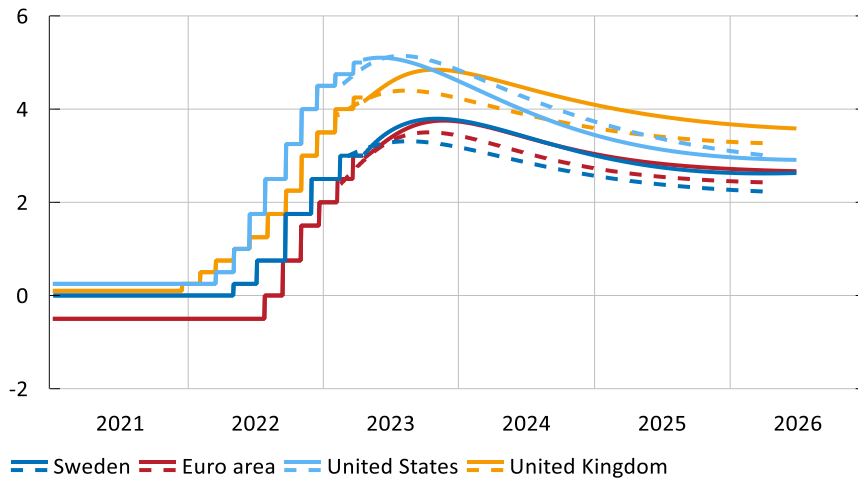
Central banks are tightening monetary policy at a slower pace

Like the Riksbank, many central banks have raised their policy rates rapidly over the last year (see Figure 10 and Table 1). On the other hand, rate rises have been implemented at a slower pace in recent months.

When inflation outcomes for February turned out to be higher than expected, the market also started expecting higher policy rates from the central banks than when the Monetary Policy Report was published in February. However, expectations subsequently fell rapidly as the bank turmoil in the United States and Europe spread, and forward pricing for the US policy rate is now noticeably lower than in February (see Figure 11). At present, policy rates are expected to rise slightly more by mid-2023, but then to fall again over the longer term (see Figure 10).

Figure 10. Policy rates and policy rate expectations according to market pricing

Per cent

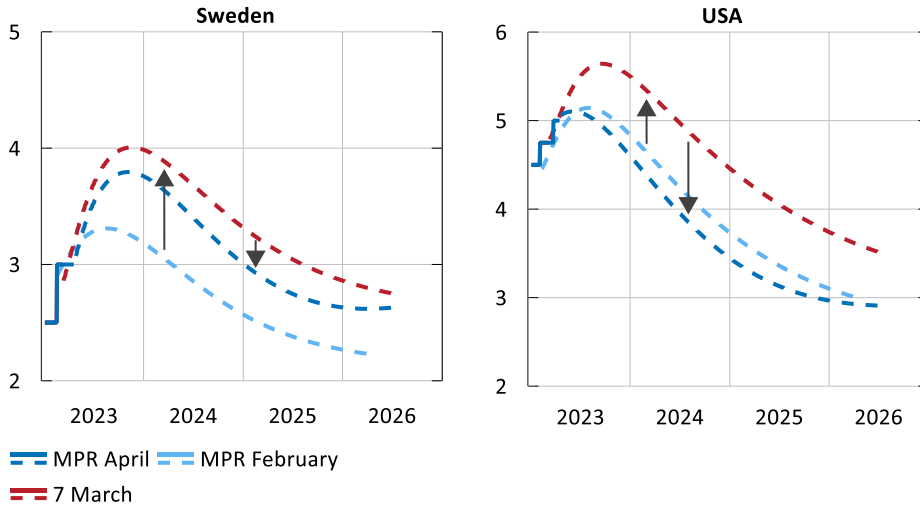


Note. Solid lines represent market-based expectations of future policy rates, 24 April 2023. Dashed lines represent expectations immediately prior to the monetary policy meeting in February.

Sources: National central banks and the Riksbank.

Figure 11. Changes in policy rate expectations according to market pricing

Per cent



Note. Solid lines refer to policy rates and dashed lines refer to market-based expectations of future policy rates. Dark blue dashed line refers to expectations 24 April 2023, red dashed line 7 March 2023, and light blue dashed line refers to expectations immediately prior to the monetary policy meeting in February.

Sources: Federal Reserve and the Riksbank.

Table 1. Monetary policy abroad

	Policy rate at start of 2022	Current policy rate	Expected policy rate by end of June 2023	Status of asset holdings
ECB	-0.50	3.00	3.4	Partly compensating for principal payments as of second quarter 2023
Federal Reserve	0–0.25	4.75–5.00	5.1	Partly compensating for principal payments
Bank of England	0.25	4.00	4.6	Initiated sales in autumn 2022
Norges Bank	0.50	3.00	3.5	Has not purchased any assets for monetary policy purposes
Bank of Canada	0.25	4.50	4.5	No compensatory purchases
Riksbank	0	3.50	3.5	Sale initiated in April 2023

Note: Per cent. Expected policy rate according to market pricing, 24 April 2023 rounded off to the nearest decimal.

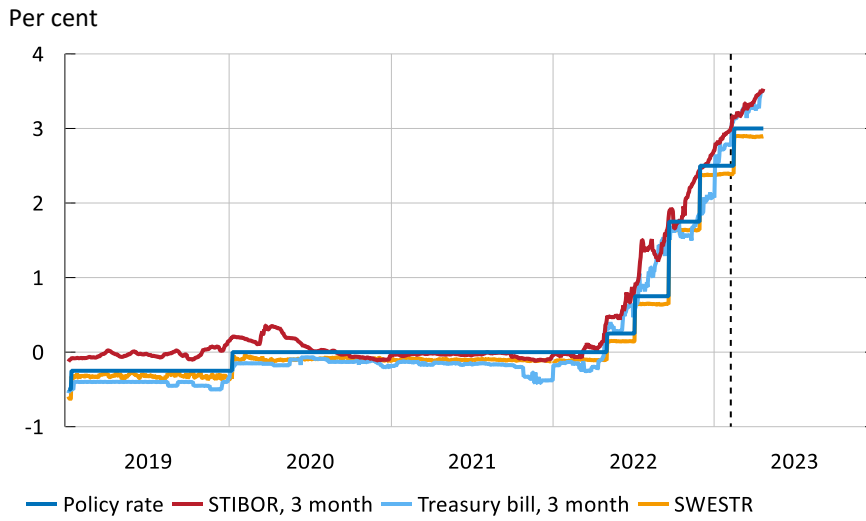
Sources: Bloomberg, national central banks and the Riksbank.

Further increase in market rates

The Riksbank's policy rate rises, initiated in April 2022, have had an impact on both short-term and long-term market rates (see Figure 12 and Figure 14). The decisions to sell government bonds and increase the volume of Riksbank Certificates offered should have also marginally contributed to the rising rates. Recently, long-term rates have fallen slightly in conjunction with expectations of future policy rates having moved downwards again.

In addition to the higher interest rates, the bond market was also marked by the turbulence on the financial markets in March. Financial contracts reflecting expected volatility on the bond market in the United States, measured according to the so-called MOVE index, indicate higher volatility in the period ahead (see Figure 13).

Figure 12. The Riksbank’s policy rate and short-term market rates

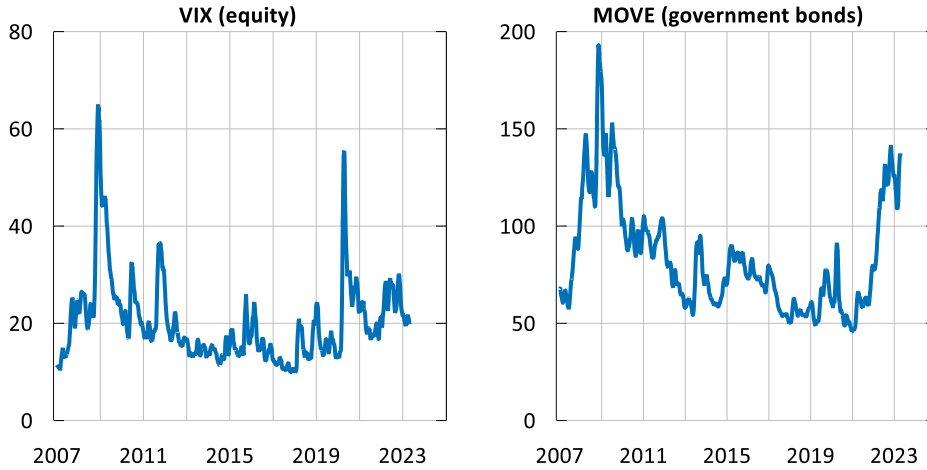


Note. SWESTR falls very sharply on the last banking day of each year, values that have been omitted from this figure. The dashed line marks the date of the monetary policy meeting in February.

Sources: Macrobond, Refinitiv and the Riksbank.

Figure 13. 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 ICE BofAML.

Yields on risky bonds have risen clearly since the start of 2022

Over the last year, yields on risky bonds in Sweden have risen more than the expected policy rate, as measured using so-called swap rates.¹³ It is common for these yield spreads to increase when uncertainty is high and investors are turning to safer assets.¹⁴

It is primarily yields on corporate bonds that have risen against the expected policy rate (see Figure 15). One reason for this is that property companies make up a relatively large share of the Swedish corporate bond market. Many of these are heavily indebted and may therefore experience problems when interest rates rise. Bond yields for property companies have increased a lot more than they have for companies in other sectors (see Figure 16). However, the spread is large between different property companies, which is mainly because some companies are deemed to have a lower debt-servicing ability than others.¹⁵ In addition, smaller property companies and property companies with lower debt-servicing ability are finding it more difficult to obtain funding via bond issues and increasingly need to rely on bank loans to an increasing extent.¹⁶

Recently, yield spreads have increased slightly due to the increased turmoil in financial markets. However, over a slightly longer time perspective, the yield spreads for property companies' bonds have fallen from their very highest levels in October 2022 (see Figure 16). This also applies to yield spreads for covered bonds and municipal bonds (see Figure 15).

¹³ See the article "What is a swap rate?" in *Monetary Policy Report*, February 2023, Sveriges Riksbank.

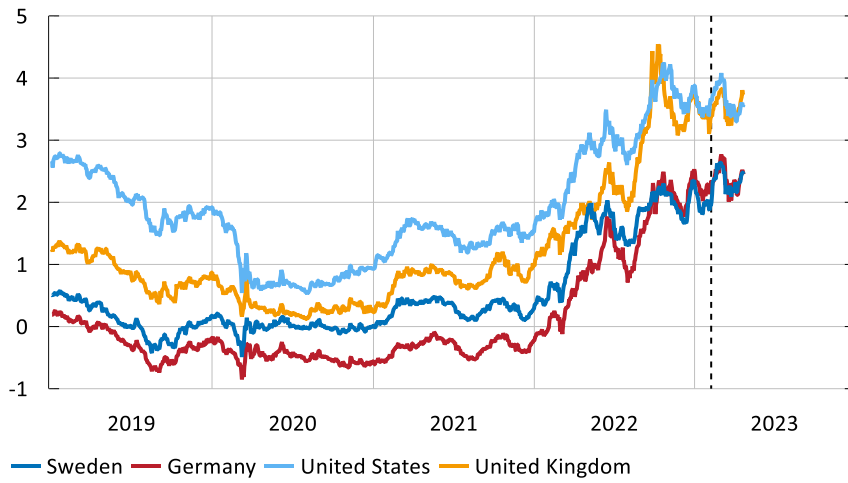
¹⁴ Yields on covered bonds are important for the banks' funding costs and yields on corporate bonds are important end-rates for non-financial companies. The Riksbank therefore carefully monitors how policy rate rises are affecting these yields.

¹⁵ Larger property companies with institutional support tend to pay less interest than smaller players with weaker financial positions. For more information, see *Financial Stability Report 2022:2*, Sveriges Riksbank.

¹⁶ See section 2.2 for a more detailed description of the current funding situation for these companies.

Figure 14. Yields on 10-year government bonds

Per cent

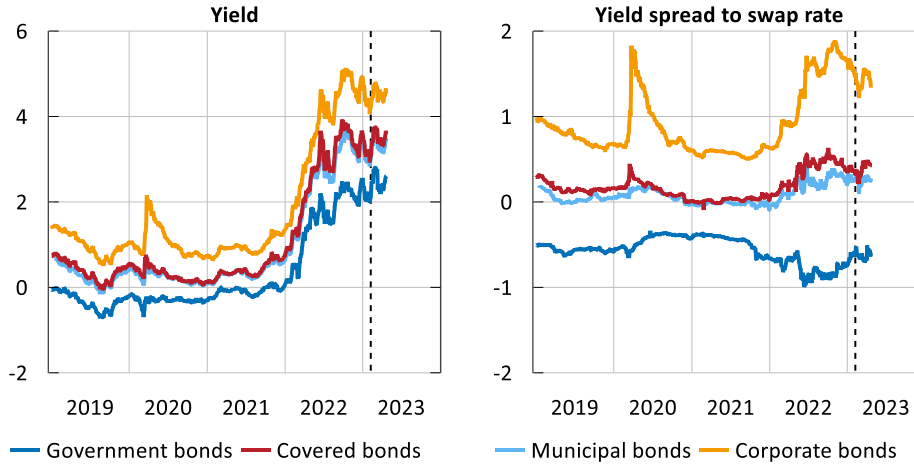


Note. Yields refer to zero coupon rates for Sweden, Germany and the United Kingdom, as well as benchmark rates for the United States. The dashed line marks the date of the monetary policy meeting in February.

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

Figure 15. Swedish yields for various types of bond, 5-year maturity

Percentage (left) and percentage points (right)

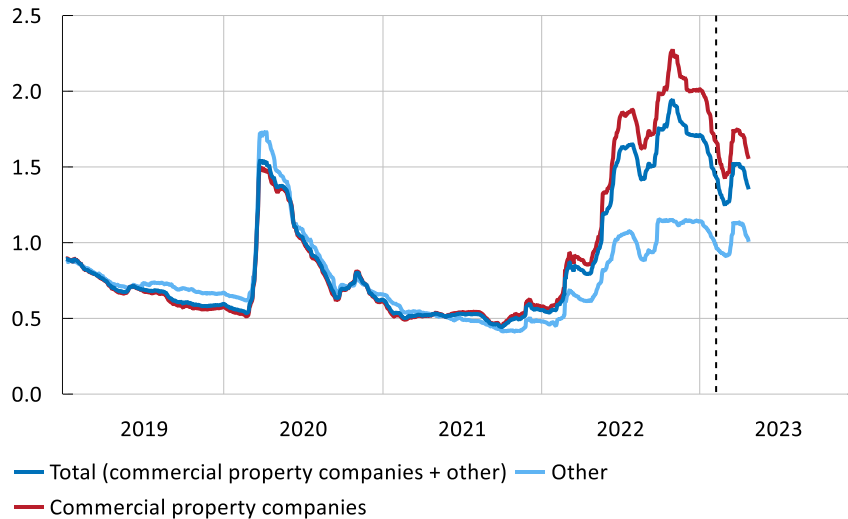


Note. Calculated zero coupon rate. Corporate bonds refer to bonds/companies with credit ratings corresponding to investment grade. Covered bonds refer to bonds issued by Stadshypotek AB and municipal bonds are issued by Kommuninvest i Sverige AB. The dashed line marks the date of the monetary policy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

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Figure 16. Yield 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 yield spreads are an average of bonds with varying maturities, issued in SEK by non-financial corporations, with credit ratings corresponding to investment grade. Almost 60 per cent of the bonds in the sample were issued by property companies.

Sources: Bloomberg and the Riksbank.

Krona exchange rate practically unchanged since February

Since the start of 2022, the krona has weakened by about 8 per cent, measured as the KIX (see Figure 17).¹⁷ One reason for this is that risk appetite has deteriorated in the financial markets, in part due to Russia's invasion of Ukraine and uncertainty over the future development of inflation and economic activity. In such an environment, the krona usually depreciates. Another reason is that market rates in several countries have risen more than in Sweden (see Figure 10 and Figure 14). However, it is difficult to understand fully why the krona has weakened as much as it has.¹⁸ Over the last year, the development of the krona exchange rate has been consistently weaker than in the Riksbank's forecasts.

The krona initially appreciated following the monetary policy decision in February, in part because Swedish bond yields rose against foreign ones (see Figure 14). The financial turbulence subsequently led to the krona depreciating slightly, although it remains on about the same level as at the monetary policy meeting in February. The krona is considered to have received some support from the turmoil that caused expectations of international policy rates to fall significantly, while the change in expectations of the Swedish policy rate was smaller.

¹⁷ See the article "Why has the krona weakened this year?" in *Monetary Policy Report*, November 2022, Sveriges Riksbank.

¹⁸ It is also difficult to explain the krona depreciation over a longer time perspective. See C-J. Belfrage, J. Hansson and A. Vredin (2023), "How should we view the development of the krona?", Economic Commentaries no. 3, Sveriges Riksbank, for a deeper analysis of the development of the krona from a historical perspective.

Figure 17. Nominal exchange rate, KIX

Index, 18 November 1992 = 100

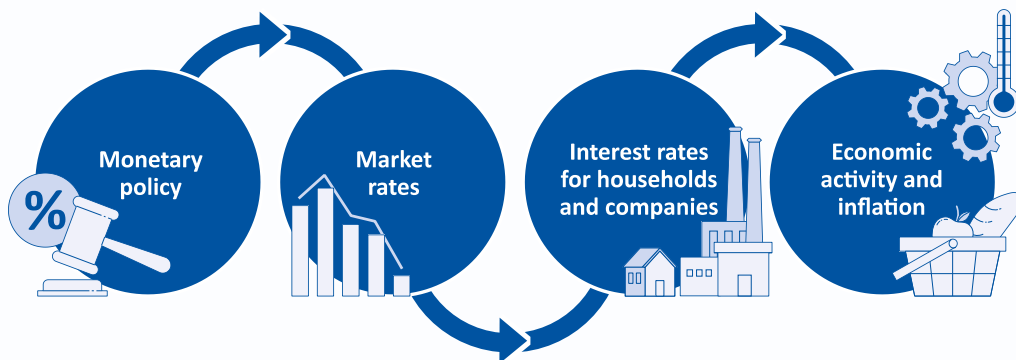


Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden’s international trade. Since 28 March 2022, the index has been calculated against 31 countries as the Russian rouble has been excluded from it. A higher value indicates a weaker exchange rate. The dashed line marks the date of the monetary policy meeting in February.

Source: The Riksbank.

Transmission – from monetary policy to inflation¹⁹

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 rates 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.



¹⁹ 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-setting. 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/>.

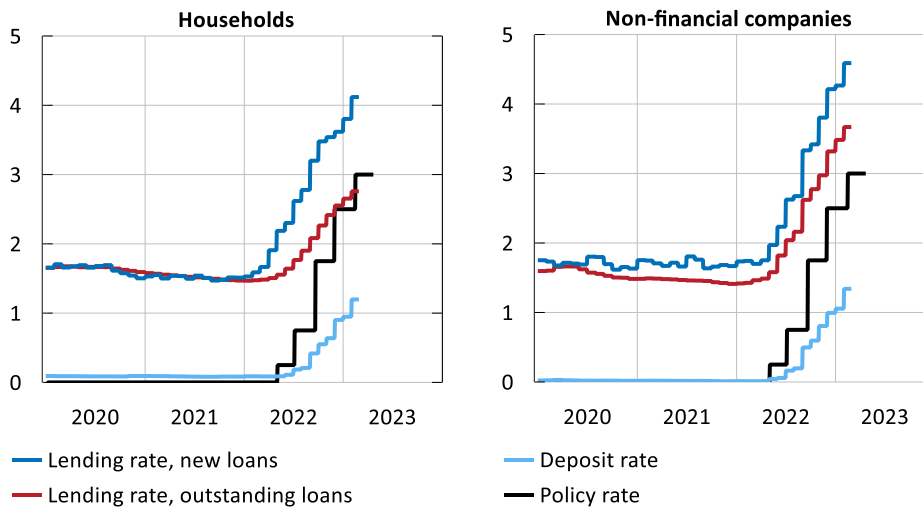
2.2 Swedish households and companies

The banks' net interest income remains high

Which interest rates the banks offer for loans to households and companies largely depend on the costs of funding these loans. The banks mainly finance themselves through deposits from the general public and by issuing bonds, for instance, covered bonds, on the financial markets. Yields on these bonds have risen since the monetary policy meeting in February, primarily because market participants now expect a higher policy rate. However, as policy rate rises have not had as much of an impact on the deposit rates the banks offer households and companies, the banks' net interest income has increased as the yields have risen (see Figure 18). In times of turmoil, however, the banks may become less willing to approve loans even if their funding costs are not rising, which would contribute to reduced credit volumes. However, this data is published with a significant time lag. So far, there are no signs that this has occurred to any greater extent but the Riksbank is monitoring developments closely.

Figure 18. Policy rate and average deposit and lending rates for new 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.

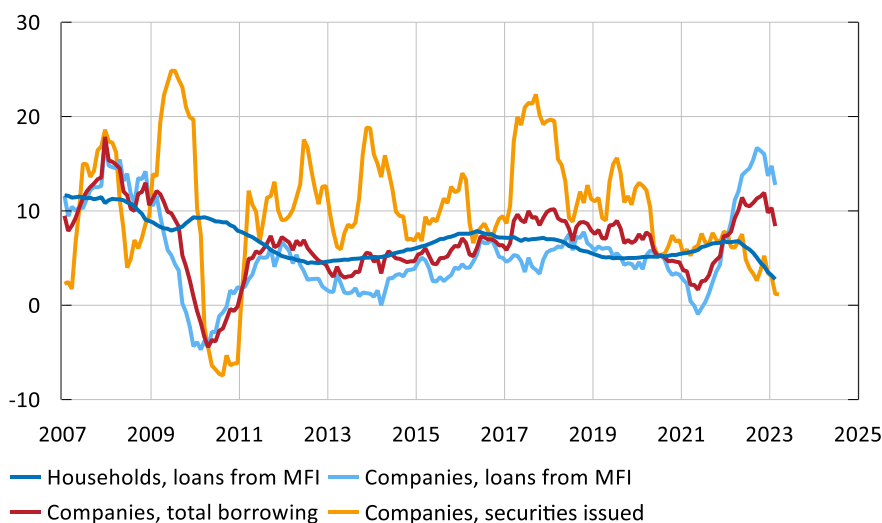
Corporate credit growth remains high but is slowing down

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 under 3 percentage points (see Figure 18). Interest-rate fixation periods on bank loans are usually short, meaning that policy rate rises quickly impact companies.²⁰ The average interest rate on all outstanding loans has also risen over the same period by just over 2 percentage points (see Figure 18). This means that about a quarter of the rate increase has yet to reach companies but can be expected to do so as loans are renegotiated.

Swedish companies also obtain funding via the securities markets by issuing certificates and bonds. Since the summer of 2022, the issued volumes of interest-bearing securities have grown more slowly, while bank lending has instead increased strongly (see Figure 19). One explanation for this is that companies have been able to get more advantageous funding conditions from the banks than in the securities market. In particular, this applies to property companies that would thereby find it difficult to refinance their bond maturities if the banks were to tighten lending. Now that interest rates are rising, increasing numbers of companies are unable to use the corporate bond market to obtain funding.

Figure 19. Household and corporate borrowing

Annual percentage change



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

Source: Statistics Sweden and the Riksbank.

²⁰ 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.

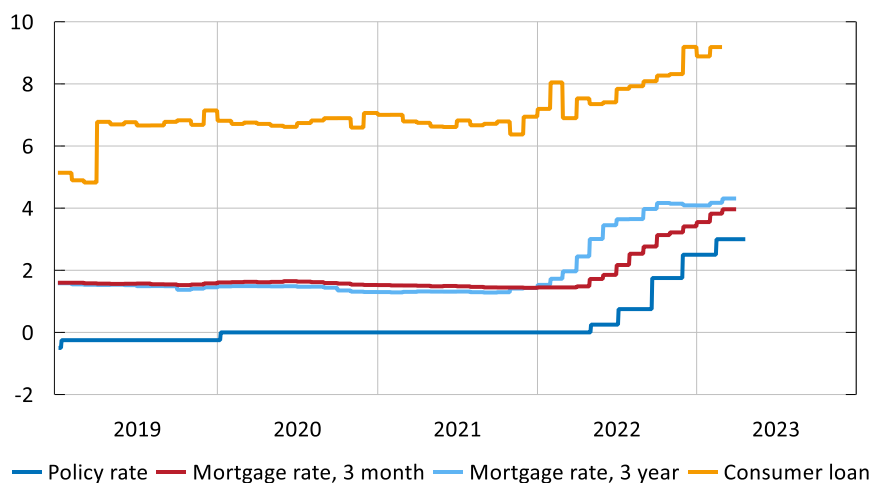
The continued high total borrowing by companies in spite of this is probably connected with the rapid rise in their investments in 2022. The Riksbank's credit database (KRITA) shows that it was major companies in particular that increased their borrowing. In recent months, however, growth in bank lending has decreased, which is a natural development, given that companies are facing higher interest rates (see Figure 19). Total lending is now also growing more slowly. It is worth noting that the high level of inflation means that high nominal credit growth does not mean that credit growth is strong in real terms. Overall, this suggests that interest rates are now helping restrain lending to companies.

Households are facing rising interest rates and are borrowing less

On average, Swedish households have large loans in relation to their incomes, with mortgages making up about 80 per cent of the loan volume.²¹ In addition, compared with many other countries, the interest-rate fixation period is short in Sweden. Over 80 per cent of the loan volume has a remaining fixation period of two years or less (see Figure 21). This percentage increased clearly in 2022, which could be explained by the long-term interest rates rising significantly more than the short-term ones. The short interest-rate fixation periods and high indebtedness mean that policy rate rises impact household economies relatively rapidly.²²

Figure 20. The Riksbank's policy rate and lending rates to households

Per cent

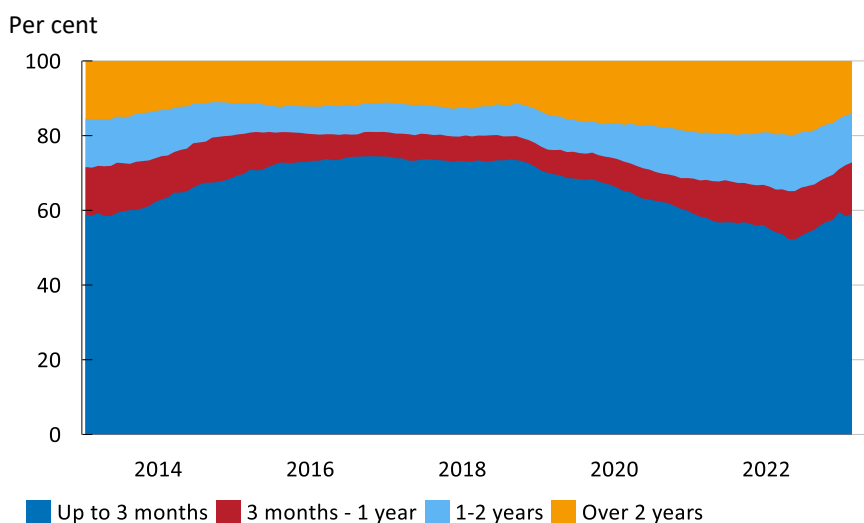


Note. Mortgage rates are an average of actual mortgage rates from Länsförsäkringar Bank, Nordea, SBAB, SEB, SHB and Swedbank. Daily data for the policy rate, monthly data for other interest rates. From April 2019, the sample of institutions reporting interest rate statistics was expanded, meaning that the series showing interest rates for consumer loans has increased notably.

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

²¹ The household loan-to-income ratio, which is to say debt in relation to disposable income, amounts to about 200 per cent. The debt-to-income ratio has risen by just over 30 percentage points over the last ten years.

²² See the article "Higher interest-rate sensitivity in the Swedish economy" in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

Figure 21. Breakdown of households' remaining fixed-interest periods

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

Source: Statistics Sweden.

In February, households' bank loans only increased by 2.9 per cent at an annual rate, a very low rate from a historical perspective (see Figure 19). This development was similar for mortgages, consumer loans and other loans. The rate of increase has fallen clearly over the last year. One explanation for mortgages increasing more slowly is that interest rates and housing cooperative fees have risen; another is that housing prices have fallen. Taken together, these factors are reducing both the ability and the willingness to take out new mortgages.

Since the start of 2022, the average mortgage rate for new and renegotiated loans has risen by about two and a half percentage points (see Figure 18). The average interest rate in the stock of outstanding loans has risen by just over one percentage point. So far, almost half of the rate increase has thus reached households.

However, mortgage rates with short maturities have risen slightly less than the policy rate has. This also applies to interest rates for consumer loans. However, this is in line with what happened following earlier policy rate rises. Mortgage rates with longer maturities had already started to rise at the start of 2022 and have risen more than short-term interest rates have (see section 2.3). This development is also visible in bond rates (see Figures 14 and 15) and in market participants' expectations that policy rates will continue to rise in the period ahead (see Figure 10).

2.3 The effects of the spring's banking turmoil on financial conditions in Sweden are hard to assess

There have occasionally been large price movements on the financial markets since the monetary policy meeting in February, for example in conjunction with the international banking turmoil. When the turmoil in the banking sector started in mid-March, equity prices, particularly for banks, fell and the yield spreads between risky and less risky assets increased. As central banks, governments and authorities

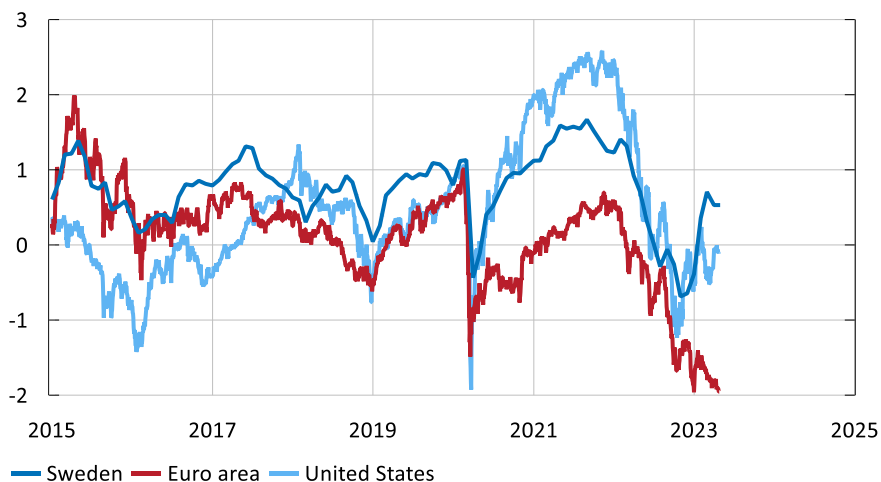
adopted forceful measures, prices on the financial markets have in many cases returned to approximately what they were at the monetary policy meeting in February. However, the rapid price movements and the extent of the measures adopted indicate that the financial markets are fragile and that financial conditions risk rapid tightening should new problems arise in the banking sector.

The Riksbank’s index for financial conditions in Sweden indicates slightly tighter conditions than those that prevailed at the time of the monetary policy decision in February, as do similar measures for other economies (see Figure 22). However, such measures are not judged to give a completely accurate picture of the effects of the banking turmoil on risk sentiment in the financial markets.

The Swedish index continues to indicate expansionary financial conditions primarily because long-term interest rates have fallen, volatility on the stock market has eased and corporate bond yields have fallen in relation to measures of the expected policy rate (see Figure 23). The development of prices on the housing market and the krona exchange rate have also stabilised. The index does not fully capture that many households and companies are facing increasingly tight conditions as the interest they pay continues to rise. Neither does it take into account the rising volatility on the fixed-income market over the spring. If the turmoil in the banking sector leads to lower credit volumes, the financial conditions can also be expected to become tighter than at present, without this being reflected by the Riksbank’s measure.

Figure 22. Index for financial conditions in Sweden, the euro area and the United States

Standard deviations. A higher value indicates more expansionary financial conditions

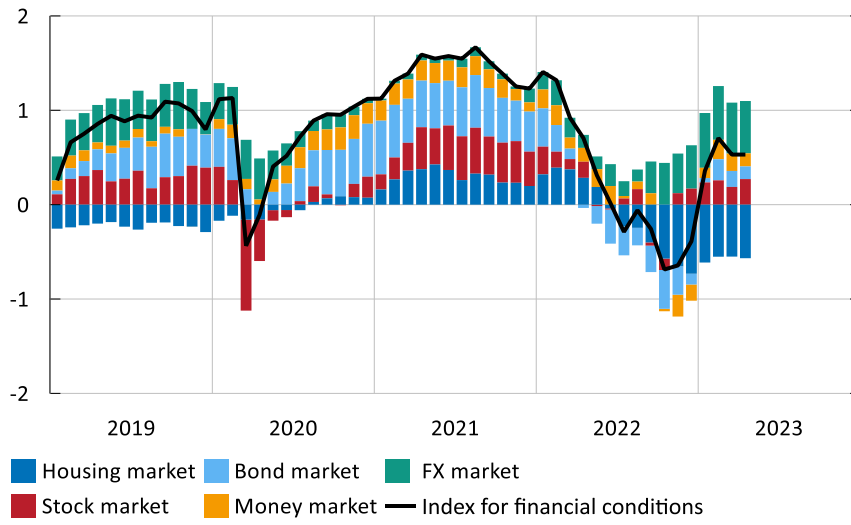


Note. Refers to the stock of outstanding loans from monetary financial institutions.

Sources: Goldman Sachs and the Riksbank.

Figure 23. Index for financial conditions in Sweden

Standard deviations. A higher value indicates more expansionary financial conditions



Source: The Riksbank.

3 Inflation will fall this year

For most of 2022, demand was high and the labour market strong both in Sweden and abroad. Today, the situation is different. Although the labour market remains strong, real household income is falling and interest expenditure is rising. Swedish GDP development was also weak at the end of last year and some forward-looking indicators point to a further slowdown. GDP growth will be negative in 2023, the employment rate will fall from a high level and unemployment will rise. As from 2024, a gradual recovery in production and employment is expected.

Inflation in Sweden and abroad remains very high. This year, however, energy prices are expected to fall increasingly rapidly as an annual rate and producer price development is expected to normalise, while the increasingly tight monetary policy will dampen demand in the economy. This means that Swedish inflation measured as the CPIF and the CPIF excluding energy 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 international inflation this year

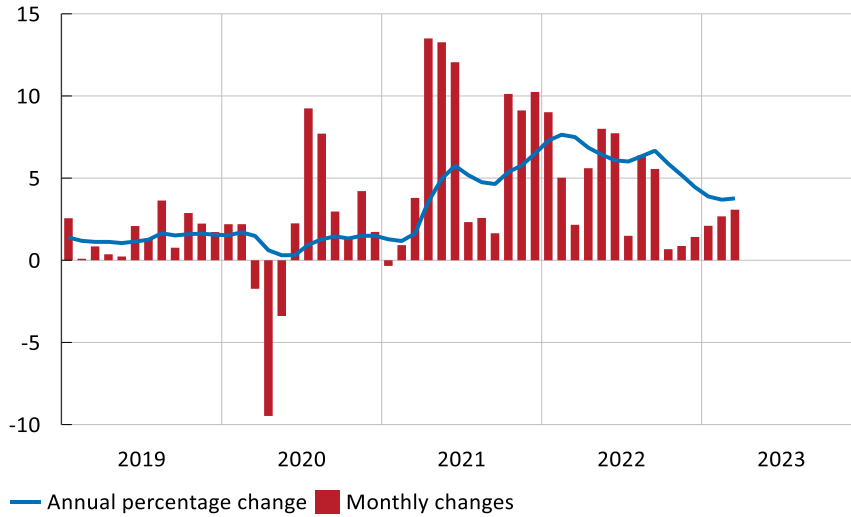
The United States is ahead of the euro area and Sweden in the development of inflation

Inflation remains high in many parts of the world. In the beginning, much of the inflation upturn was due to temporary supply problems and a rapid rise in demand after the pandemic. Later, it was Russia's full-scale invasion of Ukraine that contributed to higher energy and food prices. There is therefore reason to expect that inflation will start to fall once the effect of these factors on inflation diminishes. In addition, tighter monetary policy will gradually have an increasingly large effect. In the United States, there are also indications that this has already happened. Price development, even excluding energy prices, has weakened somewhat. If food and direct accommodation costs are also excluded, the rate of price increase is approaching normal (see Figure 24).²³

²³The annualised rate has been below or close to 2 per cent for the last six months.

Figure 24. CPI excluding energy, food and shelter in the United States

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



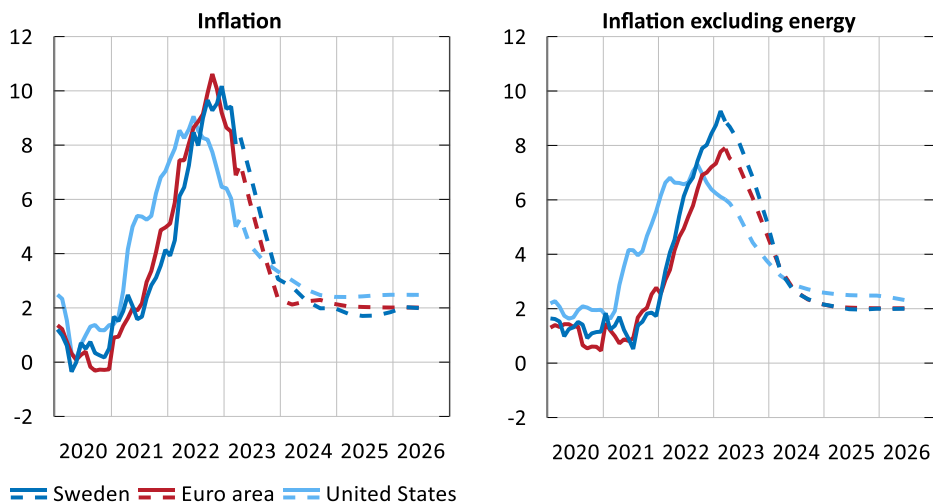
Note. The majority of shelter costs are rents.

Source: U.S. Bureau of Labor Statistics.

However, inflation began to rise earlier in the United States and the Federal Reserve have also raised the policy rate more substantially and more rapidly than other central banks. In many parts of Europe, including Sweden, it is so far only energy price growth that has clearly started to slow (see Figure 25). Excluding energy, the rate of price increase remains high in both the euro area and Sweden.

Figure 25. Consumer prices in various countries and regions

Annual percentage change



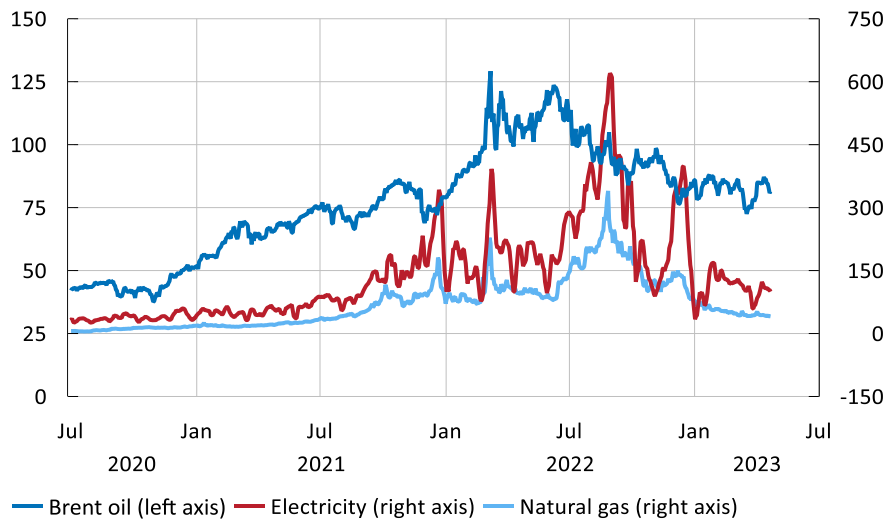
Note. Refers to the CPIF for Sweden, the HICP for the euro area and the CPI for the United States. Outcomes at monthly frequency and forecasts at quarterly frequency. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

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

There is very good reason to believe that inflation will also fall going forward in both the euro area and Sweden. For example, energy prices continue to decline (see Figure 26). According to market-based expectations of energy commodity prices, this development will continue for a while longer (see Figure 39).

Figure 26. 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.

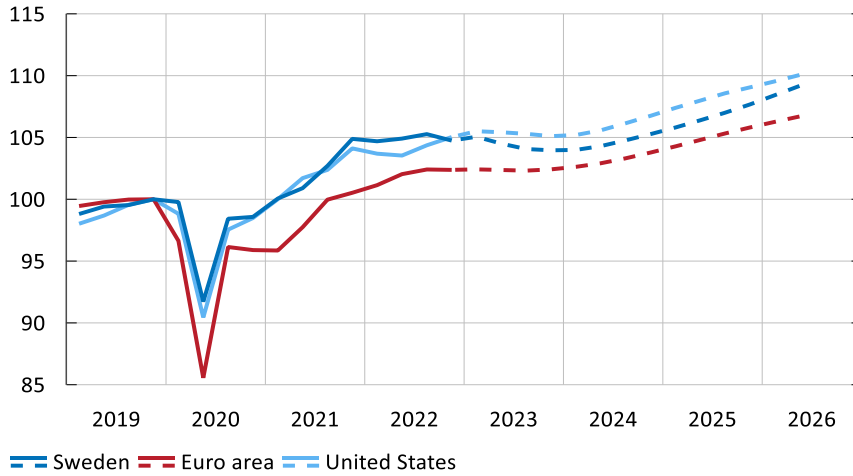
Another factor is that the supply disruptions in global trade, which have affected access to important input goods, have continued to diminish and freight costs are back at pre-pandemic levels. The substantial increase in household saving during the pandemic enabled higher consumption after the pandemic, which, together with low unemployment, has so far buoyed demand and contributed to higher inflationary pressures. Now, however, demand is being pushed down as real incomes fall for most households in Sweden and abroad. In addition, there will be less money left for consumption as monetary policy contractions have caused interest expenditure to rise. Although wages in the United States and the euro area rose significantly faster in 2022 than for many years, they still did not keep pace with the price increases. With diminishing inflation and unusually high nominal wage increases, real wages in the United States and the euro area are expected to start rising later this year.

Weaker economic activity in 2023

At the end of last year, GDP development in both the United States and the euro area was also burdened by relatively weak consumption and weak investment, not least in the housing sector. In early 2023, however, indicators suggest that activity rises in the service sector, particularly in the euro area. However, reduced space for consumption and to a certain extent the repercussions of the bank turmoil are expected to dampen GDP development during the year (see Figure 27).

Figure 27. GDP in Sweden and abroad

Index, 2019 Q4 = 100, seasonally adjusted data

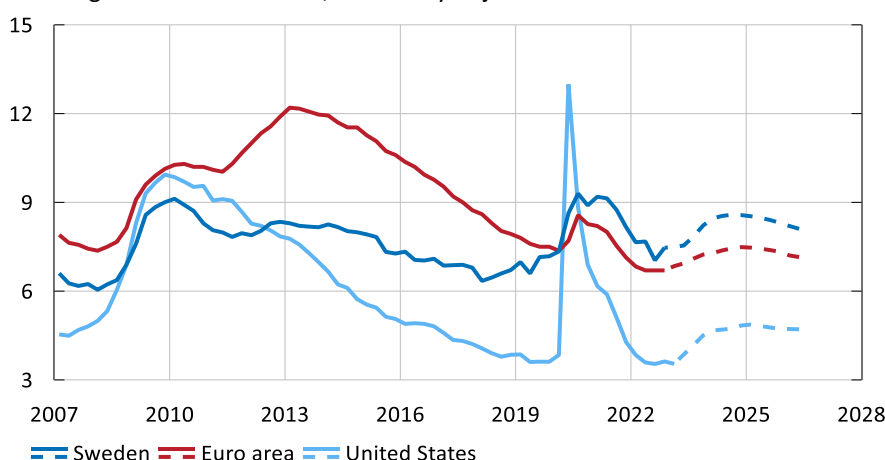


Note. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

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

The turmoil surrounding banks, especially in the United States, potentially makes it more difficult or more expensive for households and companies to borrow. The financial turbulence has reduced expectations of future rate hikes from the major central banks. This, in combination with other measures from central banks, governments and other authorities, has stabilised the markets (see also Section 2.1). As GDP growth will be weak over the next year, unemployment is expected to start to gradually increase from historically low levels (see Figure 28). Thereafter, when inflation is low again, residual income will rise, which, together with low interest rates and improved sentiment will help GDP to recover towards the end of the forecast period with falling unemployment as a result.

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, economic activity is weakening and the high inflation is falling

The Swedish economy performed strongly in 2022, but ended the year on a lower note

Despite large price increases, tighter monetary policy and an energy crisis, Swedish GDP rose by 2.6 per cent in 2022 compared with 2021. The high economic activity also had a significant impact on the labour market where the employment rate rose to new record levels. Unemployment fell from 8.8 per cent to 7.5 per cent and labour was in very short supply. During the second half of last year, Swedish households reduced their consumption when real incomes fell and overall consumption decreased by more than 2 per cent over two quarters. Corporate investment, both in fixed assets and in stocks, also decreased in the fourth quarter. GDP fell by 0.5 per cent compared with the previous quarter.

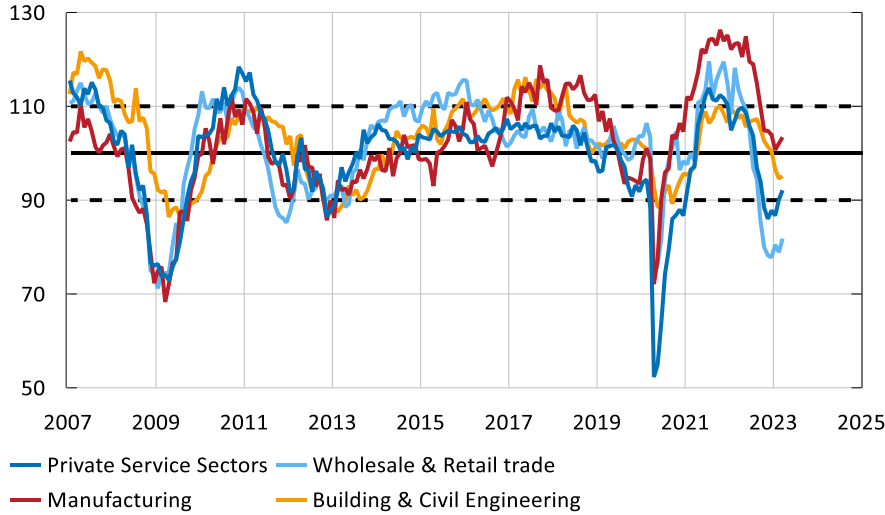
Confidence indicators in the Economic Tendency Survey point to continued weak growth in production and a slowdown in the labour market going forward.²⁴ All sectors bar manufacturing say that the economic situation is weaker, or much weaker, than normal, although some recovery has taken place in recent months (see Figure 29). This is supported by the Riksbank's most recent business survey in which it

²⁴Confidence 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.

is clear that, although companies are surprised by economic activity holding up so well so far, they still expect a significant economic downturn going forward.²⁵

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.

Source: National Institute of Economic Research.

Domestic demand will be weak this year

Rising prices and increasingly high interest expenditure will continue to weigh on households' purchasing power this year, and consumption is therefore expected to fall further. The fact that the situation is currently tight for households is also indicated by weak consumer confidence figures in the Economic Tendency Survey. Last year, households reduced consumption of goods significantly and retail sales in volume were almost 10 per cent lower in February than at the same time the year before. However, the consumption of services has not decreased, which might be due to many having had a pent-up need to consume services after the pandemic. But the consumption of services is also expected to decrease going forward.

In addition, there has been turbulence in the US and European bank markets since the beginning of March. The turbulence will probably lead to somewhat increased uncertainty among Swedish companies and households. This is expected to further burden corporate investment and household consumption going forward. However, Swedish banks have plenty of capital and thus high resilience.

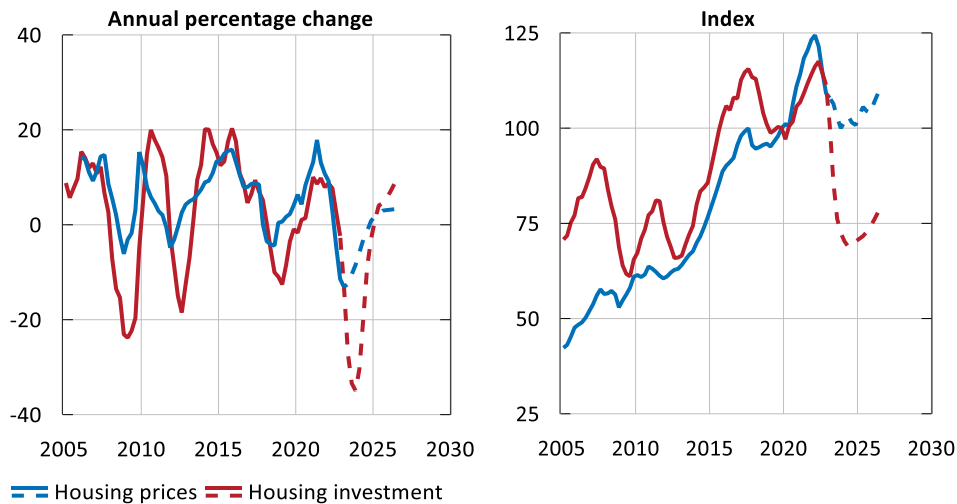
The high inflation and tighter monetary policy have also affected the housing market. Both prices and construction fell in 2022 and are expected to continue to decline in 2023 (see Figure 30). Housing prices fell by 13 per cent last year and are expected to continue to fall this year despite having stabilised in recent months. During the

²⁵ See Price increases continuing, but discounts increasingly common", *The Riksbank's Business Survey*, February 2023, Sveriges Riksbank.

pandemic, however, housing prices rose very sharply and are still on a higher level than immediately prior to the pandemic. Lower prices, higher construction costs and increased funding costs have also led to a slowdown in housing construction. In 2023 and 2024, construction will continue to decline significantly and weigh on Swedish GDP. Compared with the peak in 2021, only around half as many homes are expected to be built in 2023.

Figure 30. Housing prices and housing investment

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



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

Sources: Statistics Sweden, Valueguard and the Riksbank.

Rapid cost increases for municipalities also mean that they must make savings by, for example, reducing their staff. On the other hand, the government is implementing unfunded measures for about SEK 50 billion. This will contribute positively to growth and domestic demand in the coming years through increased public sector consumption and investment, partly due to investments in defence. Demand will also be strengthened temporarily this year by the electricity price support to households and companies.²⁶

²⁶ The support in the form of financial compensation to households in southern Sweden for the period October 2021 to September 2022 was disbursed by the Swedish Social Insurance Agency in February and March and amounted to around SEK 17 billion. The support for the whole of Sweden for the period November to December 2022 is currently being processed by the Swedish Social Insurance Agency and is expected to amount to SEK 10 billion. Support to companies and organisations can be applied for from the beginning of May 2023 and is expected to amount to SEK 29 billion. However, the Swedish electricity price support does not burden the central government financial balance as it is paid for by capacity charges paid to the Swedish national grid operator, Svenska kraftnät. As the support is paid out retroactively in Sweden, it will not, in contrast to several other European countries, dampen the electricity prices in CPIF inflation. This makes it difficult to directly compare inflation in different countries.

Weaker economic activity in Sweden than in many other countries this year

GDP growth is expected to be –0.7 per cent this year, which is lower than many other countries (see Figure 27). There are several explanations for this. One is that the Swedish economy recovered so quickly after the pandemic. This means that the slow-down will also be greater, in terms of annual percentage change from a GDP level that is therefore higher than in other countries. Although Sweden's net exports will contribute positively to GDP, this will not be enough to compensate for falling consumption and investment. In addition, Swedish households and companies are on average also more indebted and have shorter interest-rate fixation periods than in many other countries, which means they are impacted both more rapidly and more substantially by the tighter monetary policy.²⁷ On the other hand, the Swedish economy as a whole is not necessarily more interest-rate sensitive than other countries' economies, as, among other factors, public sector debt is low in an international perspective. Sweden is therefore less affected than other countries where higher interest rates and thus national debt expenditure reduce the scope for fiscal policy measures. However, the high inflation restricts fiscal policy at present as expansionary measures to alleviate the situation for households and companies risk stimulating demand in a way that fuels inflation.

Weaker developments in the labour market when demand falls

In recent quarters, production has been lower and expectations of future production, according to the Economic Tendency Survey, have fallen to low levels. Despite this, employment has continued to rise. Falling real incomes may be one explanation for this. Although recruitment plans, according to the Economic Tendency Survey, have decreased, they nevertheless point to a resilient labour market (see Figure 31). However, the picture differs for different sectors; while trade and construction plan to reduce their workforce, manufacturing and private service sectors plan to continue to recruit. When demand decreases further, however, companies are expected to gradually reduce their workforce. During the current year, therefore, employment will fall and unemployment will rise (see Figure 32).

Gradual recovery in production and employment from 2024

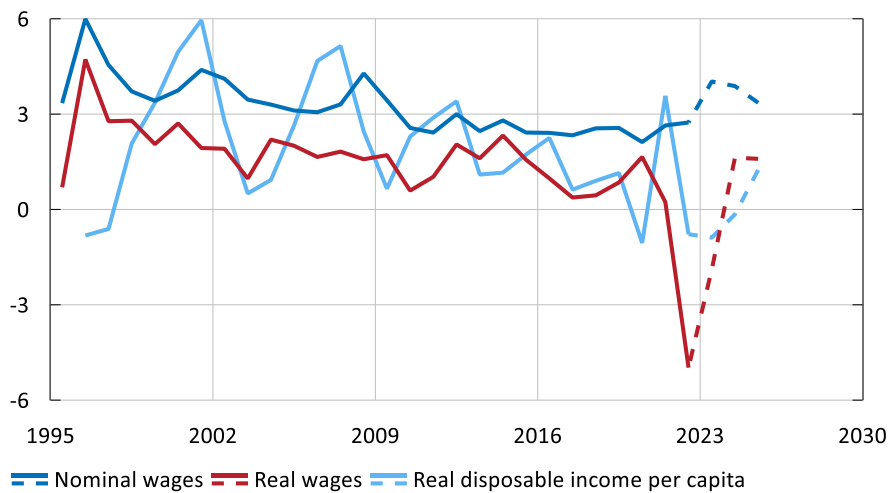
During 2024 and 2025, households' real disposable incomes will improve and both consumption and the housing market will recover. Demand abroad will also rise gradually from 2024, which strengthens Swedish exports and companies' willingness to invest. GDP growth will rise and from mid-2024 GDP will grow faster than the long-term trend. As economic activity strengthens, the demand for labour will rise. Unemployment is expected to peak at the end of 2024, and then begin to fall when employment begins to increase again at a faster pace (see Figure 32).

²⁷ See the article "Higher sensitivity to interest rates in the Swedish economy" in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

3.3 per cent the second year. In the Riksbank’s forecast, total wage growth will be higher this year and in coming years than it has been in recent years. Next year, when inflation is expected to be back around the target, real wages are projected to rise again.

Figure 33. Nominal and real wages, as well as real disposable income per capita

Annual percentage change



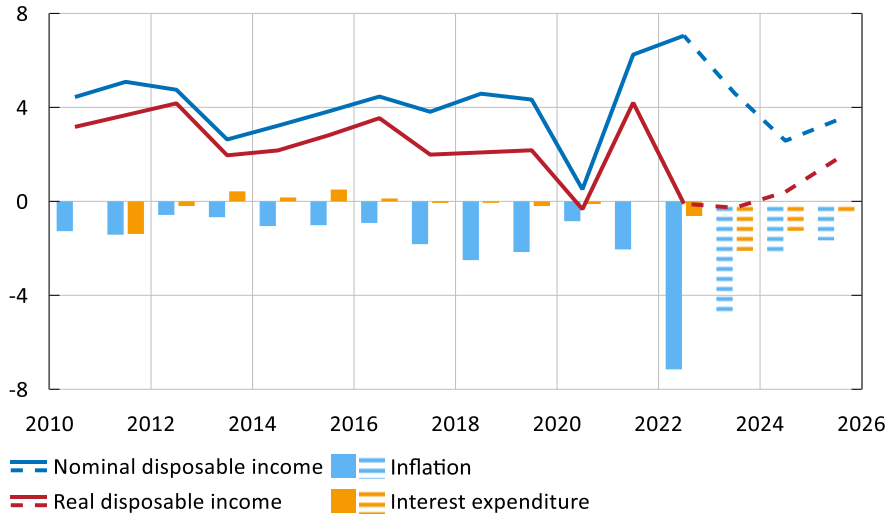
Note. Real wages are calculated as the difference between wage growth and the rate of increase in the CPIF. Real disposable income is calculated using the deflator for households’ consumption expenditure, which usually increases at about the same rate as the CPIF. Solid lines refer to outcomes, dashed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

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

Real disposable household income per capita fell significantly less than real wages last year (see Figure 33), which was due to the rise in employment, reduced taxes and increased transfer payments. This year, however, rising interest rates are expected to have a greater impact and real disposable household income per capita will therefore fall by around 1 per cent. Next year, incomes are expected to recover but not until employment rises in 2025 will real disposable income increase significantly. Rising interest rates will reduce disposable household income, but significantly less than the high inflation in 2022 and 2023 (see Figure 34).

Figure 34. 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 disposable incomes. 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.

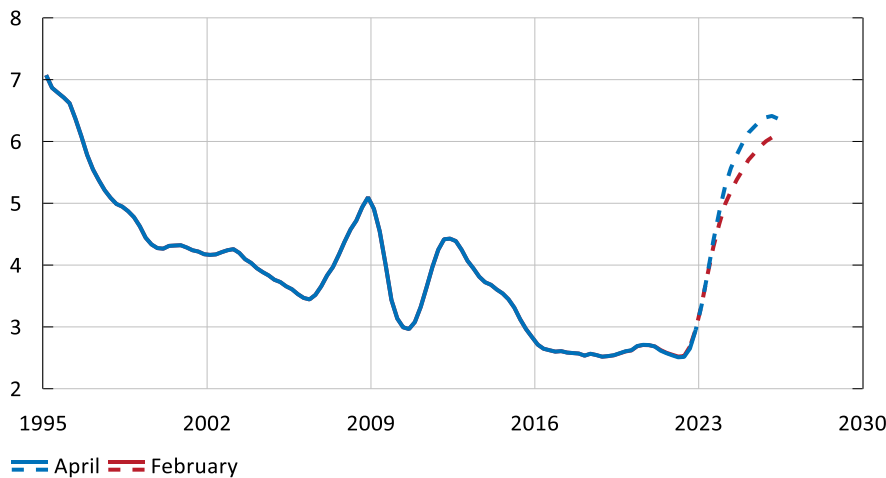
Sources: Statistics Sweden and the Riksbank.

As earlier fixed interest rate contracts expire and more people sign new agreements at higher interest rates, households’ interest expenditure as a percentage of their disposable incomes, what is known as the interest-to-income ratio, will increase. Over the coming years, the interest-to-income ratio is expected to rise sharply and amount to just over 6 per cent at the beginning of 2025 (see Figure 35). For an average mortgagor with a SEK 1.3 million mortgage, this means that interest expenditure after tax relief will be around SEK 2,400 higher per month in mid-2026, compared with when the Riksbank began to raise the policy rate in April 2022.²⁸

²⁸ New mortgagors have higher loans averaging SEK 2.8 million. For new mortgagors, interest expenditure after tax relief is expected to be around SEK 5,100 per month higher at the beginning of 2026 compared with when the Riksbank began to raise the policy rate in April 2022.

Figure 35. Interest-to-income ratio

Percentage of disposable income



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

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.²⁹ 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. For example, capacity utilisation within the manufacturing sector is at a relatively high level, according to both Statistics Sweden and the Economic Tendency Survey, and many companies are reporting labour shortages.

On the other hand, demand is expected to be low according to the Economic Tendency Survey. The Riksbank's resource utilisation indicator, which is an aggregate of different indicators, suggests that resource utilisation has fallen but that it remains slightly higher than normal (see Figure 36).³⁰ This is also illustrated by the Riksbank's estimated GDP gap having declined and being expected to be close to zero during the second quarter, while the employment gap is still slightly positive.³¹ As monetary policy becomes tighter, demand slows down and resource utilisation is expected to be lower than normal, but higher than, for example, during the financial crisis, from mid-2023.

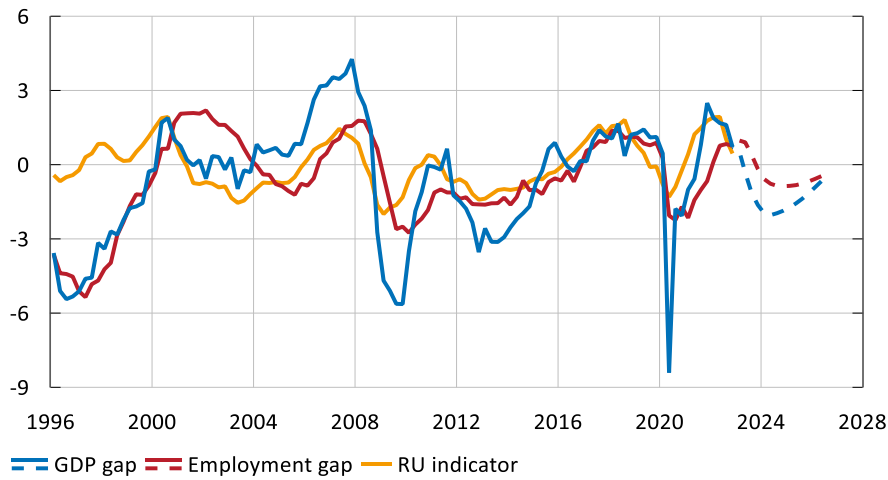
²⁹ According to the new Riksbank Act, which came into force on 1 January 2023, the Riksbank shall contribute to a balanced development of production and employment without neglecting the price stability target. The Riksbank has also previously conducted what is known as flexible inflation targeting, which 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.

³⁰ See H. Lovéus (2023), "New indicators of resource utilisation", Economic Commentaries no. 4, Sveriges Riksbank.

³¹ The gap shows the percentage deviation from each expected long-term level.

Figure 36. Measures of resource utilisation

Standard deviation and per cent respectively



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; it has been normalised so that the mean value is 0 and the standard deviation is 1 since 1996. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

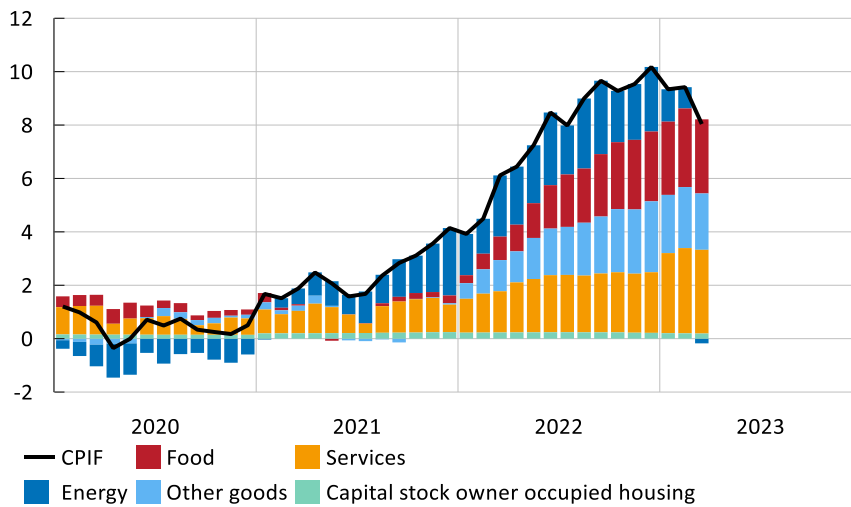
Sources: Employment Service, National Institute of Economic Research, Statistics Sweden and the Riksbank.

Continued high inflation at the beginning of 2023

Inflation has remained high in early 2023. In March, CPIF inflation was 8 per cent, which nevertheless was a decrease compared to the preceding month and compared to the peak in December of last year. Energy prices have fallen in recent months and helped to keep down the rate of inflation (see Figure 37). Excluding energy prices, inflation is therefore higher. The rate of increase in the CPIF excluding energy amounted to 8.9 per cent in March, which was higher than the forecast in the Monetary Policy Report in February. Prices have thus continued to rise broadly and rapidly. The assumption that the upturn is broad is supported by several measures of underlying inflation (see Figure 38).

Figure 37. Contributions to CPIF inflation

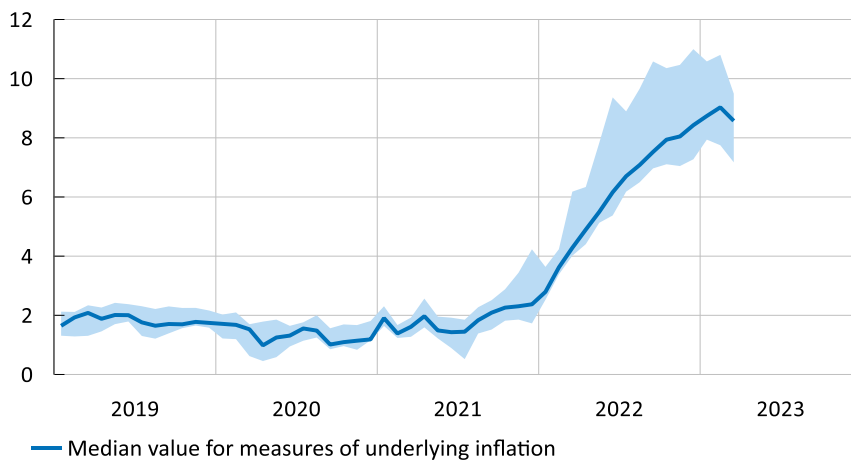
Annual percentage change and percentage points respectively



Sources: Statistics Sweden and the Riksbank.

Figure 38. 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), factors from principal component analysis (CPIFPC) and weighted mean inflation (Trim1).

Sources: Statistics Sweden and the Riksbank.

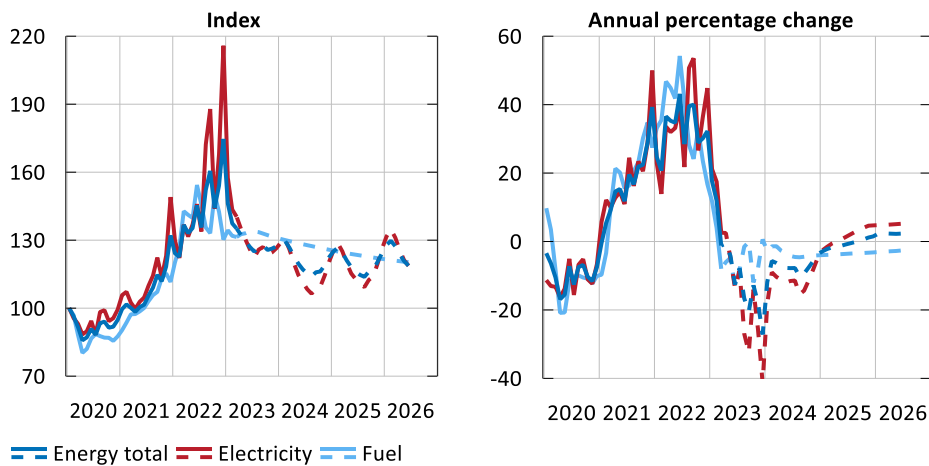
There are many indications that inflation will begin to fall soon

Despite surprisingly high price increases this past year or so, the Riksbank’s forecast is for CPIF inflation to fall back in the coming months. There are several factors that support this forecast (see also the article “How quickly will inflation fall?” in this report).

One explanation is the development of energy prices. The Riksbank bases its forecast of energy prices on pricing in the forward market. According to this forecast, electricity prices over the coming year are expected to be lower than during the past year, although the development is uncertain (see Figure 39). Fuel prices are also expected to increase more slowly going forward, which is in line with pricing on the futures market for oil. The forecast means that the rate of increase in energy prices will slow down significantly and contribute to a rapid fall in CPI inflation this year.

Figure 39. 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.

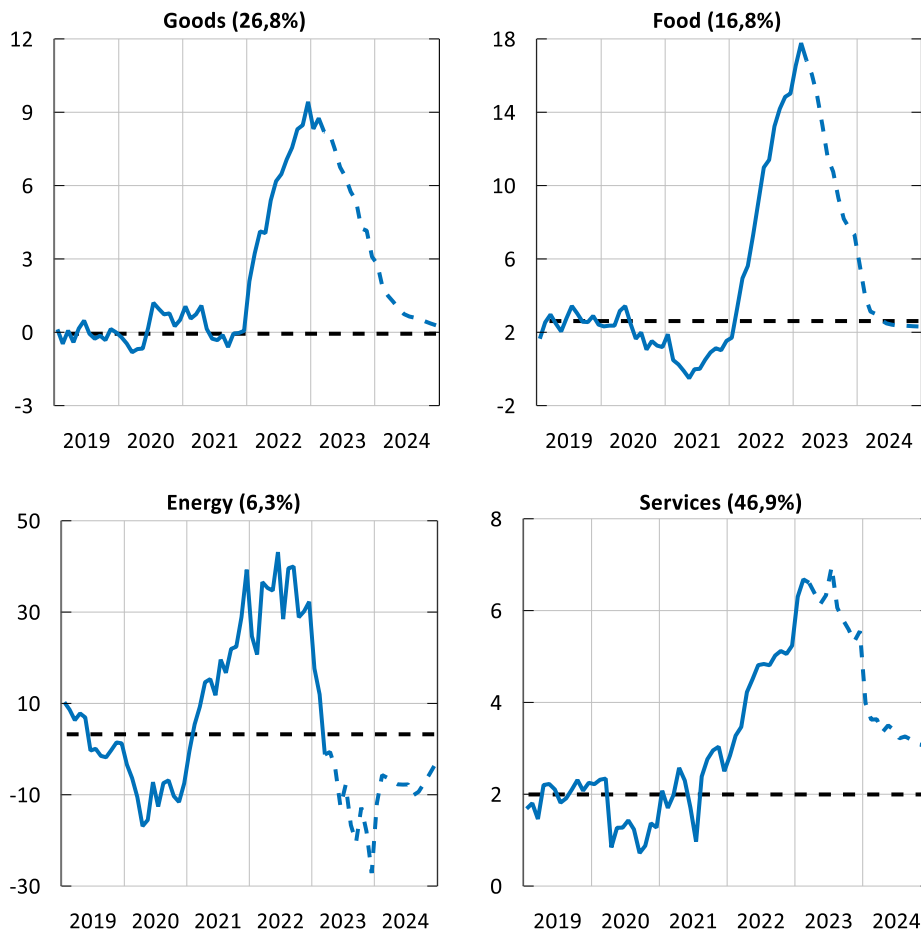
The fact that electricity prices continue to fall will also be important going forward but other prices are also expected to rise at a slower pace (see Figure 40). This means that CPIF inflation excluding energy may start to fall back in the coming months, albeit not as quickly.³²

There are also several other indicators and factors that suggest 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 the outbreak of war in spring 2022. In Sweden, the rate of increase in prices at early stages of production, such as for input goods, has slowed markedly since the middle of last year. This view is also supported by prices of consumption goods at the producer stage having fallen over the last three months, although they are still at relatively high levels (see Figure 41).

³² 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.

Figure 40. Forecasts for various sub-indices in the CPIF 2023 and 2024

Annual percentage change

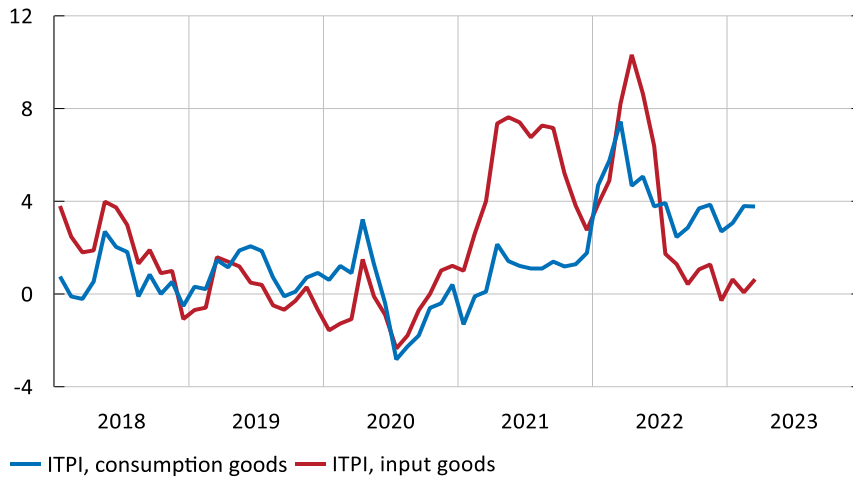


Note. Goods refers to prices of goods excluding energy and food. Weight in the CPIF according to the Riksbank's classification shown in brackets. The capital stock index, which has a weight of 3.2 per cent, is not shown here. Horizontal dashed lines represent mean values for the period 2000–2019. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Figure 41. Producer prices

Percentage three-month change



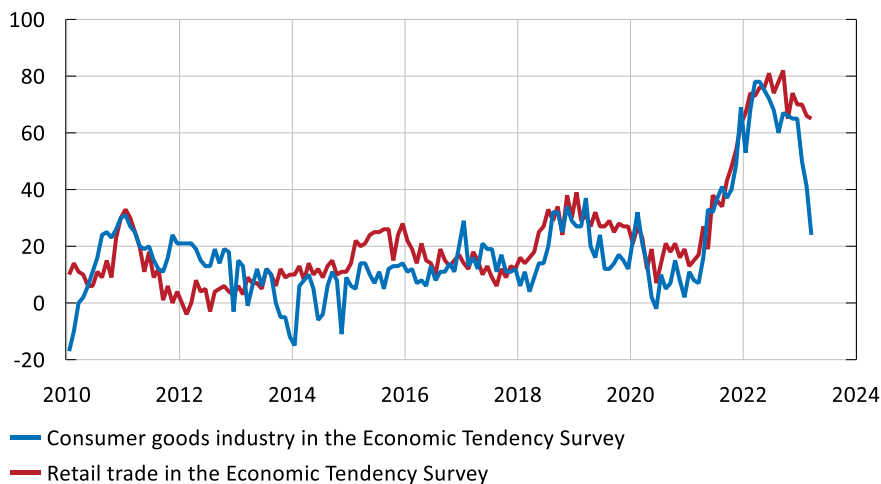
Note. ITPI refers to the price index for domestic supply, which is a composite of import prices and domestic market prices (prices of goods manufactured and sold in Sweden).

Source: Statistics Sweden.

Price plans among retailers remain at high levels despite having fallen back somewhat over the past six months. Within the consumer goods industry, however, price plans at the start of the year have fallen back significantly (see Figure 42). 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 in the manufacturing sector.

Figure 42. Companies' price plans

Net figures



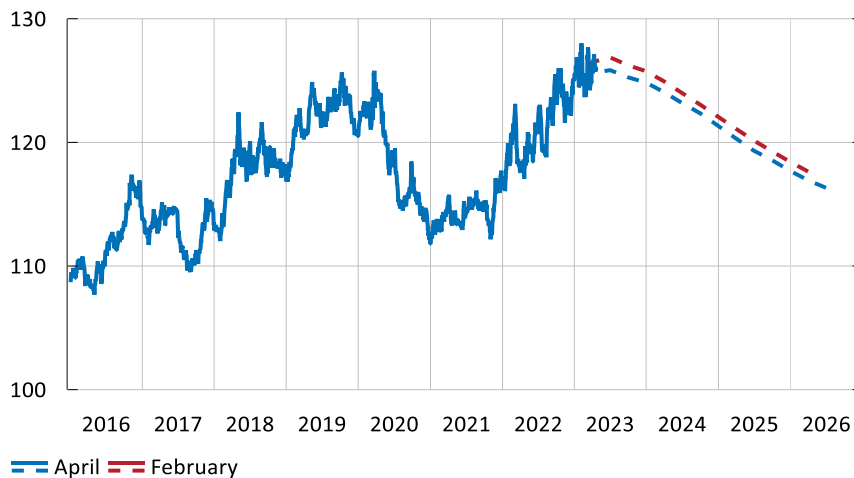
Note. The question concerns how companies plan to adjust prices over the next three months. The net figures show how many companies are planning to increase their prices minus how many are planning to reduce them.

Source: National Institute of Economic Research.

Since just over a year ago, the financial markets have been characterised by high volatility and increasingly tight monetary policy both in Sweden and abroad. In such an environment, the krona tends to depreciate, which has also been the case. This will contribute to somewhat higher inflation in the near term. But despite the financial turmoil, the krona is approximately in the same level as it was at the time of the monetary policy meeting in February. Just as in the February forecast, the krona is expected to appreciate slowly in the coming years and thus contribute to lower inflation (see Figure 43).³³

Figure 43. 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.

Difficult to know when and how quickly inflation will fall

However, despite there being several reasons to expect inflation to fall going forward, there is still a risk that it will not slow down as quickly as in the forecast. The most recent outcomes for the CPIF excluding energy indicate that rates of price increase remain on high levels.

In a situation where costs rise considerably and rapidly, 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 2022.³⁴ Previously, cost increases have not been fully passed on to consumers, at least not in the short term, but this

³³ See the article “Why has the krona weakened this year?” in *Monetary Policy Report*, November 2022, Sveriges Riksbank.

³⁴ See “I’ve never before experienced customers accepting price increases so easily”, *The Riksbank’s Business Survey*, February 2022, Sveriges Riksbank.

happened to a great extent in 2021 and 2022.³⁵ Similarly, it cannot be ruled out that rapidly falling costs going forward could have a greater dampening effect than normal on consumer prices. 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.

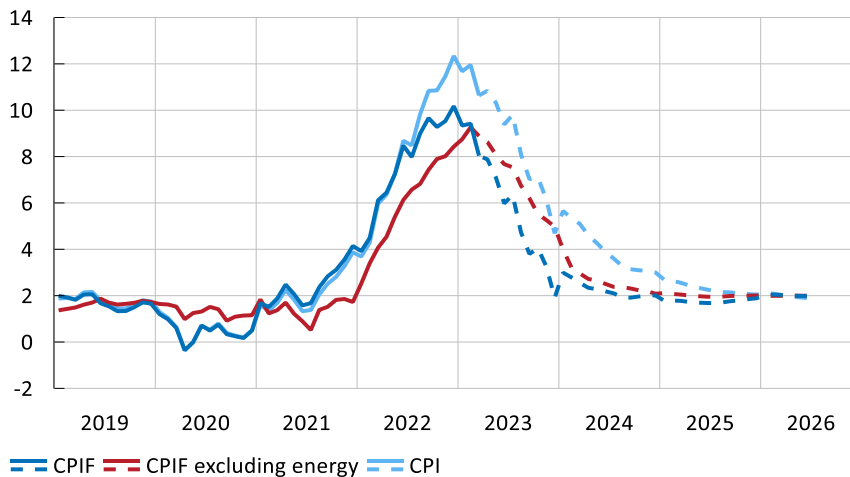
Inflation close to target from 2024

It is the Riksbank’s assessment that the tighter monetary policy, waning supply shocks and lower demand will bring the CPIF and the CPIF excluding energy close to 2 per cent during 2024. The new wage agreements also suggest that wages will rise at a pace that – given economic developments otherwise – are compatible with this forecast. Neither are there any signs of economic agents losing confidence in the inflation target. On the contrary, long-term inflation expectations among economic agents are in line with the inflation target in the medium term (see Figure 1 in Chapter 1). However, rents and housing cooperative fees are expected to increase more rapidly in the next few years, which will help to keep up inflation.

When mortgage rates rise, household interest expenditure will increase, causing CPI inflation to be higher than CPIF inflation. However, the differences in the forecasts are greatest in 2023 and, by 2025, CPI inflation will also be close to 2 per cent (see Figure 44).

Figure 44. 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.

³⁵ See “Price setting by Swedish companies in 2022”, *Special studies*, December 2022, National Institute of Economic Research.

ARTICLE – How quickly will inflation fall?

Several factors indicate that inflation will fall in the coming year. The forces that have pushed up prices over the past year are instead expected to dampen price development going forward. For example, prices of energy and other commodities on the global market are falling, and this is expected to gradually impact consumer prices in the coming months. At the same time, demand in the Swedish economy is assessed to be lower this year than it was last year. However, consumer prices are still rising rapidly and it is uncertain how quickly inflation will start to fall. This uncertainty has also become more evident due to inflation being surprisingly high on several occasions this past year.

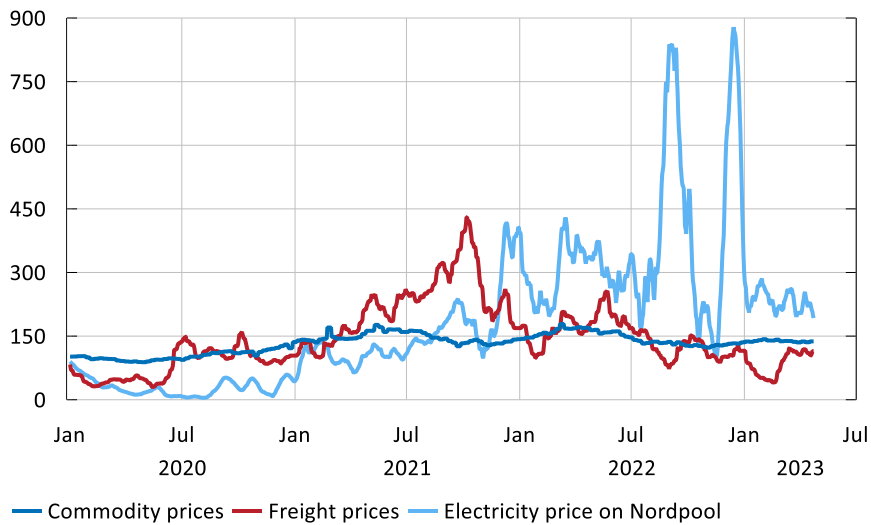
Lower costs and prices at early stages of production suggest that inflation will fall over the next year

CPIF inflation remains high and was 8 per cent in March, which is a decline compared with the end of last year. A slower rate of increase in energy prices and a continued high rate of increase in other prices lie behind this figure. The rate of increase in the CPIF excluding energy was 8.9 per cent in March. The most important explanations for this past year's high inflation are seen as rising prices for energy, food and other commodities on the global market, first as a result of imbalances between supply and demand after the pandemic and then as a result of Russia's invasion of Ukraine. At the same time, however, demand in Sweden has been high, which has enabled companies to raise their prices.

There are now clear signs that cost and price pressures have decreased in early stages of the production chain. This is an effect of diminishing post-pandemic disruptions and decreasing demand due to many central banks tightening monetary policy. Several of the imbalances that contributed to the inflation upturn have thus been alleviated, which is evident from the decline in energy, freight and commodity prices from the high levels they were at during parts of 2021 and 2022 (see Figure 45). This can be expected to lead to a gradual fall in consumer prices as well. But it normally takes time for such changes to move through the production chain and eventually affect consumer prices.

Figure 45. Electricity, commodity and freight prices

Index, December 2019=100



Note. Electricity price refers to the system price on the Nordpool power exchange in Swedish kronor. Freight prices refer to the Baltic Dry Index, which measures commodity shipping costs. Commodity prices refer to The Economist.'s commodity price index, which includes prices of metals, food and other agricultural produce. The indices for both freight and commodity prices are based on the price in US dollars.

Sources: The Economist, Baltic Exchange and Nordpool.

Figure 46 illustrates what cost and price pressures look like at different stages of production. Different indicators are presented in rows. The rows higher up show early stages in the production chain. Global market prices of metals and agricultural produce can be found here. The development of consumer prices is shown at the bottom. Each column represents one month in the period January 2020 to March 2023. The colours show how each indicator relates to its mean.³⁶ Blue shades indicate low price pressures, while red shades suggest high price pressures.

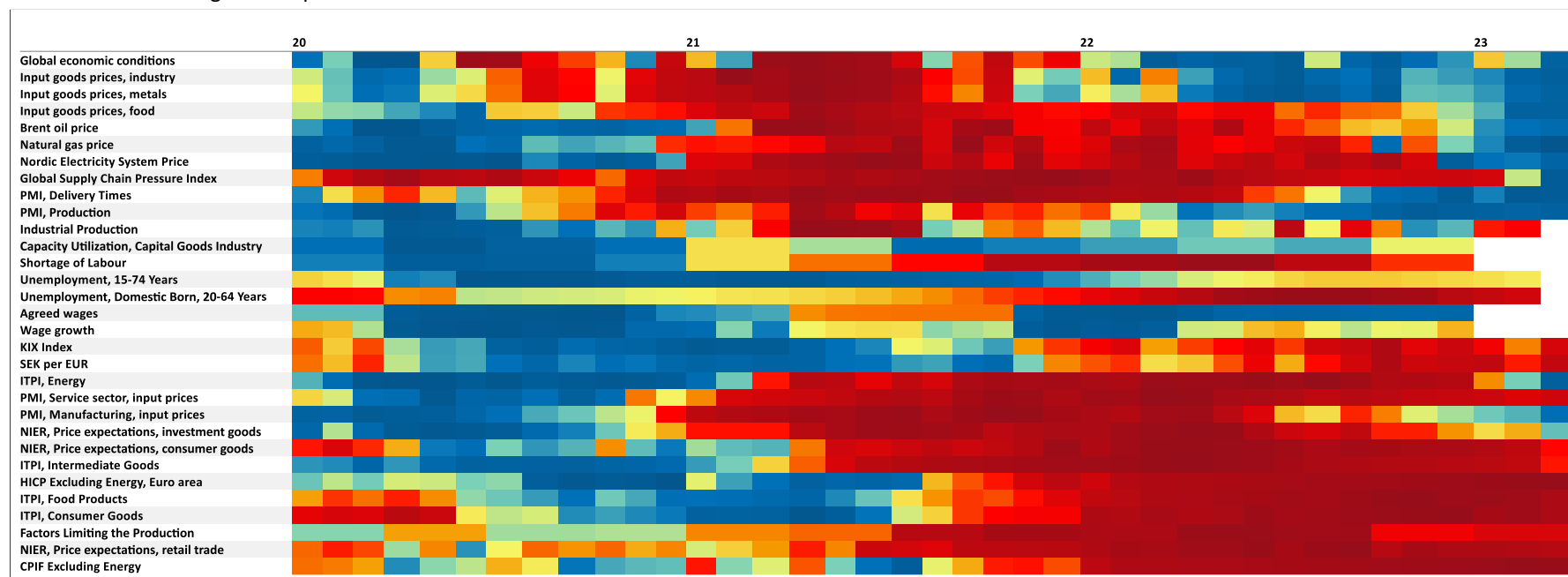
The figure shows that price pressures at early stages of production have gradually fallen, and that this trend began about a year ago. For instance, global freight prices have fallen and several commodity prices have also gradually declined from the extremely high levels recorded particularly in 2021 and after the outbreak of war in spring 2022. However, the closer one gets to the consumer stage, the redder the shades become in the present situation, indicating that consumer prices are still increasing rapidly.³⁷ This is a mirror image of the situation in 2021, when price pressures were high at earlier stages of production but low at the consumer stage. If the relationship is similar over the next year to 2021/2022, there is reason to believe that price pressures at the consumer stage will also decrease over the coming months.

³⁶ The average for each indicator is calculated for the period 2000–2019.

³⁷ Weekly data from the food price-monitoring company Matpriskollen indicates that food prices fell in April.

Figure 46. Heat map for the development in price pressure indicators at different stages of production

Deviation from average development 2000–2019



Note. Indicators of price developments at different stages of the production chain presented in rows for the period January 2020 to March 2023. Indicators at earlier stages are at the top of the figure and indicators at the consumer stage are at the bottom. Blue colour shading indicates low price pressures in relation to the indicator’s average development, yellow shading indicates that price pressures are approximately average and red shading indicates high price pressures. White fields indicate that data has not yet been published. The indicator names are abbreviated. The dataset for this report gives the complete names of all indicators and their sources.

Sources: Statistics Sweden, National Institute of Economic Research, Swedbank, national sources and the Riksbank.

Consumer prices still increasing rapidly

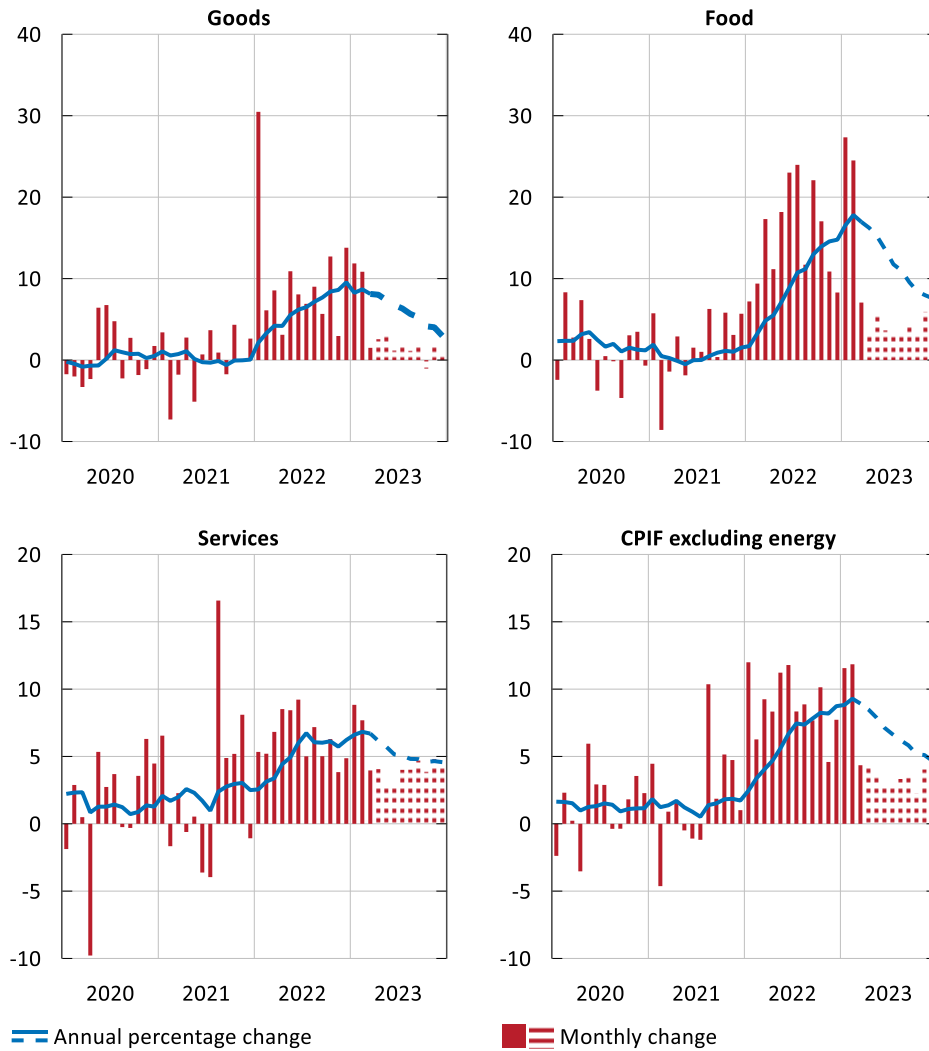
Inflation is normally measured as the annual percentage change in a price index. To obtain a more up-to-date picture of how high inflationary pressures are, one can instead look at price changes calculated over shorter periods. In the United States, for example, it is common to analyse monthly seasonally adjusted price changes calculated as an annual rate. The reason for often calculating the monthly change as an annual rate is to show what the annual percentage change would have been if prices had increased at the same rate as during the current month for 12 months in a row.³⁸ The disadvantage is that monthly rates vary more than annual percentage changes as they are often affected by seasonal factors, which can be difficult to exclude entirely using existing methods.

The continued relatively rapid rise in consumer prices can also be seen when looking at price changes over periods shorter than one year. Figure 47 shows changes in the CPIF excluding energy and its largest sub-groups calculated over time periods of one month (bars) and one year (lines). The monthly price changes in the CPIF excluding energy are still at relatively high levels. In March, the price changes decreased compared to the beginning of the year, but CPIF excluding energy still increased at a monthly rate that would signify an annual percentage change of just under 5 per cent.

³⁸ The annual percentage change is affected by all price changes occurring over the past twelve months and not just the changes occurring in the most recent month.

Figure 47. 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 weighted using 2023 weights in both 2022 and 2023.

Sources: Statistics Sweden and the Riksbank.

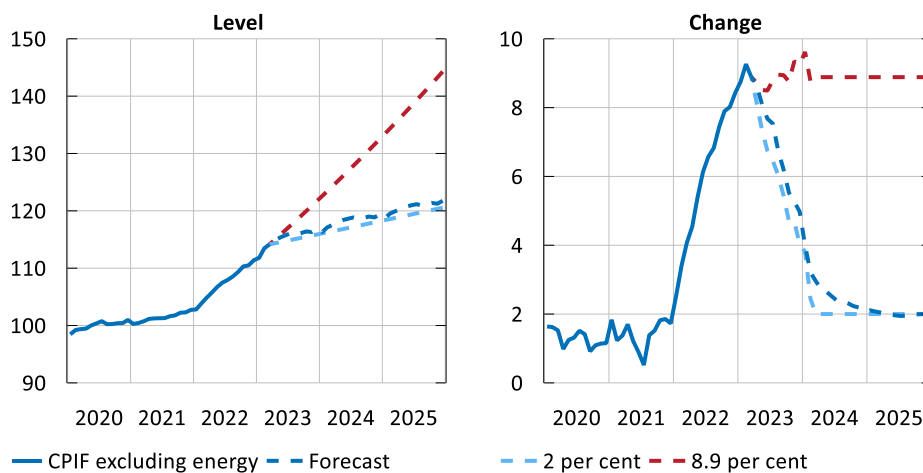
Prices rising unusually rapidly this year, but inflation will still fall

Consumer prices are still rising rapidly and it is very difficult to know exactly when and how quickly inflation will start to fall.³⁹ The uncertainty has become even more evident in light of the Riksbank having been surprised by unexpectedly high inflation figures on several occasions this past year.

Figure 48 presents a few calculation examples of how sensitive the forecast is for different assumptions as to how quickly the rate of price increase will return to normal.⁴⁰ The dashed red lines show the index and annual percentage change in the CPIF excluding energy if prices, expressed as a monthly percentage change, increase as quickly every month over the coming years as they have done on average over the past year. In this case, inflation would therefore remain at its currently high level in the coming year. This example illustrates a development whereby prices going forward will increase more rapidly than they have done on average since the inflation target was introduced.

Figure 48. CPIF excluding energy projected with different monthly rates of price increase

Index, 2020=100 and annual percentage change



Note. The left-hand figure shows the index level that is the result of 3 different monthly percentage changes from April 2023 onwards – one that would lead to unchanged inflation at its current level, is compatible with 2-percent inflation and is line with the one in the main scenario. The right-hand figure shows the annual percentage change that will be the result of the index levels on the left.

Sources: Statistics Sweden and the Riksbank.

³⁹ For inflation to fall, prices need to increase at a slower rate than they have done over the past twelve months. Prices, on the other hand, do not need to fall. For inflation to be as high in the coming years as it has been over the past year, prices will have to increase equally rapidly every month going forward as they have over the last twelve months. Price developments therefore need to follow a steeper trend going forward than they have done in recent decades.

⁴⁰ Similar calculation examples are presented in the National Institute of Economic Research's publication *The Swedish Economy*, March 2023 in the box "Inflationen och månadsvisa prisförändringar" (in Swedish).

The dashed turquoise lines in Figure 48 show the index and annual percentage change in the CPIF excluding energy if prices every month from now on increase at a rate that is compatible with the inflation target of 2 per cent.⁴¹ In this example, the monthly rate of price increase is normalised directly, although it still takes about a year before inflation, measured as an annual percentage change, returns to 2 per cent.

The blue lines between the red and turquoise lines show the inflation forecast in the main scenario. In the main scenario, the monthly rates are expected to remain higher than is compatible with 2-percent inflation for another few months, but not as high as they have been over the past year. The assessment is still that some of last year's cost increases have not yet fully had its full impact on prices. But monthly changes in prices are gradually expected to become more normal and the annual percentage change then falls back and is close to 2 per cent some way into 2024, measured as the CPIF excluding energy.

Inflation back on target in 2024, but difficult to predict the exact path

In this article, we have shown that there are many indicators of cost developments at early production stages pointing to falling inflation in the period ahead.

Neither are there any signs of economic agents having lost confidence in the inflation target and basing their decisions on inflation remaining permanently at its current level. An important indication of this is that expectations of future wage growth and inflation among economic agents are in line with the inflation target. Neither are there currently any signs of wages starting to rise too quickly going forward. The fact that several wage agreements on the Swedish labour market have been signed at levels in line with the benchmark from the Industry sector indicates this. At the same time, demand has fallen and is expected to continue to do so over the next year against the background of a gradually increasingly large effect from a tighter monetary policy. This makes it more difficult for companies to raise their prices.

Inflation is therefore expected to gradually fall and be close to 2 per cent during 2024, measured as the CPIF excluding energy. As energy prices has fallen rapidly over the past year and are expected to remain at a lower level going forward, CPIF inflation is expected to fall more quickly than when energy prices are excluded. CPIF inflation is expected to be close to 2 per cent as early as at the end of 2023 (see Figure 44 in Chapter 3).

However, it is very difficult to know exactly when and how quickly inflation will fall. In the past year, the Riksbank and other forecasters have been surprised on several occasions by unexpectedly high inflation and one should therefore exercise caution when interpreting the current forecast.

⁴¹ A monthly percentage change of 0.165 per cent for twelve months will lead to an annual percentage change of 2 per cent after twelve months.

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	2026kv2
Policy rate	2.75 (2.75)	3.32 (3.21)	3.60 (3.33)	3.65 (3.33)	3.65 (3.33)	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 (5.5)	2.3 (1.9)	1.8 (1.9)
CPIF excl. energy	1.4 (1.4)	5.9 (5.9)	7.3 (5.8)	2.6 (2.4)	2.0 (2.0)
CPI	2.2 (2.2)	8.4 (8.4)	8.9 (8.6)	4.0 (3.6)	2.3 (2.4)
HICP	2.7 (2.7)	8.1 (8.1)	5.8 (5.8)	2.3 (1.9)	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 (6.0)	2.1 (2.8)	-1.2 (-0.6)	0.6 (1.4)	2.0 (2.0)
Public consumption	2.8 (2.8)	0.0 (-0.3)	1.3 (1.3)	1.6 (1.7)	1.3 (1.3)
Gross fixed capital formation	6.0 (6.4)	5.2 (5.7)	-4.6 (-3.6)	-2.8 (-2.2)	2.0 (2.0)
Inventory investments*	0.5 (0.4)	1.0 (1.0)	-0.8 (-0.8)	-0.1 (0.0)	0.0 (0.0)
Exports	10.0 (7.9)	6.6 (4.5)	2.0 (0.5)	0.9 (1.8)	2.2 (2.4)
Imports	11.5 (9.6)	8.7 (7.9)	-1.2 (-0.9)	0.3 (0.9)	2.1 (2.3)
GDP	5.4 (5.1)	2.6 (2.5)	-0.7 (-1.1)	0.2 (0.9)	1.8 (1.9)
GDP, calendar-adjusted	5.3 (4.9)	2.7 (2.5)	-0.5 (-0.9)	0.2 (1.0)	2.0 (2.1)
Final domestic demand*	5.0 (5.0)	2.2 (2.6)	-1.4 (-0.9)	0.0 (0.5)	1.7 (1.7)
Net exports*	-0.1 (-0.3)	-0.6 (-1.2)	1.5 (0.6)	0.3 (0.5)	0.1 (0.1)
Current account (NA), percentage of GDP	6.5 (6.4)	4.4 (4.0)	6.5 (4.6)	7.3 (5.4)	7.9 (5.9)

*Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank.

Table 4. Production and employment

Annual percentage change unless otherwise specified

	2021	2022	2023	2024	2025
Population, aged 15-74	0.0 (0.0)	0.3 (0.3)	0.5 (0.4)	0.5 (0.4)	0.5 (0.4)
Potential employment	0.8 (0.8)	0.8 (0.7)	0.7 (0.7)	0.7 (0.6)	0.6 (0.6)
Potential hours worked	-0.2 (-0.2)	0.7 (0.6)	0.6 (0.6)	0.6 (0.6)	0.6 (0.6)
Potential GDP	1.7 (1.7)	1.7 (1.6)	1.6 (1.5)	1.5 (1.5)	1.5 (1.5)
GDP, calendar-adjusted	5.3 (4.9)	2.7 (2.5)	-0.5 (-0.9)	0.2 (1.0)	2.0 (2.1)
Hours worked, calendar-adjusted	2.2 (2.2)	2.3 (2.3)	0.9 (-0.1)	-1.0 (0.1)	0.5 (0.8)
Number of employed	1.0 (1.0)	2.7 (2.7)	0.6 (-0.1)	-0.6 (-0.3)	0.6 (0.7)
Labour force	1.2 (1.2)	1.3 (1.3)	1.0 (0.5)	0.2 (0.3)	0.5 (0.6)
Unemployment*	8.8 (8.8)	7.5 (7.5)	7.8 (8.0)	8.5 (8.4)	8.4 (8.4)
Employment gap**	-1.3 (-1.3)	0.6 (0.7)	0.5 (0.0)	-0.8 (-0.9)	-0.8 (-0.8)
Hours gap**	-1.4 (-1.4)	0.2 (0.2)	0.5 (-0.4)	-1.2 (-0.9)	-1.3 (-0.7)
GDP gap**	0.4 (0.2)	1.5 (1.2)	-0.6 (-1.3)	-2.0 (-1.8)	-1.5 (-1.1)

* Per cent of labour force

** Percentage deviation from the Riksbank's assessed potential levels

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 in the economy as a whole

Annual percentage change, calendar-adjusted unless otherwise specified

	2021	2022	2023	2024	2025
Hourly wage, NMO	2.6 (2.6)	2.7 (2.7)	4.0 (3.6)	3.9 (3.6)	3.4 (3.4)
Hourly wage, NA	2.6 (2.6)	3.9 (3.9)	4.0 (3.6)	3.9 (3.6)	3.4 (3.4)
Employer's contributions*	0.7 (0.7)	-0.6 (-0.4)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Hourly labour costs, NA	3.4 (3.4)	3.3 (3.5)	4.0 (3.6)	3.9 (3.6)	3.4 (3.4)
Productivity	2.9 (2.6)	0.3 (0.1)	-1.3 (-0.8)	1.2 (0.9)	1.5 (1.3)
Unit labour costs	1.3 (1.6)	3.0 (3.4)	5.4 (4.5)	2.6 (2.7)	1.8 (2.0)

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

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

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

Table 6. International forecasts

Annual percentage change unless otherwise specified

GDP	PPP weights	KIX weights	2021	2022	2023	2024	2025
Euro area	0.12	0.46	5.3 (5.3)	3.5 (3.5)	0.4 (0.6)	0.8 (1.2)	1.8 (1.5)
United States	0.15	0.08	5.9 (5.9)	2.1 (2.1)	1.1 (0.7)	0.6 (1.1)	2.2 (2.1)
China	0.19	0.10	8.9 (8.9)	3.0 (3.1)	5.7 (5.1)	4.5 (4.8)	4.5 (4.7)
KIX weighted	0.75	1.00	5.8 (5.7)	3.2 (3.0)	1.2 (1.3)	1.5 (1.8)	2.2 (2.1)
The world (PPP)	1.00	—	6.3 (6.0)	3.4 (3.3)	2.7 (2.7)	2.9 (3.1)	3.3 (3.3)

Note. Calendar-adjusted growth rates. PPP weights refer to purchasing-power adjusted GDP weights in the world for 2023, according to the IMF. KIX weights refer to weights in the Riksbank's krona index (KIX) for 2023. 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)	5.0 (4.4)	2.2 (1.9)	2.0 (1.9)
United States	4.7 (4.7)	8.0 (8.0)	4.3 (3.8)	2.6 (2.4)	2.4 (2.3)
KIX weighted	3.1 (3.1)	8.4 (8.0)	5.6 (4.9)	2.7 (2.5)	2.4 (2.3)

	2021	2022	2023	2024	2025
International policy rate, per cent	-0.3 (-0.3)	0.5 (0.5)	3.5 (3.3)	3.6 (3.3)	3.0 (2.9)
Crude oil price, USD/barrel Brent	70.7 (70.7)	98.6 (98.6)	82.2 (84.3)	78.0 (79.5)	73.8 (75.2)
Swedish export market	9.2 (9.2)	8.0 (8.5)	2.0 (2.4)	2.3 (2.8)	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)	3.3 (3.2)	3.7 (3.3)	3.6 (3.3)
10-year rate	0.3 (0.3)	1.5 (1.5)	2.4 (2.2)	2.9 (2.5)	3.0 (2.7)
Exchange rate, KIX, 18/11/1992=100	114.3 (114.3)	121.1 (121.1)	125.4 (126.3)	122.7 (123.5)	119.0 (119.7)
General government net lending, percentage of	0.0 (-0.1)	0.7 (0.6)	-0.1 (-0.3)	-0.7 (-0.7)	-0.8 (-0.8)

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

Sources: Macrobond, Statistics Sweden and the Riksbank.



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