Monetary Policy Report

2023 September

Monetary Policy Report

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

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

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

The Executive Board made a decision on the Monetary Policy Report on 20 September 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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The tighter monetary policy has helped to reduce inflation. To ensure that inflation continues to fall and stabilise around the target within a reasonable period of time, monetary policy needs to continue to be tightened somewhat. The Executive Board has therefore decided to raise the policy rate by 0.25 percentage points, to 4 per cent. The decision is in line with the assessment at the monetary policy decision in June.

Inflation is falling in Sweden. The rate of increase in energy and food prices has slowed significantly, which is positive. But inflation pressures are still too high. Service prices continue to rise at a rapid pace, which, together with the unjustifiably weak krona, contribute to keeping up inflation and increasing the risk that inflation will not continue to fall and stabilise around the target sufficiently quickly.

The policy rate is at a contractionary level, and is dampening demand in the economy. This is necessary for inflation to fall back towards the target within a reasonable period of time. According to the Riksbank's forecast, GDP is expected to fall somewhat going forward, at the same time as in the labour market slows down. Together with an expected modest appreciation of the krona in the coming years, this will help inflation to fall back and be close to the target of 2 per cent in 2024.

The forecast for the policy rate indicates that it can be raised further. As before, the assessment is that monetary policy needs to be contractionary for a longer period of time for inflation to fall back and stabilise close to the target of 2 per cent. New information and how it is expected to affect the outlook for the economy and inflation will be decisive in determining the monetary policy stance

1 Increased policy rate for inflation to stabilise around the target within a reasonable time

The substantial and rapid interest rate hikes by central banks since the beginning of last year have helped to reduce global inflation. Many central banks have now begun to adjust their monetary policy in more gradual steps, but have at the same time signalled that rate cuts lie far in the future.

Inflation in Sweden is also falling, but inflationary pressures are still too high. The main elements in the development of prices remain the same since June: The rate of increase in energy and food prices is slowing significantly, at the same time as service prices are continuing to increase at too rapid a pace, which is contributing substantially to total inflation. The krona exchange rate is still unjustifiably weak, which is holding up the price increases of imported goods. For inflation to return to the target of 2 per cent within a reasonable period of time, the Executive Board assesses that monetary policy needs to be tightened further somewhat, in line with the assessment made in June.

The Executive Board has therefore decided to raise the Riksbank's policy rate by 0.25 percentage points, to 4 per cent. The forecast for the policy rate indicates that it can be raised further. As before, the assessment is that monetary policy needs to be contractionary for a longer period of time for inflation to fall back and stabilise close to the target of 2 per cent. New information and how it is expected to affect the prospects for the economy and inflation will be decisive in determining the monetary policy stance.

1.1 Inflation is falling, but is still far above the target

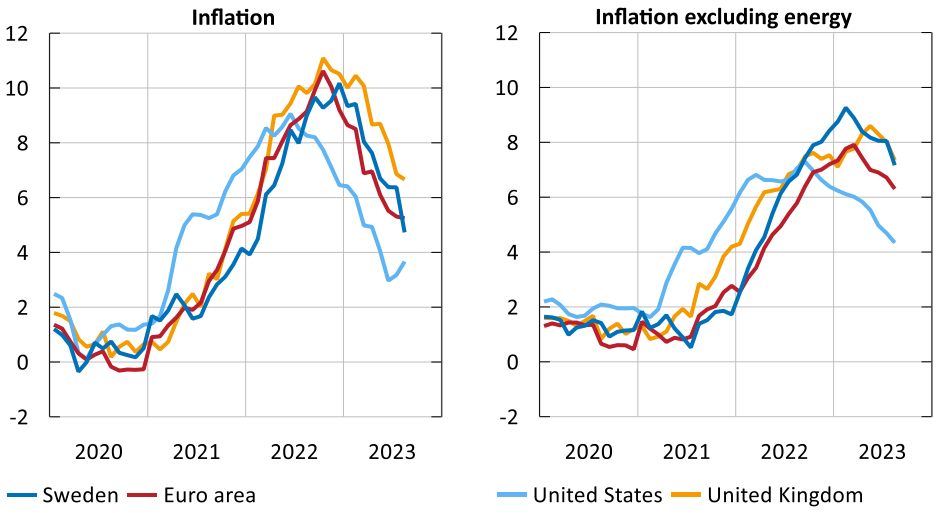
More gradual steps in monetary policy among central banks abroad

Inflation is on the way down in many countries. This also applies to underlying inflation – excluding energy – although the development here is slower (see Figure 1). Following the rapid policy rate hikes last year, central banks have now begun to adjust monetary policy in more gradual steps (see Figure 2). Their communication has on the whole been interpreted to mean that policy rates are approaching their peak.

However, central banks have also clearly signalled that rate cuts are considered to lie far in the future.

Figure 1. Inflation

Annual percentage change

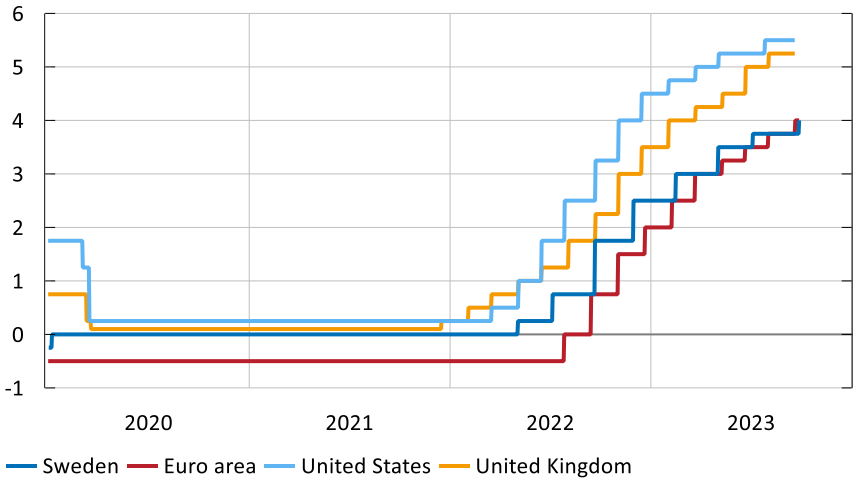


Note. Refers to the CPIF for Sweden, the HICP for the euro area and the CPI for the United Kingdom and the United States.

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

Figure 2. Policy rates

Per cent



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

Growth around the world has been largely in line with the Riksbank's previous assessment. In the United States, growth is developing considerably stronger than in the euro area (see Chapter 3). Labour markets are on the whole continuing to show considerable resilience, and unemployment remains close to record low levels in both

the euro area and the United States, although a small upturn could be noted in the United States recently.[2]

Growth in Sweden slowing rapidly

Growth has slowed down faster in Sweden than abroad. Household consumption has fallen and just as earlier in the year, consumption of goods is showing a considerably weaker development than consumption of services. Housing investment is at the same time continuing to fall sharply. The overall picture remains the same as before: The interest-rate sensitive sectors in the Swedish economy slow down significantly when monetary policy is tightened (see also the Fact Box "The impact of monetary policy on interest-rate sensitive sectors in a European perspective" in Chapter 2).

Like in many other countries, the labour market in Sweden has so far withstood the economic downturn better than expected, and it is very strong in a historical perspective. A possible explanation is that companies are to a greater extent retaining labour, despite the economic downturn. This is probably due to lessons learned from the recovery after the pandemic, when many countries experienced problems getting hold of labour.[3] The behaviour may have been reinforced by companies having raised their prices considerably, at the same time as wage increases have been relatively restrained. The companies have thereby managed to maintain profitability and in this way have had better capacity to retain their labour. After the summer, however, the labour market has shown more signs of slowing down.

There are conditions for inflation to continue falling...

CPIF inflation is continuing to fall from the peak of around 10 per cent at the end of last year and amounted to 4.7 per cent in August. Underlying inflation measured as the CPIF excluding energy is, however, higher and also falling at a slower pace, from just over 9 per cent at the start of the year to 7.2 per cent in August.

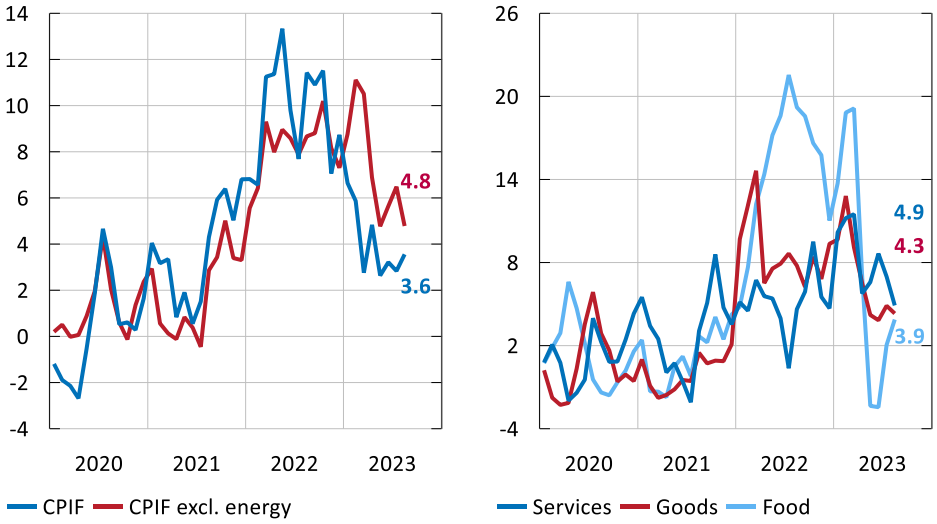
Inflation is often measured as the change in price level compared with one year ago. Figure 3 instead shows the price changes 3 months ahead, calculated as an annual rate. It is clear that the CPIF is increasing considerably slower than the highest levels last year. But this is to a large extent linked to the falling energy prices. The price change in the CPIF excluding energy has not decreased as significantly. The short-term price changes in food and goods have declined from the highest levels last year. But the short-term change in service prices so far does not show any clear downward trend and needs to fall going forward for inflation to reach 2 per cent. All in all, the price changes are moving in the right direction, but they are still too high, both measured in terms of annual percentage change and more short-term monthly changes.

[2] See the article "Strong labour market in Sweden and abroad" in *Monetary Policy Report*, June 2023, Sveriges Riksbank.

[3] See the article "Strong labour market in Sweden and abroad" in *Monetary Policy Report*, June 2023, Sveriges Riksbank.

Figure 3. CPIF and CPIF excluding energy as well as prices of services, goods and food

Annualised three-monthly change, per cent, seasonally adjusted data

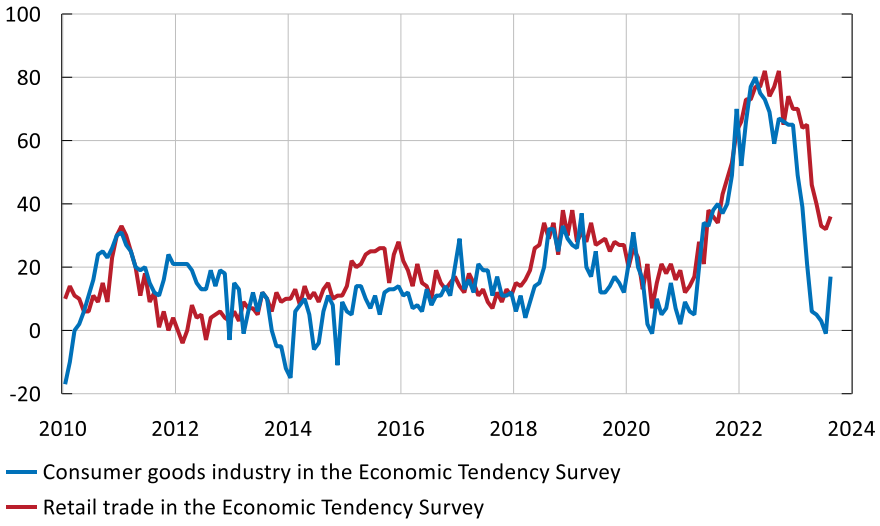


Sources: Statistics Sweden and the Riksbank.

But there are conditions for inflation to decline further. Price increases in the producer stage have continued to slow down. Moreover, an ever smaller percentage of companies responding to the National Institute of Economic Research's Economic Tendency Survey state that they are planning to raise prices in the near term (see Figure 4).

Figure 4. Companies' price plans in Sweden

Net figures



Note. The question concerns how companies plan to adjust prices during 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.

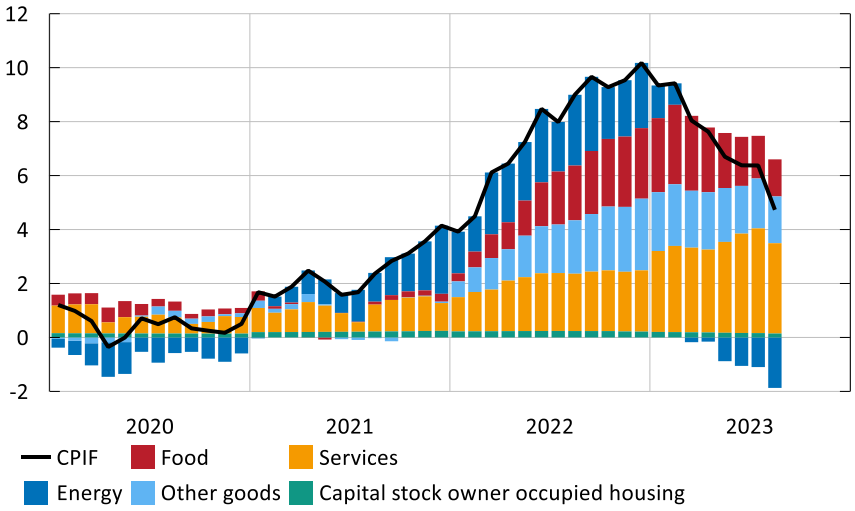
...but price pressures in the economy are still too high

Despite the conditions for inflation to fall going forward there are several indications that price pressures in the Swedish economy are still too high. A cause for concern is that the price changes are still above the levels that are compatible with 2-per cent inflation (see Figure 3). This applies in particular to the CPIF excluding energy, which has increased by almost 5 per cent over the past three months, calculated as an annual rate. The short-term rates of increase must decline for inflation to reach the target. At the same time, the National Institute of Economic Research's Economic Tendency Survey has shown that the percentage of companies planning to raise their prices in the near term is still very elevated in the retail sector (see Figure 4 and a more detailed description in Chapter 3).

Another cause for concern is that the rate of increase in service prices does not show sufficient sign of slowing down (see Figure 3). This could be a reflection of household demand for services remaining relatively high. Service prices have a weight of close to 50 per cent in the CPI basket, which together with the high rate of increase makes a large contribution to inflation (see Figure 5).

Figure 5. Contributions to CPIF inflation

Annual percentage change (CPIF) and percentage points, respectively



Sources: Statistics Sweden and the Riksbank.

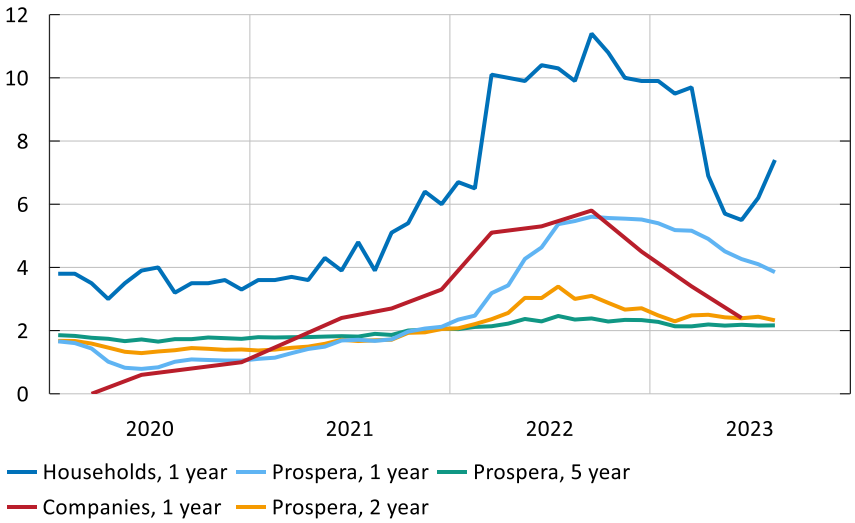
Long-term inflation expectations have been strikingly stable during the period with high inflation, which shows that there is strong confidence in monetary policy (see Figure 6). This spring's industrial agreement is a further indication of this. The agreement significantly reduced the risk of a wage-price spiral in the Swedish economy, but it also strengthens the importance of the Riksbank's task of bringing inflation back to the target within a reasonable time.

It is also important that short-term inflation expectations continue to fall towards 2 per cent for inflation to stabilise around the target going forward. For some time, expectations one year ahead have been falling significantly, even though household expectations rose somewhat in the last outcome (see Figure 6). The fact that CPIF

inflation is continuing to fall contributes to this development, as short-term expectations are affected considerably by actual inflation outcomes.

Figure 6. Inflation expectations

Per cent



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

Sources: Kantar Prospera and National Institute of Economic Research.

The high inflation also affects the direction of fiscal policy. A clearly expansionary fiscal policy with broad stimulation measures would probably increase inflation and affect monetary policy in a more contractionary direction. But there are many fiscal policy measures that can be taken without overall fiscal policy being inflationary for that reason. In connection with the autumn budget bill, the Government has communicated that fiscal policy should not hamper the Riksbank's possibilities to bring down inflation.[4] The Riksbank's forecast assesses that fiscal policy will not on the whole affect the prerequisites for monetary policy to return inflation to the target.

Continued weak krona keeping up inflation going forward

During the summer, the krona has continued to develop weakly – and somewhat weaker than in the June forecast. There are many hypotheses regarding why this happens. The Riksbank's forecast for the krona rate is based on an assessment of the real exchange rate's long-term level, showing that the krona is undervalued at present and can therefore be expected to strengthen going forward (see further Chapter 3 and the article "The krona will strengthen in the medium term").

However, it is uncertain both how the krona will develop and what impact the changes in the krona rate will have on inflation in a situation where inflation is already high.[5] If the krona were to continue to weaken, it would contribute to raising the

[4] See High inflation continues to impact Swedish economy - Regeringen.se.

[5] See the Fact Box "Pass-through of the exchange rate when inflation is high" in Monetary Policy Report, June 2023, Sveriges Riksbank.

forecast for inflation and thereby also increase the need for monetary policy tightening. The impact of a weaker krona can also prove to be greater than is assumed in the forecast, which poses a further upside risk for inflation going forward.

1.2 Monetary policy needs to be tightened somewhat further

Policy rate raised by 0.25 percentage points to 4 per cent

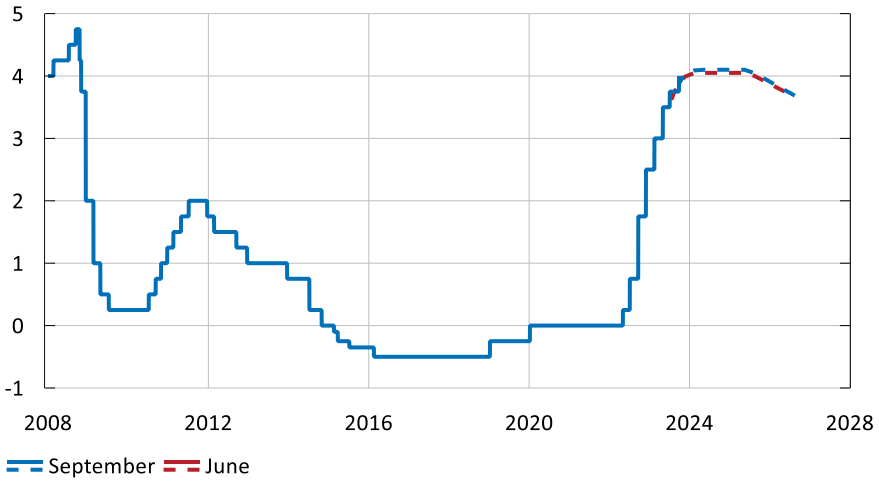
The tighter monetary policy has contributed to inflation now beginning to fall. But despite falling now, inflation is still far above the target of 2 per cent. Moreover, underlying inflation measured as the CPIF excluding energy is declining at a slower pace than CPIF inflation, which is linked to the fall in energy prices. The high inflation is problematic for the economy as a whole and is being felt by households with small margins in particular.

The development of inflation is going in the right direction. But the rapidly rising service prices and the weak krona are helping to sustain inflation and increase the risk that it will not continue falling and approach the target sufficiently quickly. To ensure that inflation continues downwards and stabilises around the target within a reasonable period of time, monetary policy needs to be tightened somewhat further. The Executive Board has therefore decided to raise the policy rate by 0.25 percentage points to 4 per cent. The decision is in line with the assessment in the monetary policy decision in June, which indicated that the policy rate would probably be raised at least one more time this year. The higher policy rate is expected to lead to economic activity being somewhat lower in the short run and to development in the labour market slowing down compared with if the policy rate were held unchanged. However, the Riksbank assesses that the monetary policy tightening is necessary to bring down inflation and thus contribute to good economic development in the near term. If inflation becomes more persistently high, the negative consequences for Swedish growth and the labour market will be much greater. This is illustrated in a scenario in Section 1.4.

The forecast for the policy rate indicates that it can be raised further (see Figure 7). Monetary policy needs to be contractionary for a longer period of time for inflation to fall back and stabilise close to the target of 2 per cent. New information and how it is expected to affect the prospects for the economy and inflation will be decisive in determining the monetary policy stance.

Figure 7. 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.

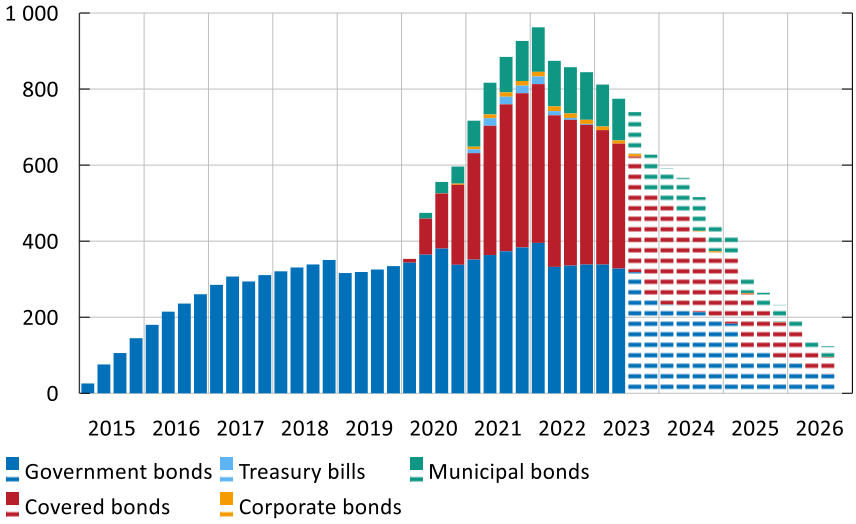
Sales of government bonds continuing according to plan

In April, the Riksbank began to sell government bonds. As the sales had worked well and had the desired effect, the Executive Board decided in June that it was appropriate to increase the pace of the normalisation of the Riksbank's balance sheet by expanding the sales. By making it easier for foreign agents to invest in Swedish assets and improve the functioning of the financial markets, the sales can, all else being equal, help to strengthen the krona and improve the Riksbank's capacity to reduce inflation.

The normalisation of the balance sheet should occur gradually and be characterized by predictability. The Riksbank is not planning to sell its holdings of non-government bonds. If monetary policy were to need tightening further, policy rate hikes are the main and most effective tool. If the sales of government bonds continue at the pace now decided, and other bonds are kept until maturity, the asset holdings will amount to just below SEK 150 billion at the end of the forecast period (see Figure 8).

Figure 8. The Riksbank's asset holdings

Nominal amounts, SEK billion



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

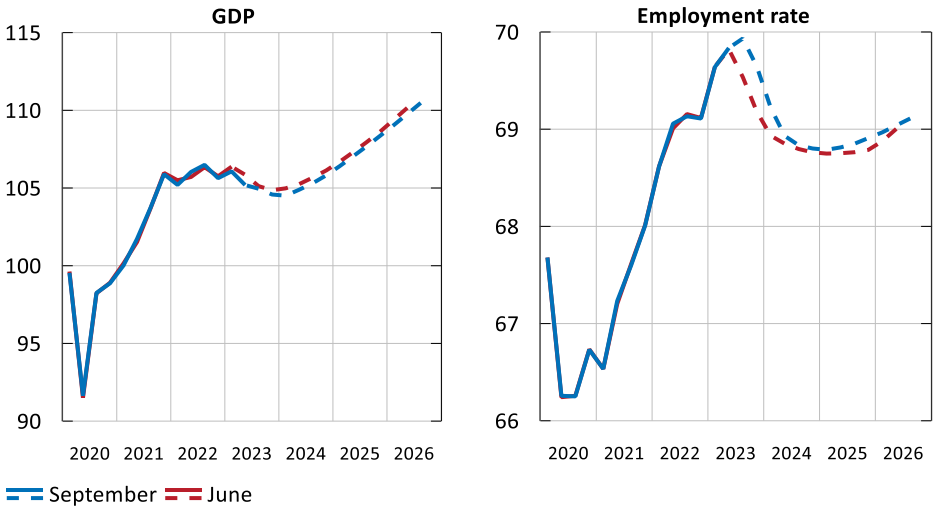
Source: The Riksbank.

Inflation will fall towards the target when demand cools

The policy rate is at a contractionary level, which is helping to dampen demand in the economy. This is necessary for inflation to fall back towards the target within a reasonable period of time. The Riksbank's forecast indicates that GDP is expected to fall somewhat going forward, at the same time as development in the labour market is slowing down further (see Figure 9). Together with an expected moderate strengthening of the krona in the coming years, this will help to reduce inflation. As energy prices are expected to fall rapidly, CPIF inflation is projected to be close to the target in 2024. It will take a little longer for inflation measured as the CPIF excluding energy to come close to 2 per cent (see Figure 10). The forecasts are described in more detail in Chapter 3.

Figure 9. 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)

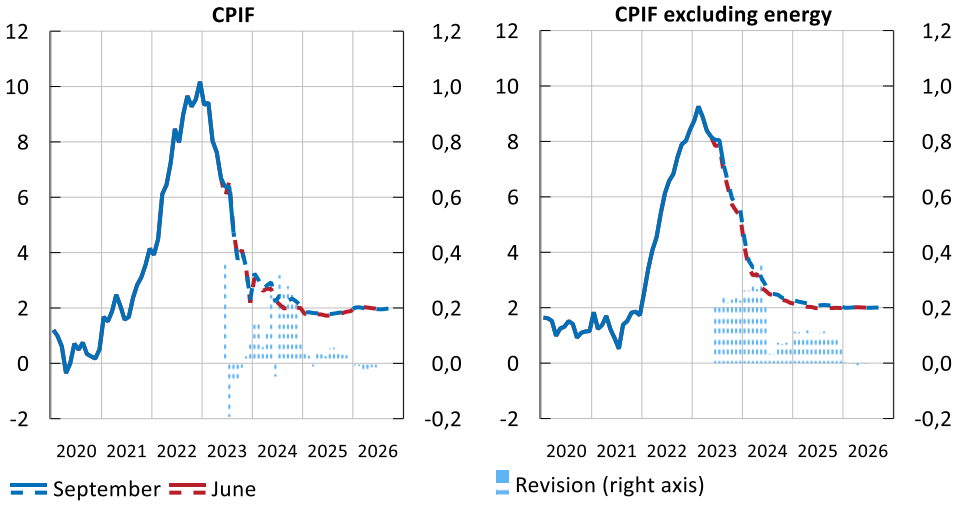


Note. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Figure 10. The CPIF and the CPIF excluding energy

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



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

Sources: Statistics Sweden and the Riksbank.

1.3 Economic prospects remain very uncertain

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

Although electricity and food prices have fallen back recently, it is difficult to say how they will develop going forward. Both geopolitical and climate- and weather-related factors contribute to the uncertainty. At the end of February last year, Russia began its invasion of Ukraine. A significant economic effect of the war was a substantial rise in electricity and food prices last year. Global market prices for commodities, as well as electricity prices, have fallen back quite a bit recently, but developments in the coming years are still uncertain. The fact that developments on the commodities market can fluctuate rapidly is illustrated by the oil price once again having risen rapidly over the summer. Food prices could also start to rise again, for instance, if new problems arise with transport from Ukraine to the rest of Europe. When it comes to the uncertainty related to climate and weather, some risks have declined since June, for instance, with regard to this year's harvests in Europe. But for the forecast period as a whole, the risks remain.

Two factors that can dampen economic prospects in the world economy by an unusually large amount – and which are partly interlinked – are the weak developments in the Chinese and German economies. For a number of years, China has been the driving force behind global growth. However, since the economy reopened earlier this year, development has been much weaker than expected, partly due to the declining real estate market. If Chinese growth continues to be weaker than expected, it would have a negative impact on growth prospects in the world economy. Germany is already now at a disadvantage due to the weak global industrial activity and it would suffer further if China's growth prospects deteriorate, as a result of its large exports to China. As Sweden has extensive trade with Germany, a severe slowdown there would in turn have a negative effect on Swedish growth.

The Swedish real economy could be negatively impacted by the highly leveraged commercial real estate sector. Some companies are already facing problems, now that interest rates have risen. However, there are major differences between different real estate companies, and those with stronger balance sheets are better equipped to deal with higher interest rates (see the Fact Box "The division in the commercial real estate sector" in Chapter 2). Moreover, the banks are well placed to continue lending to robust companies, and many real estate companies are now trying to reduce their indebtedness. But the problems in the highly indebted companies nevertheless pose a risk to the Swedish economy. [6]

The forecast for household consumption in Sweden is very uncertain, with risks on both the upside and the downside. Swedish households' sensitivity to interest rates is high, both from an historical perspective and from an international perspective.[7]

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

[7] See "More households are choosing variable interest rates", Fact Box in Financial Stability Report 2023:1, Sveriges Riksbank.

There is a risk that household demand will slow down more than expected when the interest hikes take full effect. Households in general built up large savings during the pandemic, however, and estimates imply that they have considerable savings capital left (see the article “Household savings increased significantly during the pandemic”). If they were to choose to use more of their savings for consumption going forward, demand could become stronger than the Riksbank is forecasting. But partly because there is no up-to-date microdata on how savings are allocated among households, it is difficult to assess how they will act. A further factor that could lead to an unexpectedly high consumption demand is the stronger-than-expected development of the Swedish labour market over the past year. If this development continues, disposable income, and therefore also demand, would probably become higher than in the Riksbank’s forecast.

The housing market is also creating uncertainty in the Swedish economy. Last year, prices fell rapidly. But this year, prices have been stable and even risen somewhat, despite mortgage rates being raised further. At the same time, turnover is unusually low, which makes the future development difficult to predict. The Riksbank's forecast is that prices will fall somewhat during the autumn, and then gradually begin to rise again. If prices instead continue along this year's trend, housing prices could become higher than in the forecast. This would mean that household consumption in particular could develop more strongly than expected, and perhaps also housing investment. But there is also a risk that prices will fall even further than is now being assumed, when homes need to be sold at lower prices. The effect on demand and inflation would then be the reverse.

1.4 Alternative scenarios for inflation and monetary policy

The risks described above can affect inflation prospects and monetary policy in Sweden, so that the policy rate is different from in the main scenario (the forecast). In the scenarios described here, we will take a closer look at how such risks could lead to a different development in inflation and monetary policy than in the forecast. We therefore describe in this section two scenarios for inflation: one where inflation is higher than expected, and one where inflation falls faster than in the main scenario.[8]

The first scenario, where inflation is higher than forecast, is based on renewed supply disturbances in the global economy. As described in Section 1.3, such disturbances can occur as a consequence of both increased geopolitical unease and of climate- and weather-related problems and can, for example, lead to higher prices for energy and food in the world market. It is assumed in the scenario that the real economic development will be weaker than forecast, at the same time as inflation will be higher. This is the normal pattern following supply disturbances, when GDP and prices develop in opposite directions. In the second scenario, demand is assumed to be weaker than expected. As described in Section 1.3, this could occur for several different reasons, both due to international developments and factors related to

[8] The scenarios are based on simulations in the Riksbank's macroeconomic model MAJA, like those published in the April and June Monetary Policy Reports.

domestic demand. In this type of scenario, inflation will become lower than forecast, at the same time as the real economy shows weaker development than expected.

New supply shocks push up inflation and motivate tighter monetary policy, despite poorer real economic developments

In the first scenario, it is assumed that supply shocks will lead to *direct* effects on energy and food prices. But it is also assumed that *indirect effects* and *secondary effects* will occur. This is in line with research that indicates that households' inflation expectations are very much affected by energy and food prices in particular.[9]

In earlier scenarios with an unexpectedly high inflation rate, two monetary policy alternatives have been shown: initially the same monetary policy as in the main scenario and then a monetary policy reaction that tries to tame the higher inflation. [10] One difference now is that we will start by looking at the development when monetary policy reacts and tries to tame higher inflation. After that, we will look at a development where monetary policy *initially* does not react, but is *gradually* forced to do so, as inflation would otherwise become entrenched at a level above the target for a longer period of time.

The higher inflation in the scenario is illustrated by the light blue line in the left-hand image in Figure 11. In this scenario, growth would be weaker than in the forecast, which is shown by the light blue line in Figure 12. In theory, this would mean that one has to decide between stabilising the real economy and reducing inflation. But in the present situation when inflation is far too high, the focus is on bringing down inflation. It is therefore assumed in the scenario that the policy rate will be raised to a level between 0.5 and 1 percentage points over the forecast in the main scenario, which is shown in the light blue line in the right hand image in Figure 11. The policy rate would begin to be raised more than in the main scenario relatively instantly, to prevent inflation from becoming entrenched in a situation where it is already too high. Such a monetary policy would contribute to inflation stabilising around the target within a two-year period.

We will now look at an alternative where monetary policy at first does not react to the unexpectedly high inflation. This alternative is illustrated by the red lines in the images in Figure 11 and Figure 12. Despite inflation being higher than expected, the Riksbank initially follows the earlier plan and holds the policy rate at a level around 4 per cent. One might ask why monetary policy would be conducted in this way. Some reasons could be that greater weight is attached to stabilising the real economy, in a situation where economic activity has already weakened, or that the breadth of the upturn in inflation is underestimated.

However, it is assumed in the scenario that the lack of monetary policy reaction leads to inflation expectations rising, which poses the risk of inflation not stabilising around

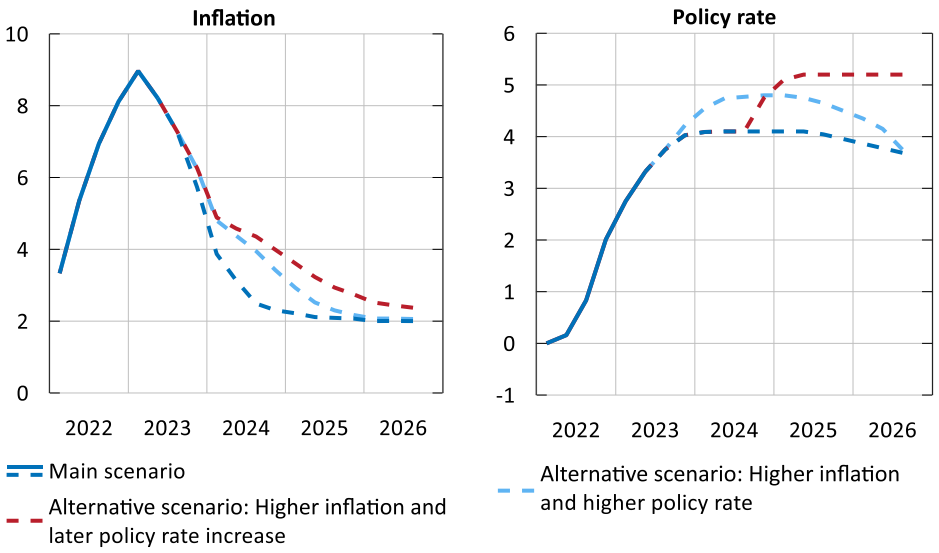
[9] See, for example speech by Anna Breman, "Households are affected in different ways when inflation is high - but all are negatively affected and therefore it must be brought down", Annual Congress of the European Economic Association, published on 30 August 2023, Sveriges Riksbank.

[10] See, for instance, the article "Alternative scenarios for inflation and monetary policy", *Monetary Policy Report*, November 2022, Sveriges Riksbank.

the target even in the long run. The policy rate is therefore raised gradually when these problems become clear. But to stabilise inflation around the target within the forecast period, the policy rate would need to be raised much more than if the reaction had come earlier. As shown in Figure 12, the real economy could in the short-term develop more strongly if monetary policy does not react, but in the longer run the development will be worse. This is connected to the large interest rate increases that would be needed to restore confidence in the inflation target once inflation expectations have begun to drift upwards.

Figure 11. Scenario with higher inflation than in the main scenario

Annual percentage change (left) and per cent (right)

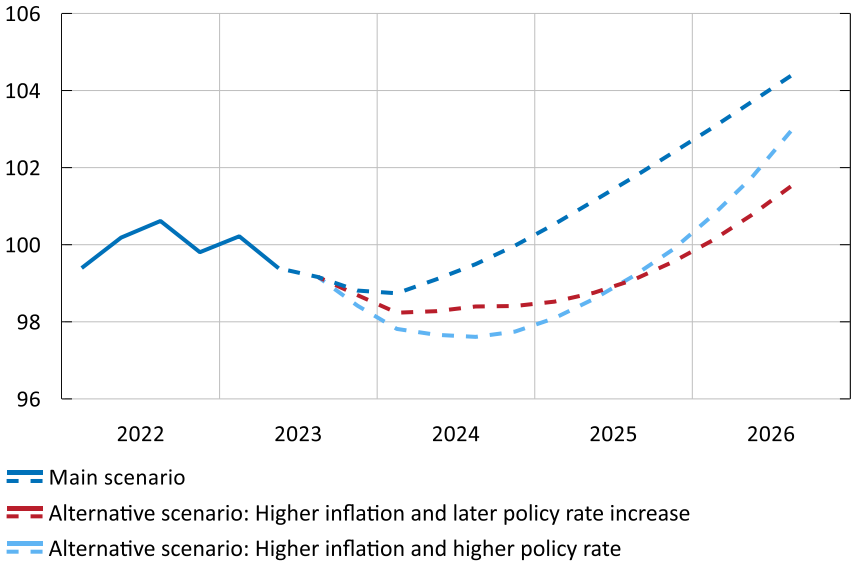


Note. Inflation refers to the CPIF excluding energy. Solid line refer to outcomes, dashed lines to scenarios.

Sources: Statistics Sweden and the Riksbank.

Figure 12. GDP in the scenario with higher inflation

Index, 2019 Q4 = 100, seasonally adjusted data



Note. Solid line refer to outcomes, dashed lines to scenarios.

Sources: Statistics Sweden and the Riksbank.

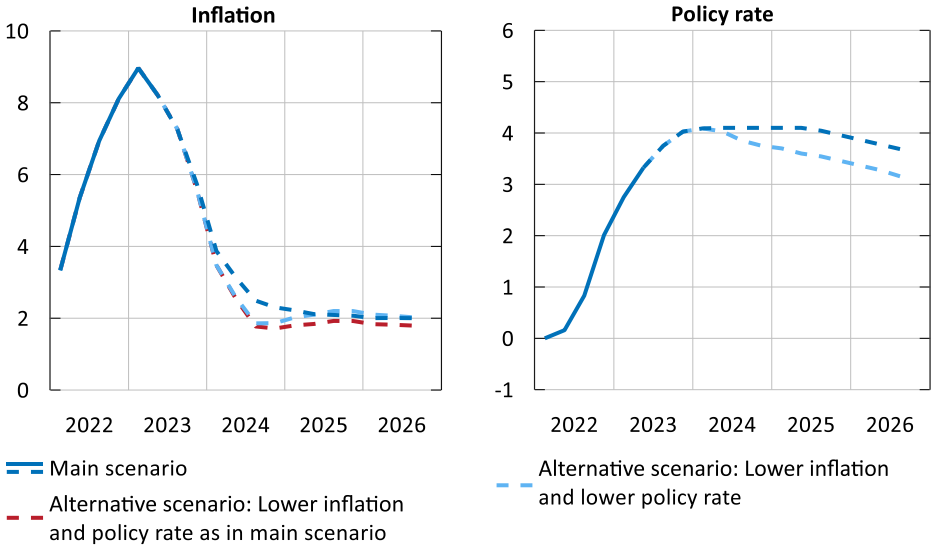
Lower demand reduces both growth and inflation, but there can nevertheless be reasons to wait a bit before making rate cuts

Demand can be weaker than in the Riksbank's forecast for many reasons, which can stem from both global and domestic factors. For instance, developments in China and Germany may become weaker and affect demand in the global economy negatively, or Swedish households may reduce their consumption more than expected in Sweden (see Section 1.2).

When demand falls, the possibility for companies to pass on cost increases to consumer prices declines. Inflation will then be lower than in the main scenario, which is illustrated by the light blue and red lines in the left hand image in Figure 13.

Figure 13. Scenario with lower inflation than in the main scenario

Annual percentage change (left) and per cent (right)



Note. Inflation refers to the CPIF excluding energy. Solid line refer to outcomes, dashed lines to scenarios.

Sources: Statistics Sweden and the Riksbank.

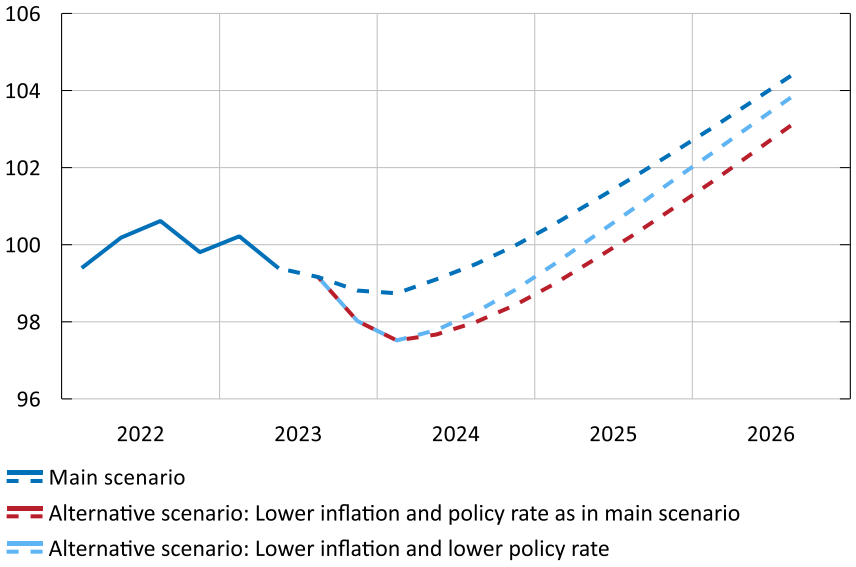
In the scenario with lower inflation, we will first look at the development where monetary policy reacts, and then look at the alternative where monetary policy does not do so.

In the current situation, lower-than-expected inflation would be much less of a problem than higher-than-expected inflation. Even if we allow monetary policy to react, it is assumed in the scenario that it will take time before the policy rate is cut, even if inflation falls lower than expected. The light blue line in the right-hand image in Figure 13 shows a possible monetary policy in a scenario with lower-than-expected inflation. The interest rate is first cut some way into next year, when indicators in the form of, for instance, monthly changes in prices point to inflation being close to the target. Thanks to the lower interest rate, inflation would after a time stabilise closer to 2 per cent, which is shown by the light blue line in the left-hand image in Figure 13. As monetary policy does not need to be as contractionary to bring down inflation, real economic developments will also be stronger than otherwise, so that GDP and unemployment gradually come fairly close to the Riksbank's forecast. This is shown by the light blue and dark blue lines in Figure 13.

We can also look at the alternative when monetary policy is conducted as in the forecast, despite inflation and demand developing more weakly than expected. This is illustrated by the red lines in the images in Figure 13 and Figure 14. Inflation would fall below the target even slightly further ahead, at the same time as the recovery in GDP would be slower, compared with if the policy rate were to begin to be cut next year.

Figure 14. GDP in the scenario with lower inflation

Index, 2019 Q4 = 100, seasonally adjusted data



Note. Solid line refer to outcomes, dashed lines to scenarios.

Sources: Statistics Sweden and the Riksbank.

Several other conceivable scenarios for inflation and monetary policy going forward

The scenarios illustrated here aim to describe how monetary policy may react if inflation is higher or lower than in the Riksbank's forecast. We saw that a weaker growth than forecast could be compatible with both higher and lower inflation than expected. In some earlier published scenarios inflation has instead become either higher or lower than expected, despite the real economy developing in line with the forecast. Many combinations of events can thus cause an unexpected development in inflation. It is therefore difficult to say in advance exactly how monetary policy may in practice need to react to unforeseen events to bring inflation back to the target.

2 The contractionary monetary policy is affecting households and companies

Central banks are communicating that monetary policy is having a contractionary effect on the economy and that policy rate cuts may be far in the future. Market participants expect that policy rates will start to be cut over the next year but expectations of rate cuts have fallen since the end of June. Partly as a result of this, longer-term US market rates have risen. The krona appreciated at the start of July but has since depreciated again and is currently slightly weaker than when the monetary policy decision was taken in June.

The policy rate hikes have had a relatively rapid impact on the Swedish economy as many households are highly indebted and have short interest-rate fixation periods. Corporate credit growth is slowing down and growth in household borrowing is very low. At the same time, however, the situation on the labour market is still strong and investment outside the housing sector is developing well. The rate hikes are weighing on parts of the real estate sector, but the variation within the sector is considerable. Many real estate companies are still in a healthy financial position. The transmission of the Riksbank's monetary policy to the interest rates faced by households and companies is considered to be working well.

2.1 Stable financial markets and rising market rates

Policy rates at contractionary levels

Like the Riksbank, most other central banks have raised their policy rates rapidly over the last year or so (see Figure 15 and Table 1).[11] Policy rates are at contractionary levels and, over the spring and summer, the pace of policy rate hikes has slowed down. Many central banks state that they are taking decisions on a 'meeting by meeting' basis and emphasise the importance of taking incoming data into account. At the same time, they are communicating that policy rates may need to remain on contractionary levels for a longer time to tame inflation. In July, the Federal Reserve chose to raise the target interval for the Federal Funds Rate after having left it unchanged in June. At its meeting in September, the European Central Bank (ECB) decided to raise

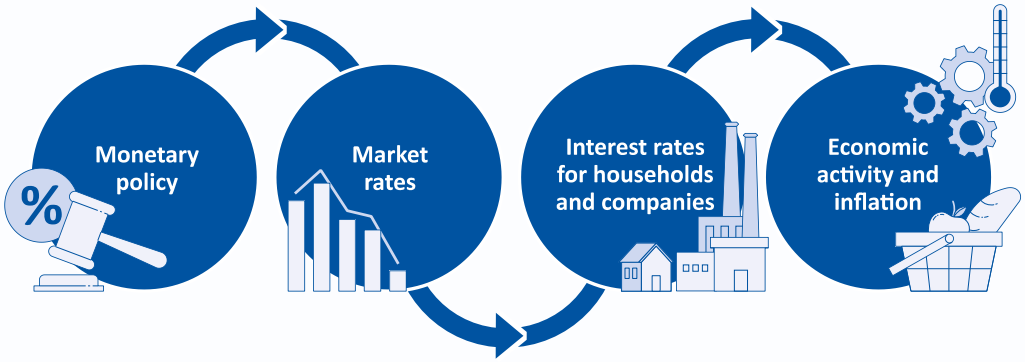
[11] One exception among leading international central banks is the People's Bank of China, which, in contrast, is easing monetary policy at present. The reason for this lies in economic and financial developments (see Chapter 3). In addition, representatives of the Bank of Japan have signalled that monetary policy may be tightened in the period ahead.

its policy rate by 0.25 percentage points. The ECB emphasised that its policy rate has reached levels that, if maintained long enough, will help inflation return to the target within a reasonable time, at the same time as it stressed that the policy rate will be on a contractionary level for as long as necessary. The Bank of England has continued to communicate the need for a tighter monetary policy.

The pricing of futures contracts for short-term money market rates suggests that market participants, in many cases, expect policy rates to peak soon and to be lower within a year (see Figure 15). The situation in the United Kingdom stands out in that rate hikes are expected to continue into next year. Compared with June, expectations of the policy rate in the medium term have risen, particularly in the United States but also in Sweden to an extent.

Transmission – from monetary policy to inflation[12]

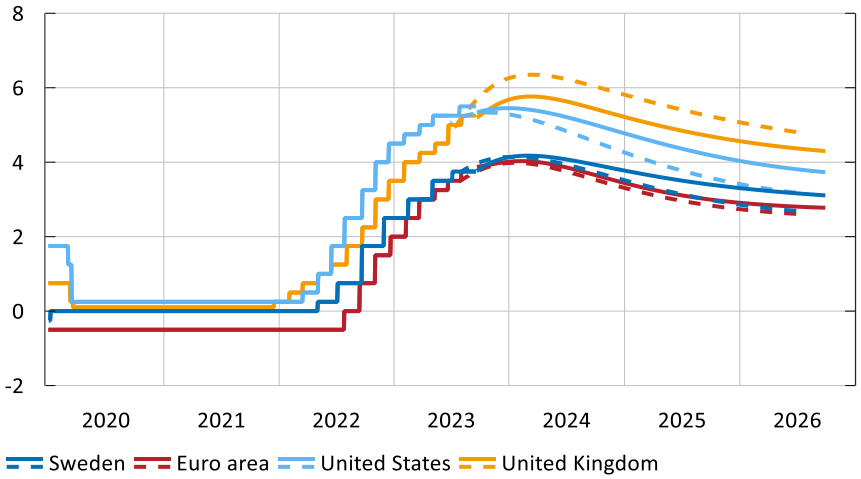
The policy rate has a direct effect on short-term market rates, such as the rates on interbank loans and treasury bills. However, expectations regarding the future policy rate also affect the development of longer-term market rates, such as the rates on government bonds, covered bonds and corporate bonds. 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.



[12] 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/.

Figure 15. Policy rates and policy rate expectations according to market pricing

Per cent



Note. The figure shows policy rates and market-based expectations of future policy rates. Solid lines represent expectations 18 September 2023. Dashed lines represent expectations immediately prior to the monetary policy meeting in June.

Sources: National central banks and the Riksbank.

Table 1. Monetary policy abroad

	Policy rate at start of 2022	Current policy rate	Expected policy rate at end of December 2023	Status of asset holdings
ECB	−0.50	4.00	4.1	Compensating for principal repayments in one of the asset portfolios[13]
Federal Reserve	0–0.25	5.25–5.50	5.4	Partly compensating for principal repayments
Bank of England	0.25	5.25	5.6	Initiated sales in autumn 2022
Norges Bank	0.50	4.00	4.2	Has not purchased any assets for monetary policy purposes
Bank of Canada	0.25	5.00	5.2	No compensatory purchases
Riksbank	0	4.00	4.1	Sales initiated in April 2023

Note. Per cent. The policy rate at the start of 2022 refers to the effective policy rate on 31 December 2021. Current policy rate refers to the effective policy rate on 20 September 2023, except for the Riksbank, where the value refers to the interest rate level decided by the Riksbank on 20 September 2023 that becomes effective on 27 September 2023. Expected policy rate at the end of December 2023 according to market pricing on 19 September 2023, rounded to the closest tenth of a percentage point. Norges Bank's latest published Monetary Policy Report from 22 June 2023 is used for the expected policy rate in Norway.

Sources: Bloomberg, national central banks and the Riksbank.

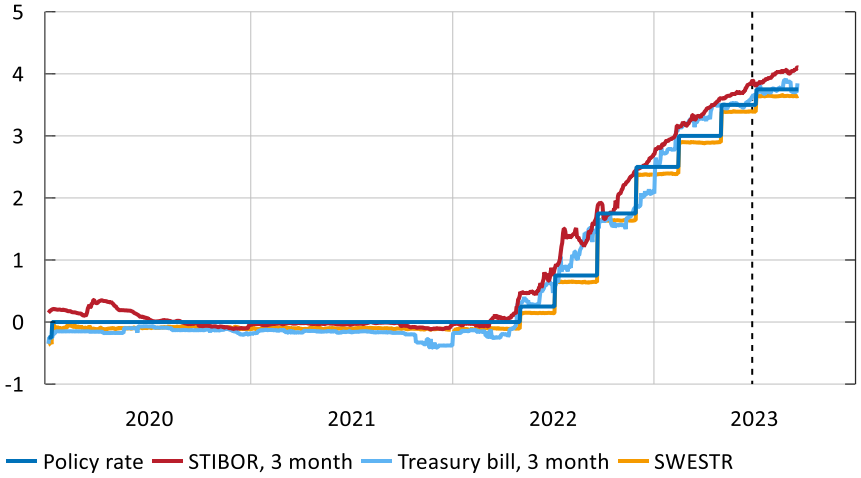
[13] The ECB terminated compensatory purchases for the asset portfolio APP (Asset Purchase Programme) as of July 2023. Compensatory purchases for the central bank's other asset portfolio PEPP (Pandemic Emergency Purchase Programme) are planned to continue until at least the end of 2024.

Longer-term market rates have risen

Since the central banks started to raise their policy rates, the rises have had an impact on short and long market rates. In Sweden too, short and long market rates have risen as a consequence of the contractionary monetary policy (see Figure 16 and Figure 17). Long-term market rates continued to rise somewhat in the United States over the summer (see Figure 17). This increase can be explained by decreased expectations of rate cuts in the medium term and by rising forward premiums. The higher term premiums are partly due to a greater supply of US government bonds and the down-grading of the US credit rating. Rates on longer maturities have also risen in Sweden, partly due to rising expectations of future policy rates in the medium term.

Figure 16. The Riksbank's policy rate and short-term market rates

Per cent



Note. SWESTR became available for actual use as a reference rate as of 1 September 2021. Prior to that, data is used for the historical estimates for SWESTR which the Riksbank has produced and published. 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 June.

Sources: Macrobond, Refinitiv and the Riksbank.

Last year, the spread between yields on bonds with a higher credit risk than govern-ment bonds and what are known as swap rates increased (see Figure 18).[14,15] These spreads normally increase when uncertainty is high and investors are turning to safer assets. Covered bond yields were previously at about the same level as yields for municipal bonds. However, the spread between yields for covered and municipal bonds has widened slightly over the last year.[16] Overall movements in risky bond rates have been small over the summer (see Figure 18).

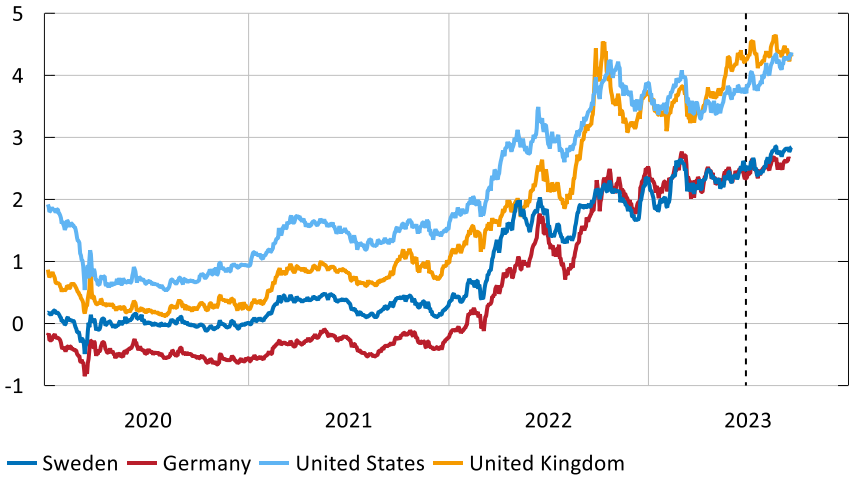
[14] The Riksbank also uses the term risky bonds to refer to bonds with higher credit risk than government bonds. This refers to covered bonds, municipal bonds and corporate bonds, for example.

[15] Swap rates normally refer to the expected average level of STIBOR with a 3-month maturity, which is usually very close to the policy rate when risks are low in the banking system. See the Fact Box "What is a swap rate?" in *Monetary Policy Report*, February 2023, Sveriges Riksbank.

[16] Covered bonds have collateral in mortgages and are referred to as mortgage bonds in everyday speech (even if this term was officially abandoned when the current regulatory system for covered bonds entered into force in 2006).

Figure 17. Yields on 10-year government bonds

Per cent

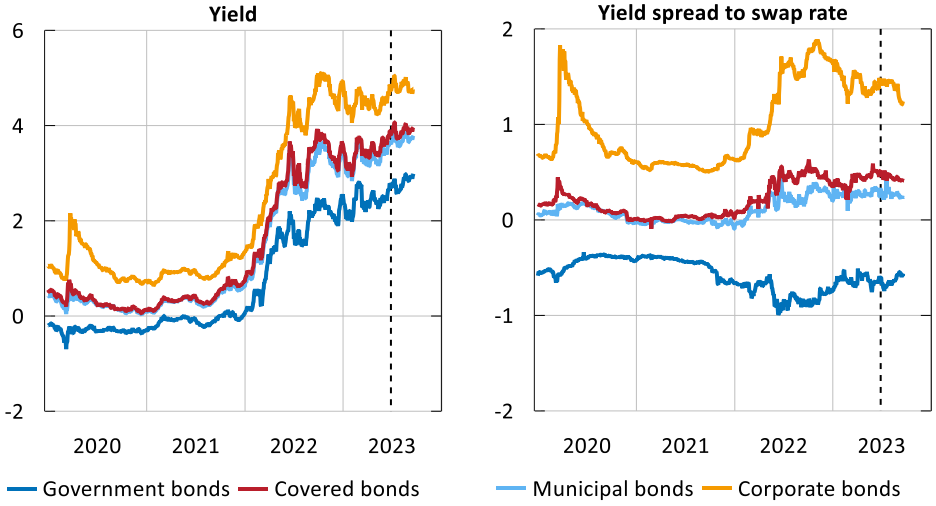


Note. Yields refer to zero coupon rates for Sweden, Germany and the United Kingdom, as well as benchmark rates for the United States. The dashed line marks the date of the monetary policy meeting in June.

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

Figure 18. Swedish yields for various types of bonds, 5-year maturity

Per cent (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 and municipal bonds are issued by Kommuninvest i Sverige AB. The dashed line marks the date of the monetary policy meeting in June.

Sources: Bloomberg, Refinitiv and the Riksbank.

Substantial fluctuations in the krona

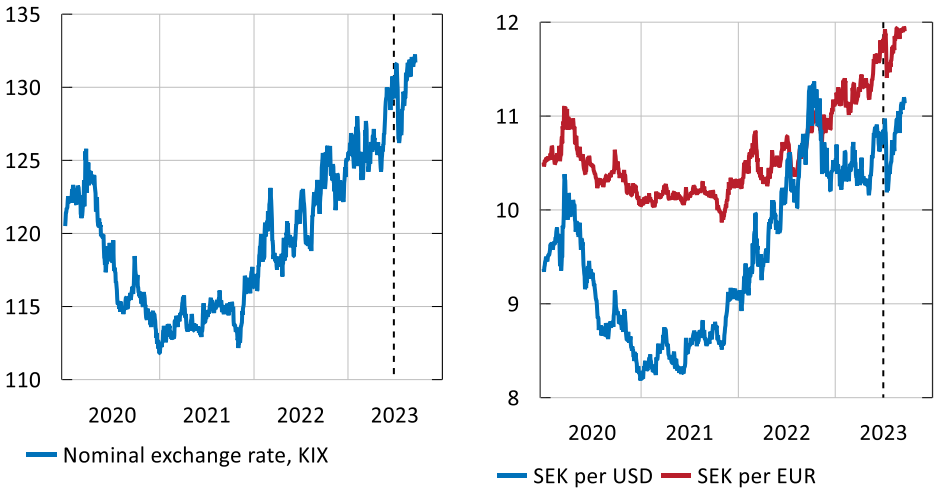
Since the start of 2022, the krona has weakened by just over 13 per cent, measured as the KIX index (see Figure 19). Over the same period, the development of the krona exchange rate has also been weaker than in the Riksbank's forecasts. The article

"The krona will strengthen in the medium term" discusses conceivable causes for this development.

Since the monetary policy decision in June, the krona exchange rate has varied relatively significantly. A clear appreciation at the start of July was followed by weaker development meaning that the krona weakened by about 1.5 per cent overall, measured as the KIX index (see Figure 19). The initial appreciation of the krona coincided with the depreciation of the US dollar against other currencies, reduced uncertainty on global financial markets, a lower inflation outcomes than expected in the United States and positive decisions in the negotiations over Sweden's entry into NATO. After this, the dollar appreciated again, which, together with policy rate decisions from some central banks and increased uncertainty, may have contributed to the subsequent weakening of the krona[17]. The krona tends to have seasonally low liquidity in July. This may also have contributed to the fluctuations in the exchange rate.

Figure 19. Nominal exchange rate against the KIX index, as well as against the US dollar and euro

Index, 18 November 1992 = 100 (left), and daily listings (right)



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 June.

Sources: Macrobond Financial AB and the Riksbank.

[17] Among other things, the weak development of the stock market and increased financial uncertainty, measured with the VIX volatility measure, indicate an increased risk sentiment.

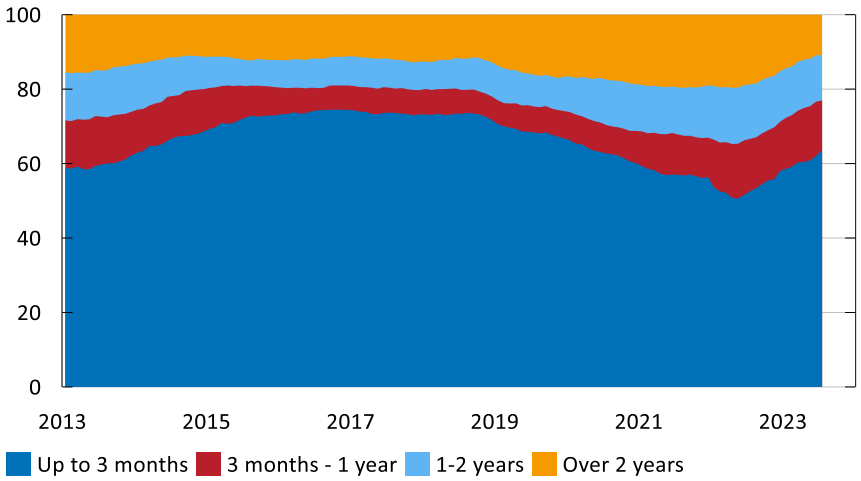
2.2 Corporate and household credit growth are at low levels

High interest costs are dampening household borrowing

On average, Swedish households have large loans in relation to their incomes, with mortgages making up about 80 per cent of the loan volume.[18] In addition, the interest-rate fixation period is short in Sweden compared with many other countries (see also the Fact Box "The impact of monetary policy on interest-sensitive sectors in a European perspective"). Almost 90 per cent of the loan volume has a remaining fixation period of two years or less (see Figure 20). This proportion has also increased significantly since the start of 2022 and has continued to increase in 2023. This can probably be explained by long-term interest rates having been high, so households have chosen loans with shorter interest-rate fixation periods.[19] Large loans and short interest-rate fixation periods mean that increases in the policy rate impact household economies relatively rapidly.[20]

Figure 20. Breakdown of households' remaining fixed-interest periods

Per cent



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

Source: Statistics Sweden.

Since the start of 2022, the average mortgage rate for new and renegotiated loans has risen by just over 3 percentage points; see Figure 21. This corresponds to just over 85 per cent of the policy rate hikes that have taken place since 2022. An examination of the same development since the start of 2023 reveals that average mortgage rates have risen by just over 1 percentage point, corresponding to about 80 per cent of the

[18] The household loan-to-income ratio, which is to say debt in relation to disposable income, amounts to about 190 per cent.

[19] For more information, see the Fact Box "More households choosing variable interest rates" in *Financial Stability Report*, 2023:1, Sveriges Riksbank.

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

policy rate hikes taking place over the same period. The impact of policy rate hikes shows that the monetary policy transmission to these interest rates is working well.

The average interest on households' outstanding loans since 2022 has risen by about 2 percentage points. During the same period, over two-thirds of household mortgages have been reached by at least part of the rate hikes in the form of higher mortgage rates. Mortgage rates with short maturities are now higher than they are for those with longer interest-rate fixation periods, while the difference between them is the smallest since the policy rate hikes were initiated (see Figure 22). One possible explanation for this is that the market considers that the policy rate is now close to peaking (see section 2.1).

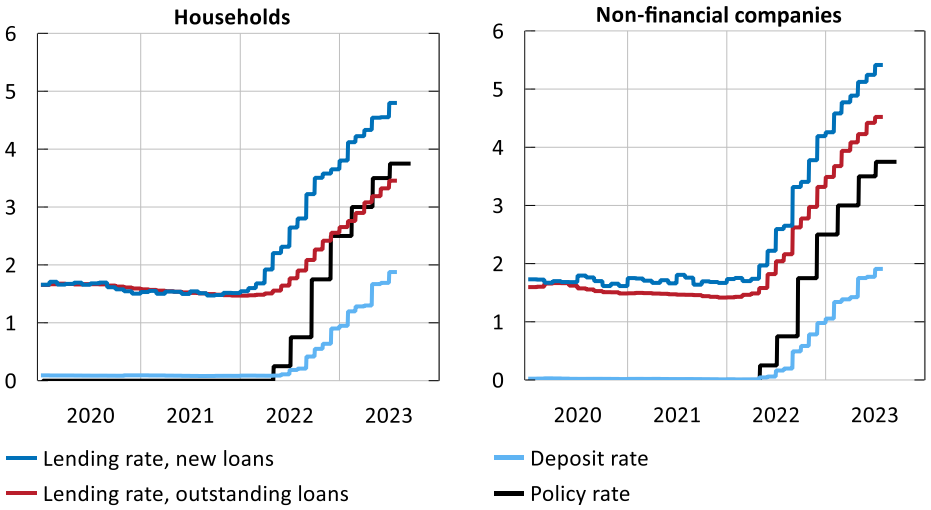
As interest rates have risen, the annual growth rate in bank borrowing by households has fallen and was 0.9 per cent in July (see Figure 23). The weak growth means that bank borrowing is now growing at historically low levels. There are several reasons for the slower growth of mortgages. For example, higher interest rates have made it more expensive to own a home, both directly through rising mortgage rates and indirectly through tenant-owner housing associations needing to charge higher fees to repay their loans. Housing prices have fallen since 2022, which both restricts households' borrowing capacity and reduces their borrowing requirements. In addition, many people may be uncertain about what will happen to house prices ahead, making them cautious about taking new loans.

The greatest share of household loans consists of mortgages but households also have consumer loans and some other loans.[21] The growth rate for these loans has decreased significantly, which may partly be due to the higher interest rates having led to major purchases and investments requiring loan financing becoming significantly more expensive.

[21] According to Statistics Sweden, the annual growth rate for household consumer loans has increased since June, from 0.4 per cent to 0.6 per cent. The growth rate for other loans has fallen and remains in decline, from -1.2 per cent in June to -1.5 per cent in July.

Figure 21. Policy rate and average deposit and lending rates for new loans and outstanding loans, respectively

Per cent



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

Sources: Statistics Sweden and the Riksbank.

Corporate credit growth is also slowing down

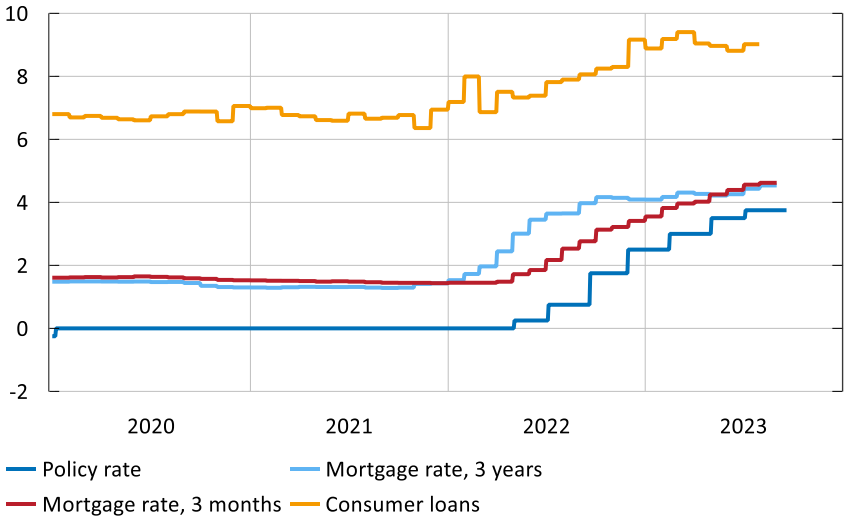
Swedish companies obtain funding in two main ways: by taking bank loans, which is most common, and by issuing certificates and bonds. Like households, companies mainly have bank loans with short interest-rate fixation periods, meaning that they are also quickly impacted by policy rate hikes.[22] The average interest rate for new and renegotiated loans for companies has risen to the same extent as the policy rate since the start of 2022. The average interest rate on outstanding loans has risen by just over 3 percentage points over the same period (see Figure 21 and the Fact Box "The impact of monetary policy on interest-sensitive sectors in a European perspective"). This means that about one-fifth of the policy rate increase has yet to reach companies but can be expected to do so as loans are renegotiated. The transmission to corporate interest rates is thus good and in line with historical patterns.

The growth rate in corporate funding can also illustrate the extent to which policy rate hikes affect companies' ability and willingness to take out new loans. The annual growth rate in bank borrowing has gradually decreased since its peak in summer 2022 and this decrease has continued since the Monetary Policy Report in June (see Figure 23). In addition, funding via the issuance of interest-bearing securities has decreased significantly against last year.

[22] 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.

Figure 22. The Riksbank's policy rate and lending rates to households

Per cent

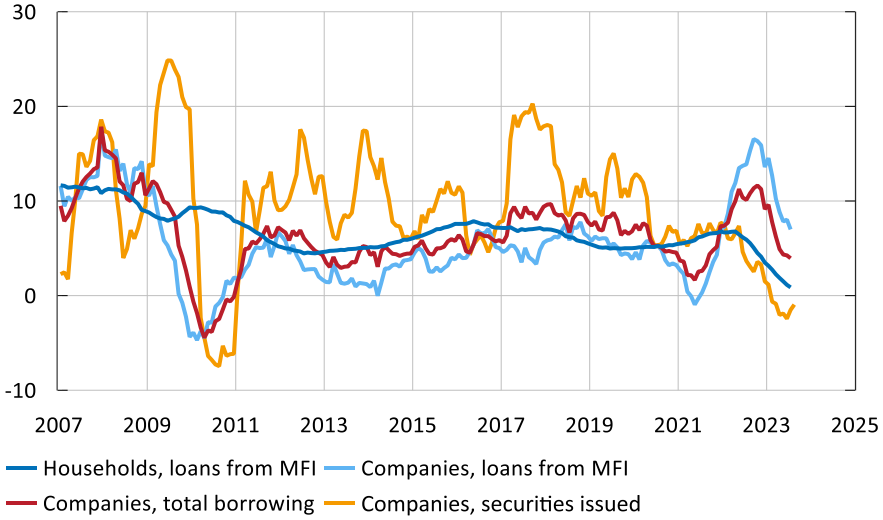


Note. Mortgage rates are an average of actual mortgage rates from Länsförsäkringar Bank, Nordea, SBAB, SEB, SHB and Swedbank. Daily data for the policy rate, monthly data for other interest rates.

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

Figure 23. Household and corporate borrowing

Annual percentage change



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

Source: Statistics Sweden.

Higher lending and deposit rates

The interest rates offered by the banks for loans to households and companies depend largely on their costs for funding loans.[23] The banks obtain funding either by issuing bonds and other securities or by borrowing from the general public. A large part of the banks' market funding is formed of covered bonds. Yields for these have been relatively unchanged since the monetary policy decision in June (see Figure 18).

Average deposit and lending rates to households and companies have risen since the Monetary Policy Report in June (see Figure 21). Deposits make up an important part of the banks' funding and the pass-through from policy rate changes affects the banks' net interest income. Since the start of 2022, the banks' net interest income has risen.

[23] Naturally, other factors such as competition and risk also play a part.

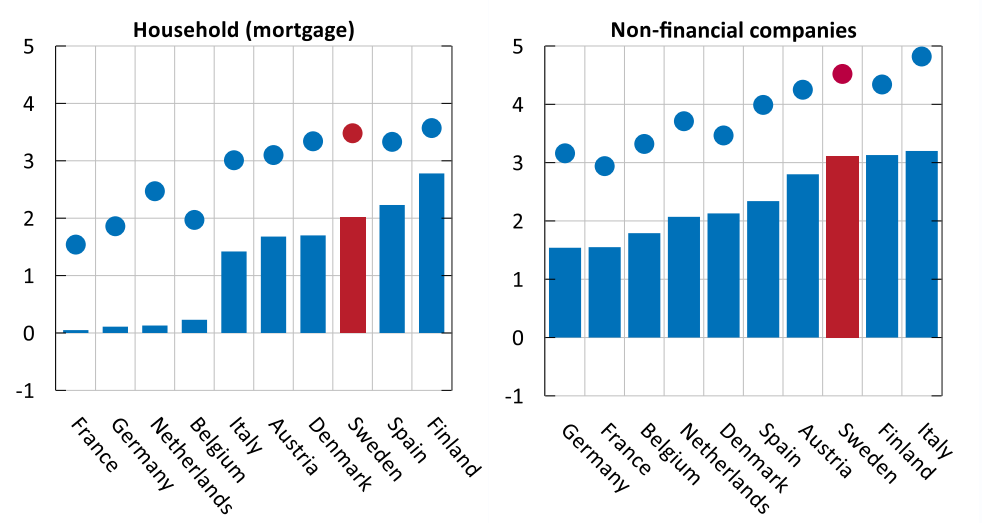
FACT BOX – The impact of monetary policy on interest-sensitive sectors in a European perspective

Interest-rate sensitivity in the Swedish economy has shown a rising trend over the last thirty years, which suggests that the policy rate does not need to be raised as much to achieve the same stabilisation policy effect as previously.[24] Incoming data also suggests that monetary policy has had an effect on the parts of the Swedish economy that are most sensitive to interest rates (see Chapter 3). This is softening demand, which is necessary for inflation to fall back towards the target within a reasonable period of time (see Chapter 1).

This assessment becomes even more apparent when a comparison is made with other European countries. The Riksbank, the ECB and Danmarks Nationalbank have all raised their policy rates by about four percentage points since the start of 2022. A comparison of countries shows that interest rate increases have had an impact that is approximately in line with how interest-rate sensitive the economies are.

Figure 24. Interest rate levels and change in interest rate levels since the end of 2021

Interest rate level (bubbles), per cent, and interest rate change (bars), percentage points



Note. Refers to outstanding stock of loans from MFIs. Does not include capital market borrowing and is not adjusted for the effect of derivative instruments. The final data point refers to July 2023.

Sources: ECB, Statistics Denmark and Statistics Sweden.

Compared with households in many other European economies, Swedish households are relatively highly indebted (see Figure 25). In addition, Swedish households' average interest-rate fixation periods are comparatively short (see Figure 20). This means that recent years' rate hikes have had a significantly greater impact on the average

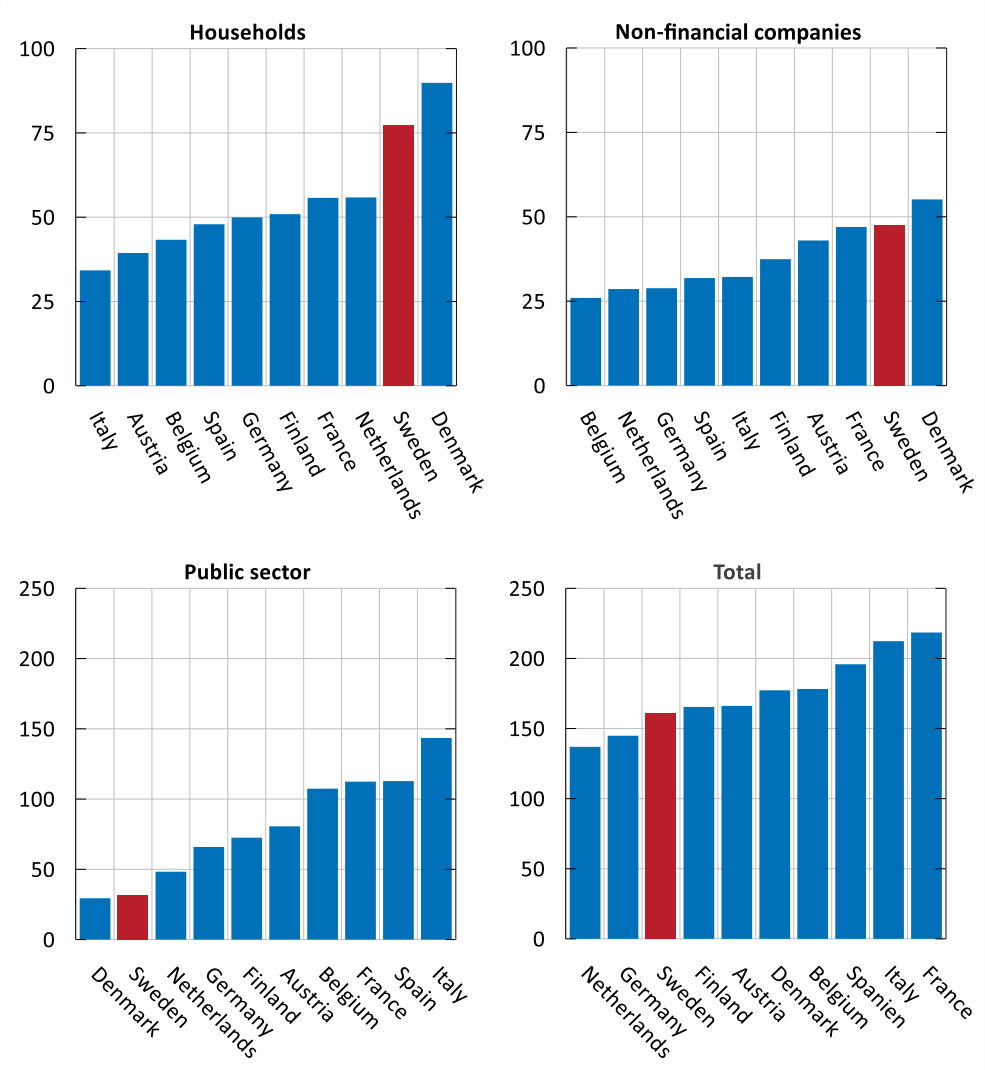
[24] See the article "Higher interest-rate sensitivity in the Swedish economy" in *Monetary Policy Report*, September 2022, Sveriges Riksbank.

interest rate in the mortgage stock in Sweden than, for example, in Germany or the Netherlands (see Figure 24).[25]

Swedish non-financial companies also have a slightly higher level of indebtedness than the average in Europe. While a comparison of the companies' borrowing rates shows that the differences in rate rises between the countries are smaller than for households, Sweden has seen a large increase in interest costs compared with other countries (see Figure 24).

Figure 25. Indebtedness in different countries

Debt stocks, per cent of GDP.



Note. Non-seasonally adjusted data. 'Total', refers to the sum of household, non-financial company and public sector debt as a percentage of GDP. Data refers to the second quarter of 2023.

Sources: ECB and Eurostat.

[25] Note that these calculations do not take account of the possibility of deducting interest expenses, which varies from country to country. Sweden has relatively high tax deductibility for interest expenses.

High indebtedness among households and companies, combined with the high pass-through from policy rates to funding costs, has thus resulted in the transmission of monetary policy to the real economy appearing to have been stronger in Sweden than in many other European countries. At the same time, the impact on the Swedish economy can be expected to be less prolonged than in those economies in which the pass-through to funding costs has not yet been as large. This is because the average funding costs for households and companies in Sweden should stop rising relatively soon after the policy rate peaks, while policy rates in a number of other countries can be expected to rise for a number of years to come.

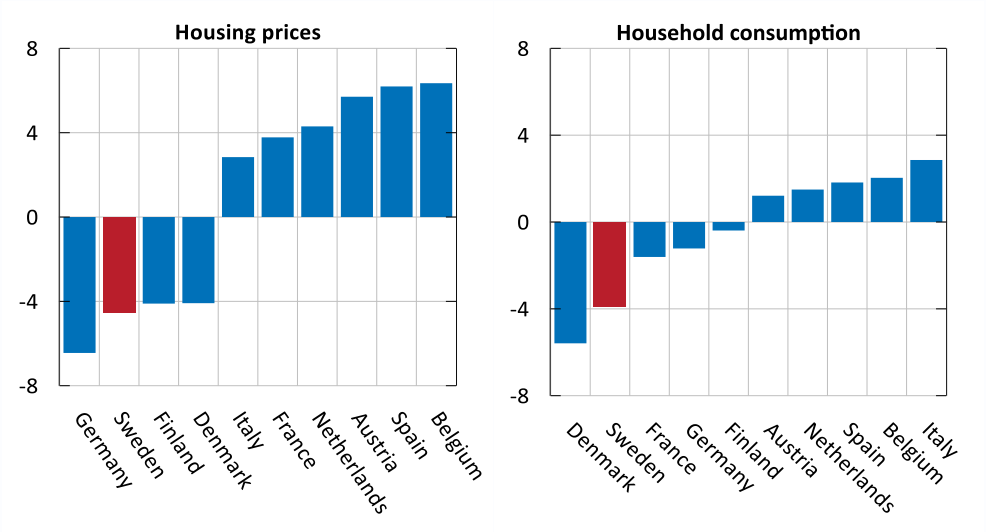
A number of other factors balance the view of the Swedish economy's interest-rate sensitivity. While the household sector is highly indebted, it also has a relatively high level of saving in an international comparison (see the article "Household savings increased significantly during the pandemic"). In addition, the proportion of bank deposits in savings has increased in recent years and the rising interest rates are also giving households increased interest income. Additionally, due to the low level of indebtedness in the Swedish public sector, the non-financial parts of the Swedish economy have a relatively low level of indebtedness overall (see Figure 25).

As expected, it is the interest-sensitive parts of the Swedish economy that have been most affected by the rate rises. Housing prices have fallen relatively substantially in Sweden since 2021 (see Figure 26), as has housing investment (see Chapter 3).[26] In addition, household consumption has developed relatively weakly (see Figure 26). At the same time, other parts of the economy have been affected to a lesser extent. Growth in investment outside the housing sector is good and the labour market still remains strong (see Chapter 3).

[26] Measuring the development of housing prices is complicated. Factors such as which objects are included, the data sources used, the manner in which the index is calculated and how various quality adjustments are made can have a great impact on the levels of different price indices. For reasons of comparability, Eurostat's quarterly house price index has been used for all countries in this analysis. According to the index, Swedish housing prices fell by 4.5 per cent between the fourth quarter of 2021 and the first quarter of 2023. Other measures indicate that the downturn was greater.

Figure 26. Development of interest-sensitive parts of the economy since the end of 2021

Percentage change since the end of 2021



Note. House prices refer to Eurostat's house price index. Household consumption in constant prices. The final data point refers to the first and second quarters of 2023 for housing prices and household consumption, respectively.

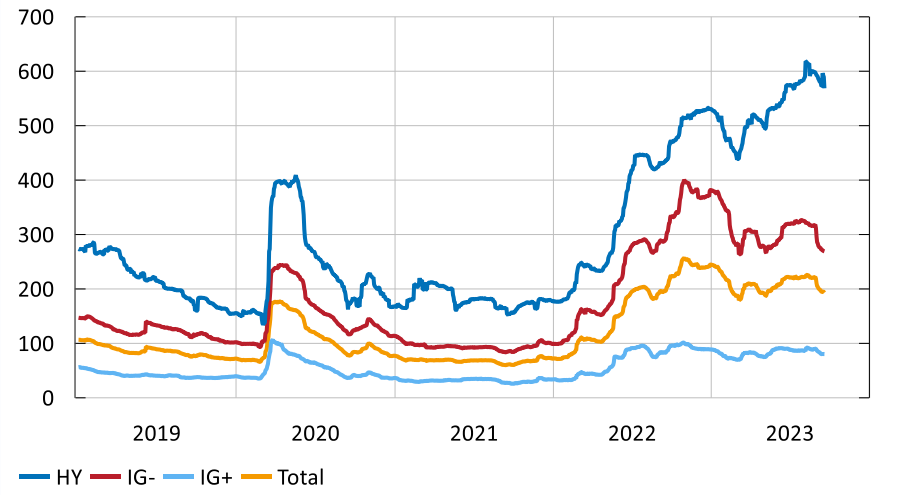
Source: Eurostat.

FACT BOX – The division in the commercial real estate sector

High inflation, rising interest rates and weaker growth prospects pose major challenges for the real estate sector. Not least, this applies to some commercial real estate companies with large loans and approaching bond maturities. Some of these companies are in a situation in which their survival will be threatened if they do not take sufficient measures to reduce their loans. However, the real estate sector is heterogeneous and also includes companies with strong owners and high credit ratings. Over the last year or so, companies with weak financial positions have seen rising costs for new market funding. Other strong companies have continued to be able to issue new bonds at almost unchanged spreads over the swap rate (see Figure 27).[27]

Figure 27. Yield spreads for real estate company bonds

Credit index for real estate companies, basis points over swap rates



Note. Investment Grade+ (IG+) includes companies with the highest credit rating, AAA to A-. inclusive. Investment Grade- (IG-) includes BBB+ to BBB-. High Yield (HY) includes companies with credit ratings lower than BBB-.

Sources: Bloomberg and the Riksbank.

For companies with a weak financial position, managing approaching loan payments and securing continued funding is a major challenge. So far, the companies have managed the situation through a combination of measures: selling properties, suspending dividend payments, reducing investment and increasing loans from Nordic banks.

Many of the larger real estate companies have loans in which interest is fixed via credit agreements or interest rate derivatives, meaning that the general rise in

[27] The index has been developed by the Riksbank and was calculated with the help of real estate companies that in September 2023 have issued bonds with maturities of over one year. The breakdown has been done based on the credit ratings of the companies included at the beginning of September 2023. The bonds for real estate companies in the category HY constitute around 5 per cent of the total bond volume ("HY" + "IG-" + "IG+") with a maturity of more than one year. But there are also individual companies in IG- whose bonds are traded at high rates, which indicates risks for credit losses.

interest rates will affect them more gradually. This means that they will have more time to adapt to the new financing conditions. In addition, the rental market has been stable and rents for premises have been adjusted upwards in line with inflation, which has mitigated the consequences of rising interest rates for both companies' financial results and property values.

The high interest rates will continue to affect the balance sheets of real estate companies, which have large bond maturities up until 2025. The banks' future willingness to lend will therefore be of great significance for how well real estate companies will be able to manage the situation. For good reason, the banks have become more selective regarding loans to vulnerable companies. These companies therefore risk facing even greater problems if they do not adapt, for example by selling properties to strengthen their balance sheets.

However, the unease existing in parts of the real estate market does not seem to have spread to the banking sector. Good deposit margins and low loan losses have resulted in the banks' profitability having improved in the second quarter of 2023. And the cost of purchasing protection against the suspension of payments has fallen.[28] This is a sign that the banking sector is deemed stable despite the challenges facing some real estate companies. In an international comparison, the Swedish banks are well capitalised and have good profitability but they continue to have a large exposure to real estate companies.

[28] 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.

3 High inflation coming down and economic activity weakening

Sweden's GDP has weakened recently, primarily due to reduced consumption growth and sharply falling housing investment. Growth is now expected to slow further as tighter monetary policy gradually has a greater impact. The labour market is currently strong but is showing signs of cooling. This is also true in other countries. However, the assessment is that both production and employment will gradually strengthen from the second half of next year onwards.

The tighter monetary policy has contributed to inflation beginning to fall both abroad and in Sweden. Even more high frequency data indicates that the largest price increases are behind us. However, there is still considerable uncertainty. The krona is weak and the rate of price increase particularly for services but also goods is still higher than normal, showing that inflation is broad-based. Monetary policy is now softening demand in the economy, which in combination with the effects of supply shocks continuing to fade, suggests that inflation will fall back further and be close to 2 per cent some time next year.

3.1 Lower inflation in Sweden and abroad

Indicators point to inflation declining further

The tighter monetary policy has contributed to inflation beginning to fall both abroad and in Sweden, but there are substantial differences between countries. In Sweden, CPIF inflation amounted to 4.7 per cent in August. CPIF inflation has thus more than halved since the highest reading in December 2022. One factor contributing to the downturn is that energy prices are much lower now than they were one year ago. Even adjusted for energy prices, inflation has fallen, although not as quickly. The rate of increase in the CPIF excluding energy was 7.2 per cent in August. The development of inflation in the euro area and the United States is similar to in Sweden, but the fall in inflation is slightly more advanced in the United States where inflation also increased earlier than elsewhere (see Figure 28).

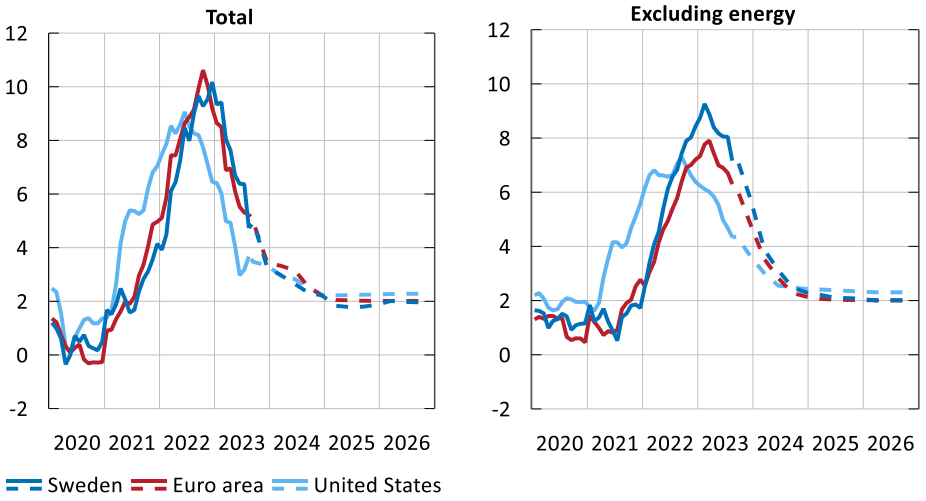
Like the CPIF excluding energy, other measures of underlying inflation followed by the Riksbank have begun to fall in Sweden in recent months.[29] The fact that inflation is declining in Sweden and abroad can also be seen in price changes over shorter

[29] Measures of underlying inflation include both those where certain predetermined components have been excluded (for example the CPIF excluding energy) and measures that use statistical methods to reduce the significance of those goods and services that usually vary the most.

periods of time than one year. The three-month change in inflation excluding energy is lower now than last year (see Figure 29). But the figure also shows that the rate of price increase according to this measure is still significantly higher in 2023 than in 2021 for both the euro area and Sweden, and also higher than is compatible with the inflation target. If the volatile price index for foreign travel is excluded from services, the rate of price increase is not as high, but still higher than in 2021.[30]

Figure 28. Consumer prices in various countries and regions

Annual percentage change



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

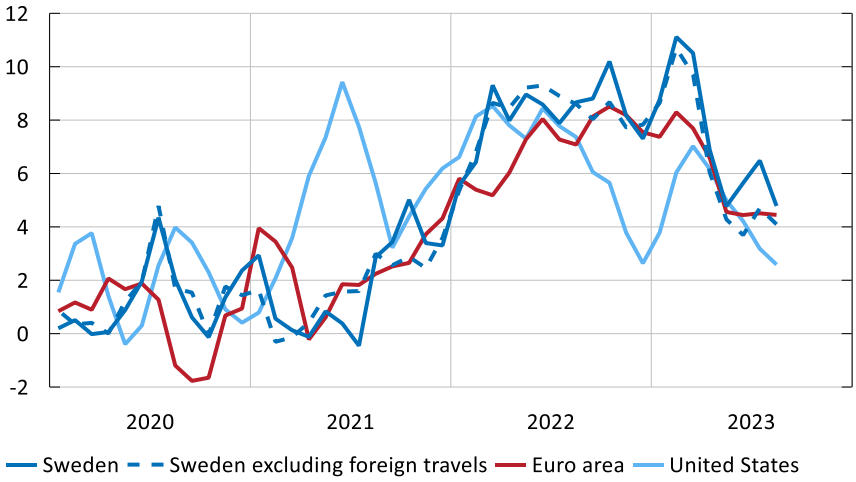
Sources: Eurostat, Statistics Sweden, U.S. Bureau of Labor Statistics and the Riksbank.

Several factors that were previously pushing up inflation in Sweden are now instead contributing to inflation falling. One of the most important reasons is lower energy prices, which are now making a clearly negative contribution to CPIF inflation (see Figure 5). Lower energy prices have also helped to cool cost and price pressures in earlier stages of production, which should indirectly affect other consumer prices. Moreover, global freight prices have fallen clearly and several commodity prices have fallen from the high levels that were noted in particular during the pandemic in 2021 and following Russia's invasion of Ukraine in spring 2022. One example is the price of chemical fertiliser, which has fallen substantially, which in turn has reduced the prices of food in the commodity channel.

[30] Significant seasonal variations in prices over the year, combined with large weight changes in the wake of the pandemic affect the contribution from the prices of foreign travel to inflation in Sweden at present.

Figure 29. Price index excluding energy

Annualised three-monthly change, per cent, seasonally adjusted data



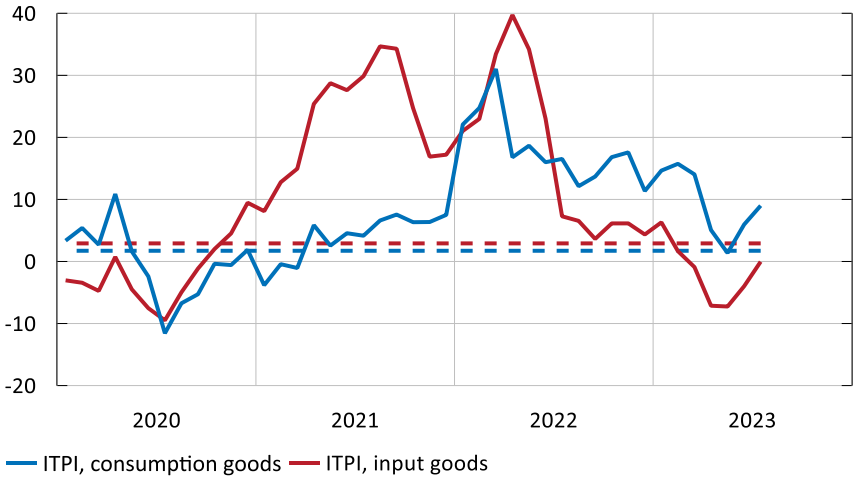
Note. Refers to the CPIF for Sweden, the HICP for the euro area and the CPI for the United States.

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

In Sweden, the euro area and the United States, the rate of price increase in producer prices for consumer goods has slowed down substantially since the first half of 2022. Looking at price changes over shorter time periods than one year, the prices for input goods and consumer goods are now close to their historical average in Sweden (see Figure 30). This is expected to lead to the rate of increase in consumer prices continuing to be pushed down. Indicators, such as surveys of companies' pricing plans, also point to a continued lower rate of price increase during the second half of this year, both in Sweden and abroad. In Sweden, there are now fewer companies in the retail trade who are planning to raise prices, although the proportion is still unusually high. Within the consumer goods industry, on the other hand, the percentage of Swedish companies planning to raise prices to their retailers has fallen very rapidly and is now unusually low (see Figure 4). At the same time, purchasing managers' indices show that the costs of commodities and input goods in the manufacturing sector are low. According to the same source, costs for service companies have also slowed down since spring 2022, although not as much as in the manufacturing sector.

Figure 30. Producer prices in Sweden

Annualised three-monthly change, per cent, seasonally adjusted data



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

Source: Statistics Sweden.

At the same time as the effects of the pandemic and the war in Ukraine are decreasing, demand is now also slowing down as many central banks have tightened monetary policy (see Sections 3.2 and 3.3 in this chapter for a more detailed description of real economic developments in Sweden and abroad). The largest price increases are thus considered to be behind us, and inflation is expected to fall back both abroad and in Sweden. But the situation is uncertain. The rate of price increase in food, other goods and in particular services is still higher than normal in Sweden, indicating that the inflation is broad-based. The downturn has also been slower than expected so far. The weak krona exchange rate and how it affects inflation is also a cause for concern going forward.

Continued high rates of increase in service prices in Sweden and abroad

Although inflation has cooled, many service prices continue to increase rapidly in Sweden and abroad (see Figure 31). Comparing service prices, it should be noted that both the content and the weight in the price aggregate differ between countries and regions, which can explain the differences in development.

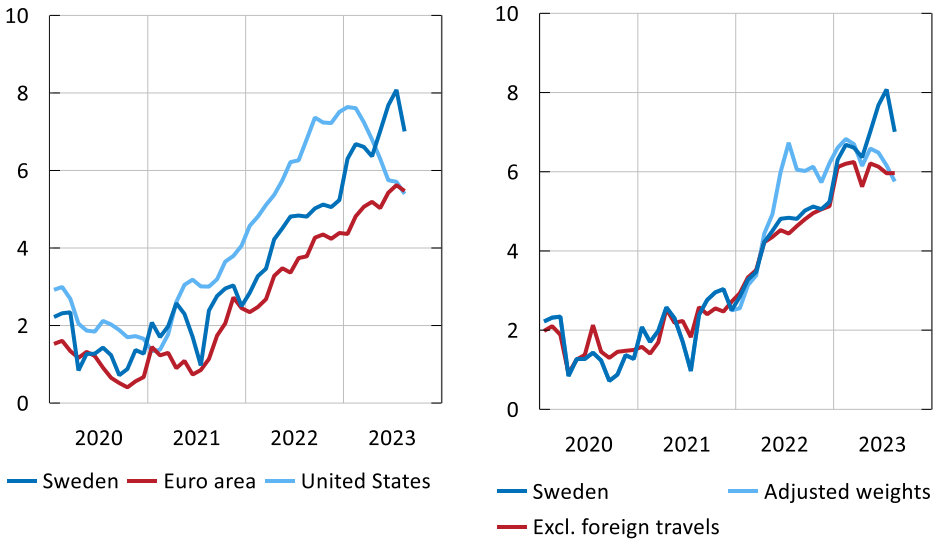
In the United States, rents, which carry a large weight in the US CPI, have risen rapidly and contributed to higher inflation, while price increases for other service prices have softened more significantly since the end of 2022. However, there are now signs that rent increases have slowed, which should lead to the rate of price increase on services cooling further.

In Sweden and the euro area, housing costs carry a lower weight and have not risen as much. On the other hand, the rate of price increase in other services has continued to rise. The significance of high demand in this development can be seen, for instance, in the relatively rapid price increases in those service sectors that have developed

strongly since the pandemic. One example is the hotel and restaurant sector. In Sweden, changes in consumer behaviour during the pandemic have also resulted in relatively large weight adjustments in the service price aggregate, which affect the rate of price increase. This applies in particular to foreign travel, where significant seasonal variations in prices over the year, combined with weighting changes, have contributed to a higher calculated rate of price increase in the services aggregate over the summer (see Figure 31). However, this effect is already expected to fade in autumn 2023.

Figure 31. Service prices in Sweden and abroad

Annual percentage change



Note. Refers to the CPIF for Sweden, the HICP for the euro area and the CPI for the United States. To better be able to distinguish how indices are affected purely by price changes and changes in indices that occur due to the weights having changed, an adjusted index is also shown in the right-hand chart (light blue line). There, so-called year-to-month weights for 2023 are also used for 2022.

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

The krona has weakened further in recent times

The krona has depreciated considerably over the past year. There are explanations for this weak development, but the depreciation has been significantly larger than expected (see the article “The krona will strengthen in the medium term”).

Changes in the exchange rate affect inflation. The impact can vary over time depending on what has caused the actual exchange rate change and how long the change in the krona rate is expected to last.[31] There are also indications that prices are more affected by exchange rate changes when inflation and uncertainty are already high.[32]

[31] See the article “The exchange rate and inflation” in *Monetary Policy Report*, April 2018, Sveriges Riksbank.

[32] See the Fact box “Pass-through of the exchange rate when inflation is high” in Monetary Policy Report, June 2023, Sveriges Riksbank.

According to the most recent business survey, goods-producing companies in particular also state that the weak krona exchange rate is an important reason for planned price increases.[33]

Monetary policy contributing to inflation falling back

Inflation rose rapidly last year and is still too high. Strong demand made it possible for companies to increase their prices and compensate themselves for rising costs for example for energy, food and other commodities in the global market, caused by imbalances between supply and demand after the pandemic and Russia's invasion of Ukraine. However, inflation has fallen since the end of last year and is expected to continue to fall this year. One important reason for this is that energy prices are continuing to fall on an annual rate. At the same time, other prices are expected to continue rising, but at a slower pace. Cooler demand in Sweden and abroad is contributing to this development (see Sections 3.2 and 3.3). This, combined with falling inflation expectations, means that companies are no longer planning to continue to increase prices at the same pace as last year.

The rate of increase in food prices has slowed significantly and prices have even fallen during a few months this year. This is partly because costs have decreased generally. The costs for energy, for example, have fallen. This normally affect the entire supply chain in the food industry, from farming to transport and processing, storage and sale.

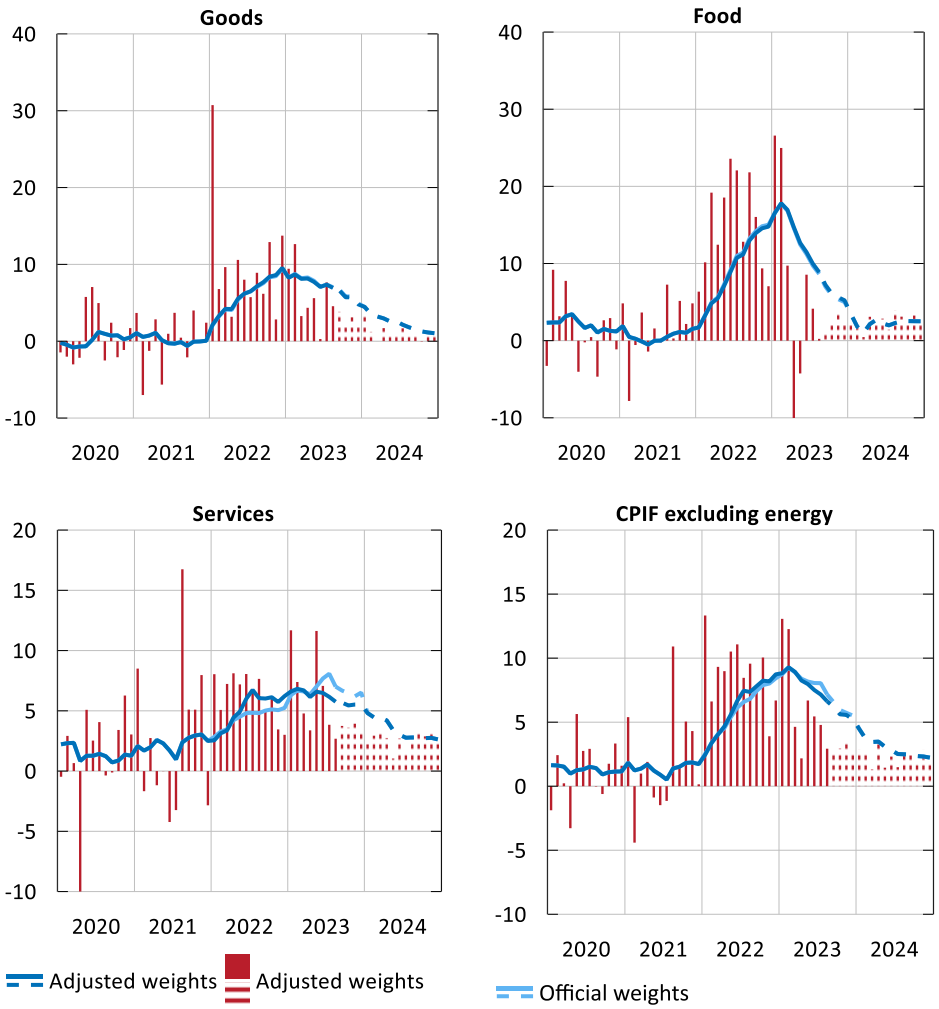
The high inflation with sharp price increases in food combined with cooler demand, due in part to tighter monetary policy, has also made households more price-sensitive, leading them to compare prices and look for cheaper alternatives. This limits the possibilities for wholesalers and supermarkets to continue to increase their prices without losing sales volume. During the rest of the year and next year, the rate of increase in food prices is expected to slow further (see Figure 32).

The same applies to other goods prices, whose monthly percentage changes have been unusually high most recently, which may be linked to the krona having continued to depreciate. But the monthly changes have nevertheless been clearly lower this year than during 2022. The Riksbank also assesses that the krona will strengthen gradually in the coming years, which will help cool inflation (see Figure 33). The rate of increase in service prices is also expected to stop rising apace with the monetary policy tightening and lower real incomes will dampen demand among households. However, rents and tenant-owner housing association fees are expected to increase more rapidly in the coming years, which will sustain the rate of increase in service prices.

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

Figure 32. CPIF excluding energy and sub-groups

Annual percentage change (line) and annualised monthly percentage change in seasonally adjusted indices (bar)

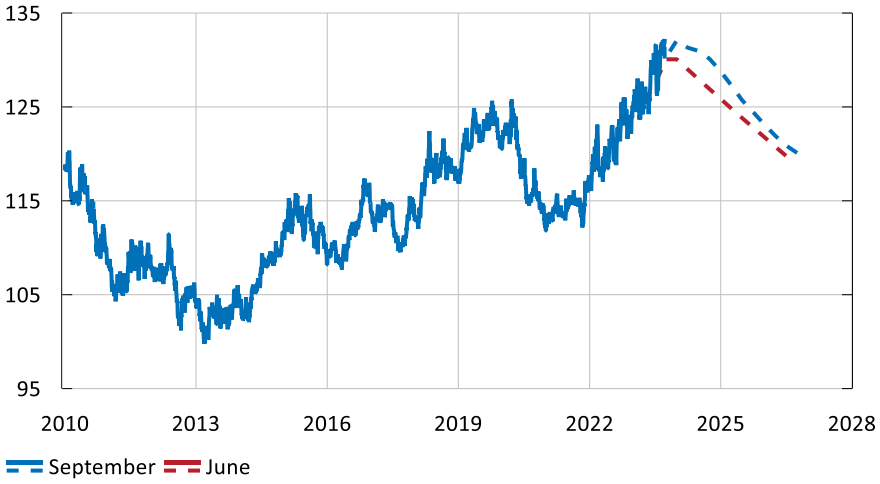


Note. To better be able to distinguish how indices are affected purely by price changes and changes in indices that occur due to the so-called basket effect, an adjusted index is also shown in the charts (dark blue lines). So-called year-to-month weights are used in the adjusted index for the entire period 2022–2024.

Sources: Statistics Sweden and the Riksbank.

Figure 33. Nominal exchange rate

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. Solid line refers to outcomes, dashed line to the Riksbank's forecast.

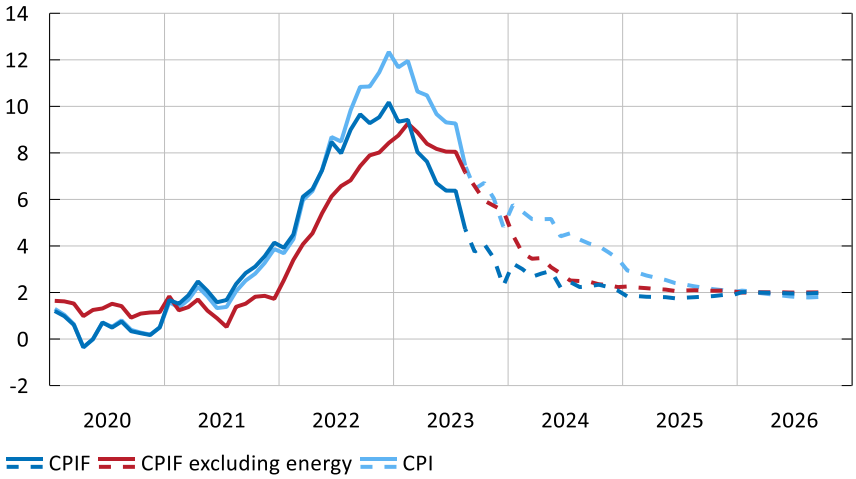
Source: The Riksbank.

Inflation is expected to be close to target in 2024

All in all, the combination of tight monetary policy and fading effects of previous supply shocks mean that inflation measured both as the CPIF and the CPIF excluding energy will continue to fall and be close to 2 per cent some time next year (see Figure 34). Long-term inflation expectations are close to 2 per cent, which suggests that economic agents still have confidence in the inflation target. Wage agreements also suggest that wages will rise at a pace that, given economic developments in general, is compatible with inflation returning to target.

Figure 34. 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.

3.2 Stronger economic activity in the United States than in the euro area, but signs of the labour market cooling

Economic activity in the United States has developed more strongly than in the euro area during the first half of this year. During the second quarter, investment in particular increased, at the same time as private consumption remained high. Growth in the euro area was still very weak during the second quarter. Household consumption was unchanged, while investment rose slightly.

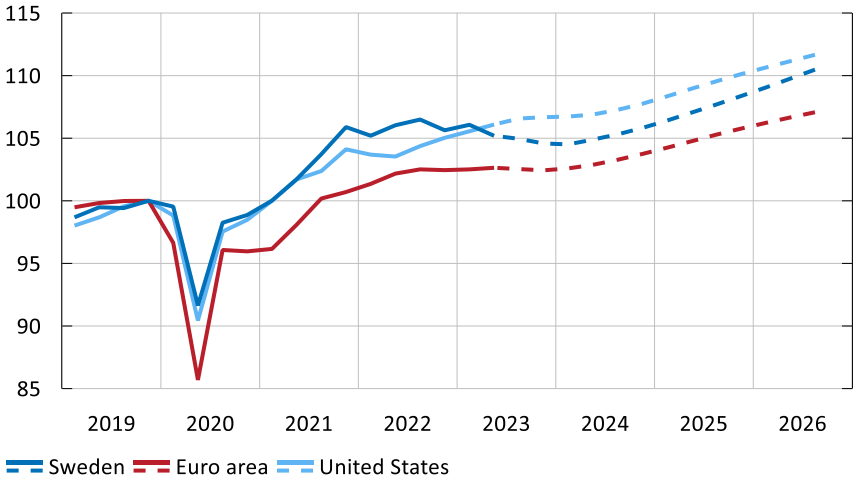
There are several factors that can explain why economic activity has been higher in the United States recently. Inflation has fallen further in the United States and is now clearly lower than in the euro area, which in turn has contributed to real disposable income currently being stronger in the United States than in the euro area. Fiscal policy is also more expansionary in the United States and is expected to remain so in the coming years.

During the pandemic, savings were a little higher in the euro area than in the United States, but were largely invested in illiquid assets. In the United States, however, they were placed in savings accounts or in other more liquid assets to a greater extent. This has enabled the money to be used more quickly for consumption. Another explanation is that the euro area is more dependent on the industrial sector, which has slowed down globally. The tightening effect of interest rate hikes may also have been less in the United States, as many households have fixed mortgage rates with very long maturities.

However, economic activity is expected to slow down during the second half of the year in the euro area and around the end of the year in the United States, when the contractionary monetary policy has a gradually greater impact and when demand in the manufacturing sector declines (see Figure 35).

Figure 35. 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.

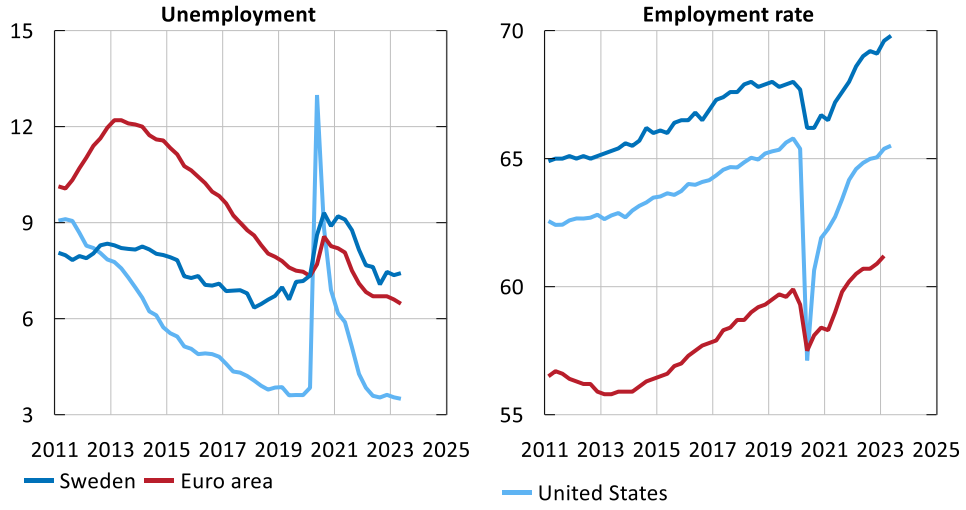
When demand falls, growth in the labour market is also expected to slow down abroad. In the United States, unemployment remains at a very low level and in the euro area it has fallen further during the first half of this year, largely due to the positive development in employment (see Figure 36). However, there are signs that the pressure on the labour market is now easing. Employment is increasing more slowly in both the United States and the euro area. In the United States, the number of vacancies is declining and fewer people are resigning voluntarily.

Wage growth is still high, but appears to have peaked in both the United States and the euro area. A gradually lower rate of inflation and relatively high nominal wage increases have caused real wages to rise in the United States and the same is forecast for the euro area. This has increased discretionary income, which will continue to recover going forward. This in turn will contribute to GDP growth rising and to the labour market recovering towards the end of the forecast period.

One factor that is burdening the global economy and world trade is the weak development in China. Moreover, problems in the real estate sector continue to dampen consumer confidence among Chinese households, which is holding back domestic demand.

Figure 36. Unemployment and employment rate in Sweden, the euro area and the United States

Percentage of the labour force (left) and percentage of the population 15–74 years (right)



Note. Unemployment and employment rate among persons aged 15–74 years for Sweden and the euro area and among persons 16 years or older for the United States.

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

3.3 Swedish economy shrinking in 2023

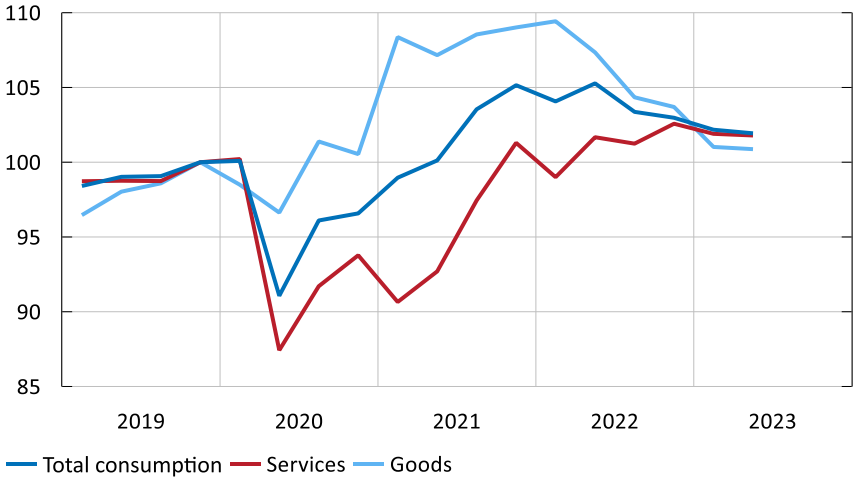
Sentiment is now worse than normal in all parts of the business sector

After a strong recovery following the pandemic, GDP has over the past year been slightly weaker in Sweden than in the United States and the euro area. This is mainly because household consumption has declined and housing investment has fallen sharply. Up to the end of the first quarter 2023, investment was maintained and exports were relatively strong. During the second quarter of the year, however, exports fell significantly and net exports became very weak. At the same time, housing investment continued to decline rapidly and consumption to develop weakly. Moreover, stock investment increased more slowly, which weighed on GDP. GDP fell by 0.8 per cent in the second quarter.

Indicators point to growth continuing to be weak in Sweden for some time to come. According to surveys, confidence in the retail trade and private service sectors remains low. Sentiment in the retail trade has deteriorated as the consumption of goods, and in particular durable goods, has fallen (see Figure 37 and Figure 38). However, the consumption of services has so far not declined to the same extent. According to the Economic Tendency Survey, confidence in the manufacturing sector has also recently gone from some optimism to lower than normal (see Figure 39). Although order stocks are deemed to be somewhat larger than normal, new orders are weak and, as in the euro area, an increasing number of manufacturing companies now say that weak demand has become a key obstacle to production. Both domestic demand and exports are therefore expected to develop weakly going forward. Demand appears to be a greater concern for companies in Sweden than in the euro area.

Figure 37. Consumption of goods and services in Sweden

Index 2019 = 100, seasonally adjusted data

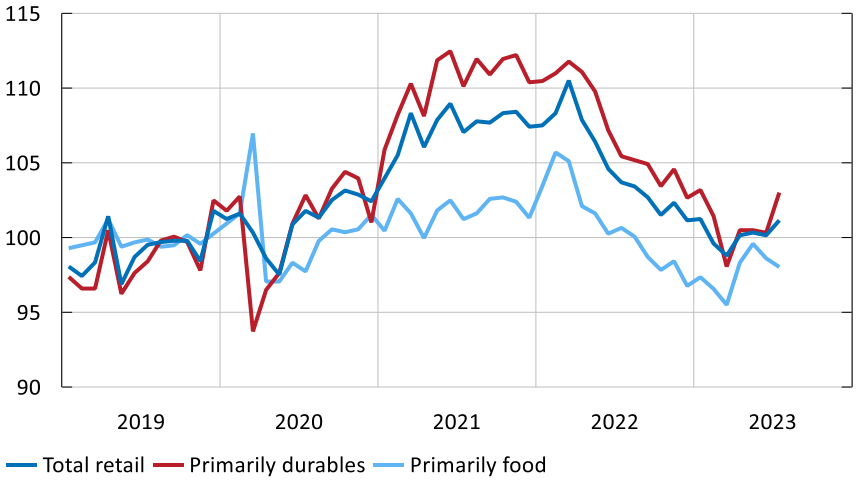


Note. Constant prices.

Source: Statistics Sweden.

Figure 38. Retail trade sales in Sweden

Index, 2019 Q4 = 100, seasonally adjusted data

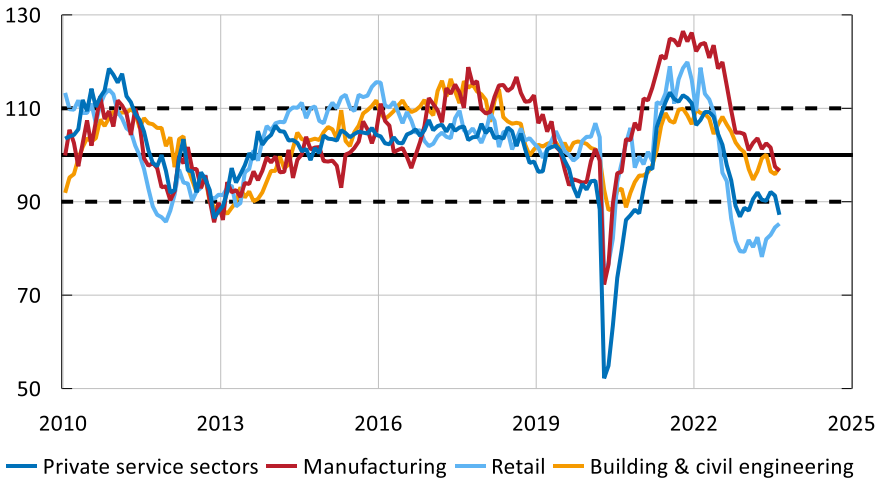


Note. Constant prices.

Source: Statistics Sweden.

Figure 39. Confidence indicators in the business sector

Index, average = 100, standard deviation = 10



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

Sources: National Institute of Economic Research.

Consumer confidence, according to the Economic Tendency Survey, remains very low. Consumption is therefore expected to continue to be weak and to remain at roughly the same level as in the second quarter for the remainder of the year, which on the whole entails a lower level this year than in 2022.

All in all, economic activity is expected to decline in Sweden in 2023. Higher consumer prices and interest expenses are expected to continue to limit households' purchasing power. The weak development in consumption, the lower demand for Swedish

exports and the higher interest rates are subduing business sector investments excluding housing. At the same time, the green transition and new technology require major investments in the manufacturing industry, which means that growth in investment is nevertheless not expected to be as weak as in previous economic downturns.

Next year, the Government will implement new unfinanced measures for SEK 40, of which 4 billion are tax cuts to households. All in all, fiscal policy is judged to be neutral during the forecast period.

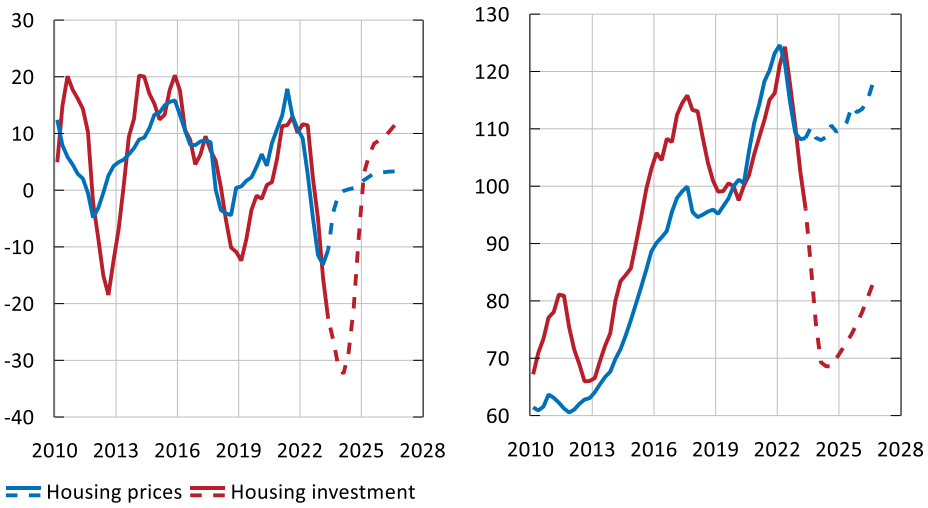
Falling housing prices and housing investment

Housing prices have on the whole risen somewhat so far this year, compared with the end of last year. During the second half of 2023, however, housing prices are expected to fall somewhat again. During the summer, the supply of housing has increased on the second-hand market, and this is expected to strengthen competition among sellers and push down prices in the autumn. In addition, interest expenses are expected to rise as the policy rate increases affect more and more households. All in all, housing prices are expected to fall by almost 15 per cent in relation to the peak in February 2022.

The weak demand for newly built housing has caused the number of new builds to decline significantly. Housing construction has fallen rapidly and housing investment has declined constantly since the middle of 2022. Housing investments are expected to continue falling until the end of the first half of 2024 (see Figure 40).

Figure 40. Housing prices and housing investment

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



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

Sources: Valueguard and the Riksbank.

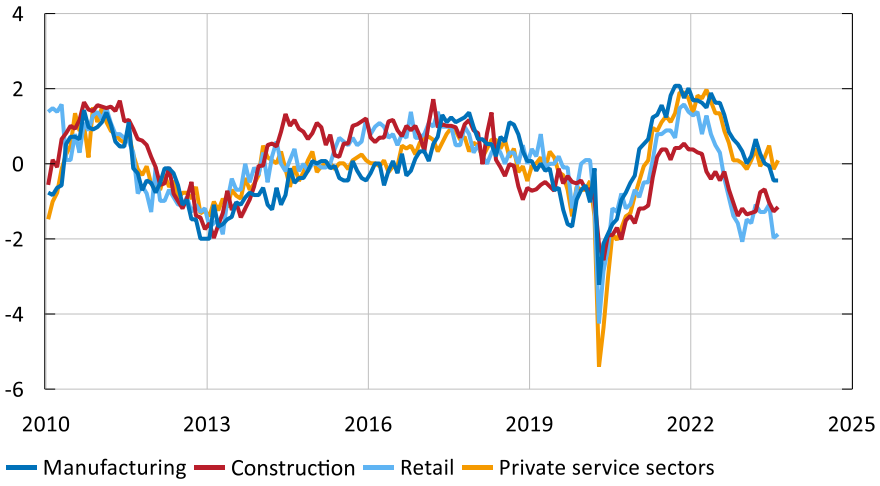
Increasingly clear signs that the labour market is also cooling

The signs that the labour market is cooling down are becoming clearer, but the starting position is still strong and the employment rate is high (see Figure 36). There are several explanations why the labour market has so far been strong. One is that real wages have fallen in line with the increase in inflation, which means that the cost of labour has become lower in relation to the cost of capital. This may have helped strengthen the demand for labour. Another explanation could be that more companies are choosing to retain their workforces, despite expecting lower demand and production. This is because companies want to avoid the situation that arose after the pandemic when it was difficult to recruit staff with the right skills.[34]

However, indicators point to the strong demand for labour now slowing down. Recruitment plans, which fell by a relatively large amount in July and were still low in August, point to employment in the business sector in general remaining unchanged in the coming period. The picture is different in different sectors, but in all of them except private service sectors, recruitment plans now point to worse development than normal (see Figure 41). During the third quarter, however, employment will continue to increase somewhat further. Towards the end of the year, the falling economic activity is expected to have an impact on the labour market and bring employment down, but all in all the labour market is nevertheless expected to withstand the fall in GDP relatively well (see Figure 42).

Figure 41. Recruitment plans by sector

Standardised data, mean = 0, standard deviation = 1



Source: National Institute of Economic Research.

Swedish economy expected to recover towards the end of 2024

During 2024, households' real disposable incomes are expected to rise again. This will strengthen household consumption and also contribute to a gradual recovery in the housing market. Housing investment is also expected to cease falling during the

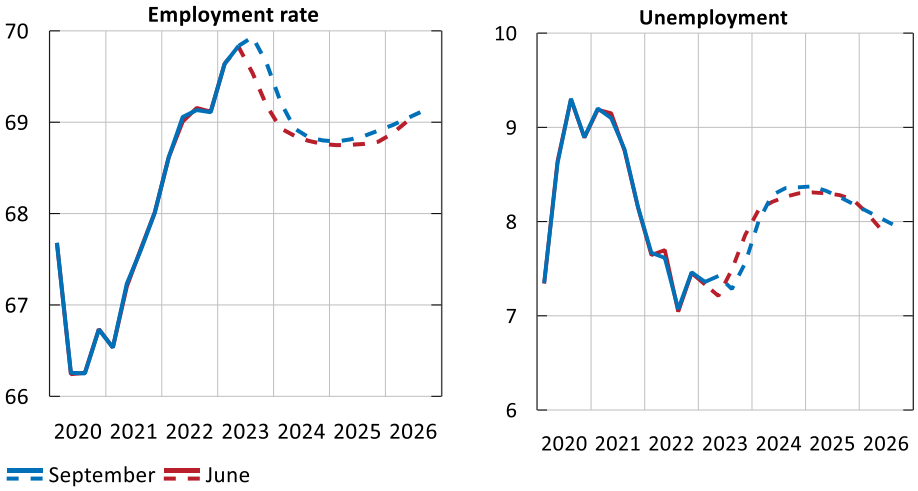
[34] See the article "Strong labour market in Sweden and abroad" in *Monetary Policy Report*, June 2023, Sveriges Riksbank.

second half of 2024. Demand abroad will also rise gradually in 2024, which will strengthen Swedish exports and boost companies' propensity to invest. Overall, this will mean that GDP will start to grow faster than the long-term trend towards the end of 2024.

As economic activity in Sweden increases, the demand for labour will also rise. Unemployment is expected to peak at the end of 2024, and then begin to fall when employment begins to increase again (see Figure 42).

Figure 42. Employment rate and unemployment in Sweden

Percentage of population (left) and percentage of labour force (right), seasonally adjusted data



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

Sources: Statistics Sweden and the Riksbank.

Real wages and real disposable income will fall this year but begin rising again next year

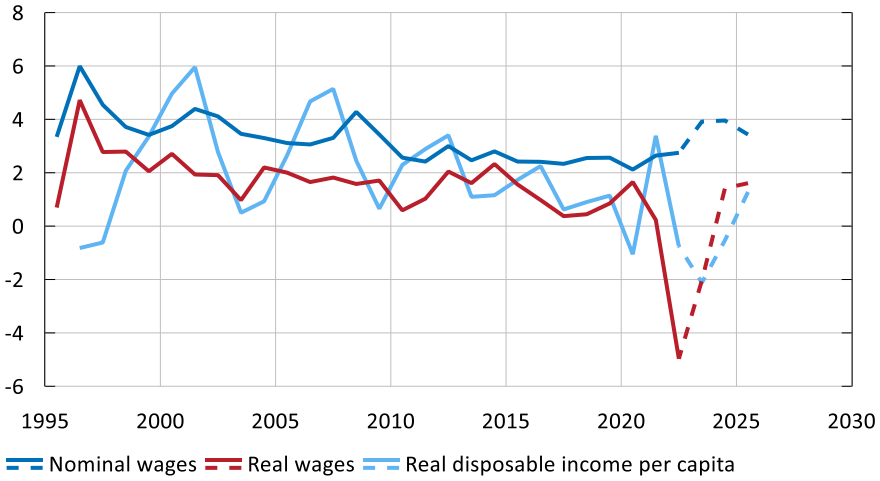
Wage growth has risen during the first half of the year. It is expected to continue rising and peak at the beginning of next year, which is also in line with the profile of the central wage agreements. The wage agreements that in most cases will apply until the beginning of 2025, mean that wage growth this year and next year will be higher than last year.[35] Well-anchored inflation expectations and credibility for the inflation target helped the parties conclude moderate agreements. But the high inflation and strong labour market are important reasons why the wage agreements were nevertheless signed at a higher level than the previous ones.

Despite nominal wages rising at a faster pace, real wages will also fall this year as a result of the high inflation (see Figure 43). Low real wages, rising interest rates and lower employment also mean that real household disposable income per capita will

[35] The agreements are based on the industrial agreement, which stretches over two years and gives a total wage increase of 7.4 per cent, divided into 4.1 per cent the first year and 3.3 per cent the second year. Agreements in other areas have been reached for similar levels.

fall this year (see Figure 43). Next year, when inflation has fallen further, real wages are expected to rise again.

Figure 43. Nominal and real wages, as well as real disposable income per capita
Annual percentage change



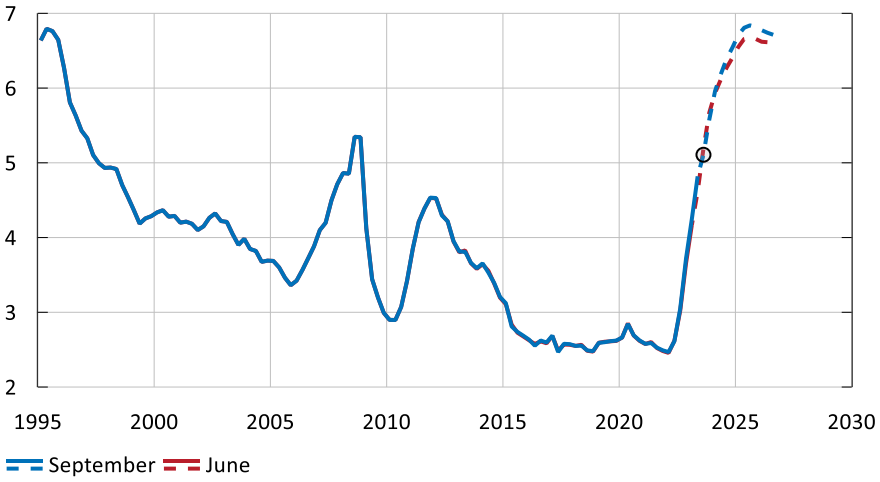
Note. Real wages are calculated as the difference between wage growth and the rate of increase in the CPIF. Real disposable income is calculated using the deflator for households' consumption expenditure, which usually increases at about the same rate as the CPIF. Solid lines refer to outcomes, dashed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

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

Until now, inflation has accounted for the largest negative contribution to disposable household income, but this is expected to decline gradually. As many fixed interest rate contracts expire and new ones are signed at higher interest rates, households' interest expenses as a percentage of their disposable income, known as the interest-to-income ratio, will increase. At the beginning of 2025, the interest-to-income ratio is expected to amount to almost 7 per cent (see Figure 44). The corresponding interest-to-income ratio for households has also increased this year as a result of households choosing savings over consumption and receiving more interest on their bank accounts than before. However, households' loans are roughly twice as large as bank deposits, which means that interest expenditure in total is larger than interest income.

Figure 44. Interest-to-income ratio

Percentage of disposable income



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

Sources: Statistics Sweden and the Riksbank.

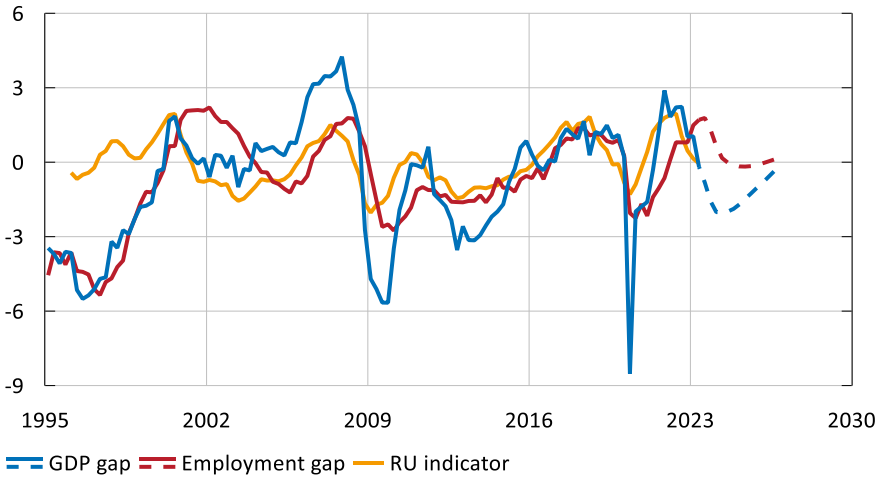
Compared to the years before the pandemic, household savings increased when restrictions meant that it was not possible to consume as before. Some savings were used last year, which helped sustain consumption despite weak income growth, but the assessment is that the buffer created by the excess savings is still relatively intact (see Figure 56). Accumulated savings are expected to develop at approximately the same pace as income this year. The relatively high savings, combined with the lack of up-to-date microdata on how households' savings are distributed, make it difficult to assess how households will adapt their consumption to the rising interest rates (see the article "Household savings increased significantly during the pandemic").

Resource utilisation will fall over the coming 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. Resource utilisation is affected by developments in wages and prices. As resource utilisation cannot be measured exactly, the Riksbank assesses it based on several different data sources. The Riksbank's resource utilisation indicator, which is a composite of different indicators, suggests that resource utilisation has fallen and is now close to normal levels. Even measured using the GDP gap, resource utilisation is now close to normal, while the employment gap still indicates that resource utilisation is higher than normal (see Figure 45). The Riksbank's overall assessment is that resource utilisation has fallen and is close to normal at present. As economic activity slows further, resource utilisation is expected to fall and to be lower than normal for some time to come.

Figure 45. Measures of resource utilisation

Standard deviation and per cent



Note. The gaps refer to the deviation in GDP and employment from the Riksbank's projected trends. The RU indicator is a statistical measure of resource utilisation; from Q1 1996 to Q2 2023, it has been normalised so that the mean value is 0 and the standard deviation is 1. Solid line refers to outcome, dashed line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

ARTICLE – The krona will strengthen in the medium term

Several factors have contributed to the relatively significant depreciation of the krona in recent times. The fact that the US central bank has raised its policy rate faster than other central banks has contributed to many currencies weakening against the dollar. Another reason is that the financial markets are characterised by generally greater sensitivity to risks, for instance, regarding the global security situation. Perceived risks linked specifically to the Swedish economy may also have played a part. There are also signs that investment strategies used by participants in the financial markets may have contributed to the weak development of the krona. At present, the krona is undervalued. Economic developments in Sweden in relation to other countries suggest it will appreciate going forward, even though it is difficult to predict how much and when. To the extent that speculations over a continued weak krona have been a factor in recent exchange rate developments, the krona may appreciate relatively quickly once the reversal occurs.

The Riksbank, like many other analysts, assesses that the krona is currently undervalued in real terms, that is, if the price level abroad, translated into kronor, is compared with the price level in Sweden.[36] The fundamental argument behind the assessment is that there should be a relatively stable relationship between the prices of the same goods in different countries when measured in a common currency – not necessarily in the short term, but at least over a longer period of time. The price level in, for instance, the United States, expressed in SEK in relation to the price level in Sweden is the krona's *real* exchange rate against the US dollar.[37] The real exchange rate has in the longer run a natural link to the underlying economic developments in Sweden in relation to other countries, for instance, competitiveness and the relationship between Swedish import and export prices.[38] Given the development of these factors in Sweden compared with other countries, the krona is currently considered to be undervalued, both against the dollar, and the euro and in trade-weighted terms.[39]

[36] See, for example, *Swedish Economy Report*, June 2023, the National Institute of Economic Research and *External Sector Report*: *External Rebalancing in Turbulent Times*, July 2023, IMF.

[37] For further details on calculations of the real exchange rate, see for instance the article "Trend development of the Swedish krona" in *Monetary Policy Report,* July 2019, Sveriges Riksbank.

[38] See, for instance, C-J. Belfrage (2021), "The development of the Swedish real exchange rate over a longer perspective", *Economic Review* no. 2, Sveriges Riksbank.

[39] The IMF's assessment is, for instance, that the undervaluation of the krona in 2022 was between 4 per cent and around 15 per cent in trade-weighted terms. See footnote 36 for reference.

Strengthening of the krona in the medium term but difficult to say exactly when and by how much

Hence, the underlying economic developments indicate that prices in Sweden will rise in relation to prices abroad expressed in kronor. In principle, this can happen through inflation in Sweden being higher than that abroad, or the value of the krona increasing in relation to other currencies, that is, that the (nominal) exchange rate will become stronger. The Riksbank and central banks in other countries have roughly the same inflation targets and therefore conduct monetary policy to attain approximately the same rate of inflation in the medium term. It is therefore likely that a strengthening of the real exchange rate will largely occur through the krona adapting and appreciating against other currencies. But forecasting when exactly the krona will strengthen and by how much is difficult.[40]

Differences in interest rates between Sweden and, for instance, the United States, as well as various risk factors have contributed to weakening the krona recently

Compared with a trade-weighted basket of currencies (KIX), the krona has, with some variations, weakened since 2014. Since the start of 2022, the development has been particularly clear and compared with certain individual currencies, such as the dollar and the euro, the krona has been very weak. It is possible to identify a couple of factors that may have contributed, but they can scarcely explain the entire depreciation.[41] The US central bank has been ahead of the Riksbank and several other central banks and has raised its policy rate relatively more. This has contributed to the krona, like many other currencies, weakening against the dollar.

It is also likely that an increased sensitivity to risks in the financial markets, for instance linked to a generally poorer security situation in the world, have contributed to strengthening the dollar. In times of unease, financial agents tend to seek investments in dollars and a couple of other currencies that have been traditionally regarded as safe, including the Swiss Franc. Currencies in small, open economies like Sweden's then usually weaken. It is also clear that the krona has developed against the dollar in a similar way to other comparable currencies since 2022. This is illustrated in Figure 46, which shows how the currencies in Sweden, Canada, Australia, Norway and New Zealand have changed against the US dollar in recent years. But the figure also shows that the Swedish and Norwegian kronas have weakened relatively more than other small currencies. As illustrated in Figure 19, it was mainly during 2022 that the krona weakened against the dollar. Recently it has weakened more against the euro, which cannot to the same extent be explained by interest rate differences or increased global uncertainty.

An explanation for the krona's depreciation that has been highlighted by, for instance, currency analysts is financial risk specifically linked to Sweden. There has been

[40] See, for instance, J. Hassler, P. Krusell and A. Seim (2022), *Evaluation of monetary policy 2022*, 2022/23:RFR5, Riksdag Committee on Finance.

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

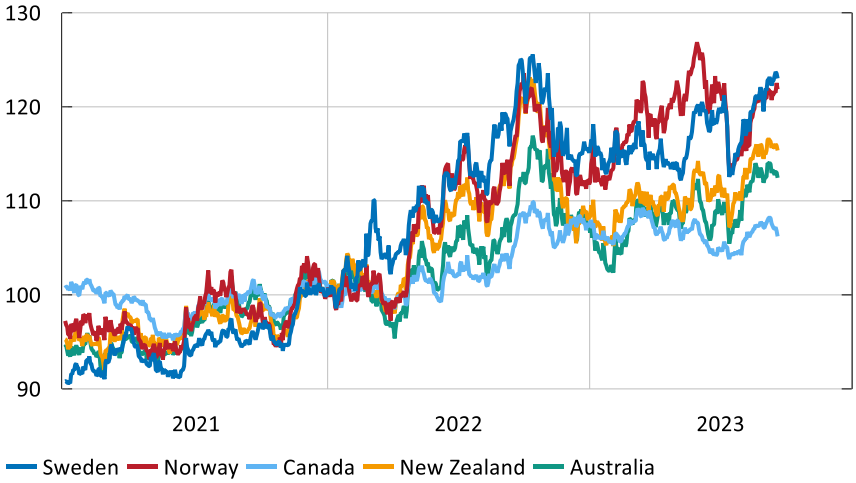
considerable focus on Swedish households' sensitivity to interest rates and the question of how high interest rates the Swedish economy can cope with. Such uncertainty may have affected foreign investors' interest in investing in Swedish assets, but it is difficult to say what significance they have had for the development of the krona.

The explanations for the weakening of the krona have included arguments that the problems in certain Swedish real estate companies may have caused foreign investors to worry about spill-over effects to Swedish banks, given the banks' large lending to the real estate sector, and this in turn could lead to a larger economic downturn in Sweden. This may have encouraged investors to reduce their investments in Swedish assets, which could then have contributed to weakening the krona. However, there is not much to indicate that this explanation is correct. At present, for instance, the banks have no problems with their financing (see further the Fact Box "The division in the commercial real estate sector" in Chapter 2) and the fact that several other small currencies, such as the Norwegian krona, have weakened in a similar manner indicates that it is not primarily risks linked to Swedish real estate companies that have driven the krona development (see Figure 46).

Although the statistics show that foreign ownership of shares in Swedish real estate companies has declined somewhat since the middle of 2021, such changes in the asset portfolios of international investors are a natural result of companies in various sectors doing better or worse than companies in other sectors in other countries over the business cycle.[42]

Figure 46. Currencies in small open economies compared with the dollar

Index, January 2022 =100



Note. The figure shows spot rates for SEK/USD, CAD/USD, AUD/USD, NOK/USD and NZD/USD.

Source: Macrobond Financial AB Daily.

[42] The percentage of listed shares in Swedish real estate companies owned by foreign agents has declined from 36 per cent in the third quarter of 2021 to 33 per cent in the second quarter of 2023.

Financial agents account for most of the krona trading

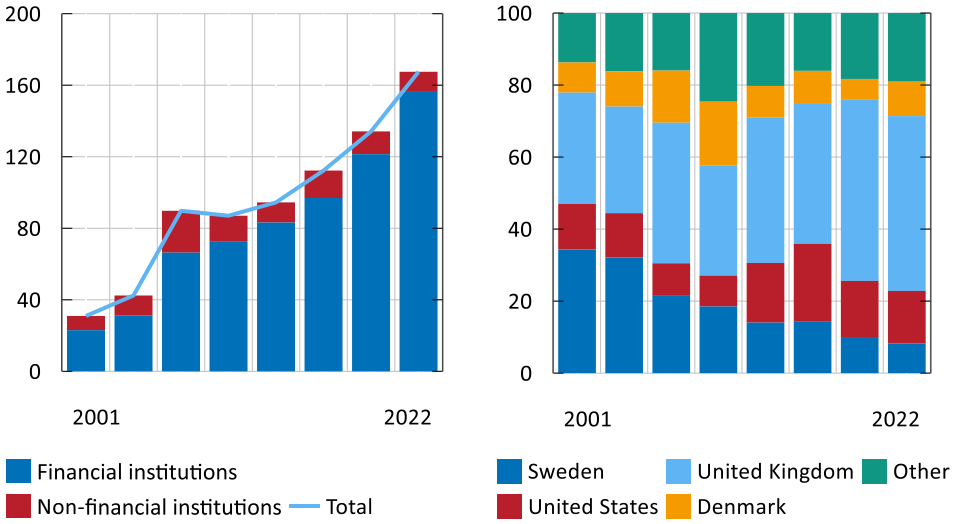
To better understand what can drive the krona development, it may be useful to take a more detailed look at how the foreign exchange market functions.[43] The market, which in terms of volume is the largest of all financial markets, is global but at the same time decentralised and comprises a network of large banks and financial institutions that function as intermediaries for agents wanting to sell or buy a certain currency at a certain point in time, which are primarily financial institutions and non-financial companies. As buying and selling interests are not always expressed at the same time, they function as market makers and do business in their own name and take on currency risk for shorter or longer periods. Trade is always in pairs of different currencies, for instance, kronor and dollars, and the intermediaries primarily make money on the difference between buying and selling prices for a currency pair and the sales volume.

Figure 47 shows statistics for trading in kronor. The left hand field in the figure shows clearly that financial agents account for the absolutely largest share of the trade and that this share has increased over time. Most of the trading in kronor is transactions between one financial institution and another. Trading in kronor that involves a non-financial agent, which probably has a more direct link to trading in goods and services, has declined as a share of total trading in kronor. It is also clear from the right hand field in Figure 47 that only a small share of trading is via Swedish intermediaries. Moreover, this share has declined significantly in recent decades. The largest share of trading in kronor is in large financial centres abroad, in particular London.

[43] For more details, see A. Nordström (2022), ”Understanding the foreign exchange market”, *Economic Review*, no 1, Sveriges Riksbank.

Figure 47. Turnover in SEK trading

USD billions, average daily trading (left) and per cent (right)



Note. The left hand field shows the size of the trading by intermediaries on the foreign exchange market for Swedish kronor with other financial institutions (including other intermediaries as well as other financial institutions) and non-financial institutions. The right hand field shows the size of the trading in kronor by intermediaries in different countries of origin. The first bar in the respective field applies to 2001. The remaining bars show statistics for every third year where the last bar applies to 2022.

Source: BIS Triennial Central Bank Survey.

There are several different motives for foreign exchange trading. One is that companies may need to exchange currencies in international trading in goods and services, another is that agents want to protect themselves against losses as a result of changes in exchange rates. A further motive is that an agent, for example a pension fund, wants to own foreign assets to spread the risk in their total portfolio or to fulfil investment regulations. The fact that different agents want to speculate in how different currencies will change may also be significant.

The exchange rate can in periods vary in a way that has a weak connection to macroeconomic developments

The foreign exchange market differs in many ways from the perfect market on which textbooks are often based. As already described, trading is via intermediaries, instead of buyer and seller meeting directly. The market also has a relatively complicated structure, where trading is in different segments with certain differences in buying and selling prices and on several electronic platforms. The microstructure on the market means, for instance, that the flow and spread of information on trading that occurs may affect price-setting and it may be significant which agent initiates a foreign exchange transaction. Both the capacity and willingness of intermediaries to take currency risk can be significant in the development of the exchange rate for a certain currency.

Other types of friction also affect price-setting.[44] In practice, this means that the exchange rate for the krona, for instance, functions not only as a "shock absorber" that adapts to variations in the supply of and demand for kronor following on from economic developments in Sweden in relation to other countries. In the short term and possibly also the slightly longer term, the exchange rate can vary in a way that only has a weak link to developments in the real macroeconomy, and the exchange rate can in certain cases also be a source of variations in the economy.[45]

Investment needs abroad via Swedish financial savings increase the supply of kronor

What type of capital flows lie behind the large daily turnover on the market for kronor that is reflected in Figure 47?[46] An initial observation is that Sweden has considerable foreign trade and substantial financial assets and liabilities in relation to other countries. This means that various agents constantly need to buy and sell Swedish kronor to invest and borrow abroad and also insure themselves against losses as a result of exchange rate variations. As shown in Figure 48, Sweden has long had a surplus on its financial savings, which reflects a long-term surplus in foreign trade.

[44] A review of the research literature regarding segmented international financial markets with different types of friction can be found in, for instance, M. Maggiori, (2022), "International macroeconomics with imperfect financial markets", Chapter 5 in *Handbook of International Economics* vol. 6, Elsevier.

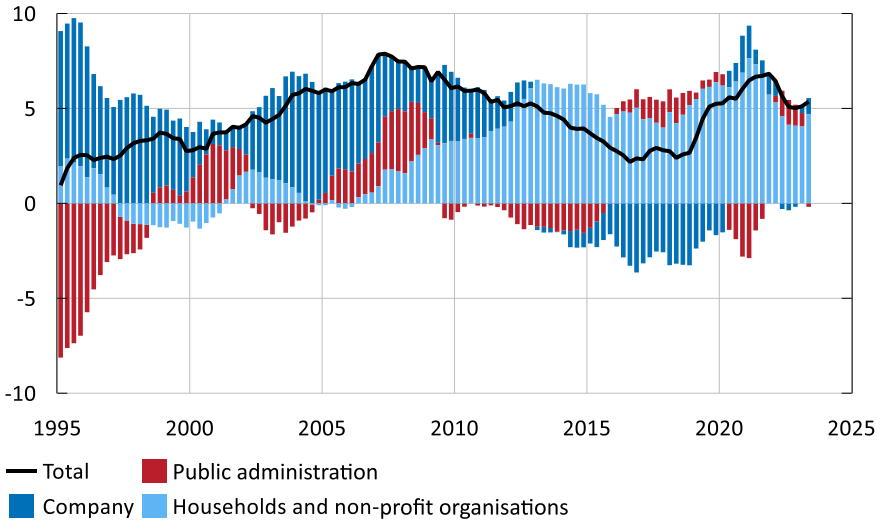
[45] See, for instance, O. Itskhoki and D. Mukhin (2021), "Exchange Rate Disconnect in General Equilibrium", *Journal of Political Economy* 129(8).

[46] The total capital flows comprise many different parts and agents. The description applies only to a selection of these.

The background to the surplus includes demographic developments, the reform of the pension system and the introduction of the fiscal policy framework in the 1990s. Over the past decade, the surplus has primarily comprised households financial savings (see further the article “Household savings increased significantly during the pandemic”).

Figure 48. Sweden's financial savings broken down by sectors

Per cent of GDP



Source: Statistics Sweden.

The large financial savings are invested in both domestic and foreign assets. Households and companies save privately through investment funds and parts of their savings also go to large asset managers such as insurance companies and pension funds. The way that these agents act on the global capital market is significant for demand and supply of kronor.

The right hand image in Figure 49 shows that the Swedish insurance companies and National Pension Insurance Funds (AP Funds) have almost doubled their Swedish and foreign assets in the past decade. As the left-hand field in the figure shows, this is partly due to insurance companies having received large net premiums from their insurance policyholders. But a good return on the global capital markets has also contributed.

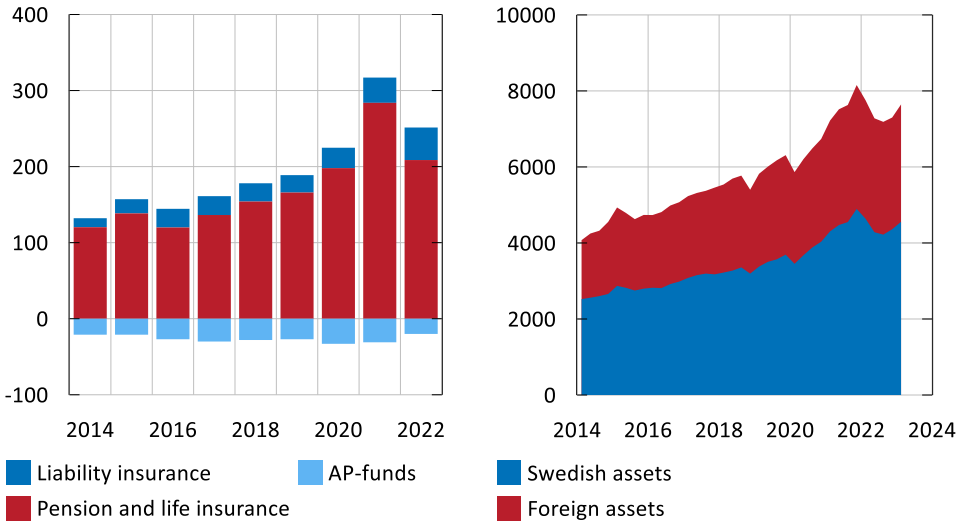
The insurance companies and the AP Funds invest a large share of their assets abroad, partly to spread the risks in their portfolios, and partly because the Swedish capital market is relatively small with regard to their investment needs. As the premiums are often in kronor, they need to be exchanged into foreign currency to buy foreign assets, which increases the supply of kronor and contributes to a weakening of the krona, all else being equal.

However, the insurance companies and the National Pension Insurance Funds usually currency hedge their investments in foreign interest-bearing assets, that is, they protect themselves against a weakening of the foreign currency’s exchange rate against the krona through swap contracts – an agreement to change one currency for another

during a certain period of time but at a predetermined exchange rate. This means that the effect of the krona will be less than if they exchange to foreign currency without hedging. However, foreign equity assets are currency hedged to less of an extent than interest-bearing assets and equity comprises almost half of the insurance companies' and AP Funds' assets. As they are large net buyers of foreign equity, they will therefore in the longer run contribute to a supply of kronor. In the shorter run, however, it is difficult to assess the effect on the exchange rate and in recent quarters these agents' net transactions in foreign equity have been relatively small.

Figure 49. Net premiums for the insurance and pension sector and total investment assets (incl. National Swedish Pension Funds)

SEK billion



Note. The figure on the left excludes net premiums to private capital and pension insurances. The National Pension Insurance Funds (first to fourth AP funds) have during all the years in the figure been net payers to the income pension system. The sixth National Pension Insurance Fund is also a buffer fund, but has no payment flows towards the pension system. In addition to insurance companies and the National Pension Insurance Funds, the figure includes on the left the traditional administration that the Swedish Pensions Agency administers through the premium pension system (although not fondtorget or the seventh National Pension Insurance Fund).

Sources: Svensk Försäkring and Statistics Sweden.

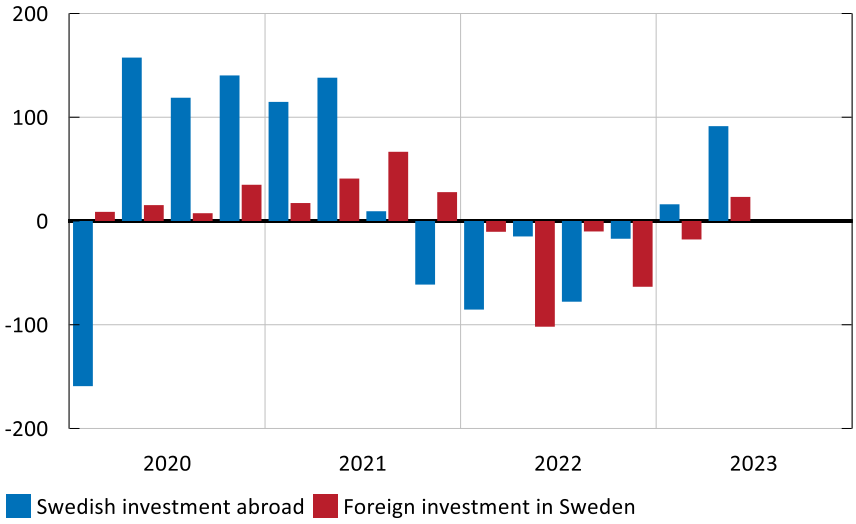
The foreign holdings of Swedish equity were reduced last year

Swedish agents' investment in foreign assets are thus a source of sales of kronor. Another source is the corresponding flows from foreign agents' investment in Swedish assets, including interest-bearing assets and equity. These flows are not characterised by the same underlying structural patterns as Swedish investments abroad, but are more driven by, for instance, variations in economic activity. The percentage of Swedish government securities owned by foreign agents has declined gradually since the end of 2018, while the share of covered bonds in kronor has been relatively stable since the end of 2021. Foreign agents have at the same time reduced their investments on the Swedish equity market – foreign ownership has declined from 40 per cent to 38 per cent between the second quarter of 2021 and the second quarter of

2023. As Figure 50 shows, foreign agents sold Swedish equities and mutual fund units for just over SEK 180 billion net. Probably most of it also entailed sales of kronor for foreign currency, which should have contributed to the krona weakening. However, foreign portfolio investments in Sweden were positive in the second quarter of 2023.

Figure 50. Portfolio investment

SEK billion



Note. Portfolio investment is an acquisition or sale of securities, after which the ownership share or voting rights in the company are lower than 10 per cent.

Source: Statistics Sweden (Balance of payments).

Investment strategies may have contributed to the krona weakening recently

As described earlier, trading in kronor and the exchange rate can be affected not only by Swedish companies' foreign trade, financial companies' portfolio investments and the need to insure against variations in the exchange rate. Pure and active speculation in how the krona will develop can also play a role. There are agents, such as various fund managers, who apply different strategies that try to use the interest rate differences between two currencies and patterns in the development of the exchange rates to obtain a return on investment. Frictions on the financial markets mean that such strategies can be profitable over relatively long periods of time, which should not be the case if the markets are efficient. The capital flows that become the consequence of such investment strategies can also reinforce changes in the exchange rate, for instance, contributing to the exchange rate continuing to weaken once it has begun to do so .

One example of a strategy is borrowing funds at a low interest rate and investing them in an asset with a higher interest rate. This is known as "carry trade".[47] On the foreign exchange market, this strategy means that an investor borrows money in a

[47] The expression carry trade refers to the fact that the only thing needed to make a profit on the investment is to hold, or carry, the asset. No price needs to be changed for this to happen, for instance, that the interest on the asset invested in has to rise.

currency where the interest rate is low (the financing currency) and invests them in a currency where the interest rate is high (the investment currency). This means that investors sell the financing currency and buy the other currency as an investment. The strategy can be conducted with the aid of forward contracts, but other types of financial instrument can also be used.

The basis for the strategy is the difference in interest rates, but the exchange rate between the countries' currencies will determine whether the strategy is successful.[48] If the financing currency becomes stronger than the investment currency, some of the positive interest difference is eaten up and if the strengthening is sufficiently large, one can lose money on the strategy.[49] Given that investments need to be in large amounts to make a profit, and that exchange rates can change rapidly, the losses can be substantial. The strategy may therefore be more interesting when there is only slight variation in the exchange rate between the currencies involved, and when the interest rate in the country in which the investor invests is expected to remain high or to rise further.

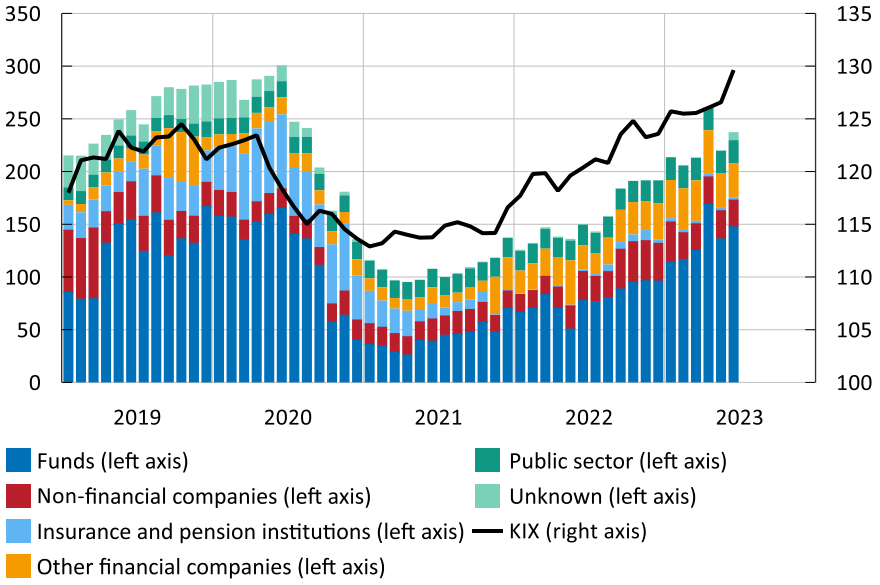
Contacts with market agents indicate that the krona has been a common financing currency for carry trade recently. However, it is difficult on the basis of the statistics to determine whether this has been the case. Figure 51 illustrates the lending abroad in kronor by Swedish banks, broken down into different agents. As described above, such financing is an important part of this investment strategy. The figure shows that most of the lending is to foreign funds and that the lending has shown a trend increase since 2021. However, the size of the lending is not larger now than prior to the pandemic.

[48] On an efficient market, the profit from borrowing at a low interest rate in one currency and investing it at a higher interest rate in another currency is, in the long run, as great as the expected loss made on the weakening of the currency one invests in.

[49] Correspondingly, the return could be even greater if the financing currency actually weakened. But the strategy in itself is not based on the exchange rate changing in a way that benefits the investor. The motive for carry trade thus need not be linked to speculation that the financing currency will weaken.

Figure 51. Lending from Swedish MFIs to borrowers abroad.

SEK billion and index, 18 November 1992=100 (KIX)



Note. Lending from Swedish MFIs to borrowers abroad.

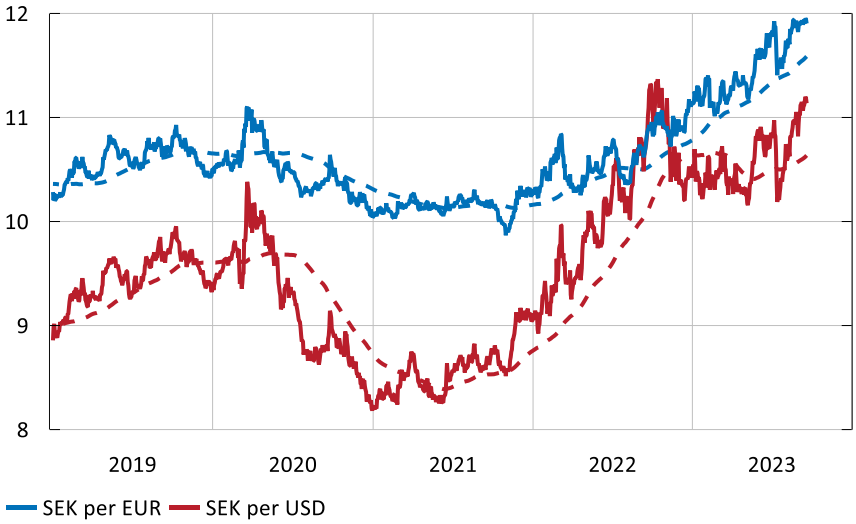
Source: The Riksbank (KRITA).

Another circumstance that may have made the krona particularly interesting in some investment strategies is that changes in the krona exchange rate have tended to covary with changes in the value of risky assets abroad. For example, the krona exchange rate against the dollar has covaried with equity prices in the United States. To reduce the risk in the portfolio, an investor can make use of this by selling or borrowing in kronor – if equity investment declines in value, the value of the position in kronor will also tend to decline, as the krona usually loses value in such scenarios.

There are also strategies based on patterns of how asset prices have changed recently. The strategy can apply to different asset types, but is common in foreign exchange trading. The fundamental causes of the price developments have less significance. It is more a case of using statistical methods to identify “momentum” and trends in price movements that investors can use. This could entail, for instance, trying to identify “winners and losers” among assets and investing on the basis of a belief that the relationship between the assets will remain the same going forward. Another example is to focus on the trend in individual asset prices and assume that the price will tend to continue in the same direction if the trend is sufficiently “strong”.
The idea is to make use of sentiment, the general feeling on the market, and the tendency among investors towards flocking behaviour and to invest in the same way as the majority of investors. As shown in Figure 52, the krona exchange rate varies considerably on a daily basis, but the figure also shows that there are trends over six months that can be interesting for this type of investment strategy.

Figure 52. Swedish krona's exchange rate against the dollar and the euro

Daily values and moving average



Note. Solid line refers to daily values for the exchange rate. Dashed line refers to a six-month moving average.

Source: Macrobond Financial AB Daily.

The Riksbank's contacts with market participants show that the trend weakening has increased interest in speculating that the trend will continue. This has probably contributed to the weak development of the krona. However, based on the available statistics, it is difficult to confirm and quantify how significant this has been for the recent development of the krona.

Good economic base will strengthen the krona in the medium term

Sweden has chosen an exchange rate system with a floating krona, and the Riksbank's responsibility in the system is to hold inflation low and stable. The Riksbank has a target for inflation, but not for the exchange rate. This does not mean that the Riksbank ignores the development of the krona. It is important for monetary policy, as the Riksbank adapts monetary policy to the prospects for inflation that are affected by the exchange rate, among other things – in an environment with high inflation, the impact of the exchange rate on prices may also be greater than normal.[50] On a more general level, exaggerated variations in the exchange rate are not good for real economic developments and the Swedish economy as a whole.

Perceived risks to the Swedish economy can hold back the value of the krona in the near term, but factors such as strong public finances, a resilient labour market and a good underlying competitiveness are arguments in favour of the Swedish economy. At present, the krona is undervalued and the Riksbank, like several other analysts, assesses that the exchange rate will strengthen, both in real and nominal terms. However, it is difficult to say exactly when this will happen and by how much. To the extent that speculations of a continued decline for the krona have contributed to recent

[50] See the Fact Box "Pass-through of the exchange rate when inflation is high" in *Monetary Policy Report*, June 2023, Sveriges Riksbank.

developments, the krona may strengthen relatively quickly once the turnaround occurs and investors take up new positions on the basis of the trend having been broken.

ARTICLE – Household savings increased significantly during the pandemic

Swedish households have saved a large part of their incomes for a long time. The largest part of these savings is made up of collective occupational pensions but households also invest in housing and have also had positive financial savings recently. These financial savings can be seen in bank deposits, equities, funds and the like. These savings increased strongly at the start of the pandemic, when households reduced their consumption by more than their incomes decreased. The restrictions imposed and changed behaviour patterns thus led households to accrue a liquid buffer. The analysis made here indicates that households still have a large part of this buffer left. If households were to use more of this buffer for consumption going forward, demand could become stronger than is forecast by the Riksbank. However, it is difficult to assess the degree to which households will do this, partly because there are no statistics over the distribution of savings among different households.

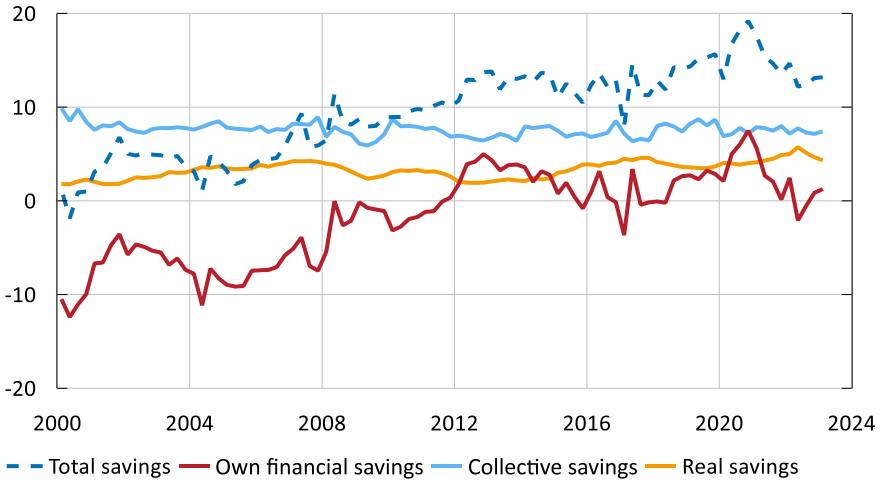
The saving ratio has risen since the start of the century

Household savings describe the difference between households' income and how much they consume, for example over one year. Swedish household savings have grown substantially this century. At the start of the century, the household saving ratio, meaning savings as a share of disposable income, was around zero. In 2022, the saving ratio amounted to almost 15 per cent (see Figure 53).

Household savings are usually divided into three types. In Sweden, the largest component consists of collective savings, which is to say premium and occupational pensions, which households cannot affect in the short term. Insurance savings in Sweden are high from an international perspective. Another component of savings is made up of real investment, primarily in housing. The third component is made up of households' own financial savings. This includes equities, funds and bank deposits. The saving ratio has grown over the last twenty years due to the increase in own financial savings in Sweden. During the pandemic, it increased substantially to the historically high figure of just over 5 per cent in 2020. Following the pandemic, the saving ratio has returned to the levels that were normal before the pandemic.

Figure 53. Household savings

Percentage of disposable income, seasonally adjusted data



Note. Households+HIO.

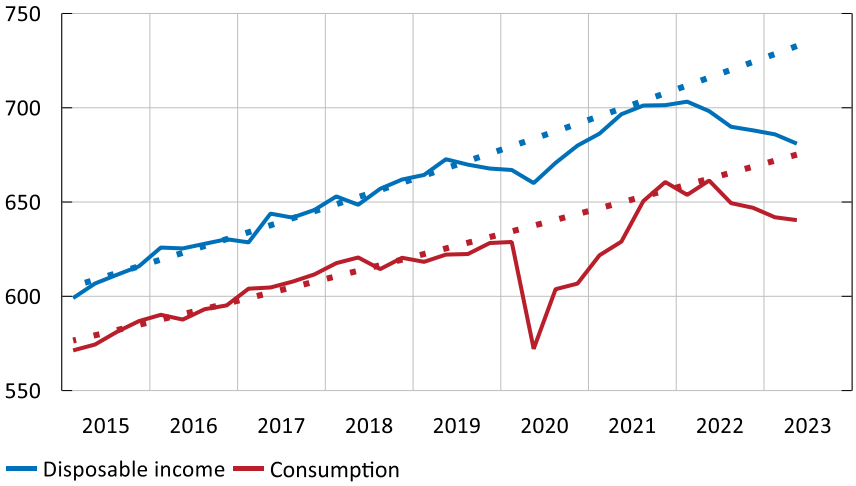
Sources: Statistics Sweden and the Riksbank.

Savings increased rapidly during the pandemic

During the pandemic, several factors combined to lead to a rapid increase in household savings. The fall in household consumption was greater than in normal economic slowdowns. Consumption normally varies less than other components of demand, which is usually explained by the theory that households will try to even out their consumption as much as possible over time. However, households usually reduce consumption and increase savings in economically uncertain times and the uncertain cyclical position during the pandemic probably reduced household consumption. In addition, the pandemic brought about restrictions that changed household behaviour. Consumption of hotel and restaurant visits, travel, and culture and entertainment decreased considerably. At the same time, disposable household income was held up by various support measures such as the strengthening of unemployment benefit and government support for short-time work. The consequence was that household consumption fell significantly faster than disposable income, which meant that the saving ratio increased rapidly (see Figure 54).

Figure 54. Disposable household income and consumption

SEK billion, constant prices, seasonally adjusted values



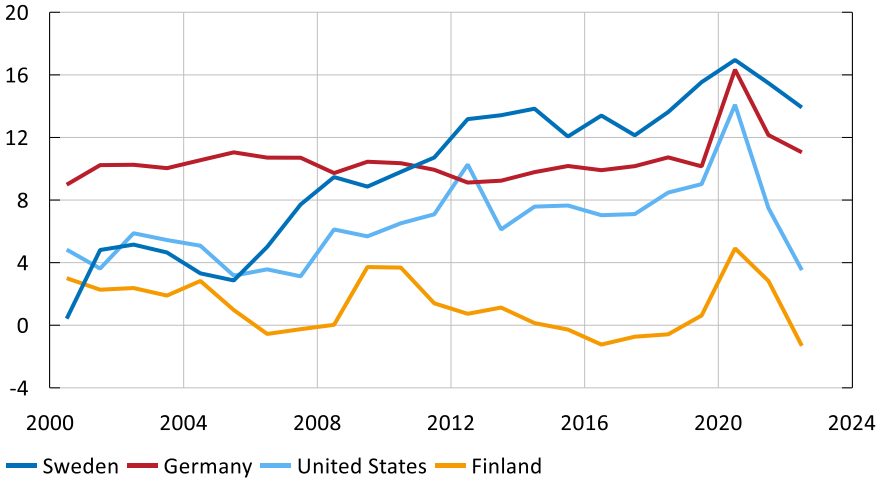
Note. The dotted line shows an exponential trend estimated for the period 2015–2019.

Sources: Statistics Sweden and the Riksbank.

Household savings developed similarly in several other advanced economies that introduced restrictions and support measure during the pandemic. Household saving ratios rose noticeably in both the United States and several European countries (see Figure 55). Since the pandemic, saving ratios have fallen back. They have fallen particularly significantly in the United States, where they are now lower than before the pandemic.

Figure 55. Household savings in various countries

Percentage of disposable income



Note. Households+HIO, annual data.

Source: The OECD.

Have households saved a buffer?

It has been discussed whether the higher than normal savings during the pandemic have led to the household sector as a whole having built up buffers in the form of temporary excess savings that can be used to increase consumption following the pandemic.[51] Excess savings here refer to the difference between 'normal' savings and a temporarily higher saving ratio. To gain an understanding of how much consumption could be affected, the size of excess savings can be estimated. Such estimates have recently been made using several different approaches.[52] Here follows one such estimate, adjusted to Swedish circumstances and available data from the National Accounts. As the aim is to calculate how much households have saved as a buffer for future consumption, it is appropriate to base the calculation on households' own financial savings. This is the measure that corresponds best with households' liquid assets, which is to say bank deposits and the like that can quickly be used for consumption. In addition, it was own financial savings that changed during the pandemic. However, defining all of households' own financial savings since 2020 as excess savings would probably lead to an overestimation, as households also had positive financial savings before the pandemic. For the period t, we can express excess savings as:

$$\begin{aligned} &Households\ excess\ savings_t \\ &\qquad = Housholds\ own\ financial\ savings_t \\ &\qquad - Households\ normal\ own\ financial\ savings \end{aligned}$$

Savings can be expressed either as kronor or as a percentage of disposable income (the saving ratio). For the sake of simplicity, it is assumed here that households' 'normal' financial saving ratio is the same size as average financial savings in the five years preceding the pandemic.[53] Adding together households' accumulated excess savings since the pandemic in 2020 gives us an approximation of the size of the buffer (see Figure 56).

Swedish households' accumulated excess savings increased rapidly at the start of the pandemic and amounted to about SEK 120 billion in the first quarter of 2022. This corresponded to almost 5 per cent of annual disposable household income. Excess savings subsequently decreased to almost SEK 70 billion in the second quarter of

[51] See, for example F. de Soyres, D. Moore and J Ortiz (2023), "Accumulated Saving During the Pandemic: An International Comparison with Historical Perspective", FEDS Notes, Federal Reserve, and N. Battistini, V. Di Nino and J. Gareis (2023), "The consumption impulse from pandemic savings – does the composition matter?", ECB Economic Bulletin.

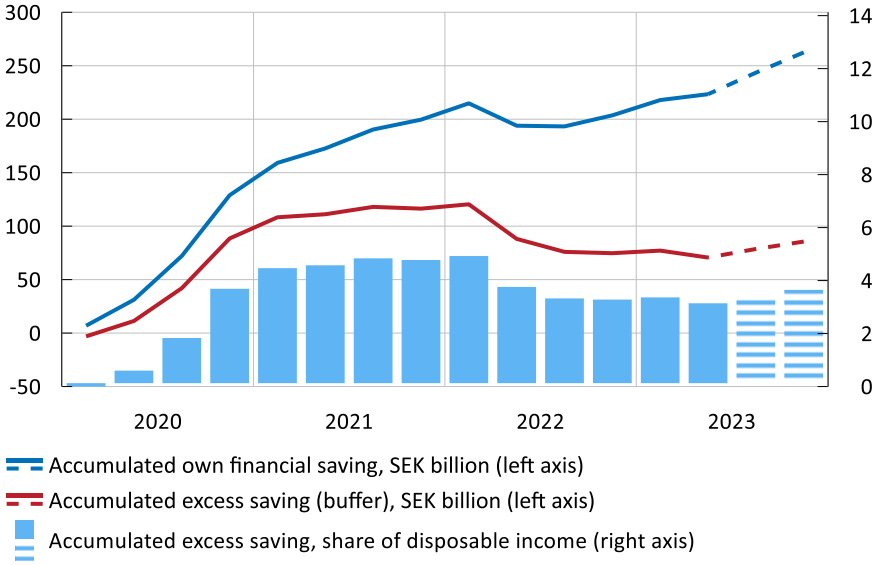
[52] Calculating excess savings is difficult, both conceptually and methodologically. The size of excess savings depends both on the type of savings included and on what is considered to be the 'normal' saving level. The choice of method can have a major impact on the conclusions that can be reached on the size of excess savings. For the United States, there are examples of studies finding that households have significant surpluses left and of studies finding that households have already used up their excess savings. See, for example, H. Abdelrahman and L. Oliveira (2023), "The Rise and Fall of Pandemic Excess Savings", FRBSF Economic Letter, Federal Reserve Bank of San Francisco and F. Soyres, D. Moore and J. Ortiz (2023), "Accumulated Saving During the Pandemic: An International Comparison with Historical Perspective", FEDS Notes, Federal Reserve.

[53] In the calculations, the average saving ratio has been subtracted. Subtracting average savings in kronor instead gives a similar result.

2023. In the period ahead, accumulated excess savings as a share of disposable income are expected to stabilise.

Figure 56. Accumulated excess savings in Sweden

SEK billion and per cent of disposable income



Note. Accumulated excess savings refers to own financial savings minus average own financial savings in 2015–2019. Seasonally adjusted quarterly data. Disposable income is totalled over four quarters.

Sources: Statistics Sweden and the Riksbank.

It is difficult to estimate excess savings as results are greatly affected by data and choice of method. The assumptions made concerning the 'normal' level of the saving ratio prior to the pandemic affect the analysis. In this analysis, we assess the normal level of savings on the basis of the household saving ratio in the last five years before the pandemic. In this case, five years is deemed to be an appropriate period from which to start. If too long periods are used, major structural changes that affect households' behaviour may have taken place and if too short periods are used, temporary fluctuations can be given too much importance. It is significant whether the normal saving ratio is defined on the basis of the mean value or on the basis of the (linear) trend over this five-year period. If the normal saving ratio is defined on the basis of the trend, Swedish households have had negative excess savings since mid-2022, with financial savings being lower than they would have been if they had followed the trend seen in the years prior to the pandemic.[54] The saving ratio in Sweden was relatively stable between 2015 and 2018 but increased significantly in 2019, meaning that the trend over the whole five-year period becomes a rising one. However, the saving ratio in 2019 is not deemed to signify a changing trend.

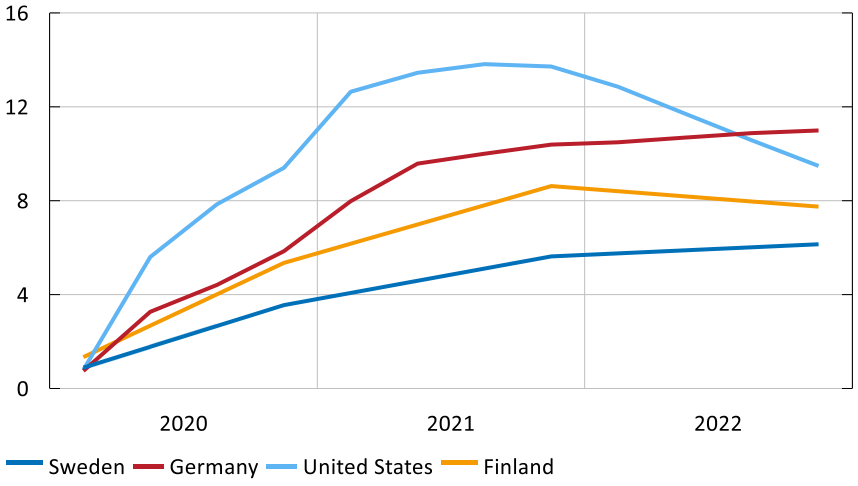
[54] See, for example, Ashworth (2023), "About those pandemic savings", Financial Times

Consequently, a mean value for the last five years (2015–2019) is used in the calculations.[55]

International comparisons often use calculations of the total saving ratio, unadjusted for pension funds savings and real savings.[56] Calculated in this manner, Sweden's accumulated excess savings are approximately the same size as those of other advanced economies (see Figure 57). In the United States, excess savings have decreased significantly more than it has in Europe. This is partly because excess savings there were built up to a greater extent by stimulus packages that partly used cash payments to help sustain disposable income for low-income households.[57]

Figure 57. Accumulated excess savings in selected countries

Percentage of disposable income



Note. Accumulated excess savings refer to the total saving ratio minus the average total saving ratio for 2015–2019. Annual data. Disposable income is totalled over four quarters.

Sources: The OECD and the Riksbank.

Households' liquid assets have increased

The excess savings brought about by the pandemic can be seen in the Financial Accounts, which describe households' financial assets and liabilities. The extent to which assets can affect short-term consumption depends on how liquid they are. Households have financial assets of many different kinds, the most liquid of which are bank deposits. Since the outbreak of the pandemic, households' bank deposits have

[55] It is also significant whether the saving ratio is defined on the basis of the last five years or the last ten years. If the normal saving ratio is defined on the basis of the *trend* for 2013–2019, Sweden had excess savings of about SEK 130 billion in the second quarter of 2023. If the normal saving ratio is instead defined on the basis of the *mean value* for 2013–2019, Sweden had excess savings of about SEK 10 billion in the second quarter of 2023.

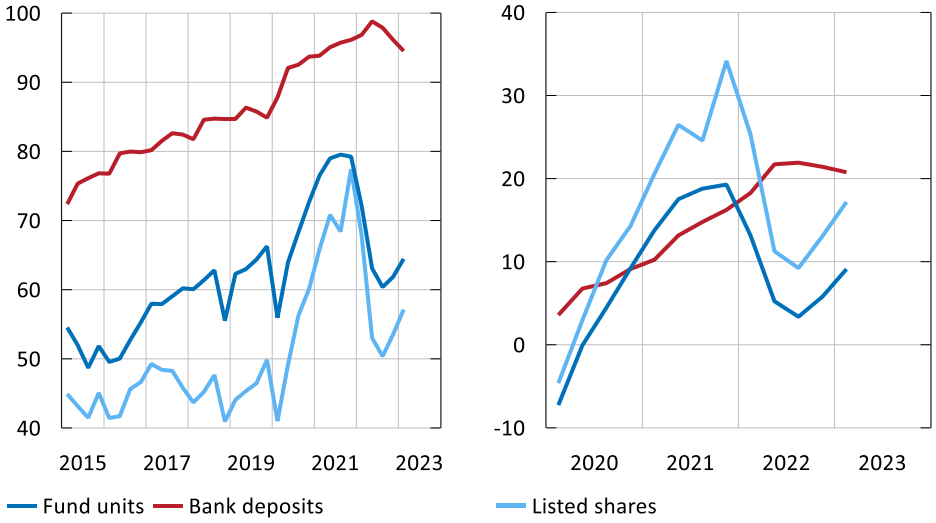
[56] See, for example F. de Soyres, D. Moore and J Ortiz (2023), "Accumulated Saving During the Pandemic: An International Comparison with Historical Perspective, FEDS Notes, Federal Reserve.

[57] See, for example, N. Battistini, V. Di Nino and J. Gareis (2023), "The consumption impulse from pandemic savings – does the composition matter?", ECB Economic Bulletin.

increased by over SEK 500 billion.[58] The value of equity and fund holdings grew substantially between 2020 and 2021, before falling at the start of 2022 (see Figure 58). However, these assets are slightly less liquid than bank deposits.

Figure 58. Households' financial assets

Percentage of disposable income (left) and accumulated value since Q4 2019, per cent of disposable income (right)



Note. Disposable income is totalled over four quarters.

Sources: Statistics Sweden and the Riksbank.

Households' buffers may correspond to around 3 per cent of consumption

The analyses of savings and assets both suggest that the household sector as a whole still has reserves that could be used for consumption. To illustrate how large an impact such reserves could have, accumulated excess savings of approximately SEK 70 billion correspond to approximately 3 per cent of household consumption in 2022 and just over 1 per cent of Sweden's GDP.

Whether the excess savings will be used for consumption largely depends on how they are distributed among households, not only in terms of household wealth but also the composition of this wealth. Households' marginal propensity to consume, which is to say how much households adjust their consumption when their disposable incomes vary, differ in magnitude according to the size of their income and wealth. Households with less resources tend to change consumption more when their disposable incomes change.[59] The wealthiest households and households with the highest incomes only consume a fraction of their incomes. In addition, the distribution of a household's various asset types also affects its marginal propensity to consume.

[58] Here, the Riksbank makes no adjustment of the Financial Accounts against a 'normal value'.

[59] See, for instance, K.E. Dynan, J. Skinner and S.P. Zeldes (2004), "Do the Rich Save More?", Journal of Political Economy 112(2).

In comparison to similar groups with more liquid assets, wealthy households with a large proportion of illiquid assets, such as property, have a higher propensity to consume if their incomes increase.[60] Furthermore, households with large loans may choose to amortise more rather than increase their consumption if their disposable income increases over the short term.[61]

It is therefore difficult to estimate the extent to which Swedish households will use their excess savings. Sweden does not keep any statistics on individual household's wealth and savings. This makes it impossible to obtain a good overview of the distribution of excess savings among wealth groups and thereby how likely it is that households as a whole will use saved funds to increase consumption. Analyses of the United States and euro area indicate that all wealth groups increased their savings during the pandemic but that the main share of excess savings has been among the richest tenth of households.[62]

In the Riksbank's forecast, households are not expected to consume their excess savings in 2023–2024. This is partly because households are expected to reduce their consumption and increase their savings in economically uncertain times, partly because savings are expected to increase when interest rates rise. Additionally, as in the United States and euro area, a large part of Swedish excess savings is presumably concentrated in households with high incomes, where the marginal propensity to consume is lower. Households are therefore not expected to reduce their excess savings in order to sustain consumption in 2023 and 2024, but there is an upside risk here.

[60] See G. Kaplan, G.L. Violante and J. Weidner (2014), "The Wealthy Hand-to-Mouth", Brookings Papers on Economic Activity, Spring.

[61] See K. Dynan (2012), "Is a Household Debt Overhang Holding Back Consumption?" Brookings Papers on Economic Activity.

[62] See H. Abdelrahman and L.E. Oliveira (2023), "The Rise and Fall of Pandemic Excess Savings", FRBSF Economic Letter, Federal Reserve Bank of San Francisco.

Forecast tables

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

Table 1. Policy rate forecast

Per cent, quarterly averages

	2023Q2	2023Q3	2023Q4	2024Q3	2025Q3	2026kv3
Policy rate	3.32 (3.32)	3.75 (3.75)	4.03 (3.99)	4.10 (4.05)	4.04 (4.00)	3.69

Source: The Riksbank.

Table 2. Inflation

Annual percentage change, annual average

	2021	2022	2023	2024	2025
CPIF	2.4 (2.4)	7.7 (7.7)	5.9 (5.9)	2.5 (2.4)	1.8 (1.8)
CPIF excl. energy	1.4 (1.4)	5.9 (5.9)	7.5 (7.4)	2.9 (2.8)	2.1 (2.0)
CPI	2.2 (2.2)	8.4 (8.4)	8.6 (8.9)	4.6 (4.3)	2.4 (2.3)
HICP	2.7 (2.7)	8.1 (8.1)	5.9 (5.9)	2.6 (2.4)	1.9 (1.8)

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

Sources: Statistics Sweden and the Riksbank.

Table 3. GDP and demand

Annual percentage change unless otherwise specified

	2021	2022	2023	2024	2025
Household consumption	6.3 (6.3)	1.9 (1.9)	-2.0 (-2.4)	0.8 (0.7)	1.9 (1.9)
Public consumption	3.3 (3.3)	0.0 (0.1)	2.0 (1.6)	1.6 (1.6)	1.3 (1.3)
Gross fixed capital formation	7.1 (7.1)	6.2 (6.1)	-2.6 (-2.6)	-2.6 (-3.0)	2.6 (2.2)
Stock investments*	0.4 (0.4)	1.1 (1.1)	-0.5 (-0.6)	-0.3 (-0.2)	0.0 (0.0)
Exports	11.1 (11.1)	7.0 (7.0)	1.2 (2.5)	0.3 (0.5)	2.1 (2.1)
Imports	11.6 (11.6)	9.3 (9.4)	-0.2 (-0.4)	0.0 (0.1)	2.1 (2.1)
GDP	6.1 (6.1)	2.8 (2.8)	-0.8 (-0.5)	-0.1 (0.0)	1.9 (1.8)
GDP, calendar-adjusted	6.0 (6.0)	2.8 (2.8)	-0.6 (-0.2)	-0.1 (0.0)	2.1 (2.0)
Final domestic demand*	5.4 (5.4)	2.4 (2.4)	-1.1 (-1.4)	0.0 (-0.1)	1.8 (1.7)
Net exports*	0.3 (0.3)	-0.6 (-0.6)	0.7 (1.5)	0.2 (0.2)	0.1 (0.1)
Current account (NA), percentage of GDP	6.8 (6.8)	5.0 (4.8)	5.4 (6.0)	5.6 (6.7)	6.2 (7.2)

* Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank.

Table 4. Production and employment

Annual percentage change, unless otherwise stated

	2021	2022	2023	2024	2025
Population, aged 15–74	0,0 (0,0)	0,3 (0,3)	0,5 (0,5)	0,5 (0,5)	0,5 (0,5)
Potential employment	0,8 (0,8)	0,8 (0,8)	0,7 (0,7)	0,7 (0,7)	0,6 (0,6)
Potential hours worked	0,4 (0,4)	0,7 (0,7)	0,6 (0,6)	0,6 (0,6)	0,6 (0,6)
Potential GDP	2,3 (2,2)	1,6 (1,6)	1,6 (1,6)	1,5 (1,6)	1,5 (1,5)
GDP, calendar-adjusted	6,0 (6,0)	2,8 (2,8)	-0,6 (-0,2)	-0,1 (0,0)	2,1 (2,0)
Hours worked, calendar-adjusted	2,3 (2,3)	2,3 (2,3)	1,9 (2,2)	-1,0 (-1,3)	0,7 (0,6)
Employed persons	1,0 (1,0)	2,7 (2,7)	1,7 (1,4)	-0,7 (-0,6)	0,3 (0,4)
Labour force	1,2 (1,2)	1,2 (1,2)	1,6 (1,4)	0,2 (0,2)	0,4 (0,4)
Unemployment*	8,8 (8,8)	7,5 (7,5)	7,4 (7,5)	8,3 (8,2)	8,3 (8,3)
Employment gap**	-1,3 (-1,3)	0,6 (0,6)	1,6 (1,3)	0,2 (0,0)	-0,2 (-0,3)
Hours gap**	-2,0 (-2,0)	-0,3 (-0,3)	0,8 (1,2)	-0,8 (-0,8)	-0,7 (-0,8)
GDP gap**	0,6 (0,6)	1,8 (1,9)	-0,4 (0,0)	-2,0 (-1,6)	-1,4 (-1,1)

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

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

Sources: Statistics Sweden and the Riksbank.

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

Annual percentage change, calendar-adjusted data unless otherwise stated

	2021	2022	2023	2024	2025
Hourly wage, NMO	2.6 (2.6)	2.7 (2.7)	3.9 (4.0)	4.0 (4.0)	3.4 (3.4)
Hourly wage, NA	2.8 (2.8)	4.0 (4.0)	3.1 (3.2)	4.0 (4.0)	3.4 (3.4)
Employers' contribution*	0.6 (0.6)	-0.5 (-0.5)	0.3 (0.1)	0.0 (0.0)	0.0 (0.0)
Hourly labour cost, NA	3.5 (3.5)	3.4 (3.4)	3.4 (3.3)	4.0 (4.0)	3.4 (3.4)
Productivity	3.7 (3.7)	0.5 (0.5)	-2.4 (-2.4)	0.9 (1.3)	1.5 (1.4)
Unit labour cost	0.7 (0.7)	3.0 (3.0)	6.0 (5.9)	3.0 (2.6)	1.9 (2.0)

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

Note. NMO is the National Mediation Office's short-term wage statistics and NA is the National Accounts. Labour cost per hour is defined as the sum of actual wages, social-security charges and wage taxes (labour cost sum) divided by the number of hours worked by employees. Unit labour cost is defined as labour cost sum divided by GDP in constant 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	5.5 (5.3)	3.4 (3.5)	0.4 (0.2)	0.6 (0.8)	1.8 (1.8)
United States	0.15	0.08	5.9 (5.9)	2.1 (2.1)	2.0 (1.2)	0.9 (0.6)	1.9 (2.1)
China	0.19	0.10	8.7 (8.9)	3.2 (3.0)	5.1 (5.7)	4.5 (4.7)	4.7 (4.7)
KIX weighted	0.75	1.00	6.0 (5.8)	3.1 (3.2)	1.3 (1.1)	1.5 (1.6)	2.2 (2.3)
The World (PPP)	1.00	—	6.3 (6.3)	3.4 (3.4)	2.9 (2.8)	2.9 (2.9)	3.3 (3.3)

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

CPI	2021	2022	2023	2024	2025
Euro area (HICP)	2.6 (2.6)	8.4 (8.4)	5.6 (5.1)	2.8 (2.2)	2.0 (2.0)
United States	4.7 (4.7)	8.0 (8.0)	4.1 (3.9)	2.6 (2.4)	2.2 (2.3)
KIX weighted	3.1 (3.1)	8.4 (8.4)	5.7 (5.6)	3.1 (2.8)	2.4 (2.4)

	2021	2022	2023	2024	2025
International policy rate, per cent	-0.3 (-0.3)	0.5 (0.5)	3.6 (3.6)	4.0 (3.9)	3.3 (3.2)
Crude oil price, USD/barrel Brent	70.7 (70.7)	98.6 (98.6)	83.0 (77.5)	84.4 (72.4)	79.4 (69.9)
Swedish export market	9.4 (9.2)	8.3 (8.2)	0.3 (-0.5)	1.8 (2.2)	3.0 (3.1)

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

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

Table 7. Summary of financial forecasts

Per cent unless otherwise stated, annual average

	2021	2022	2023	2024	2025
The Riksbank's policy rate	0.0 (0.0)	0.8 (0.8)	3.5 (3.5)	4.1 (4.1)	4.0 (4.0)
10-year rate	0.3 (0.3)	1.5 (1.5)	2.5 (2.5)	3.1 (3.1)	3.2 (3.2)
Exchange rate, KIX, 18 Nov 1992 = 100	114.3 (114.3)	121.1 (121.1)	128.8 (128.3)	130.3 (127.4)	125.1 (123.3)
General government net lending, per cent of GDP	0.0 (0.0)	1.1 (0.8)	0.1 (0.0)	-0.8 (-0.7)	-0.6 (-0.6)

Sources: Statistics Sweden and the Riksbank.

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