

Monetary Policy Report

November 2020



Rectification 26 November 2020

Incorrect data has been corrected in Figure 9 and incorrect data and note have been corrected in Figure 47.

Monetary Policy Report

The Riksbank's Monetary Policy Report is published five times a year. The report describes the deliberations made by the Riksbank when deciding what is an appropriate monetary policy.¹ The report contains a description of the future prospects for inflation and economic activity based on the monetary policy that the Riksbank currently considers to be well-balanced.

The purpose of the Monetary Policy Report is to summarise background material for monetary policy decisions, and to spread knowledge about the Riksbank's assessments. By publishing the reports, the Riksbank aims to make it easier for external parties to follow, understand and assess its monetary policy.

The Riksbank must submit a written report on monetary policy to the Riksdag (Swedish Parliament) Committee on Finance at least twice a year (see Chapter 6, Article 4 of the Sveriges Riksbank Act (1988:1385)). During the spring, a specific report is submitted as a basis for the evaluation of monetary policy. During the autumn, the Monetary Policy Report is submitted as an account of monetary policy.

The Executive Board made a decision on the Monetary Policy Report on 25 November 2020. The report may be downloaded in PDF format from the Riksbank's website www.riksbank.se, where more information about the Riksbank can also be found. With effect from November 2020, the Monetary Policy Report has a new format, to comply with the requirements in the act on access to public digital services.

¹ See "Monetary policy in Sweden" on the next page for a description of the monetary policy strategy and what can be regarded as an appropriate monetary policy.

Monetary policy in Sweden

Monetary policy strategy

- According to the Sveriges Riksbank Act, the objective for monetary policy is to maintain price stability. The Riksbank has defined this as a 2 per cent annual increase in the consumer price index with a fixed interest rate (the CPIF).
- At the same time as monetary policy is aimed at attaining the inflation target, it is also to support the objectives of general economic policy for the purpose of attaining sustainable growth and a high level of employment. This is achieved by the Riksbank, in addition to stabilising inflation around the inflation target, endeavouring to stabilise production and employment around paths that are sustainable in the long term. The Riksbank therefore conducts what is generally referred to as flexible inflation targeting. This does not mean that the Riksbank neglects the fact that the inflation target is the overriding objective.
- It takes time before monetary policy has a full impact on inflation and the real economy. Monetary policy is therefore guided by forecasts for economic developments. The Riksbank's publications include an assessment of the future path for the repo rate. This repo rate path is a forecast, not a promise.
- In connection with every monetary policy decision, the Executive Board makes an assessment of the repo rate path needed, and any potential supplementary measures necessary, for monetary policy to be well balanced. It is thus normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy.
- There is no general answer to the question of how quickly the Riksbank aims to bring the inflation rate back to 2 per cent if it deviates from the target. A rapid return may in some situations have undesirable effects on output and employment, while a slow return may have a negative effect on confidence in the inflation target. The Riksbank's ambition has generally been to adjust monetary policy so that inflation is expected to be fairly close to the target in two years' time.
- To illustrate the fact that inflation will not always be exactly 2 per cent each month, a variation band is used that stretches between 1 and 3 per cent, which captures around three quarters of the historical monthly outcomes of CPIF inflation. The Riksbank always aims for 2 per cent inflation, regardless of whether inflation is initially inside or outside the variation band.
- According to the Sveriges Riksbank Act, the Riksbank's tasks also include promoting a safe and efficient payment system. Risks linked to developments in the financial markets are taken into account in the monetary policy decisions. With regard to preventing an unbalanced development of asset prices and indebtedness, however, well-functioning regulation and effective supervision play a central role. Monetary policy only acts as a complement to these.
- In some situations, as in the financial crisis 2008–2009, the repo rate and the repo rate path may need to be supplemented with other measures to promote financial stability and ensure that monetary policy is effective.
- The Riksbank endeavours to ensure that its communication is open, factual, comprehensible and up-to-date. This makes it easier for economic agents to make good economic decisions. It also makes it easier to evaluate monetary policy.

Decision-making process

The Executive Board of the Riksbank usually holds five monetary policy meetings per year at which it decides on monetary policy. A Monetary Policy Report is published in connection with these meetings. Approximately two weeks after each monetary policy meeting, the Riksbank publishes minutes from the meeting, in which it is possible to follow the discussion that led to the current decision and to see the arguments of different Executive Board members.

Presentation of monetary policy decision

The monetary policy decision is presented in a press release at 09.30 on the day following the monetary policy meeting. The press release also states how the individual members voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

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IN BRIEF – Monetary policy November 2020



The coronavirus pandemic has had a dramatic impact on the global economy this year, with sharp falls in GDP and rapidly rising unemployment. Governments and central banks around the world have implemented extensive support measures to alleviate the severe decline in the economy.



During the summer, a recovery was initiated, but in recent months the spread of infection has increased again and restrictions have been tightened in many countries. This setback **shows the great uncertainty that the global economic recovery is still facing**. The economic prospects for Sweden and abroad have been revised down, and the **economy is expected to weaken again in the near term**.



The recovery is expected to continue next year, but **there is a long way back from the difficult economic situation** in which the global economy presently finds itself. As was the case in September, it is expected to take time before economic activity is back at more normal levels, which means it will also take time before inflation is more permanently close to 2 per cent, in Sweden and many other countries.



To support economic developments and thereby contribute to inflation rising towards the target, **the Executive Board has decided to extend the programme for asset purchases** until 31 December 2021, **to expand the envelope** (by SEK 200 billion) to a total amount of up to SEK 700 billion **and to retain the repo rate unchanged at zero per cent**.

1 Monetary policy to facilitate recovery

The pandemic is continuing to dominate developments in the global economy. Recently, a second wave of infection has hit many countries and tighter restrictions have been reintroduced. This shows the great uncertainty that the global economic recovery is still facing. The growth forecasts for the coming six months have been revised down, both for Sweden and abroad, and the inflation outlook is also assessed to be slightly weaker in the coming years. After such a deep crisis, one should expect the recovery to take time, and the Riksbank's assessment is, as expressed in the September Monetary Policy Report, that it will not be until 2023 that CPIF inflation is more permanently close to 2 per cent.

The various measures implemented by the Riksbank since the crisis broke out last spring are contributing to the credit supply functioning and to keeping the interest rates faced by households and companies low. To provide further support in an uncertain time and improve the conditions for a recovery, the Executive Board has decided to expand the envelope for the asset purchases by SEK 200 billion, to a total nominal amount of up to SEK 700 billion, and to extend the asset purchase programme to 31 December 2021. The Executive Board has also decided to increase the pace in the asset purchase during the first quarter of 2021, in relation to the fourth quarter of 2020. The repo rate is held unchanged at zero per cent, and the Riksbank will continue to offer liquidity within all of the programmes launched so far this year. By expanding the envelope and lengthening the time of the programme, the Riksbank is making it clear that comprehensive monetary policy support will be available as long as it is needed. This facilitates the economic recovery, which helps inflation rise towards the target of 2 per cent. Given the fact that the Government and the Riksbank are extending their support measures, the forecast for the slightly longer run remains largely unchanged.

1.1 Increased spread of infection a setback for the global economy

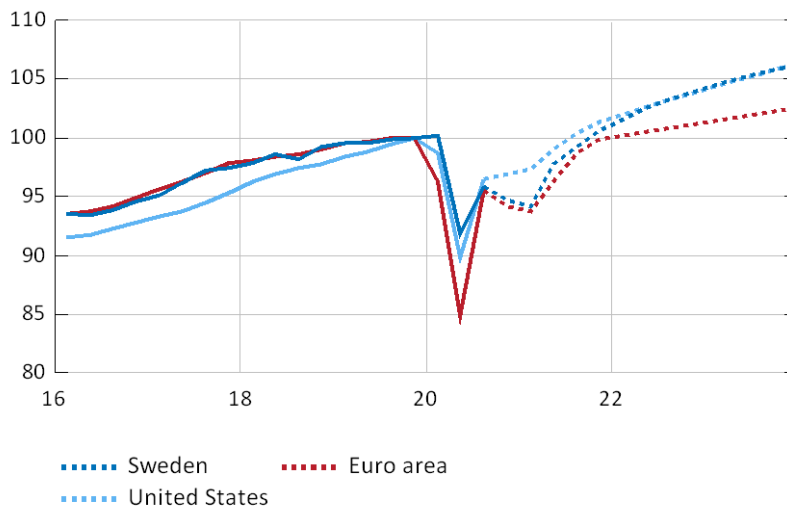
Long and winding road back to normal levels

During 2020, developments in the world economy have been dominated by the pandemic. Following the dramatic fall in economic activity during the spring, GDP in many countries began to recover during the summer, when the spread of infection declined

and the restrictions began to be eased. Very extensive economic policy measures supported the recovery. The upturn in GDP during the third quarter was larger than expected in several countries, not least the euro area, where GDP rose by a good 12.6 per cent, compared with the second quarter of this year according to preliminary statistics (see Figure 1). In recent months, however, the spread of infection has again gathered pace in most of the countries and regions that are important to the Swedish economy, such as the euro area and the United States. Both the number of infections and proportion of infections among those tested have clearly increased. The basis of the Riksbank’s main scenario in September was indeed an assumption that it would take until next year before infections decreased and a clear downward trend in restrictions became visible. But the fact that the pandemic has recently hit many countries with a second wave and that stronger restrictions, such as curfews and travel restrictions have therefore been reintroduced, illustrates the uncertainty and challenges facing the global economic recovery. The growth forecasts for the coming six months have therefore been revised down.

Figure 1. GDP in Sweden and abroad

Index, 2019 Q4 = 100, seasonally-adjusted data



Note. Solid line represents outcome, broken line represents forecast.

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

When the coronavirus broke out in earnest in the spring, substantial turbulence arose on the financial markets, including major stock market falls, rising yields on risky assets and very high volatility. This had consequences for the macroeconomy. The measures implemented by the central banks to dampen the negative effects on the economy have calmed the financial markets, which has made it easier for the banks to provide companies and households with credit and held interest rates down. However, the brighter outlook on the financial markets is thought to be conditional on continued support from central banks. The fact that the spread of infection has gathered pace again entails a setback for the recovery and thus a greater risk that financial conditions will deteriorate going forward.

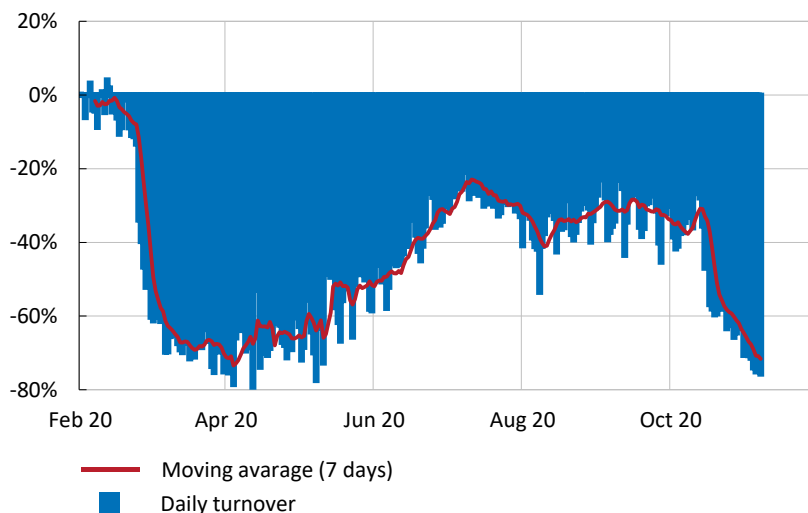
Future developments are uncertain, not only in the short but also the long term. It is assumed in the main scenario that the pandemic will to some extent have long-term effects on the economy. But it is difficult to assess what long-term changes may be brought about in the behaviour of households and companies. The article “The long-term economic effects of the pandemic are uncertain” in this report discusses various factors that could lead to a different development in the long term.

New downturn in Swedish economy

Output in the Swedish economy, as in other countries, began to recover during the summer. According to preliminary statistics, GDP increased by 4.3 per cent in the third quarter, compared with the second quarter, the labour market stabilised and resource utilisation showed an upward turn. However, high-frequency data show signs that demand is now slowing down again (see Figure 2). The autumn’s new wave of infection and stricter general guidelines mean that activity in some parts of the economy is showing a downturn again. GDP is expected to decline again during the fourth quarter and the situation on the labour market to deteriorate further. The forecast assumes that GDP growth will decline also for the first quarter of next year before it picks up again both abroad and in Sweden during the second quarter. It will take until the end of next year, however, before GDP is back at the pre-crisis level. After that, the recovery is expected to continue, roughly in line with the forecast outlined by the Riksbank in September. The negative effects on the labour market are expected to last for a long time; at the end of the forecast period, the employment rate is still expected to be lower than prior to the crisis.

Figure 2. Indicator for turnover in the restaurant industry

Percentage change in turnover compared to 2019



Note. The data consists of turnover on a daily level from about 600 establishments with an average yearly turnover of SEK 18 million.

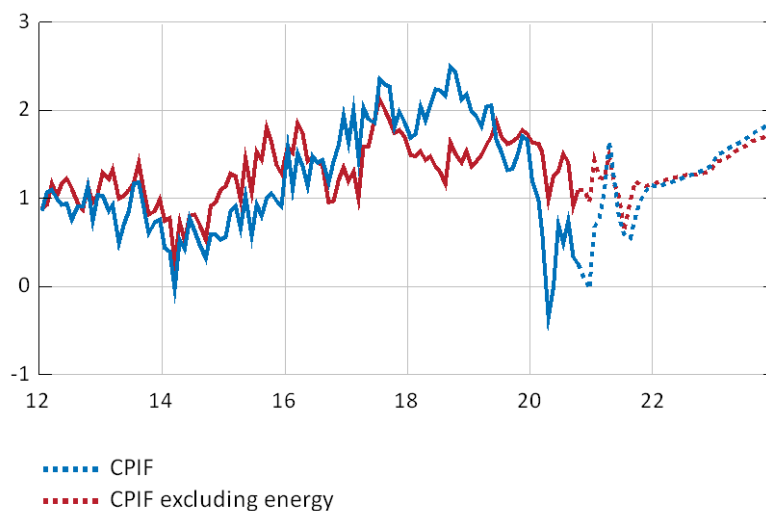
Source: Caspeco.se.

Gradually rising inflation over the coming years

Falling energy prices have pushed CPIF inflation down strongly during the whole of 2020. However, an unexpectedly large adjustment of weights in the calculation of the CPI in connection with the outcome for January has contributed to holding back the rate of price increase this year. Since April, the coronavirus crisis has also affected the inflation figures, making them lower and more volatile. Some of the price fluctuations have been due to actual price falls, while others were the result of temporarily altered measurement methods. Since the second half of 2019, CPIF inflation has fallen from levels close to 2 per cent and has been between 0 and 1 per cent over most of 2020 (see Figure 3). Even the Riksbank's measures of underlying inflation, which excludes or reduces the significance of prices that have previously proved to vary substantially, indicates that inflation has fallen in 2020. The median of these measures amounted to 1.1 per cent in October, to be compared with 1.7 per cent in February. Inflation outcomes since the September Monetary Policy Report have been unexpectedly low and the Riksbank has revised down its inflation forecast somewhat for the coming year. The outcomes are difficult to interpret, and there is still considerable uncertainty with regard to both price developments for products in particularly hard-hit sectors, and measurement methods.

Figure 3. CPIF and CPIF excluding energy

Annual percentage change



Note. Solid line represents outcome, broken line represents forecast.

Sources: Statistics Sweden and the Riksbank.

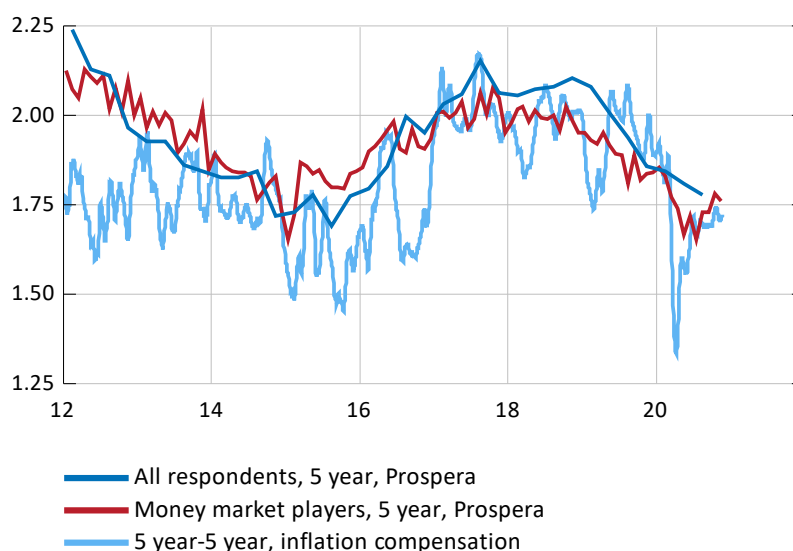
After such a deep crisis, it takes time before economic activity has recovered and resource utilisation is once again close to normal levels. This means that it will also take time before CPIF inflation is more permanently close to 2 per cent again. However, with the support of expansionary economic policy, inflationary pressures are expected to rise in coming years. Demand is strengthening in Sweden and abroad, and companies' costs are approaching normal levels. At the same time, it is not possible to rule

out the importance of the crisis for structural changes. Whether these contribute to higher or lower inflation in the longer run is an open question.²

When the crisis broke out, long-term inflation expectations fell back, but they have recently begun to rise again (see Figure 4). Given the dramatic economic slowdown, the decline in longer-term inflation expectations, according to both surveys and market pricing, has so far been minor and expectations are fairly close to 2 per cent. It is important that the crisis does not have too large negative effects on long-term inflation expectations as the low inflation rate then risks becoming more prolonged.

Figure 4. Long-term inflation expectations

Per cent



Note. Inflation compensation refers to a 5-year period starting in 5 years' time, calculated on the basis of bond yields, 15 days moving average.

Sources: Kantar Sifo Prospera and the Riksbank.

1.2 Measures for continued very expansionary monetary policy

The pandemic has affected almost all participants in the economy and also entailed a challenge to the financial system. To alleviate the effects of the pandemic, governments, central banks and authorities around the world have implemented various types of support measures. The monetary safety nets provided by the Riksbank since the coronavirus crisis broke out are summarised in Table 1 below. Through its programme for lending to companies via the banks, the Riksbank offers the banks to borrow up to SEK 500 billion against collateral to stimulate their onward lending to Swedish non-financial corporations. The banks have so far borrowed around SEK 165 billion within this programme. Within the programme for asset purchases, the Riksbank

² Such factors are discussed, for instance, in the article "Inflation outlook during the corona crisis" in the Monetary Policy Report published in July 2020.

has by 20 November purchased securities for a total of SEK 266 billion. These programmes aim to hold interest rates low and facilitate the supply of credit.³ By contributing to low interest rates throughout the economy and a smoothly functioning credit supply, the Riksbank is creating favourable conditions for the economy to recover and inflation to rise towards the target.

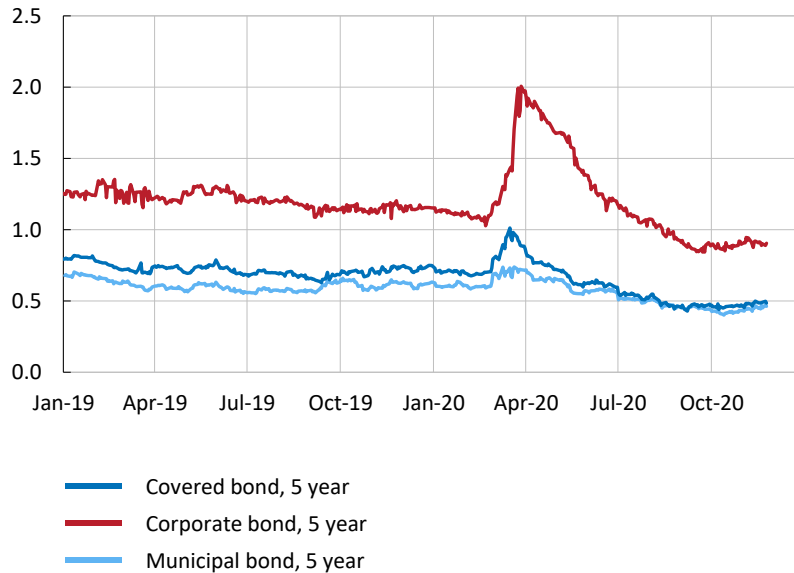
The different programmes launched by the Riksbank since the coronavirus outbreak have had a calming effect on the financial markets, and bond yields have on the whole fallen back (see Figure 5). Financial conditions have been kept expansionary and contributed to the interest rates charged to households and companies have been kept low despite the crisis. It has become increasingly important for companies to be able to fund themselves via the commercial paper and bond markets. They now obtain around one third of their funding this way. Access to this market funding is good, at the same time as companies also have good opportunities to borrow money from the banks. Taken as a whole, credit granting seems to be stable for companies of all sizes and in all sectors (see Figure 6).⁴ The various measures have on the whole entailed a very expansionary monetary policy.

³ The Riksbank has for the same purpose implemented further measures. For example, the Riksbank offers loans to the banks in weekly extraordinary market operations, has lowered the interest rate in the standing facilities, and has eased requirements for collateral in loans to banks.

⁴ Lending to smaller companies has been more restrained during the crisis, although lending volumes to these companies have also increased somewhat. However, it is difficult to know whether the more restrained lending to smaller companies was largely due to changes in supply or demand. See Financial Stability Report 2020:2.

Figure 5. Yield differentials between different types of bonds and government bonds

Percentage points

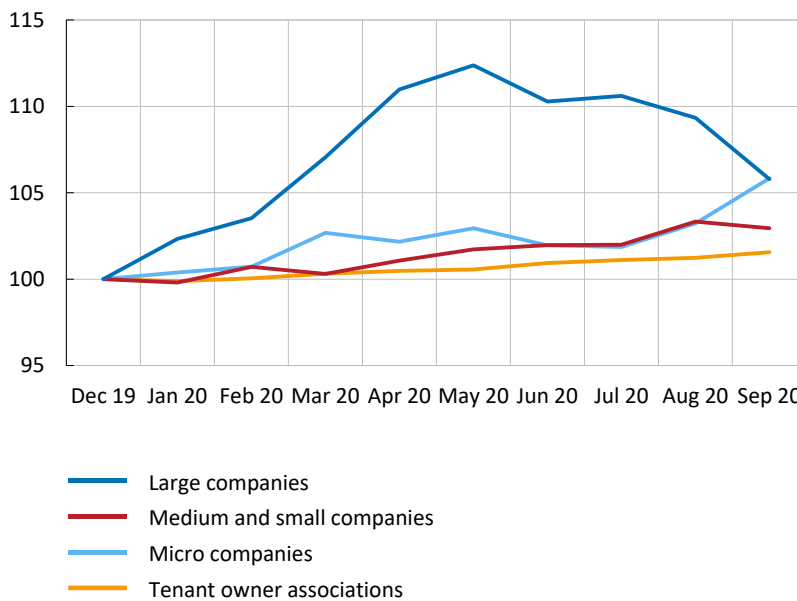


Note. Zero coupon rates calculated using the Nelson-Siegel method. The corporate bond series illustrates a heterogeneous group of bonds for companies with credit ratings of BBB or higher. Municipal bonds are issued by Kommuninvest i Sverige AB.

Sources: Macrobond, Refinitiv and the Riksbank.

Figure 6. Change in stock of corporate loans from MFIs divided into company size

Index, December 2019 = 100



Note. Size categories in accordance with European Commission Recommendation (2003/361/EC), in which the combination of employees, turnover and assets determines the size classification.

Source: KRITA (Statistics Sweden).

Programme for the Riksbank's asset purchases extended and envelope expanded

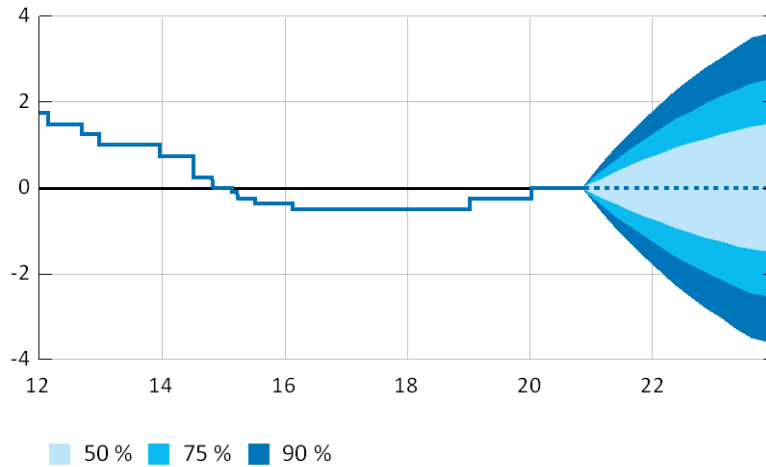
Since the September Monetary Policy Report, GDP growth in Sweden and abroad has been somewhat stronger than expected, at the same time as inflation has been somewhat lower. Meanwhile, the new, rapid upturn in infection has led to changes in important assumptions for the forecasts. In many areas, the burden on the medical services is increasing again, and most countries have reintroduced tighter restrictions. The economic prospects for Sweden and internationally have therefore been revised down for the coming six months. In Sweden, economic activity is expected to decline again, the labour market to deteriorate further and it is assumed that GDP will not recover to pre crisis levels until the end of next year. Inflation prospects have also been revised down somewhat in the near term.

The situation on the financial markets remains sensitive to the pandemic and is conditional on the countries' very extensive economic policy measures. After the initial weakening when the pandemic broke out, the krona has strengthened considerably. If this development were to continue rapidly going forward, it could dampen the economic recovery and make it difficult for inflation to rise towards the target again.

To counteract the economic downturn and facilitate a recovery, the Executive Board has decided to expand the envelope for asset purchases and extend the purchase programme until 31 December 2021. The pace of the purchases will also be increased in the near term. The Riksbank will continue to make asset purchases and offer liquidity within all of the programmes launched since the spring when the crisis broke out, and will hold the repo rate unchanged at zero per cent. The repo rate is expected to remain at that level for the entire forecast period (see Figure 7).

Figure 7. Repo rate with uncertainty bands

Per cent



Note. The uncertainty bands for the repo rate are based on the Riksbank’s historical forecasting errors and the ability of risk-premium adjusted forward rates to forecast the future repo rate for the period 1999 up to the point when the Riksbank started to publish forecasts for the repo rate during 2007. The uncertainty bands do not take into account the fact that there may be a lower bound for the repo rate. Outcomes are daily rates and forecasts refer to quarterly averages.

Source: The Riksbank.

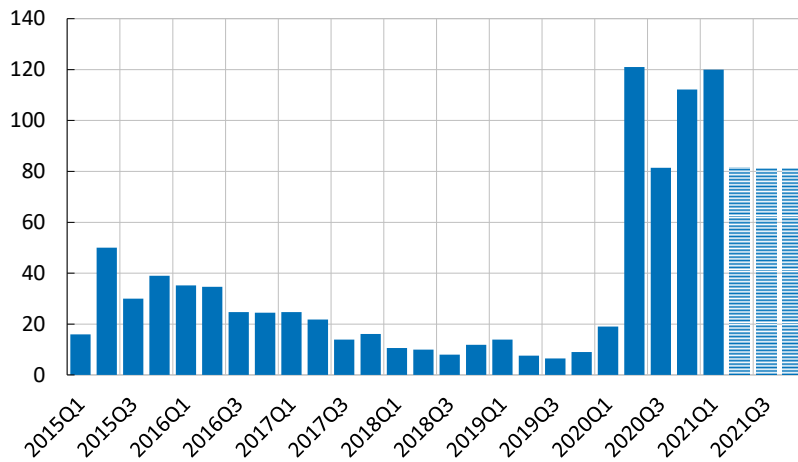
The envelope of the asset purchases will be expanded by SEK 200 billion, to a total nominal amount of up to SEK 700 billion and the purchase programme will be extended until 31 December 2021. The programme will also include treasury bills, to ensure the impact on rate-setting is as broad as possible.

Moreover, the Executive Board has decided on purchases for the first quarter of 2021, which will amount to SEK 120 billion. This is a higher pace of purchase than for the fourth quarter of 2020 (see Figure 8). The Riksbank’s purchase programme entails the holdings of securities, which have grown rapidly during the crisis this year, continues to grow during the first part of 2021 (see Figure 9).

By extending the time of the purchase programme and increasing the volumes, the Riksbank is making it clear that there will be comprehensive monetary policy support available as long as it is needed. The Riksbank’s measures contribute to low interest rates and to the financial markets functioning smoothly and not causing further uncertainty in the already strained situation. In this way, the economic recovery is facilitated, which will contribute to inflation rising towards the target of 2 per cent. Given that the Government and the Riksbank are extending their support measures, the forecasts for GDP and inflation in the slightly longer run remain largely unchanged.

Figure 8. Purchases of bonds in Swedish kronor

Nominal amounts, SEK billion

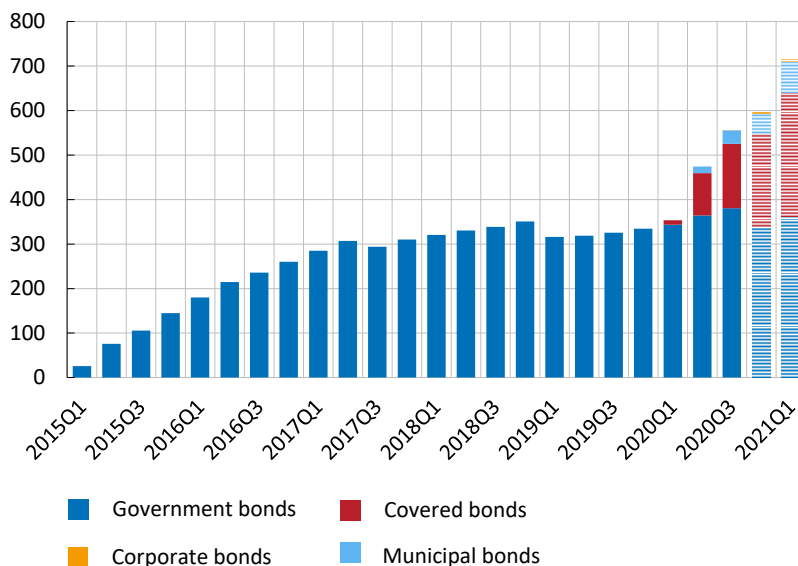


Note. The solid bars represent purchases that have been implemented or decided on with regard to government bonds, municipal bonds, covered bonds and treasury bills within the envelope of both the asset purchase programme introduced in February 2015 and the new asset purchase programme introduced in March 2020. Corporate bonds are also included, although only as forecasts for the final quarter of 2020 and the first quarter of 2021, as these purchases are not determined quarterly. The shaded bars illustrate an even purchase pace for the remainder of 2021.

Source: The Riksbank.

Figure 9. The Riksbank's bond holdings

Nominal amounts, SEK billion



Note. Holdings up to the first quarter of 2021 refer to decided purchases of government securities, municipal bonds and covered bonds. Government securities include both government bonds and treasury bills. For corporate bonds, the purchase decision covers the whole period up to 30 June 2021, without division into quarters. A forecast is shown for the final quarter of 2020 and first quarter of 2021.

Source: The Riksbank.

The Riksbank's plans for asset purchases during the first quarter of 2021

The Riksbank's extensive measures create security and how that there will be monetary policy support as long as it is needed, with low interest rates and a functioning supply of credit. In these uncertain times, it is important that the Riksbank maintains its flexibility and ability to adapt monetary policy according to changes in needs, for instance with regard to the possibility of increased stress arising on various markets. At the monetary policy meetings, purchase plans are decided for a specific future period, based on a regular assessment of the prevailing needs. The purchases and the pace of the purchases in the programme are thus adapted to economic developments so that the individual purchases can be allocated as efficiently as possible between the different asset types. If it is assessed as appropriate, the Executive Board can adjust the plan for asset purchases by raising or lowering the purchase amount for a particular type of asset. The question of which monetary policy measures will be taken, and when they will be taken, always entails a balance between the effects one wishes to attain and the possible side-effects that can arise at the same time.

Within the Riksbank's asset purchase programme the Executive Board has now decided to purchase bonds to a total nominal amount of SEK 120 billion during the first quarter of 2021 (see Figure 8). The purchase programme is divided between Swedish nominal and real government bonds and the Swedish government's green bonds for a total nominal value of SEK 13.5 billion, Swedish treasury bills for a nominal amount of SEK 10 billion, bonds issued by Swedish municipalities and regions as well as Kommuninvest i Sverige AB for a nominal amount of SEK 23.5 billion, and covered bonds issued by Swedish institutions for a nominal amount of SEK 70 billion. Within the envelope for municipal bond purchases, the Riksbank may also purchase green bonds.

The Riksbank will also continue to offer to buy commercial paper up to a potential holding of SEK 32 billion during the first quarter. The purchases of corporate bonds up to SEK 10 billion up to 30 June 2021 will continue in line with the decision made on 31 August. The Riksbank has now decided to only offer to buy corporate bonds issued by companies deemed to comply with international standards and norms for sustainability. Taking sustainability into consideration with regard to bond purchases is a means for the Riksbank to contribute within its mandate to limiting climate change (for further discussion of this, see the article "How is the Riksbank's work affected by climate change?").

A combination of monetary and fiscal policy is making support measures more effective

When different policy areas cooperate in a crisis, this means that the support measures in total complement one another and in this way have a greater effect on the economy. Monetary policy has plenty of scope to manage problems that might arise on the financial markets, such as poorer credit supply or rising risk premiums that push up interest rates charged to households and companies. Demand in the Swedish economy is also supported with fiscal policy, which can provide more targeted support for sectors where the negative effects of the pandemic have been particularly strong.

Public sector finances are strong and interest rates are low, which makes it possible to implement more comprehensive economic policy support over a long period of time to bring the economy back towards a more normal situation. Since the pandemic broke out, the Riksdag (the Swedish Parliament) has decided on fiscal policy measures of historic proportions. As the spread of infection has now picked up speed again in the autumn, further temporary support measures have been presented. One important factor behind the economic recovery in the Riksbank's forecasts is the assessment of extended fiscal policy support in relation to the forecast in September. The Riksbank is contributing to low interest rates in the entire economy and a functioning supply of credit by extending its asset purchase programme until 31 December 2021 and expanding the envelope with a further SEK 200 billion. It is also significant that the pace of purchases is increased in the near term. In this way, the Riksbank is creating security and showing that comprehensive monetary policy support will be available as long as it is needed.

1.3 Preparedness to adapt monetary policy

The pandemic has caused considerable uncertainty regarding economic developments.⁵ The fact that conditions have changed rapidly very recently, causing a downward revision to the forecasts is a clear illustration of this. The Riksbank continues to stand ready to adapt its monetary policy if the conditions for the recovery in inflation and the real economy change.

The recovery going forward will be largely determined by what happens with the spread of infection, what measures are implemented to deal with it and how much society is affected. In the main scenario it is assumed that the spread of infection in Sweden and abroad will slow down again in the first quarter of next year and that the restrictions that have been introduced will start to be lifted in the second quarter. But these assumptions are highly uncertain, which also applies to the effects on the economy in both the short and long term.

The crisis has significance for structural changes and it is not improbable that, for instance, people's consumption patterns will change more permanently as a result of the pandemic. The article "The long-term economic effects of the pandemic are uncertain" in this report discusses various factors that could lead to a different economic development in the long run than is portrayed in the main scenario.

There is also uncertainty in the short term. It is not impossible that developments could be better than expected. If the measures to limit infection and the extensive stimulus applied were to be more successful than assumed, the recovery could accelerate faster than in the Riksbank's main scenario. Developments over the summer showed that demand can rapidly return once the spread of infection declines and the restrictions are withdrawn. If effective vaccines are put in place soon, this could cause a rapid increase in confidence in the global economy and the recovery in economic activity could be both broader and stronger. There have been positive signals regarding

⁵ To illustrate the uncertainty surrounding the Riksbank's main scenario, two alternative scenarios for economic developments are presented in an article in the September Monetary Policy Report.

the production of a vaccine, but even once the vaccine is ready, it could take time before there is enough for the majority of the population.

In a scenario with a more favourable development for Swedish GDP and the labour market, it is likely that inflation would also rise faster during the forecast period. However, this is not necessarily a reason to make monetary policy less expansionary. An inflation rate that overshoots the target could help to anchor inflation expectations more firmly around 2 per cent, which would be good for price setting and wage formation.

On the other hand, if the pandemic were to worsen during 2021, this could probably also lead to a severe economic recession. Reduced demand from abroad, larger restrictions in social life and a deterioration in sentiment among households and companies could lead to lower GDP and higher unemployment during the forecast period.

In this type of scenario, where the need for monetary policy stimulus is probably increasing, asset purchases and measures to promote credit supply in the economy remain important tools, which may need to be extended further, to provide powerful support to the economy and inflation. With a policy rate already at zero per cent, the scope for large rate cuts is limited. However, the possibility of a repo rate cut cannot be ruled out, if it is deemed to be effective, especially if confidence in the inflation target is under threat. Several factors that are currently difficult to assess will determine whether it is appropriate to cut the repo rate to negative levels again. These factors include the development of the exchange rate, how fast the supply side of the economy recovers in relation to the demand side, and how a lower policy rate is assessed to affect interest rates in general and ultimately consumption and investment. Moreover, fiscal policy still has an important role to play, as it is not possible to rapidly restore economic activity solely with monetary policy.

Necessary measures risk building up vulnerabilities in the long run

The measures taken by governments and central banks around the world are on the one hand necessary, and on the other hand they risk building up vulnerabilities in the financial system in the longer run. At present, these vulnerabilities are subordinate to the need to counteract the immediate economic consequences of the pandemic, as the support measures are necessary to dampen the dramatic falls in GDP in the global economy. The measures mean that countries and companies are substantially increasing their indebtedness. Weak banks and public finances in, for instance, the euro area are a risk that could mean the crisis becomes deeper and more prolonged. With regard to Sweden, there are vulnerabilities linked to the high indebtedness in the Swedish household sector and the banks' exposures to property. First and foremost, housing and tax policy measures are required to mitigate the risks associated with household indebtedness.⁶

The extensive and long-term initiatives and the fact that the measures were implemented on individual markets for securities have meant that the possible negative

⁶ For a discussion of the higher risks to financial stability, see the Riksbank's Financial Stability Report 2020:2.

side-effects of monetary policy have started to be discussed to a greater extent, both abroad and in Sweden. Among other things, the effects of monetary policy on the distribution of incomes and wealth has received more attention (see the article “Distributional effects of the Riksbank's measures” in this report). However, it is not evident what the overall effect will be, as monetary policy has an impact through various channels that have partly counteracting distributional effects. Monetary policy is not very well suited to use for redistribution purposes and neither is this the Riksbank's task. Such considerations should be made by elected officials, who also have the most effective tools at their disposal to counteract undesirable distributional effects.

Another factor that affects economic developments in the long term is climate change, and this can entail new challenges for monetary policy (see the article “How is the Riksbank's work affected by climate change?”). There is already a discussion on how central banks can contribute to limiting the negative effects of climate change, even though the most effective measures fall within the remit of other policy areas. One way for the Riksbank to contribute within its mandate is to take into account sustainability in the choice of corporate bonds in its purchasing programme, and to measure and report the carbon footprint of the corporate bond portfolio.⁷

⁷ The Riksbank has now decided to only offer to buy corporate bonds issued by companies deemed to comply with international standards and norms for sustainability, and to include green municipal and government bonds in its asset purchases. See Annex B to the minutes "Programme for the Riksbank's asset purchases for monetary policy purposes in 2021" on the Riksbank's website.

Table 1. The Riksbank's measures during the corona crisis (bold indicates new decision at November monetary policy meeting)

Measure	Scope (Purchased/utilised so far up to 20 November)	Purpose
Programme for loans to banks for onward lending to companies	Up to SEK 500 billion (SEK 164.5 billion)	Support credit supply to non-financial corporations.
Envelope for the Riksbank's asset purchases	Purchase programme extended until 31 December 2021. Envelope extended from SEK 500 billion to SEK 700 billion. Purchases Q1 2021: SEK 120 billion (SEK 266 billion, excluding commercial paper)	Contribute to low interest rates throughout the economy and a smoothly functioning credit supply, and in this way create favourable conditions for the economy to recover and inflation to rise towards the target.
- Purchases of government bonds	Green government bonds included Purchases Q1 2021: SEK 13.5 billion (SEK 39.5 billion)	
- Purchases of municipal bonds	Green municipal bonds included Purchases Q1 2021: SEK 23.5 billion (SEK 35.3 billion)	
- Purchases of covered bonds	Purchases Q1 2021: SEK 70 billion (SEK 189 billion)	
- Purchases of treasury bills	Purchases Q1 2021: SEK 10 billion	
- Purchases of corporate bonds	Only purchases of bonds from companies that comply with sustainability standards and norms Purchases up to a maximum of 10 billion up to 30 June 2021 (SEK 1.8 billion)	
- Purchases of commercial paper	Purchase up to a maximum holdings of SEK 32 billion to 31 March 2020. (Holdings: SEK 0.9 billion)	
Interest rate in standing loan facility cut	Cut from 0.75 to 0.10 percentage points above the repo rate.	Ensures that the overnight rate on the market for Swedish krona is close to the repo rate. Makes it cheaper for the banks to get access to overnight loans.
Weekly market operations whereby banks are offered loans against collateral at three and six months maturities at the repo rate.	Unlimited (SEK 28.7 billion)	Strengthen the banks' access to liquidity in Swedish krona to facilitate their funding and their role as suppliers of credit to Swedish companies.
Eased collateral requirements when borrowing from the Riksbank	—	Reinforce the banks' access to liquidity in Swedish krona.
Loans in US dollars	Up to USD 60 billion (USD 2 billion)	Reinforce access to liquidity in US dollars in the Swedish financial system.

Note: Municipal bonds refers to bonds issued by Swedish municipalities, regions and Kommuninvest i Sverige AB. All of the bases for the decisions on various measures can be found on the Riksbank's website <https://www.riksbank.se/en-gb/press-and-published/updates-on-the-riksbank-and-the-coronavirus-pandemic/the-riksbanks-measures-in-connection-with-the-corona-pandemic/>.

2 Continued expansionary financial conditions

The economic consequences of the pandemic are continuing to affect the development of the financial markets. Since the Monetary Policy Report in September, the global spread of infection has increased and the daily number of new confirmed cases has risen rapidly. However, at the start of November, news was released that researchers had made progress in developing a vaccine, which strengthened investors' willingness to hold high-risk assets. All of this has affected the global stock markets, where prices first fell during the autumn, and have since recovered in recent weeks. The money and bond markets have been affected to a much lesser extent. One explanation for this is the measures taken by central banks, and in particular the large-scale asset purchases and extensive lending programmes.

The credit supply to companies and households in Sweden continues to be good and interest rates remain low. The Swedish krona has strengthened somewhat since the September Monetary Policy Report was published. Despite the increased spread of infection since September, financial conditions in both Sweden and abroad are assessed as largely unchanged and still expansionary. The situation on the financial markets is, however, sensitive to the effects of the pandemic and conditional on the countries' very extensive economic policy measures.

2.1 Increased uncertainty on the financial markets

The pandemic is continuing to affect the development of the financial markets, both in Sweden and abroad. Since the Monetary Policy Report in September, the spread of infection has increased, not least in Europe. The number of new cases reported per day worldwide has approximately doubled since September, from 300,000 to 600,000. This has led the governments of many countries to reintroduce tight restrictions. Concern over the economic consequences of these restrictions have affected the stock markets in particular, leading to falling equity prices. However, this development is much less dramatic than when the pandemic first broke out at the beginning of the year. Following the US presidential election, the stock markets started to recover and the news of the progress that had been made in producing a vaccine has made a further contribution to equity prices rising. On the foreign exchange markets, the dollar has weakened slightly against most other currencies, including the Swedish krona. In contrast, many other markets have been relatively unaffected by the fluctuations in market participants' risk-taking. Yields on both the money and

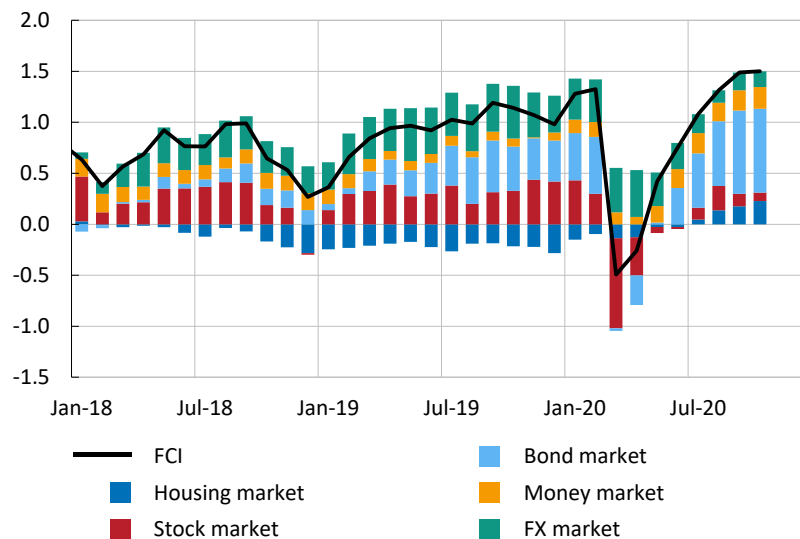
bond markets have been stable and are still at levels similar to those at the start of the year. One contributory reason for this is the central banks' presence on these markets, above all via asset purchases.

There is no unequivocal definition of the concept "financial conditions". Sometimes this concept is used to describe the situation on a large number of financial sub-markets, while on other occasions, it is used to summarise a more limited set of financial variables that are particularly important to macroeconomic developments. One way of measuring financial conditions is to use an index, and one such index is shown in Figure 10.⁸ The purpose of this index is to summarise the situation on many different financial sub-markets in Sweden. The index points to financial conditions in Sweden having recovered since the spring and being largely unchanged since the September Monetary Policy Report. The recovery can be explained by several different sub-markets, including the bond markets, where interest rates are low, and the stock markets, where prices have risen and volatility has declined (see Figure 17). In Sweden, housing prices have also risen in recent months and the housing market is thus contributing to making financial conditions expansionary.

However, there is a risk that the increased infections and new lockdowns will lead to renewed turmoil on financial markets. Such a development would have a negative effect on the credit supply to companies and households. The situation on the financial markets is therefore assessed to remain sensitive to the effects of the pandemic and conditional on the support measures from central banks and governments.

Figure 10. Index for financial conditions in Sweden

Standard deviations



Note. A higher value indicates more expansionary financial conditions.

Source: The Riksbank.

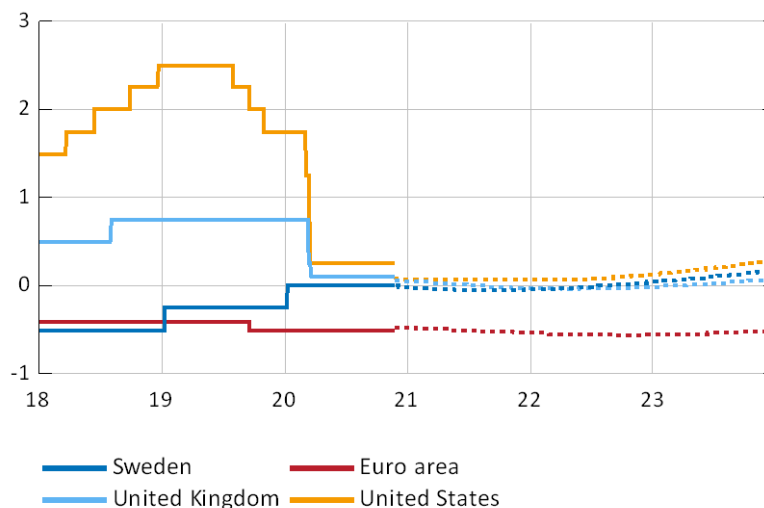
⁸ For details on this index, see J. Alsterlind, M. Lindskog and T. von Brömsen, "An index for financial conditions" Staff memo, February 2020, Sveriges Riksbank. Note that, unlike previously, the index now also includes yields on corporate bonds.

Continued highly expansionary monetary policy worldwide

Since the outbreak of the pandemic, many central banks around the world have implemented strong measures to stabilise the financial markets with the aim of keeping the level of interest rates low and supporting the credit supply to households and companies. Policy rates are close to zero per cent in many countries, and market participants do not expect any major changes to policy rates in the period ahead (see Figure 11). In addition, central banks have made monetary policy more expansionary, above all by initiating large-scale purchases of financial assets and launching extensive lending programmes. These measures are aimed at holding interest rates low and stimulating banks' lending to households and non-financial companies. Measures like this are causing many central banks' balance sheets to grow rapidly (see Figure 12).

Figure 11. Policy rates and rate expectations according to forward rates

Per cent



Note. Forward rates describe the expected overnight rate, which does not always correspond to the policy rate. Broken lines are forward rates estimated on 2020-11-23.

Sources: Macrobond and the Riksbank.

The European Central Bank (ECB) has initiated several different programmes of measures, including a special pandemic programme to purchase assets (PEPP) for EUR 1,350 billion. In addition, the ECB has extended its earlier active programme for asset purchases (APP) and made the lending programme to households and companies via the banks (TLTRO-III) more advantageous.⁹ At its monetary policy meeting in October, the ECB announced that it was holding its previously decided monetary policy unchanged. The policy rate for deposits therefore remains at -0.5 per cent, at the same time as the programme for asset purchases and lending will continue in accordance with the earlier decision.¹⁰ The ECB also communicated that there are clear negative

⁹ PEPP stands for Pandemic Emergency Purchase Programme, APP stands for Asset Purchase Programme, and TLTRO stands for Targeted Longer-Term Refinancing Operations.

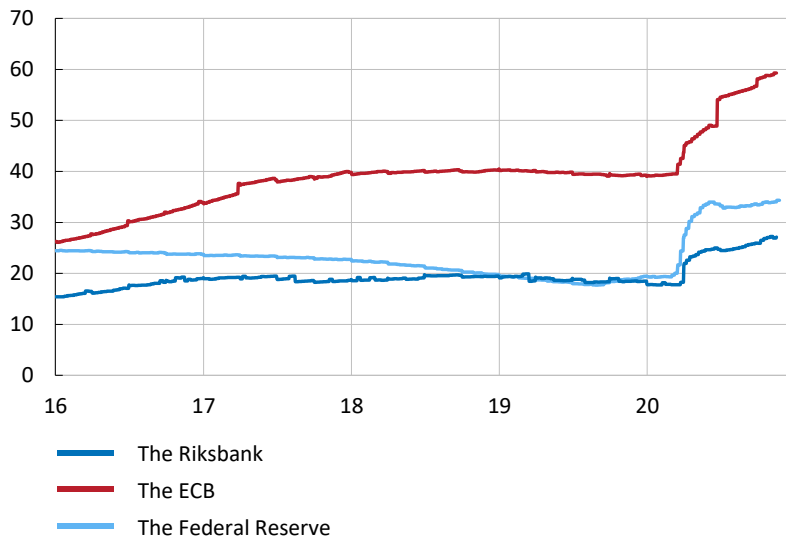
¹⁰ Statistics for the ECB's asset purchases and lending programme are available from the ECB website: <https://www.ecb.europa.eu/mopo/implement/omo/html/index.en.html>.

risks for economic activity in the period ahead and that further monetary policy stimulation measures will be taken at the meeting in December.

The US central bank, Federal Reserve, has also implemented extensive measures since the pandemic started. In March, the policy rate was cut to the interval 0–0.25 per cent and large-scale asset purchases were initiated. Since February, the Federal Reserve’s asset holdings have increased by around USD 2,500 billion to around USD 6,500 billion. Most of these holdings consist of government bonds and covered bonds, but the central bank has also purchased commercial paper and municipal bonds. Moreover, several lending facilities have been opened with the aim of supporting the credit supply to small and medium-sized companies in particular.¹¹ At its monetary policy meeting in November, the Federal Reserve announced that it would hold monetary policy unchanged.

Figure 12. Central banks’ balance sheet totals

Per cent of annual GDP



Note. Annual GDP is calculated as a total of the present quarter and the three previous quarters. For observations after 30 June 2020, annual GDP is the total of GDP for the third quarter of 2019 up to and including the second quarter of 2020.

Sources: Macrobond and the Riksbank.

Continued stabilisation on the money and government bond markets

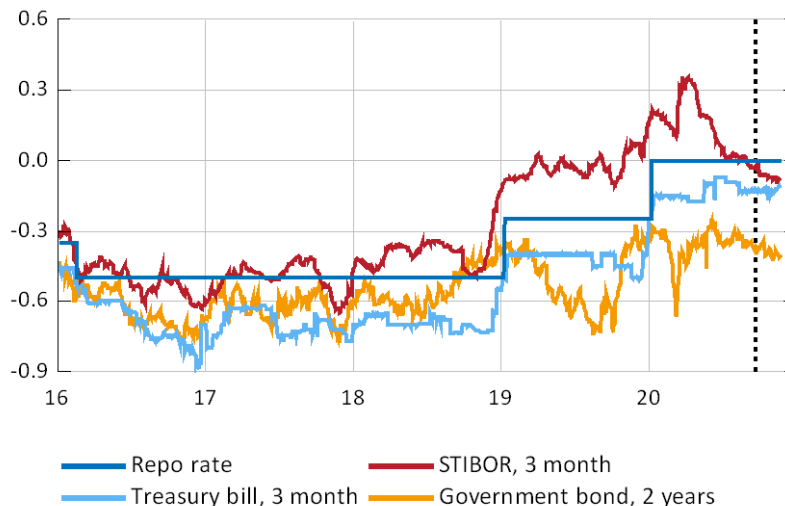
During the spring, a number of rates on the Swedish money markets rose, including the rate on interbank loans without collateral, STIBOR (see Figure 13). Since then, however, STIBOR at different maturities has fallen back, and is now at low levels in relation to the repo rate. For instance, STIBOR with a 3-month maturity is now much lower than the repo rate, for the first time since late 2017. Yields on government bonds with short maturities are also at lower levels than the repo rate, which has

¹¹ Statistics on the Federal Reserve’s asset purchases and lending programme are available on the Federal Reserve’s website: <https://www.federalreserve.gov/releases/h41/current/>.

been the case for a couple of years now. The Riksbank's monetary policy, with purchases of government bonds, and a large amount of liquidity in the banking sector are important reasons for interbank rates having fallen since the spring and government bonds being at low levels. Yields on treasury bills, on the other hand, have been stable over the year, and are at high levels compared with securities with longer maturities.

Figure 13. The repo rate and market rates

Per cent



Note. The broken line marks the time of the monetary policy meeting in September.

Sources: Macrobond, Refinitiv and the Riksbank.

Government bond yields in Sweden and the rest of the world remain low from a historical perspective, which indicates that the market participants expect policy rates to remain low for a long time to come. Central banks' asset purchases are also contributing to keeping government bond yields low.

Since the monetary policy meeting in September, government bond yields in the United States have risen somewhat (see Figure 14). This to some extent reflects the fact that market participants' expectations of the US policy rate's future level have increased slightly. There are also signs that the rising government bond yields can be explained by an increase in the forward premium, which is the payment that compensates investors for the risks inherent in purchasing government bonds with long maturities instead of short ones. This is in line with investors having become less willing to hold safer assets, such as government bonds, and instead demanding higher risk assets, such as equity and commercial paper.

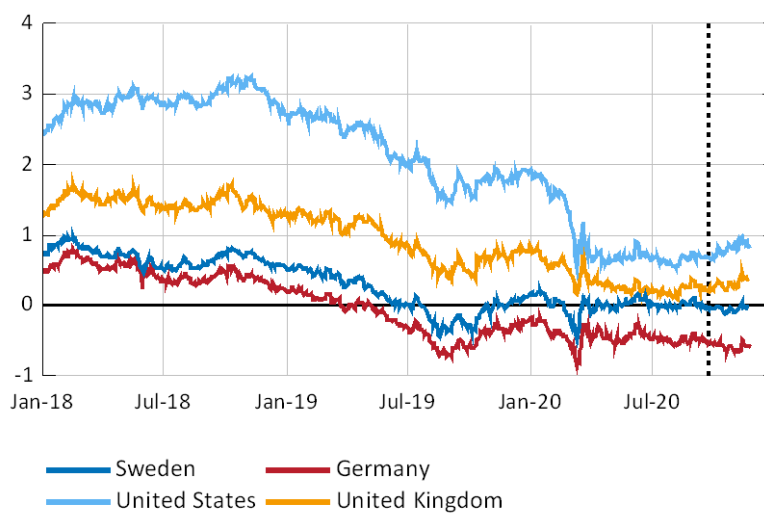
In Europe, on the other hand, government bond yields have fallen somewhat since September (see Figure 14). This applies to yields both in Germany and other countries and is probably due to increased expectations that the ECB will implement further stimulation measures in connection with its monetary policy meeting in December. Government bond yields in some countries, such as Italy, Portugal and Spain, are higher than corresponding yields in Germany. To a large extent, the gap between these yields and German yields reflects public debt levels and the market's perception

of the states' future debt-servicing ability. Despite the spread of infection and the economic uncertainty having increased, these yield spreads have been stable during the autumn.

Swedish government bond yields have remained largely unchanged since the monetary policy meeting in September (see Figure 14).

Figure 14. Government bond yields with 10 years to maturity

Per cent



Note. Implied zero-coupon yields from government bonds for Sweden, Germany and United Kingdom. 10-year benchmark bonds for the United States. The broken line indicates the time of the monetary policy meeting in September.

Sources: The national central banks, US Treasury and the Riksbank.

Stable yields for high-risk bonds

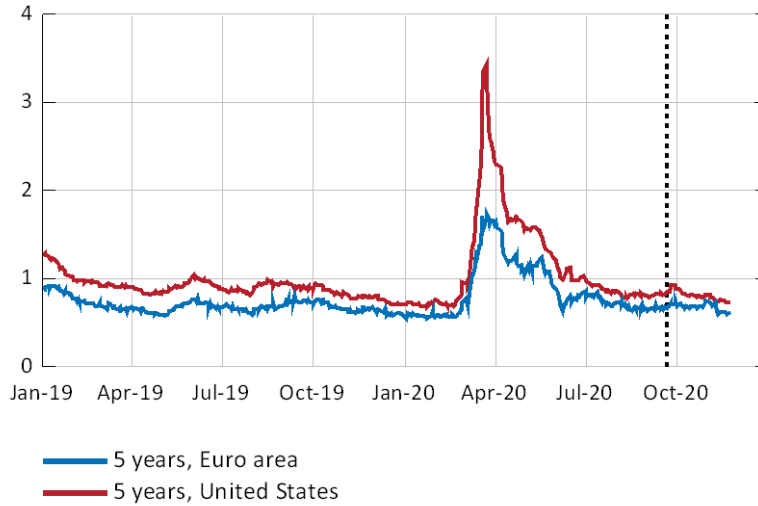
Despite the spread of infection increasing during the autumn, and the recent progress in the work on producing a vaccine, the bond markets have remained largely unaffected. The yield spreads between corporate bonds and government bonds in the United States and the euro area have been stable during the autumn, and are still at very low levels (see Figure 15). The Swedish corporate bonds markets have seen a similar development. Although the yield spreads have shown a weak upturn in recent months, the levels are still much lower than at the beginning of the year (see Figure 16).

In March, the functioning of the market for corporate bonds in Sweden deteriorated increasingly, liquidity fell as the spread of infection increased and many investors wished to sell high-risk bonds but few wished to buy. This could be seen in the increased spread between selling and purchase prices; these differences are often used as a measure of liquidity on a market. After the summer, liquidity largely returned to the levels that had prevailed at the start of the year. During the autumn's new wave of infection, the market has continued to be resilient, with liquidity staying stable and largely unaffected. Other types of bond, such as municipal bonds and covered bonds, have seen a similar development for both yields and liquidity. Over the autumn, the

yield spreads between these bonds and equivalent government bonds have been at levels that are significantly lower than the levels prevailing before the pandemic (see Figure 16).

Figure 15. Difference between yields on corporate bonds and government bonds in the United States and euro area

Percentage points

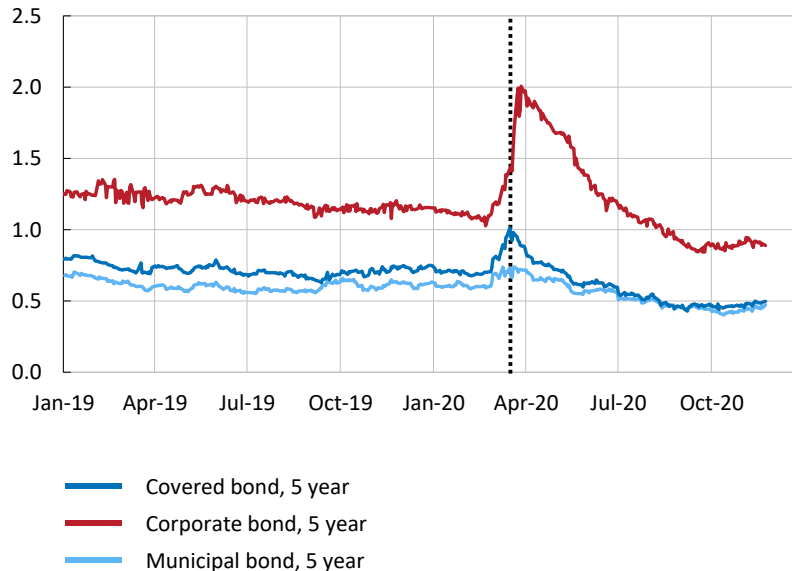


Note. Yield differentials refer to 5-year benchmark issued by companies with good credit ratings respectively benchmark sovereign bonds. The broken line indicates the time of the monetary policy meeting in September.

Source: Macrobond.

Figure 16. Yield differentials between different types of bonds and government bonds

Percentage points



Note. Covered bonds, corporate bonds and government bonds are zero coupon rates calculated using the Nelson-Siegel method. Corporate bonds for companies with credit ratings of BBB or higher. Municipal bonds are benchmark bonds, issued by Kommuninvest i Sverige AB. The broken line marks 16 March 2020, when the Executive Board decided to extend the asset purchases to cover municipal bonds and covered bonds.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

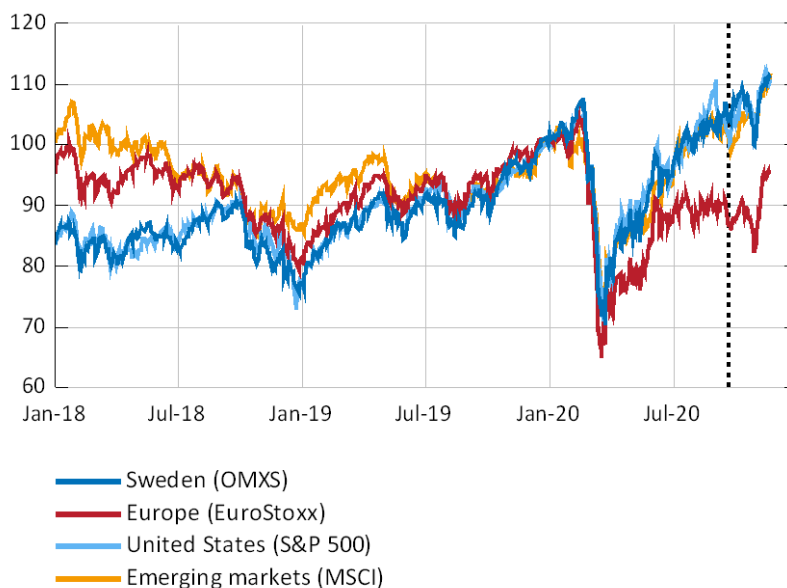
The expansionary monetary policy conducted by the central banks has contributed to the resilience shown by the markets for high-risk bonds. Many central banks, including the Riksbank, have been active buyers on the bond markets since the pandemic started, to contribute liquidity and hold down risk premiums, which could otherwise make the rates on these markets increase.

Major fluctuations on the stock markets

After the heavy price falls in the spring, the stock markets recovered strongly and, at the start of the autumn, several equity indices, above all in the United States and Sweden, reached record levels. Over the autumn, however, the spread of contagion gradually increased in both the United States and Europe and, in the middle of October, it became clear that this development would give rise to a new wave of restrictions. Willingness to take risk declined and prices on the stock markets fell (see Figure 17). The markets were also affected by the US presidential election and uncertainty over future fiscal policy stimulation measures, among other things. Following the election, uncertainty declined and equity prices recovered rapidly, especially as a result of the news that researchers had made progress in creating a vaccine. While equity prices rose on a broad front, the strongest sectors were those that were more exposed to the effects of the pandemic, such as airlines, and companies in the hotel and restaurant sector. These sectors were also the ones to have fallen the most in the spring when equity prices collapsed.

Figure 17. Stock market movements in domestic currency

Index, 31 December 2019 = 100



Note. The broken line indicates the time of the monetary policy meeting in September.

Source: Macrobond.

Stronger krona since September

During periods of unease when market participants prefer safer assets, the krona exchange rate usually weakens, especially against the currencies that investors regard as safe, such as the US dollar. However, the recent increase in the spread of infection has not led to increased demand for safe assets, which can be seen in the rising equity prices, for instance. The continued large risk appetite among investors is thus a partial explanation for the krona strengthening against most other currencies in recent months. Since the monetary policy meeting in September, the krona, according to the krona index, KIX, has strengthened by around 1.5 per cent (see Figure 18). Another explanation for the stronger krona is that the difference between Swedish and European interest rates has increased. While German government bond yields have fallen somewhat over the autumn, as a result of the ECB's expected stimulation measures in December, Swedish government bond yields have remained largely unchanged (see Figure 14).

Figure 18. Nominal exchange rate, KIX

Index, 18 November 1992 = 100



Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. The broken line indicates the time of the monetary policy meeting in September.

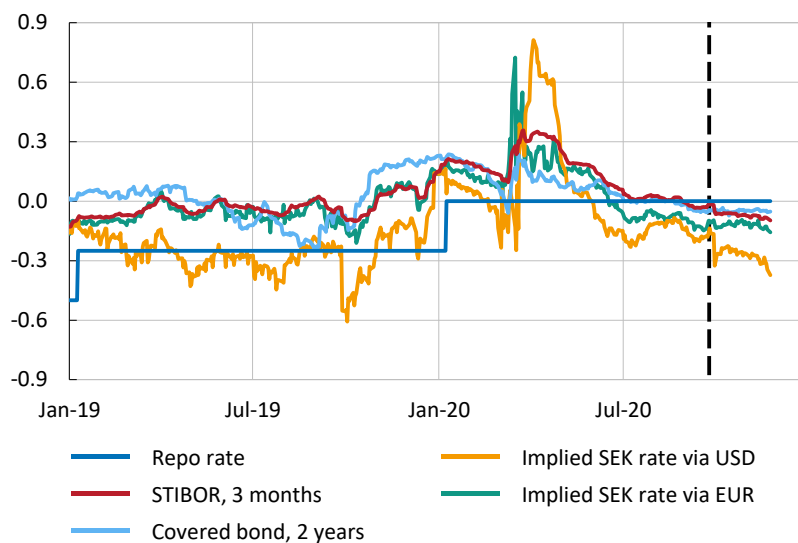
Sources: National sources and the Riksbank.

The banks' funding costs remain low

Swedish banks' short-term funding consists largely of borrowing in other currencies than the Swedish krona, particularly in US dollars and euros. The banks convert part of this foreign funding to Swedish kronor using various financial contracts. The banks' costs for funding themselves in this way can be illustrated with the aid of so-called implied SEK interest rates (see Figure 19). These interest rates are also significant to STIBOR, the interest rate for collateral-free interbank loans in Swedish krona. Figure 19 shows that these interest rates have largely stayed unchanged over the autumn, on low levels compared with the repo rate. This means that the costs of the banks' short-term funding have remained low. One of the most important reasons for this is the swap arrangement agreed in the spring between the Federal Reserve and a number of central banks around the world, with the aim of improving liquidity on global financial markets. As part of the arrangement, the Riksbank is offering dollars to Swedish counterparties at least until March 2021.

Figure 19. The repo rate and the banks' financing rates

Per cent



Note. The implied SEK interest rates are calculated using spot rates and forward exchange rates, as well as 3-month interest rates (EURIBOR and USD LIBOR). The broken line marks the date of the monetary policy meeting in September.

Sources: Bloomberg, Macrobond and the Riksbank.

The banks' long-term funding consists largely of covered bonds, issued in Swedish krona. During the autumn, the yields on these bonds have remained at low levels, partly as a result of the Riksbank's purchases. All in all, the banks' low funding costs have contributed to the interest rates faced by households and companies remaining low.

Good credit supply to households and companies

Swedish companies fund themselves mainly via bank loans.¹² The banks' willingness and ability to issue loans is therefore vital to companies' credit supply. The low costs for the banks' funding have made it possible for the banks to maintain the low interest rates that companies and households ultimately face (see Figure 20).

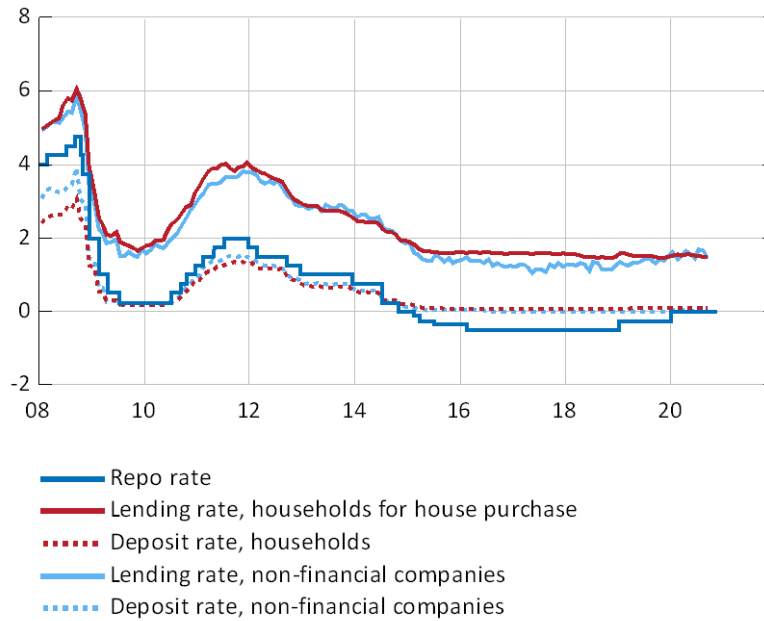
Over the year, aggregate bank lending to companies of all sizes has increased (see Figures 6 and 21). At the start of the crisis, lending to large companies increased rapidly, while lending to smaller companies has increased in recent months. Access to loans, and the need to borrow, differ from company to company. Some companies, above all large ones, have access to wholesale funding via the certificate and bond markets. While the total volume of issued bonds over the year as a whole has been relatively unchanged compared with previous years, volumes of issued certificates have decreased clearly. One explanation for this could be that certificates have short maturi-

¹² Bank loans comprise around two thirds of the companies' external funding. For further details of companies' funding and how this has developed during spring 2020, see E. Frohm, J. Grip, D. Hansson and S. Wollert, "Two-tier credit developments during the coronavirus pandemic", Economic Commentaries no. 6, 2020, Sveriges Riksbank.

ties and need to be refinanced frequently, meaning increased risk for companies, particularly in times of uncertainty. Major companies have therefore replaced parts of their funding via certificates with bank loans for short maturities (less than 1 year), which may partly explain the large increase in bank loans to these companies during the spring.

Figure 20. Repo rate together with the average deposit and lending rate to households and companies, new and renegotiated loans

Per cent



Note. Monetary financial institutes' average deposit and lending rates are a weighted average of all interest rates for different maturities.

Sources: Statistics Sweden and the Riksbank.

When bank loans are broken down by maturity, it can be seen that companies of all sizes have increased their volumes of loans for short maturities, less than 1 year.¹³ While one explanation for the major companies could be that they have replaced their funding via certificates, there may be several explanations for the smaller companies. The banks may have become less willing to lend money for long maturities, as this is riskier than lending for short maturities. Interest rates on bank loans with longer maturities have not increased, however, which indicates that their willingness to lend at these maturities remains good. Another possible explanation is that it is more common among smaller companies to apply for loans to see them through the crisis, as these companies are more vulnerable, and this type of loan often has a short maturity.

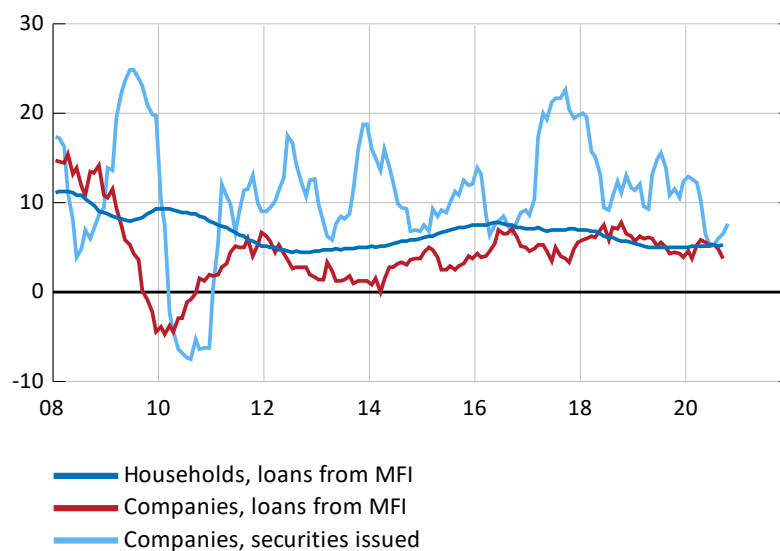
Taken as a whole, credit granting seems to be relatively stable for companies of all sizes and in all sectors. Interest rates for corporate loans have also been reasonably constant over the year (see Figure 20). However, this does not mean that the risk of

¹³ Note that these maturities refer to the time until the loan must be repaid and not to the maturity of the interest.

comprehensive solvency problems among companies is absent. More vulnerable companies, such as smaller companies or those in the hotel and restaurant sector, are probably borrowing money to a greater extent to resolve their acute liquidity problems. This means that the companies' balance sheets are weakening and the risk of bankruptcy later on is increasing.¹⁴ This type of risk may be substantial and growing for many companies, both in Sweden and abroad. There have so far been few bankruptcies among Swedish companies, but it is important to continue to follow developments going forward.¹⁵

Figure 21. Lending to households and companies

Annual percentage change



Note. Lending by monetary financial institutes to households and non-financial corporations adjusted for reclassifications and bought and sold loans. Securities issued by non-financial corporations have been adjusted for currency impact.

Source: Statistics Sweden.

Inflation expectations close to levels before pandemic

Market-based measures of long-term inflation expectations in the United States have risen over the autumn, partly because the Federal Reserve has introduced a new strategy to attain its inflation target (see Figure 22).¹⁶ This development is in line with the survey-based inflation expectations, which showed a clear upturn in the November survey, compared with the previous survey in August.¹⁷ On the other hand, market-based measures in the euro area have fallen slightly over the autumn.

¹⁴ For more detailed reasoning, see Financial Stability Report, 2020:2, Sveriges Riksbank.

¹⁵ See the article "Bankruptcies during the initial phase of the coronavirus pandemic" in Financial Stability Report, 2020:2, Sveriges Riksbank.

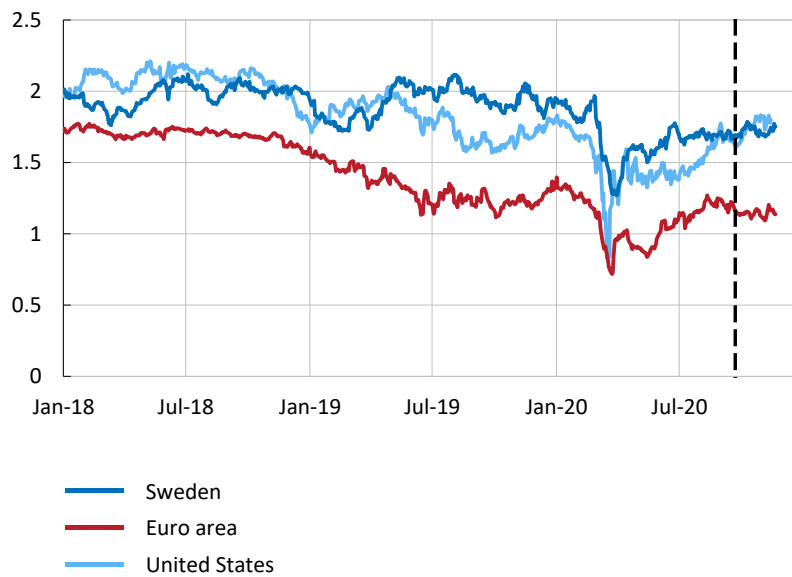
¹⁶ For more details see the box "The Federal Reserve's new monetary policy framework", Monetary Policy Report September 2020, Sveriges Riksbank.

¹⁷ Further details on the survey can be found on the website of the Federal Reserve Bank of Philadelphia: <https://www.philadelphiafed.org/surveys-and-data/>.

In Sweden, the market-based measures of inflation expectations have remained largely unchanged over the autumn. Inflation expectations among money market participants, according to the survey by Kantar Sifo Prospera, have risen weakly since the summer, although the survey in November showed fairly unchanged expectations in relation to October (see Figure 4). Long-term expectations 5 years ahead are at around 1.8 per cent according to the CPI, and are very near the levels the surveys were showing prior to the pandemic.

Figure 22. Market measure of long-term inflation expectations

Per cent



Note. Inflation expectations refer to a 5-year period starting in 5 years' time. For the United States and Sweden, these are calculated on the basis of bond yields and refer to the CPI. For the euro area, they are calculated on the basis of inflation swaps and refer to the HICP. The broken line marks the date of the monetary policy meeting in September.

Sources: Bloomberg, Macrobond and the Riksbank.

3 A second wave of the pandemic is reducing activity

Economic activity abroad improved more than expected over the summer. However, an increased spread of infection and new restrictions are expected to restrain economic activity in the short term. GDP is now expected to decrease in the euro area and GDP growth to slow down in the United States over the next few quarters. The Riksbank's main scenario assumes that the restrictions will remain on the current level during the first quarter of next year, before gradually being lifted. Following this, GDP growth is expected to pick up. Both fiscal and monetary policy are expected to stimulate GDP growth in the coming years. Inflation will rise in the period ahead when resource utilisation increases in the global economy.

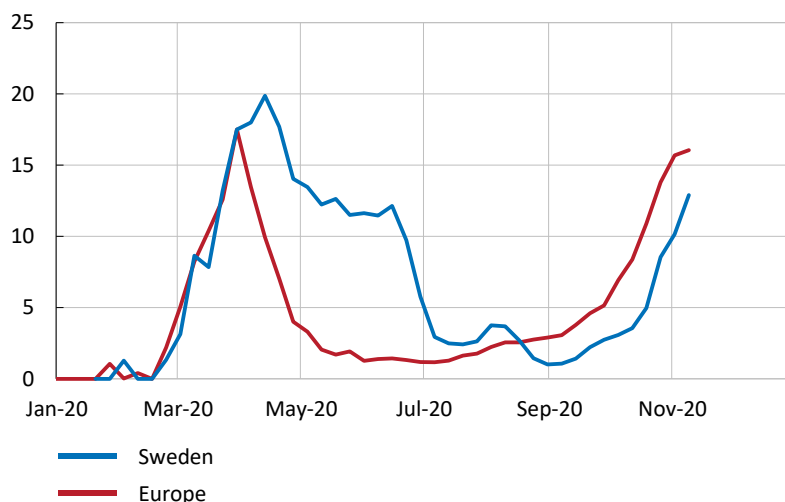
The Swedish economy also recovered strongly in the third quarter and the situation on the labour market stabilised. In October, the spread of infection increased again, which is expected to affect the economy negatively in the next few quarters before it again improves. GDP growth is expected to average just over 3 per cent per year in 2021-2023 and unemployment will gradually fall back, amounting to just over 7 per cent towards the end of the forecast period. Falling energy prices and other, more temporary factors have pushed inflation down significantly so far in 2020. Inflation is expected to recover somewhat in 2021 and, as demand increases, inflation will rise slowly towards the target.

3.1 Increased spread of infection and extended restrictions

Increased spread of infection behind new downturn in economic activity

In recent months, the spread of infection has again gathered pace in most of the countries and regions that are important to the Swedish economy. Both the number of infections and proportion of infections among those tested have clearly increased (see Figure 23). In Europe, the spread of infection has increased particularly heavily in France, but also in Spain, Italy, the United Kingdom, Germany and elsewhere. In some cases, the number of people in intensive care has approached the levels seen in the spring and the number of fatalities has risen rapidly in many countries. In Sweden too, the number of infections is now increasing at a fast pace and admissions to hospitals and fatalities are also increasing.

Figure 23. Percentage of positive tests for COVID-19 in Sweden and Europe
Percentage of those tested



Note. The series show the percentage of positive tests for COVID-19 until the week ending on 15 November. The series for Europe includes 30 countries (EEA excluding Liechtenstein) and is weighted according to population size, 2019.

Sources: European Centre for Disease Prevention and Control (ECDC) and the Riksbank.

The increased spread of infection has led to new restrictions in a number of countries (see Figure 24)¹⁸. France has imposed a national shutdown with stay-at-home orders, except for work and so on, while Spain has introduced evening curfews. In some countries, such as the United Kingdom, Austria and Italy, the new restrictions have been even more comprehensive. In Sweden, the Government has decided to restrict the number of participants in public gatherings to eight people and tighter general guidelines have been introduced in all regions. The guidelines differ somewhat from region to region but are based on getting people to reduce physical contact.

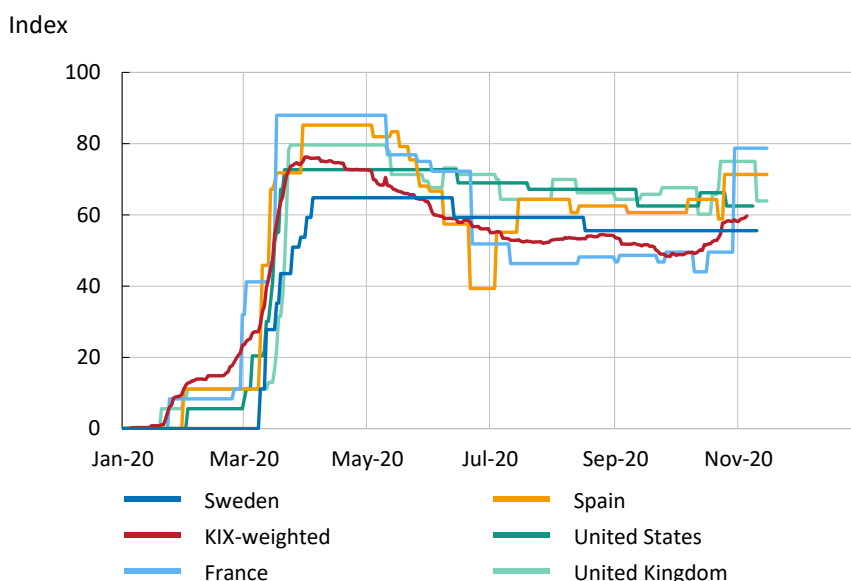
So far, the new restrictions introduced in Europe are not as comprehensive as they were in the spring, when more workplaces were closed completely. Neither are the signs of a downturn in the economy as clear. High-frequency data has not fallen as much as in the spring and the manufacturing sector still seems to be developing well. Nevertheless, the measures and the increased uncertainty are expected to dampen economic activity clearly over the next few quarters, both in Sweden and abroad.

The forecast for Sweden and other countries assumes that the spread of infection will slow down in the first quarter of next year and that the restrictions that have been extended will start to be lifted in the second quarter. These assumptions are highly uncertain, which also applies to the effects on the economy in both the short and long

¹⁸ The Oxford COVID-19 Government Response Tracker allows cross-border comparisons to be made of state interventions but does not capture the effectiveness of these restrictions. Measuring a series of indicators decreases the risk of one indicator having too great an impact or being misinterpreted in the aggregated index. But this is based on strong assumptions of the type of information that is to be included. Over the summer, many countries chose to attack clusters of infection instead of closing down large parts of the economy to reduce the economic effects. How well the index captures local restrictions and national recommendations rather than prohibitions may affect how well this index can explain a coming economic downturn.

terms. Our assessment is that GDP will fall in a number of countries including Sweden during the current and the next quarter, albeit to a significantly lesser extent than in the spring, and that some negative effects will also persist in the long term. There are a number of arguments for negative long-term effects (see the reasoning in the article “The long-term economic effects of the pandemic are uncertain”). GDP is expected to be low for the next few years, both abroad and in Sweden, compared with the assumptions made before the pandemic.

Figure 24. Measures of the extent of government restrictions to reduce the spread of infection



Note. The index measures the extent of measures to combat the spread of COVID-19. The index consists of nine components that describe different types of restrictions, such as closing of schools, travel bans, etc. Each component usually has a three-point scale corresponding to “no measures”, “some kind of instruction” and “a ban”. The index corresponds to the average of all components. The KIX is an aggregate of 31 countries that are important for Sweden’s international trade.

Sources: Oxford COVID-19 Government Response Tracker (OxCGRT) and the Riksbank.

3.2 New downturn in the global economy in the next few quarters

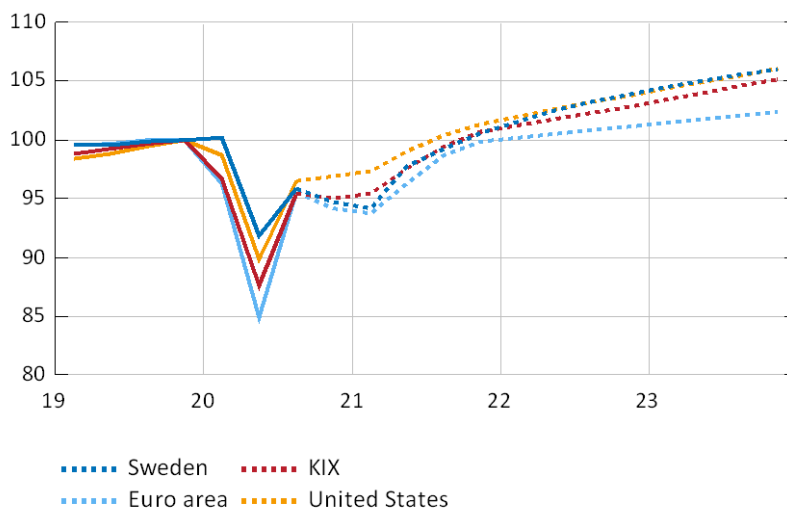
Slowdown of the global economy

Following the major fall in the global economy in the spring, a significant recovery took place over the summer, among other reasons due to the lifting of restrictions and economic policy stimulation. The upturn in GDP in the third quarter was significantly greater than expected in several countries, not least in Europe. However, the new wave of infection and restrictions in the autumn are deemed to mean a renewed fall in KIX-weighted GDP in the fourth quarter and that GDP growth will be weak in the first quarter of next year. Even if the downturn is not nearly as large as in the spring, it

entails a temporary break in the recovery. The forecast assumes that GDP growth abroad will again pick up in the second quarter of 2021 (see Figure 25).

Figure 25. GDP in Sweden and abroad

Index, 2019 Q4 = 100, seasonally-adjusted data



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

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

Restrained economic activity in the euro area in the next few quarters

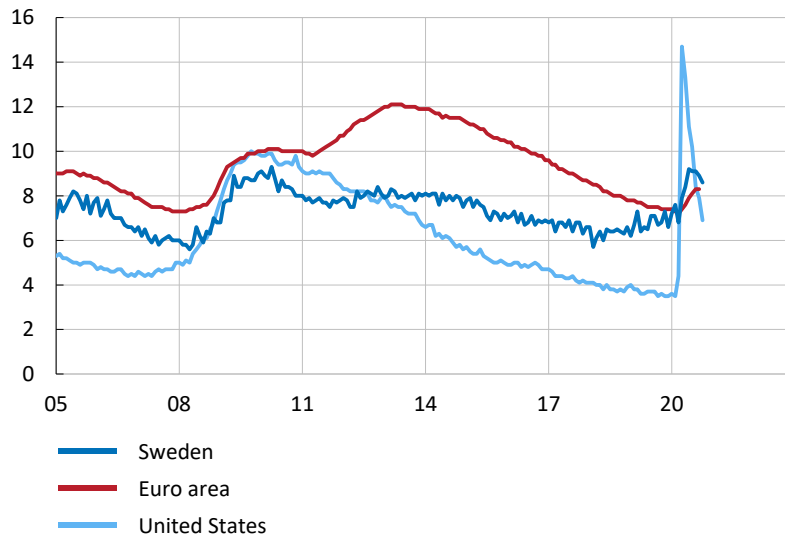
GDP in the euro area increased in the third quarter by 12.6 per cent compared with the second quarter of this year (see Figure 25). However, high-frequency data for the economic activity and impaired confidence among households and service companies indicates that economic activity after this has been restrained. The Riksbank expects that more restrictions and increased uncertainty will lead to GDP falling in the fourth quarter and in the first quarter of 2021. GDP is expected to start to rise again as of the second quarter of 2021.

Unemployment has risen since the start of the year and amounted to 8.3 per cent in September (see Figure 26). One important explanation for unemployment not having risen more heavily is that many governments have taken measures to restrain the upturn, for example by introducing support for short-time work schemes. The rise in unemployment was also restrained by the large fall in the labour force participation rate linked to the pandemic in the spring. However, in the forecast, unemployment is expected to continue to rise some way into next year before it starts to fall.

GDP is expected to recover next year when the pandemic eases off and restrictions are lifted. In addition, the decision on fiscal policy measures under the framework of Next Generation EU (NGEU) is expected to start to stimulate the economy as of 2021.

Monetary policy is also expected to continue to be expansionary. Market analysts expect the ECB to implement further monetary policy stimulation at its monetary policy meeting in December.

Figure 26. Unemployment in Sweden, the euro area and the United States
Percentage of the labour force, seasonally-adjusted data



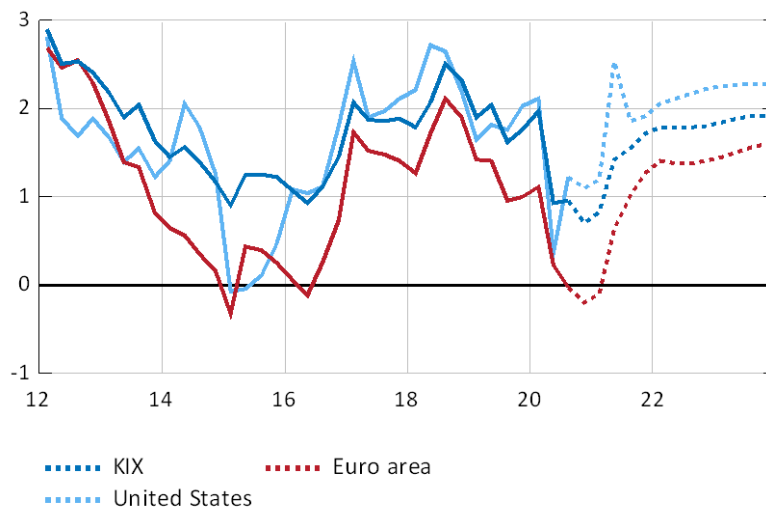
Sources: The Bureau of Labor Statistics, Eurostat and Statistics Sweden.

All in all, GDP is expected to fall by about 7 per cent this year before rising by just under 5 per cent in 2021. For 2022 and 2023, GDP growth is expected to decrease gradually and to average 2.5 per cent. Among other things, investment will be stimulated by the NGEU programmes, while households will benefit from an improved labour market in the coming years. At the start of 2023, the level of GDP is expected to be just under 3 per cent lower than in the Riksbank’s forecast in the February Monetary Policy Report, which is to say the last assessment before the pandemic.

Inflation has fallen since the spring and, measured with the HICP, was –0.3 per cent in October (see Figure 27). Lowered indirect taxes and a lower rate of increase of prices in the sectors worst impacted by the pandemic have contributed to the downturn. For example, prices have fallen for air travel, hotels and package holidays. Core inflation, which excludes energy and food, alcohol and tobacco, was only 0.2 per cent. Core inflation is low due to the low level of demand in the economy and is also being affected, among other things, by the cut in VAT implemented earlier in Germany. The forecast expects core inflation to rise slowly from just over 0.5 per cent on average in 2020 to slightly below 1.5 per cent in 2023.

Figure 27. Consumer prices in various countries and regions

Annual percentage change



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

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

Worsened rate of infection and uncertainty on fiscal policy stimulation in United States

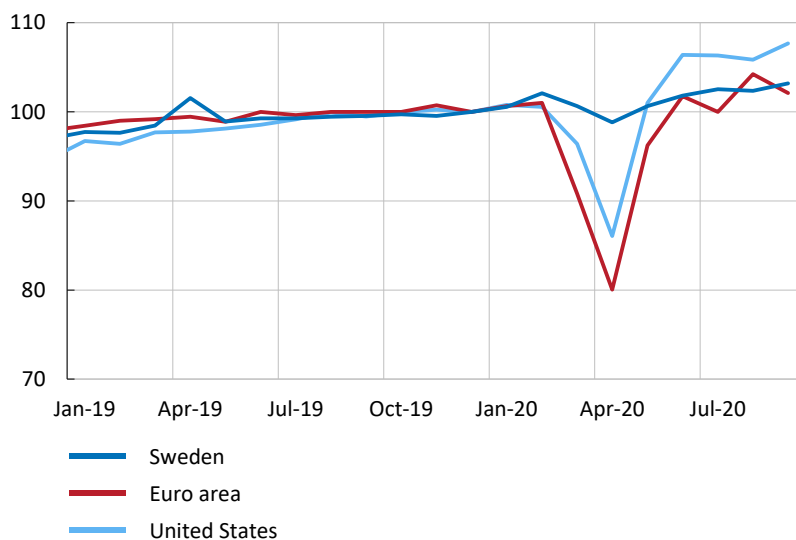
GDP in the United States increased in the third quarter by 7.4 per cent compared with the second quarter (see Figure 25). Retail sales have recovered significantly since the spring and, in September, were on a higher level than the one prevailing before the outbreak of the pandemic (see Figure 28). However, the Riksbank deems that uncertainty linked to an increased spread of infection, together with voluntary social distancing and new restrictions in some states, will restrain economic activity towards the end of the year and, to a certain extent, at the start of next year.

The labour market has started to recover after the comprehensive shutdowns in the spring, which led to unemployment rising steeply. In October, unemployment was 6.9 per cent (see Figure 26). Unemployment is expected to continue to fall in the period ahead, albeit at a slower rate, as the economy continues to grow. Unemployment will then be expected to be above both the level prior to the crisis as well as its long-term sustainable level.

The outcome of the US presidential election, as well as the elections to the Senate and Congress, are significant to how fiscal policy will be formed in the period ahead. At present, Congress will remain divided, meaning that every political proposal will probably be subject to negotiation. The forecast therefore only includes a cautious assessment of the scope of fiscal policy measures aimed at mitigating the economic effects of the pandemic. Together with an expansionary monetary policy, these fiscal policy measures will support the recovery.

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

Index, December 2019 = 100, seasonally-adjusted data



Note. Refers to constant prices.

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

Taken together, GDP in the United States is expected to fall by 3.7 per cent this year, but to increase by 4.2 per cent next year. After this, growth will gradually slow down to just over 2 per cent by 2023.

Inflation in the United States, measured in terms of the CPI, has risen following the heavy downturn in the spring and was 1.2 per cent in October (see Figure 27). Less of a negative contribution from energy prices and increased demand for the product groups that were negatively affected during the spring lie behind the rise in inflation. Core inflation, which is to say the CPI excluding food and energy prices, has also increased and was 1.6 per cent in October. This year, inflation will be low but inflationary pressures will increase as the US economy recovers and resource utilisation gradually normalises. The Riksbank expects inflation to be close to two per cent at the end of the forecast period. As inflation has been below the inflation target, the US central bank has announced that it will allow it to be slightly above the inflation target for a period so that average inflation reaches the target in the longer term. Monetary policy is expected to remain expansionary throughout the forecast period.

China still on the way to positive growth in 2020

After a heavy fall in GDP in the first quarter, China has had positive GDP growth in both the second and third quarters of this year. In the third quarter, GDP increased by almost 5 per cent compared with the same quarter in the previous year. Overall, the Riksbank expects China's GDP to grow by 1.6 per cent this year. China's strong recovery has primarily been driven by major government investment in the construction and manufacturing sectors, but recently the service sector has also contributed to an increasing extent.

Over the spring and summer, the tone of the trading relationship between the United States and China worsened. The significance of the presidential election in the United States for trade policy between the countries remains uncertain and therefore so too do its effects for the Chinese economy. The negative effects of the trade conflict with the United States are partly balanced out by the new free-trade agreement China has signed with Japan, South Korea, Australia, New Zealand and the ten member states of the South-east Asian association ASEAN. Among other things, the free-trade agreement, the Regional Comprehensive Economic Partnership (RCEP), involves lower import duties and joint trade rules for the member states.

The pandemic has severely impacted several emerging market economies such as Brazil, India, Turkey and Russia. Significant restrictions have been introduced and many of these countries have been negatively impacted by the downturn in global trade. Lower commodity prices have restrained economic growth in commodity-producing countries.

3.3 Shaky recovery in the Swedish economy

Increased spread of infection leads to new downturn in the Swedish economy

When the spread of infection increased in the spring, restrictions, bottlenecks in production chains and self-imposed behavioural changes among households contributed to GDP falling by just over 8 per cent in the second quarter, compared with the first quarter of 2020. Sweden's GDP development was thus historically weak, but nevertheless, GDP in Sweden fell slightly less than in many other countries (see Figure 25). This can be explained by the Swedish restrictions being relatively mild and that the tourist industry, which was very badly affected, being relatively small compared with many other countries. As the spread of infection decreased and the restrictions were lifted, demand also increased both in Sweden and abroad, supported by an expansionary economic policy. Taken together, monthly indicators suggest that the recovery has continued over the autumn. However, as the spread of infection has again picked up and new, more stringent restrictions have been issued, there are now signs in more high-frequency data that demand has again started to fall.

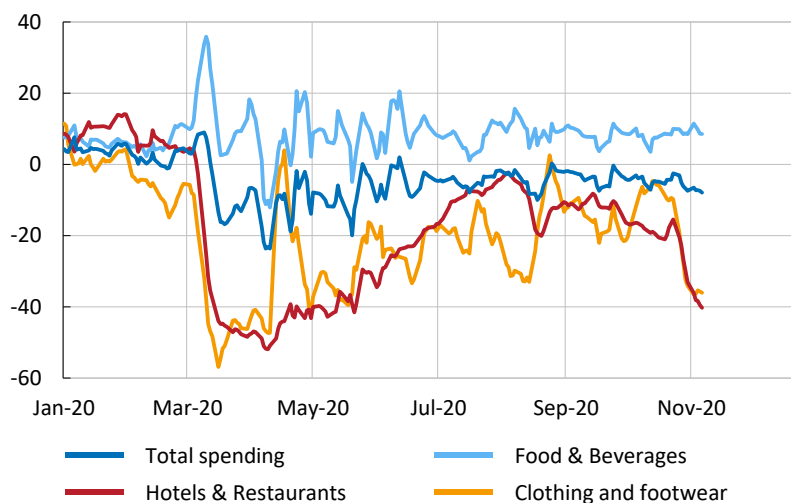
According to the GDP indicator, which is an early compilation of the quarterly National Accounts, GDP increased by 4.3 per cent in the third quarter, compared with the second quarter. Despite this, GDP remains just over 4 per cent lower than in the fourth quarter of 2019. The activity indicator, which measures monthly activity in the Swedish economy, bottomed out in May and indicates, like the monthly statistics for household consumption and foreign trade, that activity recovered rapidly once the first wave of infection had eased. At the same time, the indicators show that the very rapid rate of recovery in June and July slowed down somewhat in August and September.

Since the end of October, the rate of infection in Sweden has again increased at a rising pace. To prevent this from becoming excessive, new, more stringent restrictions

have been introduced. High-frequency indicators, which can be followed on a daily and weekly basis, suggest that activity in certain parts of the economy is now turning down. Data on card transactions shows that consumption in already severely impacted sectors such as clothing and shoes or hotels and restaurants is now declining again (see Figure 29). In the National Institute of Economic Research’s special company survey, which refers to the first two weeks in November, slightly more companies in the trade and service sectors also state that their turnover is falling again.

Figure 29. Card payments

Annual percentage change, 7-day moving average

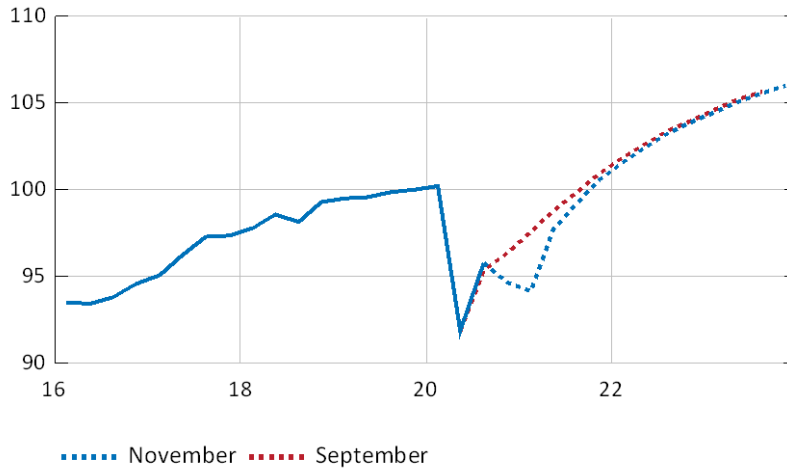


Source: Swedbank Pay.

Overall, Swedish GDP is expected to fall again in the fourth quarter of this year and the first quarter of 2021. However, the fall is expected to be significantly smaller than the one in the spring. This is because activity continues to be noticeably smaller than at the start of the year, above all in sectors that were particularly severely impacted during the first wave. Companies and households have also learned to live with various types of restriction, to a certain extent, and shutdowns abroad are less drastic than they were in the spring. The spread of infection is expected to peak at the end of 2020 and then gradually drop off over the first six months of next year, after which the economy is expected to start to grow again. It will take until the end of 2021, however, before GDP is on the same level as before the crisis (see Figure 30). The increased spread of infection towards the end of 2020 will thus delay the recovery, but GDP growth is nevertheless expected to average just over 3 per cent per year in 2021–2023.

Figure 30. GDP in Sweden

Index, 2019 Q4 = 100, seasonally-adjusted data



Note. Solid line represents outcome, broken line represents forecast.

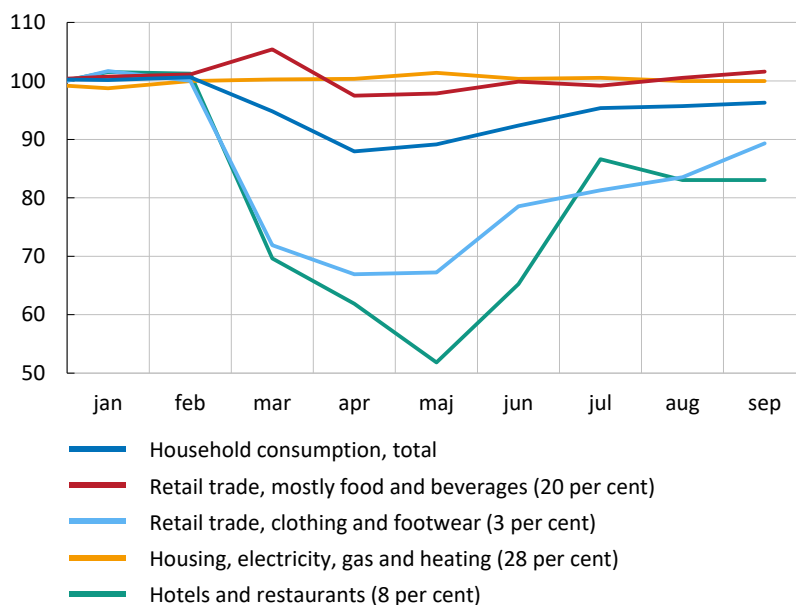
Sources: Statistics Sweden and the Riksbank.

Consumption falling again as the spread of infection increases

During the spring, households were forced to consider both the restrictions announced and the rapidly increasing risk of being infected. Together with the comprehensive uncertainty that marked developments, this means that households overall consumed less than normal. Consumption fell by almost 8 per cent in the second quarter and some components of services consumption more or less came to a complete standstill. However, households adjusted rapidly to the situation and, as the first, acute phase of the spread of infection subsided towards the end of the second quarter, households again raised their level of demand.

Household consumption continued to rise in September and, judging by both other monthly indicators and more high-frequency data on households' card payments, this development also continued in October. However, growth seems to have slowed down slightly after the strong development seen in the summer. Even if the recovery has taken place at a relatively rapid pace, household confidence remains at a significantly lower level than normal according to the Economic Tendency Survey and consumption is on a noticeably lower level than prior to the crisis. Developments also differ somewhat from sector to sector. For example, the consumption of goods and services related to the home and food has only been marginally affected by the pandemic, while the recovery in consumption of clothes and shoes or hotels and restaurants, for example, has been moderate after the very extensive downturns in the spring (see Figure 31).

Figure 31. Total household consumption and some selected subgroups
Index, 2019 Q4 = 100, seasonally-adjusted data



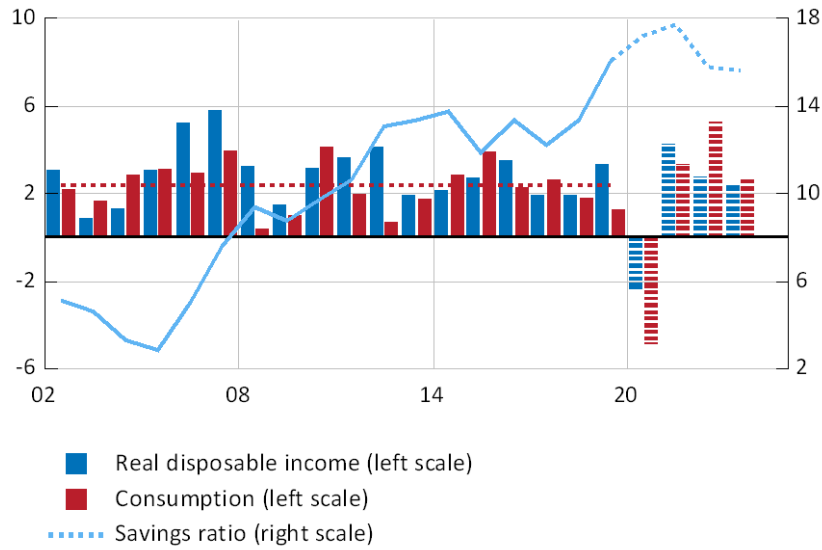
Note: The percentage in brackets refers to the subgroups' proportion of household consumption expenditure (excluding international items).

Source: Statistics Sweden.

Taken together, this development implies high growth in household consumption in the third quarter. As of the end of October, the renewed increase in the spread of infection has led to tighter restrictions. These are expected to stay in place throughout the fourth quarter of this year and then gradually to be lifted in the first quarter of 2021. The tightened restrictions are expected to restrain the consumption of some goods and services during the period in which the spread of infection is increasing, which, as a whole, is assessed to lead to consumption falling in the fourth quarter of this year and the first quarter of 2021. This view is supported by the development of card transactions that indicate a downturn, above all in the consumption of clothing and shoes, as well as certain services, at the start of November (see Figure 29).

After this, restrictions will continue to impede some components of consumption and production, for example as limited travel and cancelled cultural and sporting events are leading to large shortfalls for the tourism industries of major cities. Household consumption is therefore not expected to reach the pre-crisis level until the start of 2022. The weak development of consumption in the wake of the pandemic means that, overall, households will save a larger proportion of their income this year and next year. As the spread of infection is expected to decrease and the recovery to pick up in 2021, there will thus be scope for households to consume at a faster pace and the savings ratio is expected to fall back in the following years (see Figure 32).

Figure 32. Households' real disposable income, consumption and savings ratio
Annual percentage change and per cent of disposable income, respectively



Note. Disposable income has been deflated using the household consumption deflator. Broken red line is the average of consumption growth 1994–2019. Solid line and solid bar represents outcome, broken line and broken bar represents forecast.

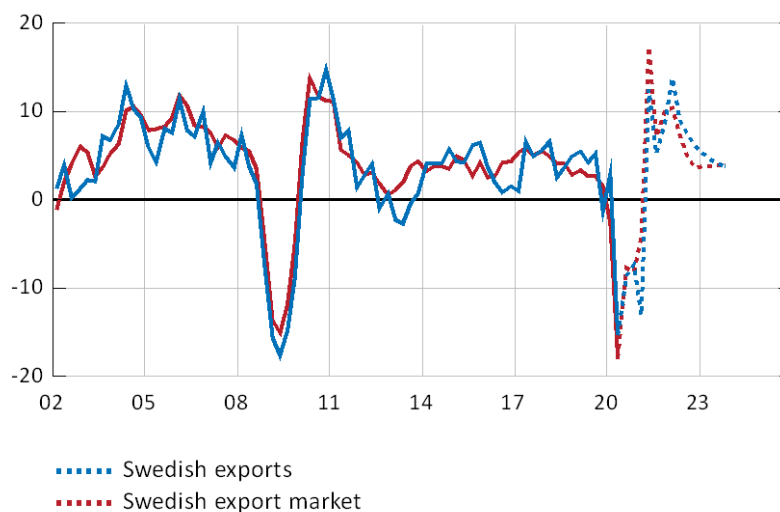
Sources: Statistics Sweden and the Riksbank.

International trade is expected to fall less than in the spring

The synchronised downturn in international demand in the spring led to a massive fall in world trade and small, open economies like Sweden were badly affected. Swedish exports fell by over 18 per cent in the second quarter. However, rising global demand towards the end of the second quarter contributed to the recovery of world trade. Swedish goods exports have increased heavily since May and are now close to the level of December 2019. Both the Economic Tendency Survey and the Purchasing Managers' Index are also continuing to signal a strong recovery in export orders in the manufacturing sector. However, the rapidly increasing spread of infection among many important Swedish trade partners means that growth in foreign demand will come to a halt in the fourth quarter. Despite this, fewer production stoppages and problems in global value chains are expected to contribute to the development of world trade not falling as steeply as in the spring. The recovery is expected to continue in step with slowing rates of infection in the first quarter of 2021, and demand for Swedish goods and services is expected to increase again (see Figure 33). Even so, exports will not return to the same, pre-crisis level until the second half of 2021.

Figure 33. Exports and the Swedish export market

Annual percentage change, seasonally-adjusted data



Note. The Swedish export market index measures import demand in the countries to which Sweden exports. This is calculated by aggregating imports in the countries included in KIX and covers around 85 per cent of the total Swedish export market. Solid line represents outcome, broken line represents forecast.

Sources: Statistics Sweden and the Riksbank.

Weak economic activity but high pressure on the housing market

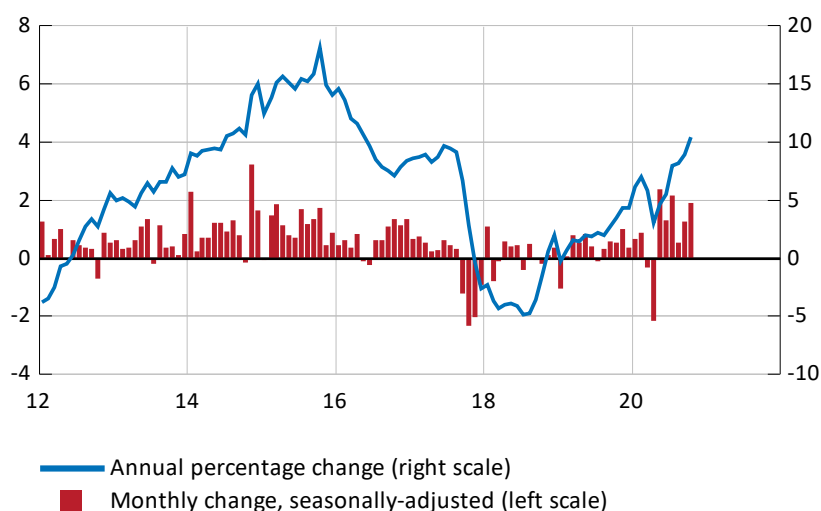
Investments were already developing weakly in 2019, when housing investment, above all, was decreasing in the wake of the previous downturn in housing prices. During the pandemic, this development has weakened further. This development can now primarily be explained by business sector investments, which fell by almost 8 per cent in the second quarter of 2020. In the Riksbank's Business Survey for September, many manufacturing companies stated that they had returned to their previous investment plans, albeit in modified form. However, the uncertain situation with a renewed rise in the spread of infection is expected to mean that some investment will again be postponed, similarly to what the companies had stated in the business surveys in the spring. The downturn in output and demand is expected to lead to investment in the business sector, excluding housing, becoming just over 12 per cent lower in the first quarter of 2021 than in the same quarter of this year.

Housing investment, which makes up about one-fifth of total investment, has so far withstood the crisis well and was almost unchanged in the second quarter in comparison with the previous quarter. Growth on the housing market, which normally weakens during noticeable economic slowdowns, has been unexpectedly strong during the crisis. Housing prices according to the HOX, which fell in March and April, were 10 per cent higher in October than in the same month of the previous year (see Figure 34). Rising housing prices can also be observed in many other countries. The weaker development of disposable household income itself suggests that demand for housing will decrease and that the development of the housing market will therefore slow down. At the same time, demand for housing is probably benefiting from a number of other

factors. The Riksdag and public authorities have implemented comprehensive packages of measures to mitigate the economic consequences of the crisis for households. Interest rate expectations are also continuing to be low according to the Economic Tendency Survey. The character of the crisis and the increased occurrence of teleworking may also have led households to review the composition of their consumption and become willing to pay more for housing. In addition, the price rise has been greatest for single-family dwellings, where new production has been low since the crisis of the 1990s and where supply is currently low. Firm growth in household financial wealth should also support the positive development of housing prices.

Figure 34. Housing prices according to HOX Sweden

Percentage change



Sources: Valueguard and the Riksbank.

Taken as a whole, the continued high turnover and price rises suggest that housing investment will not fall further this year. However, growth on the housing market is expected to be somewhat more restrained in the period ahead and housing investment is expected to fall in the coming years with a slightly smaller number of new housing starts. Even so, housing construction is expected to remain high from a historical perspective. Against the background of historic price rises for housing and the ongoing large increase in numbers of new homes, meaning that more people are taking out mortgages, household indebtedness will also continue to increase. Debt as a share of disposable household income, the so-called debt-to-income ratio, will continue to increase slightly and amount to just over 200 per cent by 2023.

Historically large fiscal policy initiatives

To alleviate the consequences of the pandemic, the Government has announced and implemented comprehensive fiscal policy measures. The measures for 2020 aimed largely to make it financially easier for people with symptoms to stay at home and to provide economic support to limit the number of bankruptcies and redundancies. Even if the economic support measures are largely temporary, they are contributing

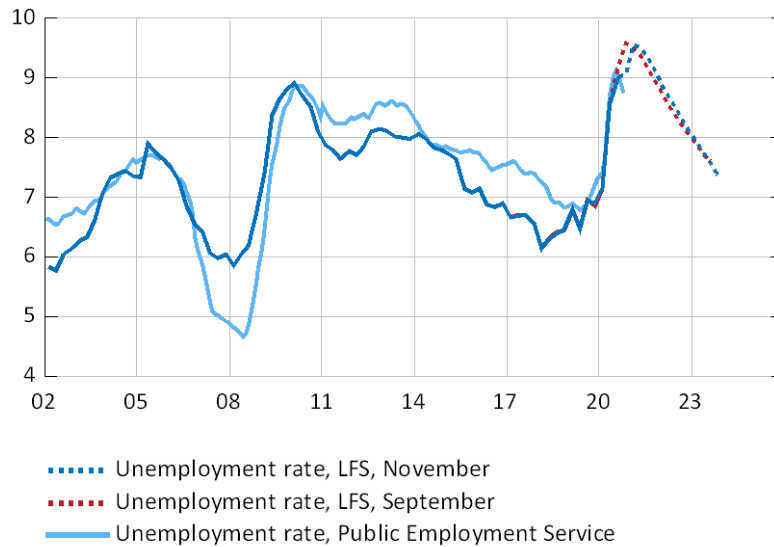
to holding back the rise in unemployment and to a better starting point for the economic recovery once the direct effects of the pandemic subside. In the Budget Bill for 2021, the Government presented measures to weaken central government net lending by just over SEK 100 billion in the form of tax cuts, increased support for municipalities and regions and other initiatives. While this year's measures have primarily been aimed at restricting the spread of infection and the consequences of low economic activity, the reforms in the Budget Bill for 2021 are aimed at stimulating demand in the economy to a greater extent. As the spread of infection has now picked up speed again, further temporary support measures have been presented. Among other measures, short-time work schemes have been extended, more money is going to municipalities and regions, and subsidies for expanded testing have been enlarged. A number of the measures from the Budget Bill for 2021 are temporary and will be ended between the years 2022–2023. The fiscal policy stimulation measures will thus gradually be diminished.

Together with macroeconomic developments, the measures are leading to an expected fall in central government net lending to –4.4 per cent of GDP this year. The public finance deficit is expected to shrink over the coming years. The consolidated gross debt of the public sector, known as the Maastricht debt, is expected to increase from 35 per cent of GDP in 2019 to, at most, 42 per cent of GDP in 2021, after which it will gradually decrease.

The deterioration of economic development is having an impact on the labour market

Unemployment has risen strongly in the wake of the pandemic and, during the third quarter, unemployment according to the Labour Force Surveys (LFS) was 2.2 percentage points higher compared with the fourth quarter of 2019 (see Figure 35). In recent months, unemployment has fallen slightly and, in October, amounted to 8.6 per cent according to seasonally adjusted data. However, the difference between sectors and different types of employee has been great. The downturn in the number of people in employment has been greatest in the service sector, above all within the hotel and restaurant industries (see Figure 36). These sectors have been particularly severely impacted by the crisis, but the fact that the service sector is employment intensive and has many fixed-term contracts has also contributed to the large downturn in employment. The service sector also employs many young people and people born abroad, which has led to these groups being impacted particularly severely.

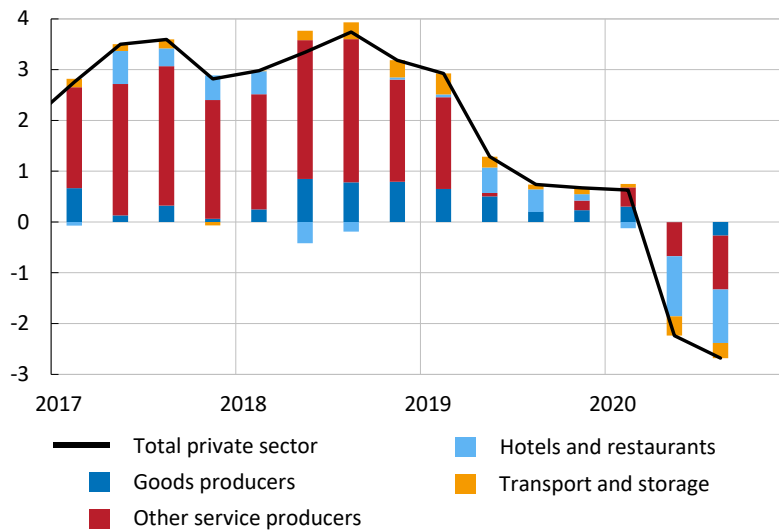
Figure 35. Unemployment according to the LFS and Public Employment Service
Per cent of the labour force, aged 15–74 and 16–64, respectively, seasonally-adjusted data



Note. Unemployed persons according to the Public Employment Service include openly unemployed and participants in labour market programmes. Solid line represents outcome, broken line represents forecast.

Sources: The Swedish Public Employment Service and Statistics Sweden.

Figure 36. Change in number of employees in the business sector, by industry
Annual percentage change and contribution in per cent



Source: Statistics Sweden (short-term employment).

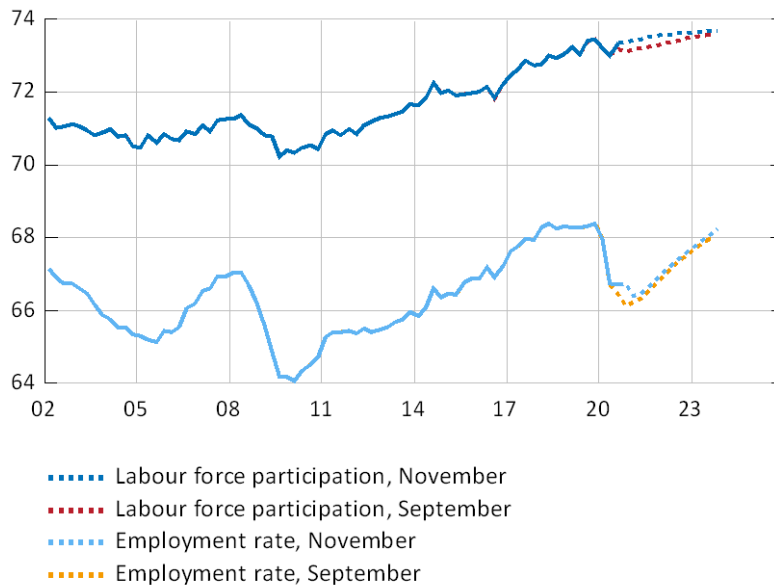
Since the start of the summer, demand in the economy has increased, which has also been visible in the labour market, where unemployment has stopped increasing, both according to the Labour Force Surveys (LFS) and Public Employment Service’s statistics. Indicators also confirm that the labour market has stabilised. The number of redundancy notices is on significantly lower levels than in the spring, the number of newly registered job openings according to Arbetsförmedlingen has stopped falling

and companies' recruitment plans have recovered. However, despite some stabilisation, the situation on the labour market is still worrying. About 6,000 people were given notice of redundancy in both September and October, which is slightly more than the historical average. And, even if recruitment plans have recovered, they remain negative and thus indicate that companies are expected to cut back on staffing in the coming months too.

The deteriorated economic development over the next few quarters is expected to have an impact on the labour market. The growing uncertainty and lower demand are expected to lead some companies to delay new recruitment and instead to lay off staff. Employment is therefore expected to fall slightly over the next two quarters and unemployment to rise (see Figures 37 and 35).¹⁹

Figure 37. Employment rate and labour force participation

Percentage of the population, aged 15–74, seasonally-adjusted data



Note. Solid line represents outcome, broken line represents forecast.

Sources: Statistics Sweden and the Riksbank.

Over the spring, the Government introduced several measures to mitigate the difficult economic situation that has affected many companies due to the crisis. Now that the spread of infection has again picked up, the Government has announced further measures. Among other things, the system for short-term layoffs, which was earlier

¹⁹ The European Parliament has adopted a regulation on the production of European statistics. The regulation concerns the labour force surveys (LFS) and the changes will be implemented in conjunction with the January outcome in 2021. Statistics for both employment and unemployment are expected to be affected by this. Statistics Sweden has no advance knowledge of the extent of these effects and the change is expected to lead to greater uncertainty in the statistics for some time to come. To a certain extent, Statistics Sweden deems that the models used in seasonal adjustment will be able to correct for the break in the time series, but the correction is unlikely to be perfect. This means that it will become more difficult to assess how the labour market is changing over the start of 2021. As it is not possible to estimate the effects the introduction of the new framework legislation will have on the statistics, this has not been taken into account in the Riksbank's forecasts.

planned to be wound up at the end of the year, has been extended by six months. This is expected to restrain the downturn in employment and hinder a larger increase in the number of bankruptcies. At the same time, it means that the hours worked in the economy are falling more than employment, as staff on short-term layoffs are reducing their working hours but are still employed.

Employment will rise as the economy grows

In the second quarter of 2021, economic activity will rise again and demand for labour will start to increase. Employment will rise slowly in the second quarter of 2021 and the rate of increase will ease a little towards the end of the year. Unemployment is expected to peak at 9.6 per cent in the first quarter and then gradually start to fall. As the economic recovery will proceed gradually, it will take some time for employment to recover. Towards the end of the forecast period, the employment rate is expected to be lower than prior to the crisis, at the same time as the labour force participation rate is expected to be recovered (see Figure 37). This means that unemployment will be slightly higher at the end of 2023 than it was before the crisis (see Figure 35).

High unemployment for a prolonged time can have long-lasting negative effects on the labour market. It may lead to people with a weak attachment to the labour market finding it more difficult to compete for work and they will then risk finding themselves even further from the labour market. Some of those who have been unemployed for a longer period also risk losing competence and skills, making it, in turn, even more difficult for them to find work and increasing the risk that they will get caught in long-term unemployment. Even now, we can see that the number of people that, according to the Employment Service, have been unemployed for more than twelve months, has increased clearly compared with prior to the crisis. In addition, most of the sectors that have been most seriously impacted by the crisis are sectors with many entry-level jobs. This means that entry into the labour market may be delayed; above all, this affects many young people and people born abroad. This makes it likely that the pandemic will have long-term negative effects on the labour market.²⁰

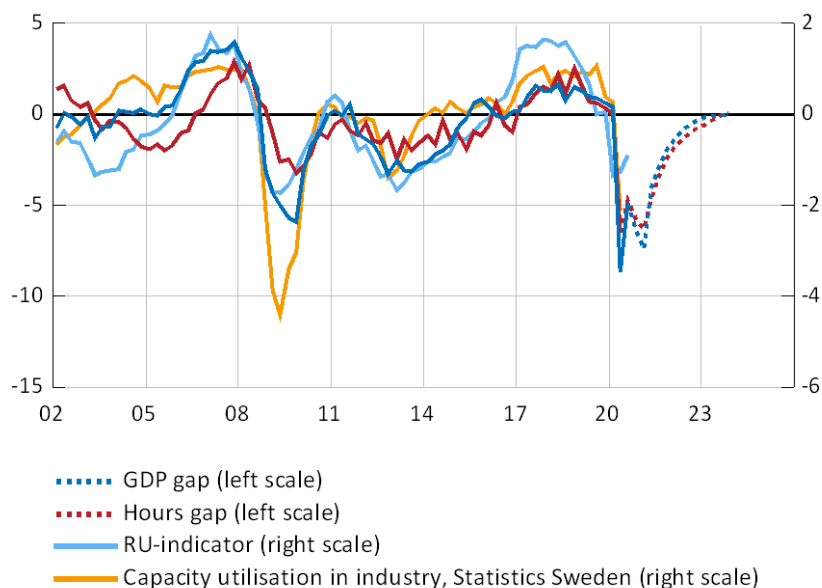
Resource utilisation is at a low level

The amount of spare capacity in the economy affects the development of wages and prices. Data indicates that this occurs with quite a considerable time lag. However, resource utilisation cannot be measured exactly and the Riksbank therefore makes an assessment based on a number of different indicators.

²⁰ For more information on the long-term effects of the pandemic on employment, see the article “The long-term effects of the pandemic on output and employment” in Monetary Policy Report, July 2020.

Figure 38. Measures of capacity utilization

Per cent and standard deviations, respectively



Note. The gaps refer to the deviation of GDP and number of hours worked from the Riksbank's assessed trends. The RU indicator is a statistical measure of resource utilisation. The RU-indicator and the Capacity utilisation in industry are normalised so that the mean value is 0 and the standard deviation is 1. Solid line represents outcome, broken line represents forecast.

Sources: Statistics Sweden and the Riksbank.

Resource utilisation increased in the third quarter after falling substantially in the previous quarter (see Figure 38). Different indicators give different views of the level of resource utilisation. However, all indicators suggest that it is still much lower than normal, indicating that there is considerable spare capacity in the economy. Two measures of resource utilisation are the GDP and hours gaps. These show that resource utilisation will be very low for a long time and will not approach a normal level until towards the end of the forecast period (see Figure 38). However, it is worth bearing in mind that the pandemic has led to some parts of the production being temporarily more or less eliminated. As the crisis is affecting the supply side so directly, several of the traditional indicators used to assess resource utilisation are even more difficult to interpret.

Low rate of wage increase this year

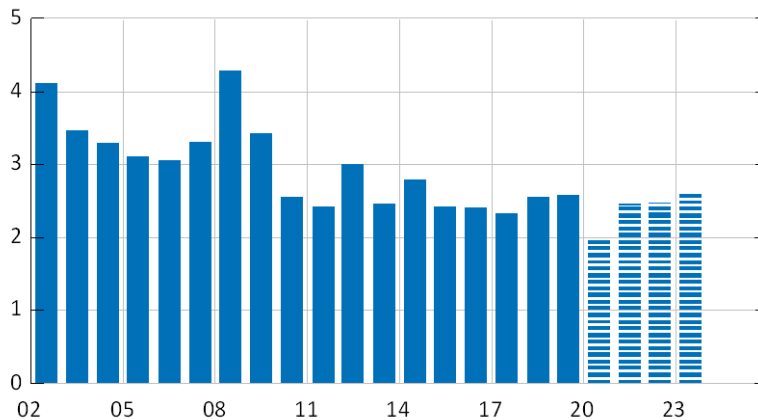
A large part the labour market was to have negotiated new wages in the spring. However, when the coronavirus crisis broke out, these negotiations were postponed and the old agreements have remained in effect for most wage-earners up until the autumn. The salary reviews that would normally have taken place in April have thus not happened and, consequently, wages have increased slowly this year according to preliminary statistics.

Parties in the manufacturing sector have now reached an agreement meaning that labour costs will increase by 5.4 per cent over 29 months as of 1 November of this year.

This means an annual increase averaging 2.2 per cent over this period. Part of this increase is formed of increased pension allocations and wage increases will be around 5 per cent or about 2 per cent per year. In November, agreements for several other sectors such as the trade sector and hotels and restaurants have been negotiated on a level in line with the manufacturing sector’s agreement. There is also a new agreement for employees of municipalities and regions. This agreement is on about the same level as the manufacturing sector agreement, although some skilled workers have received slightly higher agreed wage increases. Negotiations for the remaining agreements will be concluded towards the end of the year and are expected to follow the manufacturing sector’s agreement.

Wage growth is not just determined by centrally-agreed wages but also by local pay reviews. The size of these is affected, among other factors, by the demand situation on the labour market. Economic activity is expected to strengthen over the next few years and wage growth over and above agreements is expected to be in line with recent years. It is likely, however, that there will be upward pressure on wages within areas where there has been a shortage of labour during the crisis, such as the healthcare sector. Wage growth for the economy as a whole is expected to be modest, however. This year, it is expected to amount to about 2 per cent, according to the National Mediation Office’s short-term wage statistics. In the following years, wages are expected to increase by about 2.5 per cent per year (see Figure 39).

Figure 39. Wages according to short-term wage statistics in the economy as a whole
Annual percentage change



Note. Solid bar represents outcome, broken bar represents forecast.

Sources: Swedish National Mediation Office and the Riksbank.

Wage growth is also measured in the National Accounts using payroll expenses in relation to the number of hours worked. According to this source of statistics, wage growth this year is higher than it is according to the short-term wage statistics. This is because various support measures such as short-time work schemes and reduced sick-pay responsibility mean that the payroll expenses measured in the National Ac-

counts are not decreasing as much as the number of hours worked. However, companies' costs are increasing more slowly than can be seen in these statistics as the state subsidises short-time work schemes.²¹

Krona close to its long-term level

The Swedish krona appreciated significantly during the spring and summer. Since the Monetary Policy Report in September, the krona has become marginally stronger than in the Riksbank's forecast. It is always difficult to make forecasts for exchange rates, especially in the short term, and this is true not least under the prevailing circumstances. However, the krona appreciation over the spring and summer has meant that the real exchange rate is now assessed to be close to the level considered reasonable in the light of long-term determinants, such as productivity in Sweden in relation to the rest of the world. This indicates a forecast where the krona exchange rate is close to the current level for the entire forecast period (see Figure 40).²²

Figure 40. Nominal exchange rate, KIX

Index, 18 November 1992 = 100



Note. KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. Outcomes are daily data and forecasts refer to quarterly averages. Solid line represents outcome, broken line represents forecast.

Source: the Riksbank.

Low and volatile inflation in 2020

Since the second half of 2019, inflation has fallen from levels close to 2 per cent and has been between 0 and 1 per cent over most of 2020 (see Figure 41). In October,

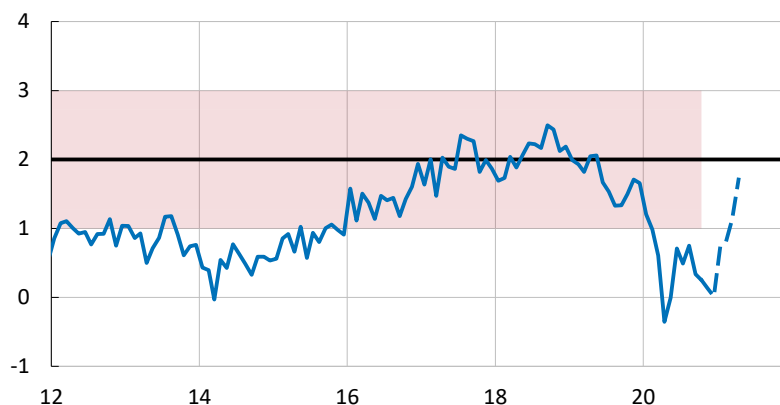
²¹ The wage and labour cost statistics according to the National Accounts in this situation reflect payroll expenses more from a wage-earner perspective than companies' wage costs.

²² For discussions of the long-term real exchange rate and how the Riksbank makes forecasts for the exchange rate, see the article "Development of the Swedish krona in the longer term", Monetary Policy Report, October 2018', and E. Askestad, A.M. Ceh, P. Di Casola, P. and A. Ristiniemi, "Forecasting the krona", Economic Commentaries No. 12 2019, Sveriges Riksbank.

CPIF inflation was 0.3 per cent, while CPIF inflation excluding energy was 1.1 per cent. The clear downward shift in the rate of inflation has several explanations.

Figure 41. CPIF and variation band

Annual percentage change



Note. The pink area shows the Riksbank's variation band and covers about three-quarters of the outcomes since January 1995. The variation band is a means of showing whether the deviation from the inflation target is unusually large. The solid line represents outcome, the broken line represents forecast for the next six months.

Sources: Statistics Sweden and the Riksbank.

The unusually mild winter last year dampened the demand for electricity. This contributed to the gradual fall in electricity prices beginning in the autumn of 2019. In February 2020, the oil price started to fall sharply, contributing to lower fuel prices. The falling energy prices have pushed CPIF inflation down strongly over 2020 as a whole. In conjunction with the outcome for January every year, the weights in the CPI calculation are updated. The effect of the weight adjustment for 2020 was unusually strong and the Riksbank deems that this has pulled the rate of inflation down by just over 0.2 percentage points over the year. In April, the coronavirus crisis started to affect the inflation figures, which have also become more volatile since then. Some of the price fluctuations have been due to actual price falls, while others were more the result of temporarily amended measurement methods.

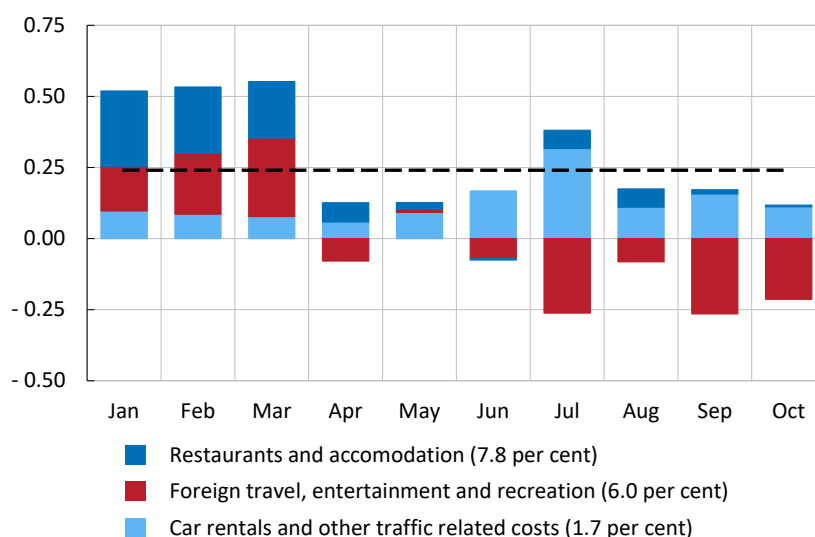
Figure 42 shows the contribution to CPIF inflation from prices that have been more or less directly affected by the corona crisis. Starting in April, the contribution to inflation has been negative for the aggregate designated foreign travel and entertainment and recreation. The consumption of many products in these groups has been very low and occasionally non-existent during the pandemic. This has meant that some prices have occasionally had to be imputed.²³ Some examples are prices of charter travel and tickets to various entertainment and sporting events. The contribution from restaurants

²³ The collection of prices used as a basis for the monthly calculation of the CPI has been affected by the measures to prevent the spread of infection. With regard to some service prices, Statistics Sweden has had to use so-called imputation methods, which mean replacing the missing values with new artificial values that are assumed to be close to the real values. Due to the increased spread of infection, there is a risk that imputation will again have to be used for some product groups, such as foreign travel, for example, over the next few months. In this case, this would mean that the measured rate of inflation would be slightly higher.

and accommodation has also been clearly lower since April. During the summer months, higher prices for rental cars had a counterbalancing effect and contributed positively to CPIF inflation, but this effect has now worn off. The shifting consumption pattern and difficulties in measuring the price of certain products will have an effect on the measured rate of inflation for several years to come. Above all, the effect of the weight update in January of each year could be greater and more uncertain than normal.²⁴

Figure 42. Contribution to CPIF inflation from prices especially affected during the pandemic

Percentage points



Note. The percentage in brackets refers to the product groups' weight in the CPIF. The broken line represents the mean value of the contributions from the three product groups since 2012.

Sources: Statistics Sweden and the Riksbank.

In September and October, CPIF inflation fell and became lower than expected in comparison with the forecast in the Monetary Policy Report from September. It was primarily prices for food and package holidays that contributed to the lower level of inflation. There are still clear elements of temporary effects in inflation. Some measuring problems also persist, meaning that individual monthly outcomes should continue to be interpreted with caution.

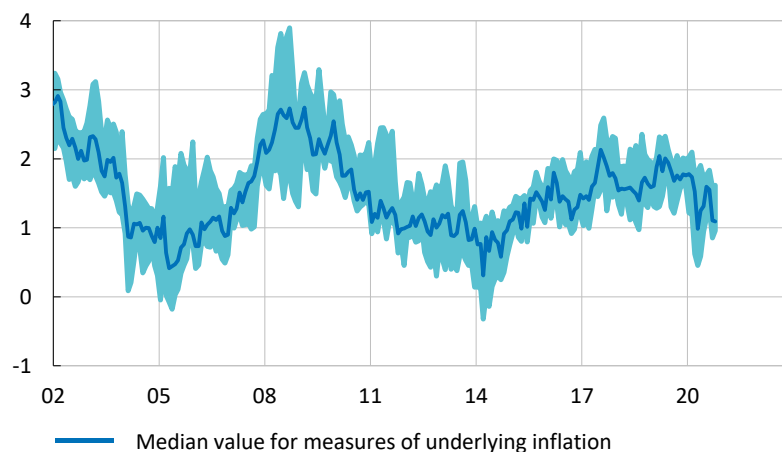
The rate of inflation is often affected by temporary price movements that have less significance for the development of inflation in the longer term. Like other central banks, the Riksbank therefore calculates and publishes various different measures of underlying or core inflation. These measures, which exclude or reduce the significance of prices that have previously varied substantially, indicate that more persistent inflation has fallen in 2020 (see Figure 43). The median of the measures was 1.1 per cent

²⁴ Due to the major shifts in consumption in 2020, Statistics Sweden will probably use more current consumption patterns than normal as a basis for its weighting next year. The index construction of the CPIF is designed to capture changes in consumption patterns in the longer term by adjusting for these afterwards. This is done so that the level of prices in the longer term is correct.

in October. The measures CPIFPC and UND24, which, according to a previous evaluation, seemed to reflect underlying inflationary pressures well, have been slightly higher, on average, than other measures over the last year. In October, both of these measures amounted to 1.6 per cent.

Figure 43. Different measures of underlying inflation

Annual percentage change



Note. The field shows the highest and lowest outcome among 7 different measures of underlying inflation: CPIF excluding energy, UND24, Trim85, CPIF excluding energy and perishables, persistence-weighted inflation (CPIFPV), factors from principal component analysis (CPIFPC) and weighted mean inflation (Trim1).

Sources: Statistics Sweden and the Riksbank.

Inflation will become higher in 2021

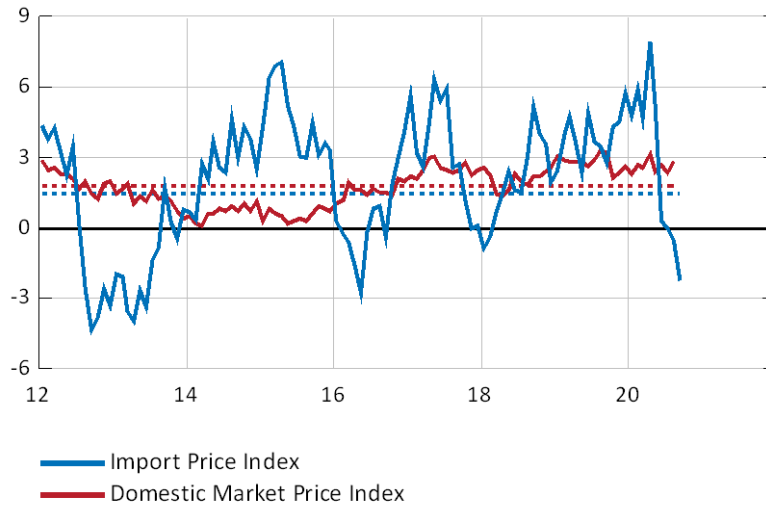
The business sector’s price plans according to the Economic Tendency Survey rose from very low levels in the second and third quarters. For companies in the retail trade, the price plans remain close to a historical average. The rate of increase in most producer prices, import prices in particular, has fallen clearly in 2020. Prices for consumer goods produced and sold in Sweden is still increasing faster than normal (see Figure 44).

Inflation will be low towards the end of 2020 and slightly lower than assessed in the Monetary Policy Report from September. In December, CPIF inflation is expected to be close to 0 per cent before it rises again. At the turn of the year, some temporary effects are expected to wane and inflation will thus rise. The unexpectedly large weight adjustment for 2020 will drop out of the annual change figures in January 2021, at the same time as energy prices will make a positive contribution to CPIF inflation at the start of 2021. Other temporary factors, more directly linked to the coronavirus pandemic, are also expected to decline gradually, contributing to the rise in inflation. The Riksbank’s model forecast, which summarises the information from a large number of indicators, such as price plans, producer prices and exchange rates, also points to inflation being low over the next few months, after which it will rise slightly (see Figure 45). The model forecast cannot fully capture some of the above factors and neither is it completely adjusted to a changed seasonal pattern in some

sub-indices in recent years. This means that the Riksbank's forecast for the next months is slightly higher than in the model forecast.

Figure 44. Producer prices for consumer goods

Annual percentage change

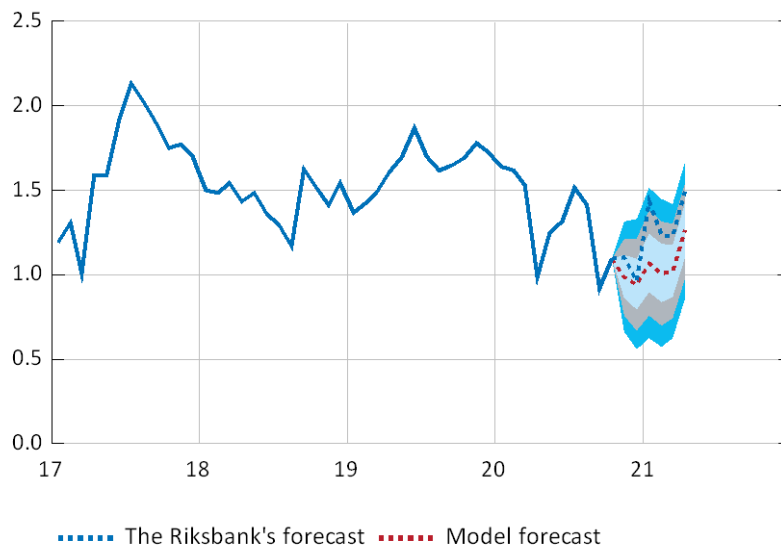


Note. The import price index measures how much Swedish importers pay for their goods at the border. Domestic market prices measure how much Swedish producers are paid when sales take place in Sweden. Broken line represents the average since 2000.

Source: Statistics Sweden.

Figure 45. CPIF excluding energy, model forecast with uncertainty bands

Annual percentage change



Note. The uncertainty bands 50, 75 and 90 per cent are based on the models' historical forecast errors. Solid line represents outcome, broken line represents forecast.

Sources: Statistics Sweden and the Riksbank.

Gradually rising inflation over the coming years

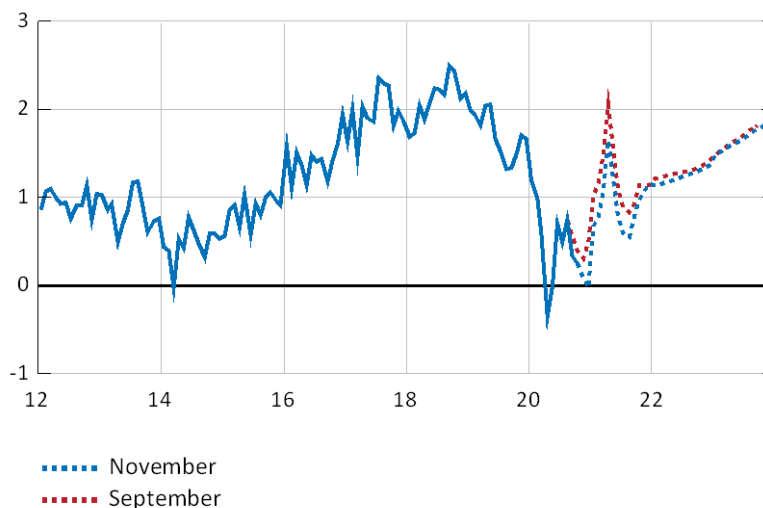
Inflation is expected to remain relatively low in 2021 and the start of 2022, before starting to rise and again approaching 2 per cent (see Figure 46). Resource utilisation in the economy is expected to be significantly lower than normal over the next few years, but it will then recover and be close to normal towards the end of the forecast period, thereby providing support to the upturn in inflation. The krona has strengthened since the start of the year, which is also expected to restrain inflation in the short term. In the period ahead, however, the krona is expected to remain relatively unchanged and no longer to affect inflation to such a great extent. Companies' costs are also expected to increase slowly over the next few years to then approach more normal levels towards the end of the forecast period.

There are also other factors suggesting higher price rises in the longer term. The crisis could lead to reduced trade in goods and services with other countries, which could contribute to higher inflation.²⁵ Shocks to the economy's supply side could also lead to higher inflation, as well as decreased competition due to more bankruptcies in certain sectors.

The Riksbank's overall assessment is that inflation in Sweden will rise as demand strengthens, wages increase faster and inflation abroad rises. The introduction of a chemicals tax on clothes and higher alcohol and tobacco taxes will also contribute to a higher rate of inflation in 2022 and 2023.

Figure 46. CPIF

Annual percentage change



Note. Solid line represents outcome, broken line represents forecast.

Sources: Statistics Sweden and the Riksbank.

Compared with the forecast in the Monetary Policy Report for September, CPIF inflation has been revised down slightly for the next year as a result of the outcomes in

²⁵ For a discussion of these factors, see the article "Inflation outlook during the corona crisis" in the Monetary Policy Report in July 2020.

September and October. For the later part of the forecast period, the forecast is largely unchanged (see Figure 46). However, it is important to remember that uncertainty surrounding the forecast is particularly great due to the pandemic. This is due both to uncertainty over how it will affect supply and demand, and to measuring problems being unusually great.

ARTICLE – How is the Riksbank’s work affected by climate change?

Climate change affects economic developments in different ways. The Riksbank needs to take this into account to maintain price stability and a safe and efficient payment system. With regard to monetary policy, the effects of climate change on the economy entail new challenges. The Riksbank also needs to take part in the discussion on how central banks can contribute to reducing climate change. The Riksbank can contribute the means available within its mandate, and as a complement to other policy. However, the most effective measures to limit climate change fall within the remit of other policy areas.

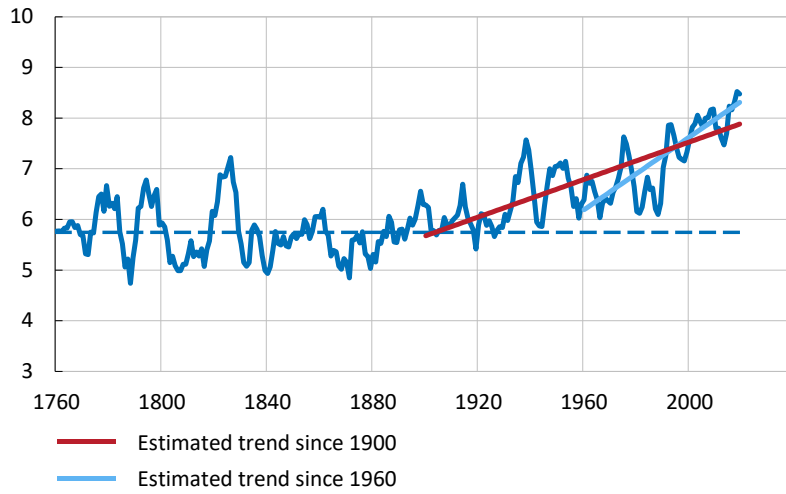
The earth's climate is becoming increasingly warm as a result of increases in greenhouse gas emissions. Since the pre-industrial age, the average global temperature has risen by around one degree. The warming process is expected to be even faster in the northern hemisphere.²⁶ In Sweden, for instance, the temperature has increased by around 2 degrees (see Figure 47). The temperature has also increased at an increasingly rapid pace as shown in the two trends in the figure. The trend since 1960 (turquoise line) has a steeper trend than the trend from the turn of the last century (red line).

The objective of the Paris Agreement is to limit global warming to 1.5–2 degrees. This requires a major reduction in global carbon dioxide emissions. In Sweden, emissions per person have steadily declined since the 1970s and are now below the global average (see Figure 48). One contributory factor to the decline in emissions in the 1980s was the extension of nuclear power, which meant that oil could be replaced with fossil-free electricity. At the beginning of the 1990s, a carbon tax was introduced, which formed the base for Swedish climate policy and has been a contributory factor to the decline in emissions since then.

²⁶ See the Swedish Society for Nature Conservation “Den globala uppvärmningens konsekvenser [“The consequences of global warming]”, in Swedish only, <https://www.naturskyddsforeningen.se/vad-vigor/klimat/konsekvenser-global-uppvarmning>.

Figure 47. Temperature in Stockholm since 1760

Degrees Celsius, 5 year moving average

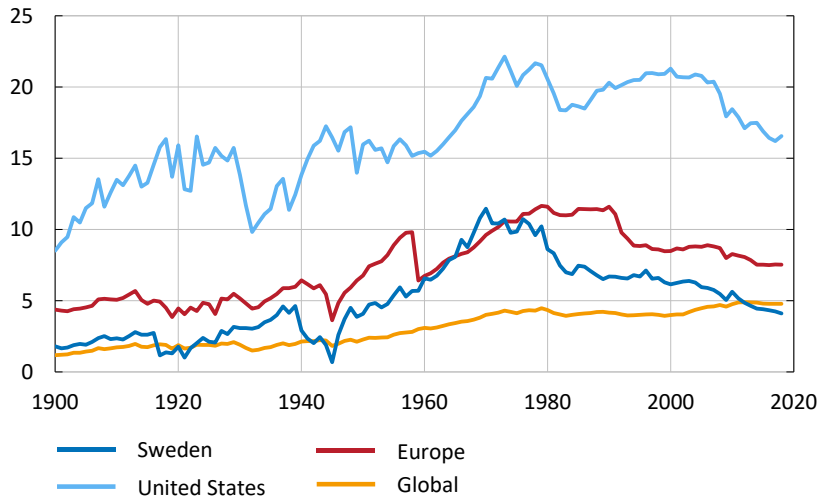


Note: The broken line shows the mean from 1760 to 1900.

Source: Stockholm University.

Figure 48. Carbon emissions per person in Sweden, Europe, the USA and globally

Tonnes per person



Note: Carbon dioxide emissions (CO₂) refer to emissions from burning fossil fuels to produce energy and cement.

Source: Our World in Data (OWID).

The global warming caused by climate change affects economic developments. The Riksbank needs to take this into account to maintain price stability and a safe and efficient payment system.²⁷ The Riksbank also needs to take part in the discussion on how central banks can contribute to reducing climate change.²⁸

The effects of climate change on the economy

Global warming entails new types of risk that also have consequences for economic developments. The risks can be divided into three categories: **physical risks**, **transition risks** and **risks of irreversible threshold effects**. The physical risks concern different types of extreme weather, such as drought, flooding or hurricanes, as well as effects from a gradual warming, such as reduced harvests or rising sea levels. The transition risks are linked to the changeover to a less fossil-based economy. This can be political decisions to raise taxes on carbon emissions or changed patterns of consumption. The risks of irreversible threshold effects arise when climate change has gone so far that it can no longer be reversed and instead accelerates further change in a self-generating process. These risks are examples of what are known as fundamental uncertainties – science cannot say if and when a certain event will occur, but neither can it rule out the possibility of the event occurring – with potentially disastrous consequences. This could be, for instance, melting icecaps in the Arctic or decimation of the Amazon rainforest.

From a monetary policy perspective, it is particularly important to understand how the risks affect:

- Inflation and inflation expectations
- Output and employment in the short and long run
- The long-term real interest rate

Physical risks in the form of extreme weather events may lead to greater fluctuations in food, housing and energy prices, which in turn may affect inflation and inflation expectations. Extreme weather may also lead to the destruction of facilities and infrastructure, broken production chains, etc. with ensuing negative consequences for output and employment. These physical risks are mostly short term, but can also have more long-term effects. The risks from a gradual warming often entail long-term and unpredictable consequences for both prices and output. Various threshold effects probably also entail more long-term consequences for the economy.

The transition to a less fossil-based economy entails structural changes in different parts of the economy. The phasing-out of carbon-intensive sectors in favour of greener sectors is one example of this, another is differences between companies in

²⁷ This article is primarily about the consequences of climate change for monetary policy, but climate change also has consequences for the possibility to maintain a safe and efficient payment system, see Financial Stability Report 2020:2, Sveriges Riksbank, where some of these consequences are discussed.

²⁸ See, for instance, A. Breman, “How the Riksbank can contribute to climate policy”, speech at the Royal Swedish Academy of Engineering Sciences, Stockholm, 3 March 2020.

the same sectors, depending on how well they have adapted their operations to climate change. The transition can also involve rapid and unexpected changes in asset prices when, for instance, coal and oil deposits remain unused. In other words, the transition to a less fossil-based economy can have both short-term and long-term effects on inflation, output and employment.

The risks from climate change can mean that economic developments become more uncertain and that the likelihood of natural disasters increases. There is also a risk that long-term growth will decline. These factors can lead to the long-term real interest rate declining, but there are also other consequences of climate change that can have an impact in the opposite direction.²⁹

Challenges for monetary policy

Climate change can entail new challenges for monetary policy (see the compilation in Figure 49).³⁰ The monetary policy analysis work includes identifying which changes in the economy are temporary and which are structural and thereby more permanent. Climate change can make this work more difficult, as global warming can give rise to both types of change.

Global warming could subject the economy to new types of shock that have not previously been observed. These may be both unpredictable and have major economic consequences.

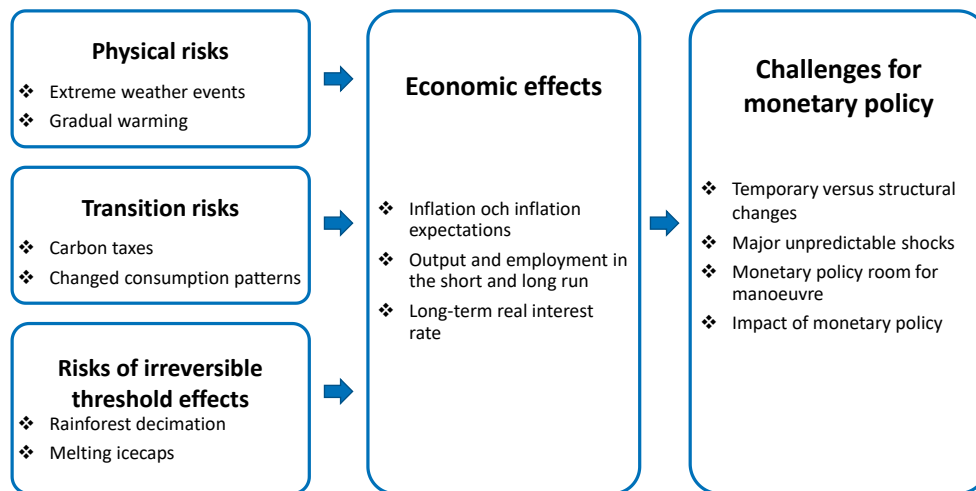
Several of the risks from climate change can mean that the long-term real interest rate becomes lower. If this were to occur, the policy rate could hit the lower bound more often and this would limit the monetary policy space.

The financial markets play an important role in managing climate risks, which can create risks in the financial system. With regard to the banks, the value of their collateral can be reduced and credit losses may rise. This can reduce their capital, diminish their liquidity and thereby weaken the banking system's potential to supply credit. If the financial system is weakened, it may also become more difficult for monetary policy to make an impact.

²⁹ See E. Bylund and M. Jonsson, “How does climate change affect the long-term real interest rate?”, *Economic Commentaries* 11, 2020.

³⁰ For a more detailed discussion of the challenges, see “Climate change and monetary policy: Initial takeaways”, Network for Greening the Financial System (NGFS), Technical document, June 2020.

Figure 49. Effects of climate change on the economy that can entail new challenges for monetary policy



Sources: Network for Greening the Financial System and the Riksbank.

Can central banks help to limit climate change?

The climate crisis is based on a market failure, what is known as a negative externality caused by emitting carbon dioxide. When, for example, an aircraft burns its fuel, carbon dioxide is created, which contributes - albeit marginally - to global warming, leading in turn to increased economic costs. When an individual air traveller chooses how much to fly, he or she does not take these costs into account, which is a market failure. To rectify this, one can make it more expensive to emit carbon dioxide. This can be achieved in a number of ways. Many economic studies based on economic theory find that a global carbon tax is the most effective measure to reduce emissions.³¹ Such a tax could be a cheap insurance against future large-scale and uncertain costs, but it can also have substantial distribution effects between countries, companies and individuals.

The question of different ways of taxing carbon dioxide is high on the international agenda, but it would appear so far to be difficult to reach any concrete proposals at global levels. This, combined with the negative effects of climate change becoming increasingly clear, has raised the question of whether central banks and other institutions can also contribute to limit climate change. It is important to remember that the most effective measures for limiting carbon emissions fall within the remit of other policy areas. But this does not prevent central banks contributing the means available within their mandate. The Riksbank has a mandate that entails promoting price stability and an efficient and safe payment system. Within the scope of this mandate, the Riksbank can contribute to limiting climate change by, for instance:

³¹ See C. Olovsson, "Global warming from an economic perspective", Sveriges Riksbank Economic Review 1, 2020, pp. 6–23.

- Promoting regulation of the financial markets to reduce the risks climate change may entail for the financial system. This could be stress tests, reporting climate-related risks or banks’ capital adequacy requirements.
- Having a sustainability perspective in the asset purchases, the collateral required in monetary policy transactions and in the management of foreign currency reserves. With regard to the latter, the Riksbank has, as of 1 January 2019, a new financial risk and investment policy, which adopts a sustainability perspective in the management of the foreign currency reserves. The Riksbank has also decided to take sustainability into account when purchasing corporate bonds, and to measure and report carbon emissions in its corporate bond portfolio. Moreover, green municipal and government bonds will be included in the asset purchases.
- Participate in various networks that work on climate-related issues, for instance, the International Monetary Fund, the Financial Stability Board, the Basel Committee and the Network for Greening the Financial System (NGFS).
- Ensure that its own activities are in line with international agreements, such as the Paris Agreement, and avoid unnecessarily contributing to global warming.
- Helping to increase knowledge of the effects of climate change on the economy by supporting and contributing its own research. Together with other institutions, the Riksbank has contributed to research on climate change since 2013.

ARTICLE – Distributional effects of the Riksbank's measures

Monetary policy always affects the distribution of income and wealth in various ways, regardless of whether this concerns adjustments of the policy rate or of purchases of various assets. At the same time, it is difficult to determine how large the distributional effects are, among other reasons because these differ over the short and long terms. It is also difficult to determine the direction of the effect – an expansionary monetary policy contributes to both rising asset prices and higher employment, which has counteracting distributional effects. It is not evident in practice which of these effects will be predominant. It is obvious that, without the major contributions made by monetary policy in the coronavirus crisis, growth and employment would have fallen even more and unemployment would have been even higher. Such a development would have been unfavourable for all households, particularly those with the lowest incomes and wealth. It is important to follow how the distribution of income and wealth changes going forward. This can, for instance, have an impact on the effect that monetary policy has on economic activity. However, monetary policy is not very well suited to use for redistribution purposes and neither is this the Riksbank's task. Other policy areas have greater opportunity to take targeted measures to counteract undesirable distributional effects.

Monetary policy has managed three crises in just over ten years

In the last decade or so, three dramatic events have impacted the global economy: the financial crisis of 2008–09, which transitioned into the so-called eurozone crisis 2010–2012, and the coronavirus crisis of 2020. These events have led economic policy around the world to focus, to a great extent, on crisis management. Central banks and governments have had to focus on restoring order in turbulent financial markets to ensure credit supply functions and, as far as possible, reducing the depth of the economic downturn resulting from the crises. In addition, the period between these crises included further challenges for monetary policy in many places. The consequences of this are that central banks have cut their policy rates to very low levels and have conducted major programmes for the purchase of securities to put further downward pressure on interest rates.

At the same time, these extensive and long-term initiatives and the fact that the measures were implemented on individual markets for securities has meant that the

possible side-effects of monetary policy have started to be discussed to a greater extent than before the financial crisis, both abroad and in Sweden. Among other things, the effects of monetary policy on the distribution of income and wealth has received more attention.³²

The issue of the distributional effects of monetary policy forms part of a broader discussion of why the income distribution in many OECD countries has become more uneven since the 1980s.³³ Conceivable explanations that have been proposed include structural transformations such as globalisation, in which the gains from increased trade, production, technology and capital flows between countries have fallen to certain groups to a greater extent than to others. At the same time, institutional factors also seem to have been important, such as the deregulation of markets, reforms of tax and social insurance systems, and changes on the labour market as well as the demographic structure of the population, for example. However, the extent of the distribution effects of these factors has differed from country to country.³⁴

Monetary policy affects the distribution of income and wealth, but the net effect is uncertain

Monetary policy always affects the distribution of incomes and wealth in different ways. This holds true regardless of whether the monetary policy primarily entails adjustments of the policy rate, which was the case from the 1990s up until the financial crisis, or whether it concerns purchases of various assets, which has become a common tool recently. When the Riksbank works to change interest rates through different channels, this has effects that change the conditions for the decisions by economic agents. Ultimately, it affects output, employment and inflation, which is the aim of monetary policy. But as households have savings of different sizes, own different assets and have different statuses on the labour market, monetary policy will also affect the distribution of income and wealth.

When discussing the distributional effects of monetary policy, it is also important to bear the time perspective in mind. Over a longer period, including both an economic downturn and an upswing, the total effect becomes smaller, as monetary policy first becomes more expansionary and then less expansionary. The effects on the income and wealth distributions will then largely cancel one another out.³⁵

³² More details can be found, for example, in the speech by H. Ohlsson, "The distributional effects of monetary policy", 7 April 2017, Sveriges Riksbank.

³³ However, it is not clear that 1980 is the fairest reference point. For example, longer comparisons show that the income inequality is now approximately the same as in the 1960s; see, for example, A. Lindbeck, "Fenomenet Piketty" (The Piketty phenomenon), *Ekonomisk Debatt* 7, 11–20, 2014.

³⁴ For more information on the details of the global development of income distribution and the empirical evidence for conceivable explanations, see, for example, B. Keeley, "Income Inequality: The Gap between the Rich and the Poor", *OECD Insights*, 2015 and F. Bourguignon, "World changes in inequality: an overview of facts, causes, consequences and policies", *BIS Working Papers No 654*, Bank for International Settlements, 2017.

³⁵ One common starting point is that monetary policy in the really long term has minor or no effects on growth, employment and other components of the real economy, such as income distribution.

In addition, it is not really fair to compare the distribution before a monetary policy measure with the distribution after this measure has been implemented. For example, if the Riksbank decides **not** to react, for example to a downturn in economic activity, this will also have effects on the income and wealth distributions. Ideally, therefore, a comparison should be made between the distribution following a monetary policy measure and the hypothetical situation in which the measure was **not** taken, which is, of course, difficult in practice.

It is therefore a complicated matter to calculate exactly which effect the Riksbank's measures have had on the distribution of income and wealth. It is not even obvious in which direction monetary policy has affected the distribution.

An expansionary monetary policy contributes to rising asset prices

Lower interest rates affect households' capital income, saving in various assets and their liabilities. Indebted households benefit from lower interest payments, all other factors being equal. This applies in particular to households with large variable-rate loans. At the same time, interest incomes become lower, which disadvantages households with relatively large bank savings and those with relatively many interest-bearing assets. At the same time, the Riksbank's measures to hold down the level of interest rates, both via the policy rate and the purchase of assets, contributes to prices for various assets increasing. This means that the wealth will increase among households who own the assets and their incomes will also become higher when they sell their assets. In this way, demographics also play a role, partly as the size of the savings and ownership of, for instance, homes have a natural link to age structure.

In general, capital income has the greatest significance for the households with the highest incomes, particularly those at the very top of the distribution. This also applies to wealth, in that equities and similar financial assets are concentrated in the households with the greatest wealth.³⁶ Real assets such as houses and tenant-owned apartments are certainly more evenly distributed among households, but rising prices for tenant-owned apartments, taken together, seem to have contributed to the more uneven distribution of wealth in Sweden after the financial crisis.³⁷

However, an expansionary monetary policy also supports employment

However, the expansionary monetary policy has not just contributed to rising asset prices, but has also contributed to a stronger labour market, to inflation closer to the inflation target and – during the crises – to a smaller fall in economic activity than

³⁶ This applies to households' personal wealth. If the consolidated assets owned by households via the pensions system are also included, the distribution becomes more even.

³⁷ J. Lundberg and D. Waldenström, "Wealth inequality in Sweden: What can we learn from capitalized income tax data?", *Review of Income and Wealth* 64(3), pp. 517–541.

would otherwise have occurred. This also creates distribution effects. More specifically, higher employment has contributed to the income distribution, and possibly also the wealth distribution, having become more even than would have been the case had monetary policy not been so expansionary.³⁸

For most households, earned income accounts for the largest share of income, meaning that changes to wages and the number of hours worked have great significance for the income distribution. In Sweden, it is primarily the difference between incomes for those who have a job and those who do not that is significant, rather than the wage differences between those who work. Households with incomes from unemployment insurance, sickness benefit, activity compensation and other forms of financial support are primarily found in the lowest part of the income distribution. In addition, having a job affects the size of the pension received from the public pension system and whether one has access to a contractual pension. If one includes this type of pension asset in household wealth, an expansionary monetary policy contributes to a more even economic distribution.

Mixed results from research into the effects of monetary policy on the income and wealth distribution

Through different measures to change the level of interest rates, which, in turn, affect the economy as a whole, monetary policy thus affects the distribution of income and wealth through various channels. Some of these channels have distribution effects that counteract each other, like those going through various asset prices and the labour market. It is therefore difficult to say in advance what the overall effect will be, and this ultimately becomes a matter for empirical research to determine. However, studying this question is linked with a number of practical difficulties, including the time aspect, as mentioned earlier. Another complication is that the effects via several different channels need to be studied simultaneously. Relevant details of household income and wealth may also be missing. This applies very much to Sweden, where studies of the wealth distribution have been impeded by the fact that information on individual households' assets and liabilities is no longer collected. The Riksbank has pointed out that it is important that this lack of data is remedied as soon as possible, see for instance Financial Stability Report 2020:2.

A survey of the research existing around the distributional effects of monetary policy reveals, among other things, that there are relatively few studies that specifically address the effects of other central bank measures than adjustments of the policy rates.³⁹ In itself, this is not so strange, as major asset purchases, for example, started

³⁸ Changes of inflation also have distributional effects, as this affects the real value of assets and liabilities, for example. Comparatively, however, this was of greater importance before the inflation targeting policy was introduced, when inflation was high and varied greatly. Large and unexpected redistributions could then take place, for example between highly-indebted households and those with large savings, from year to year.

³⁹ The conclusions below come from the survey of the research in the article by A. Colciago, A. Samarina and J. de Haan, "Central Bank Policies and Income and Wealth Inequality: A Survey", *Journal of Economic Surveys*, 33(4), pp. 1199–1231, 2019.

relatively recently. In addition, most studies only focus on a few of the different channels through which monetary policy affects the distribution. Given this, and that the studies focus on different countries and use different methods, it is not surprising that the results prove to be mixed; some studies show that lower interest rates contribute to a more even income distribution, while others reach the opposite conclusion. The results of the few studies of central bank asset purchases are also mixed, with some finding that the distribution becomes more even, some that it becomes more uneven and some that the overall distribution effect of asset purchases is close to zero. The same thing applies to the effect of monetary policy on the wealth distribution.

Income distribution in Sweden has become more uneven since the early 1980s

Even if it is difficult to calculate the effect of monetary policy specifically, it is important to study the way in which the distribution of income and wealth changes over time. This is relevant for central banks, for instance, because it can impact the effect that monetary policy has on economic activity.⁴⁰ The most common way of studying the distribution is via what is known as the Gini coefficient, which is a measure of the spread of incomes, for example, between households. The measure is designed so that the coefficient is zero if the distribution is completely even, which is to say if all households have the same income. If the situation is the opposite and one single household has all the incomes, the coefficient has the value of one.

Figure 50 shows how the Gini coefficient for disposable incomes in Sweden has changed since 1995, where disposable income is the sum of work and capital incomes and various types of transfer, minus taxes. The figure also shows the Gini coefficient for disposable incomes including capital gains (and losses), which is to say gains from price rises for housing, equities and other assets realised when they are sold. These gains are sometimes included in studies of the income distribution. However, they are associated with measurement problems and complicate income comparisons over time, as the gains can vary heavily from year to year.⁴¹

The spread of incomes declined during the 1960s and especially during the 1970s. At the beginning of the 1980s, however, the spread began to increase. Figure 50 shows that the trend towards a more uneven income distribution has continued for the past twenty-five years.⁴² There has been some variation over time, however. For example,

⁴⁰ See the reference in the previous footnote for further details.

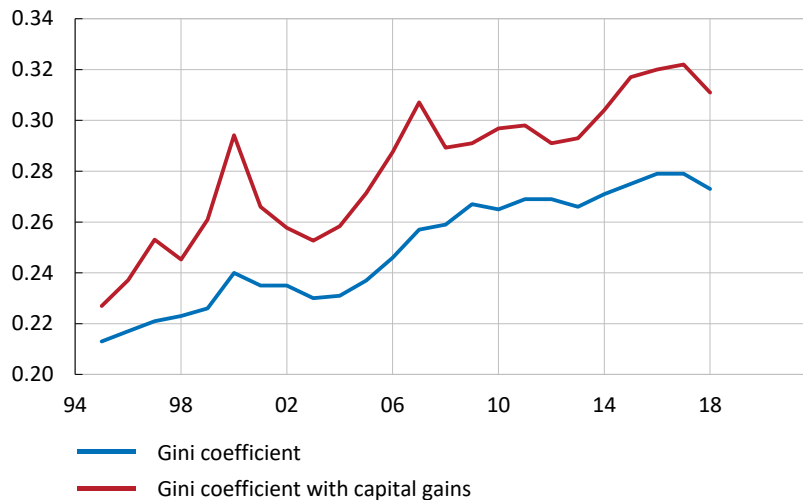
⁴¹ For more on the measurement problems with capital gains and the significance of capital gains for the income distribution in general, see "Kapitalinkomster och inkomstfördelning" (Capital gains and income distribution), appendix 3 of Långtidsutredningen (Long-term survey of the Swedish economy) 2019, SOU 2019:62. Statistics Sweden's official income statistics include realised capital gains, which are also included in the Government's accounts of the distributional effects of policy.

⁴² Data limitations make it difficult to create a cohesive series for the Gini coefficient prior to 1995. However, the existing data indicates that the trend started in the 1980s. This is also supported by other measures of distribution. More details on how the income distribution has changed can be found in *Huvudbetänkande av Långtidsutredningen 2019* (Main report from the Long-term survey of the Swedish economy), SOU 2019:65, D. Waldenström, "Perspektiv på den ekonomiska ojämlikheten i Sverige" (Perspectives on economic inequality), *Ekonomisk debatt* 4, 2020 and Distribution policy account, appendix 3 of Budget

the distribution was relatively unchanged in the years directly following the financial crisis of 2008–09, but the Gini coefficient started to increase again in 2014. However, this trend was broken again in 2017, when the distribution was almost unchanged, and in 2018 – the last year for which there are statistics – the difference in incomes between households fell.

Figure 50. Gini coefficient for disposable household income

Gini units



Note: The calculations are based on Statistics Sweden's surveys Household finances (HEK) 2005–2012 and Income and tax statistics (IoS) 2013–2018. The calculations take account of the varying compositions of different households.

Source: Statistics Sweden.

One of the main explanations why the spread in incomes has continued to increase is that differences in income between those not in employment and those with work incomes have grown. Among other things, this is due to demographic changes, income tax reforms, and transfers not having increased at the same rate as average incomes.⁴³ Another important explanation is that capital income have increased at the top of the income distribution, particularly at the very top. This is primarily an effect of rising incomes from interest and dividends, particularly dividends from close companies, which, to a certain extent, can be linked to more favourable tax regulations for such companies. If capital gains are included, incomes at the top of the income distribution have pulled ahead even more. In recent years, these gains have primarily come from sales related to property.

What will happen to the income distribution in the period ahead? The most recent Long-term survey of the Swedish economy, LU 2019, focused on economic inequality and, among other things, presented scenarios for the evolution of the income distribution until 2035, given population forecasts and assumptions for the development of

Bill 2021, government bill 2020/21:1. See also the articles in "Increasing Income Inequality in the Nordics", Nordic Economic Policy Review 2018.

⁴³ However, some of these changes have probably also contributed to increasing employment and growth over the period.

the economy as a whole. The results varied slightly, but all scenarios indicated that income disparities between households would increase in the period ahead. For natural reasons, however, the calculations in the Long-term survey of the Swedish economy were made without knowledge of the coronavirus pandemic. It is not clear how the deep economic slowdown has affected the income distribution but the increased unemployment itself is contributing to a greater spread in household incomes.⁴⁴

Without the monetary policy measures, unemployment would have increased further

The years before the coronavirus crisis were largely characterised by strong economic activity in which employment showed a trend increase and unemployment fell towards the level prevailing before the financial crisis. Employment among people with a vulnerable position on the labour market according to Arbetsförmedlingen, including people born outside Europe, also increased, albeit from a low level. The expansionary monetary policy contributed to this, which thus had a levelling distributional effect that counteracted the effect of the rising asset prices.

During the coronavirus crisis, monetary policy has involved implementing measures to keep interest rates low and ensure that the credit supply continues to function despite the consequences of the pandemic. This contributes to alleviating the effects of the crisis and creates the right conditions for a more rapid economic recovery. The way the economy is designed, it is natural that monetary policy measures are aimed at and go through the financial sector, even if the aim of the measures is to support the real economy. It is obvious that, without the major contributions during the coronavirus crisis, growth and employment would have fallen even more and unemployment would have been even higher. Such a development would have been unfavourable for all Swedish households, particularly those with the lowest income and wealth.

It is important to follow how the distribution of income and wealth changes. This can, for instance, have an impact on the effect that monetary policy has on economic activity. But as monetary policy affects the economy broadly and has distribution effects that partly counteract each other, it is poorly suited to use for redistribution purposes. And nor is this the task of the Riksbank; these considerations must be made by elected officials.⁴⁵ Other policy areas have greater opportunity to take targeted measures to counteract undesirable distributional effects.⁴⁶ It is also important to remedy structural problems that create distributional effects that benefit those who are established, for instance on the labour and housing markets, while other groups that find it difficult to get into these markets are disadvantaged.

⁴⁴ See Appendix 3 of Budget Bill 2021, government bill 2020/21:1.

⁴⁵ See, for instance, Chapter 18 of the Riksbank Committee's final report, "A new Sveriges Riksbank Act", SOU 2019:46.

⁴⁶ Discussions of and proposals for such measures can be found in L. Calmfors and J. Roine, "Introduction", Nordic Economic Policy Review 2018, pp. 6–16 and F. Bourguignon, "World changes in inequality: an overview of facts, causes, consequences and policies", BIS Working Papers No 654, Bank for International Settlements, 2017.

ARTICLE – The long-term economic effects of the pandemic are uncertain

The pandemic has caused a deep global downturn. It is very difficult to say how it will affect the global economy in the longer run. This depends partly on how long it takes until the pandemic is under control and partly on the economic policy response, but also on the size and duration of the changes in household and corporate behaviour caused by the pandemic. Consequently, forecasts are presently more uncertain than normal. In the main scenario, the pandemic is assumed, to some extent, to have permanent effects on the economy. To reflect the major uncertainty surrounding the development of the main scenario, a couple of mechanisms that could lead to the effects on the Swedish economy being more permanent are discussed here.

Conceivable economic effects of the pandemic in the long term

It is highly uncertain how the pandemic will affect growth potential in the global economy in the longer term. The crisis has triggered many structural changes and, in the wake of attempts to minimise the spread of infection, it is not unlikely that people's consumption patterns will change. These changes in consumption patterns, which could be persistent, affect the economy in many different ways.⁴⁷ One direct effect, for example, is that many aeroplanes stay grounded or ships stay in port, meaning that some capital has become unusable and redundant. Other effects include increased online shopping and working from home, which could change demand for shop premises, workplaces and homes, thereby having effects on the property market.

Restrictions and people's changed behaviour to reduce the spread of infection during pandemics and save lives increase unemployment. The pandemic has particularly impacted sectors where many people find their first job and where workers have a weak attachment to the labour market (above all, within the retail trade, hotels and restaurants).⁴⁸ Entry into the labour market may be delayed for many people, which risks having persistent negative effects on the labour market. People who have been unemployed for a longer period risk losing competence and skills, increasing the risk that

⁴⁷ See J. M. Barrero, N. Bloom and S. J. Davis, "Covid-19 is also a reallocation shock", NBER working paper no. 27 137, 2020.

⁴⁸ See, for example, H. Joo, B. Maskery, A. Berro, L. Rotz, Y. Lee and C. Brown, "Economic impact of the 2015 MERS outbreak on the Republic of Korea's tourism related industries", *Health Security* 17, pp. 100-108, 2019.

they will get caught in long-term unemployment.⁴⁹ In addition, distance learning at schools and universities to reduce the spread of infection could entail negative effects for education and people's future prospects.⁵⁰

People's experiences from the pandemic risk having lasting effects on confidence among households and companies by changing our assessment of the risk that serious events of this type can occur. This could lead to households building up their saved capital, just to be on the safe side, and to persistent lower corporate investment.⁵¹

During the crisis, both governments and companies have experienced shocks to global supply and production chains, which may now lead them to reorganise their value chains and move some production from other countries to Sweden or nearby countries, a process known as re-shoring.⁵² This may involve increased production costs and may decrease the degree of specialisation, which could restrain productivity and raise inflation when technological advances no longer spread so easily.

However, the pandemic need not only have negative long-term effects on the economy. For example, investment needs not become lower if productivity growth falls: local production also requires investment, and increased investment is necessary for the actual transition of production. More local production also means more expensive labour, which could promote technical innovation and lead to higher productivity. The digitalisation of services also means that new technology may be spread around the world, even if production takes place more locally. This digitalisation has been accelerated by the pandemic with many efficiency gains as a consequence.⁵³ The pandemic has also forced the emergence of more efficient solutions for many companies and within medical care, for example with more flexible workplaces and new forums for meetings. The major economic policy stimulation measures are acting as support for economic recovery and, with the right design, may also facilitate structural transformation.

Great uncertainty over the long-term economic effects of the pandemic

If confidence among households and companies is damaged more permanently, households' propensity to save will become higher and their willingness to invest lower than in the main scenario, with lower consumption and corporate investment

⁴⁹ For more information on the long-term effects of the pandemic on employment, see the article "The long-term effects of the pandemic on output and employment", Sveriges Riksbank, Monetary Policy Report, July 2020.

⁵⁰ Less teacher-led instruction time and difficulties in getting help with questions weakens learning, particularly for weaker students; see UNESCO, "COVID-19 Educational Disruption and Response", <https://en.unesco.org/covid19/educationresponse>, 2020.

⁵¹ This phenomenon is sometimes called 'belief scarring' in the literature; see J. Kozlowski, L. Veldkamp and V. Venkateswaran, "Scarring Body and Mind: The Long-Term Belief-Scarring Effects of COVID-19", National Bureau of Economic Research (NBER), Working Paper 27439, 2020.

⁵² See, for instance, Sveriges Riksbank, Business Survey, May 2020.

⁵³ Deutsche Telekom AG, "Impact of Covid-19: Corona as a catalyst for digitalization?", 2020.

as a consequence. In the short term, production costs will also increase as an effect of production becoming more local. This means that it will take longer for the level of GDP to return to the same level as before the pandemic.⁵⁴ The stronger effects of the deteriorated quality of education during the pandemic and long-term periods of unemployment will cause people's competence and work experience to decrease, employment to fall and unemployment to rise more than in the main scenario.

Even if the real economy develops weakly in such a scenario, it is not clear what the effects will be on inflation. Abroad, inflation will be slightly lower, but, unlike GDP and unemployment, for example, the relationship between inflation in Sweden and inflation abroad is not particularly strong. It is therefore likely that the supply and demand effects of individual countries will affect inflation in various ways. As Sweden's imports and exports form a relatively large share of GDP, we are affected more than other countries by shocks in global supply chains. Such a development will reduce competition among the surviving companies more than in the main scenario, meaning that they will be able to start increasing their margins more. That is, if demand rises faster than supply. In addition, productivity is lower, which means that it costs more for companies to produce a unit. This will contribute to Swedish inflation becoming higher than in the main scenario. Finally, lower growth in the labour force, due to an ageing labour force, will probably lead to poorer public finances and higher inflation, a development hastened by the pandemic.⁵⁵ However, a more rapid increase in inflation would not necessarily give reason to make monetary policy less expansionary in various ways.

There is also a possibility that the pandemic will lead to the more positive development of the real economy in the longer run. Crises often hasten structural transformations in the economy. Under the right conditions, this can create higher investment. A combination of expansionary fiscal policy that stimulates investment and structural reforms could lead to higher productivity and higher growth in the longer term. The reforms announced by the EU under the framework of Next Generation EU have the ambition of contributing to such a development.⁵⁶

Thanks to its strong public finances, Sweden has good conditions to implement an expansionary fiscal policy combined with structural reforms. Investments in human capital and infrastructure could contribute to growth at the same time as a broad tax reform, for example, could boost the economy's long-term potential.

⁵⁴ The discussion in this section is based on results from the Riksbank's general equilibrium model, MAJA; see V. Corbo and I. Strid, "MAJA: A two-region DSGE model for Sweden and its main trading partners", Working Paper Series 391, Sveriges Riksbank, 2020.

⁵⁵ See the discussion in: C. Goodhart and M. Pradhan, "The great economic reversal: Ageing societies, waning inequality and an inflation revival", Palgrave Macmillan, 2020. This book's main message is that the previously highly favourable demographic conditions, particularly in China, and rising degree of globalisation are in the process of changing. In this case, the labour force's opportunities to negotiate conditions will improve, leading to higher wage growth, higher inflation and greater equality.

⁵⁶ See European Council, "Conclusions", EUCO 10/20, 2020.

Tables

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

Table 1. Repo rate forecast

Per cent, quarterly averages

	Q3 2020	Q4 2020	Q1 2021	Q4 2021	Q4 2022	Q4 2023
Repo rate	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00

Source: Riksbanken.

Table 2. Inflation

Annual percentage change, annual average

	2019	2020	2021	2022	2023
CPIF	1.7 (1.7)	0.4 (0.5)	0.9 (1.2)	1.2 (1.3)	1.7
CPIF excl. energy	1.6 (1.6)	1.3 (1.4)	1.2 (1.2)	1.3 (1.2)	1.6
CPI	1.8 (1.8)	0.4 (0.6)	0.8 (1.1)	1.2 (1.3)	1.8
HICP	1.7 (1.7)	0.6 (0.7)	0.7 (1.2)	1.2 (1.2)	1.6

Note. HICP is an EU harmonised index of consumer prices.

Sources: Statistics Sweden and the Riksbank.

Table 3. Summary of financial forecasts

Per cent, unless otherwise stated, annual average

	2019	2020	2021	2022	2023
Repo rate	-0.3 (-0.3)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0
Yields on 10-year government bonds	0.1 (0.1)	0.0 (0.0)	0.3 (0.4)	0.7 (0.7)	1.0
Exchange rate, KIX, 18 November 1992 = 100	122.1 (122.1)	118.6 (118.7)	113.9 (115.4)	112.7 (114.0)	111.8
General government net lending*	0.5 (0.4)	-4.4 (-4.5)	-3.6 (-2.6)	-1.2 (-0.6)	-0.4

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank.

Table 4. International conditions

Annual percentage change, unless otherwise stated

GDP	PPP-weights	KIX-weights	2019	2020	2021	2022	2023
Euro area	0.12	0.49	1.3 (1.3)	-7.1 (-8.5)	4.7 (5.6)	3.7 (3.8)	1.3
USA	0.16	0.08	2.2 (2.2)	-3.7 (-4.3)	4.2 (4.4)	3.4 (3.4)	2.2
Japan	0.04	0.02	0.7 (0.7)	-5.1 (-5.5)	3.1 (2.5)	1.4 (1.4)	1.1
China	0.17	0.09	6.1 (6.1)	1.6 (2.0)	9.1 (9.4)	5.7 (5.7)	5.5
KIX-weighted	0.75	1.00	2.1 (2.0)	-5.8 (-6.2)	4.9 (5.6)	3.8 (4.3)	2.3
World	1.00	—	2.8 (2.9)	-4.4 (-3.0)	5.2 (5.8)	4.2 (3.6)	3.8

Note. Calendar-adjusted growth rates. The PPP weights refer to the global purchasing-power adjusted GDP weights for 2018, according to the IMF. KIX weights refer to weights in the Riksbank's krona index (KIX) for 2019. 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 previous five years.

KPI	2019	2020	2021	2022	2023
Euro area (HICP)	1.2 (1.2)	0.3 (0.4)	0.7 (1.0)	1.4 (1.4)	1.5
USA	1.8 (1.8)	1.2 (1.2)	1.9 (1.9)	2.1 (2.0)	2.3
Japan	0.5 (0.5)	0.0 (-0.1)	0.1 (0.1)	0.4 (0.4)	0.4
KIX-weighted	1.8 (1.8)	1.1 (1.2)	1.4 (1.5)	1.8 (1.9)	1.9

	2019	2020	2021	2022	2023
Policy rates in the rest of the world, per cent	0.1 (0.1)	-0.3 (-0.3)	-0.3 (-0.3)	-0.3 (-0.3)	-0.3
Crude oil price, USD/barrel Brent	64.1 (64.1)	42.3 (43.4)	42.7 (46.8)	44.8 (48.8)	46.2
Swedish export market	2.5 (2.5)	-9.1 (-10.2)	7.2 (8.3)	6.5 (7.1)	3.9

Note. Policy rates in the rest of the world refer to a weighted average of USA, the euro area, Norway and the United Kingdom.

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

Table 5. GDP by expenditure

Annual percentage change, unless otherwise stated

	2019	2020	2021	2022	2023
Private consumption	1.3 (1.3)	-4.8 (-4.5)	3.4 (4.5)	5.3 (3.7)	2.6
Public consumption	0.1 (0.1)	0.1 (0.2)	2.3 (2.9)	2.3 (2.1)	1.1
Gross fixed capital formation	-1.0 (-1.0)	-3.8 (-3.5)	1.2 (2.3)	5.2 (4.0)	2.3
Inventory investment*	-0.1 (-0.1)	-0.8 (-0.7)	0.1 (0.2)	0.2 (0.0)	0.0
Exports	3.3 (3.3)	-6.7 (-7.3)	3.1 (6.5)	9.0 (7.0)	3.9
Imports	1.1 (1.1)	-7.1 (-7.8)	3.3 (7.0)	8.4 (6.5)	3.9
GDP	1.3 (1.3)	-4.0 (-3.6)	2.6 (3.7)	5.0 (3.7)	2.2
GDP, calendar-adjusted	1.3 (1.3)	-4.2 (-3.9)	2.5 (3.5)	5.0 (3.7)	2.4
Final domestic demand*	0.3 (0.3)	-3.1 (-2.8)	2.4 (3.4)	4.3 (3.2)	2.0
Net exports*	1.0 (1.0)	-0.1 (-0.1)	0.0 (0.1)	0.5 (0.5)	0.2
Current account (NA), per cent of GDP	4.2 (4.1)	4.7 (4.8)	4.6 (4.6)	4.9 (4.8)	4.9

*Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank.

Table 6. Production and employment

Annual percentage change, unless otherwise stated

	2019	2020	2021	2022	2023
Population, aged 15–74	0.7 (0.7)	0.4 (0.4)	0.4 (0.4)	0.4 (0.4)	0.4
Potential hours worked	0.8 (0.8)	0.7 (0.7)	0.6 (0.6)	0.5 (0.5)	0.5
Potential GDP	1.7 (1.7)	1.6 (1.6)	1.6 (1.6)	1.6 (1.6)	1.7
GDP, calendar-adjusted	1.3 (1.3)	-4.2 (-3.9)	2.5 (3.5)	5.0 (3.7)	2.4
Number of hours worked, calendar-adjusted	-0.3 (-0.3)	-4.3 (-4.1)	0.6 (1.9)	3.6 (2.2)	1.6
Employed, aged 15–74	0.7 (0.7)	-1.5 (-1.8)	-0.3 (-0.1)	1.5 (1.6)	1.4
Labour force, aged 15–74	1.2 (1.1)	0.3 (0.2)	0.7 (0.6)	0.6 (0.6)	0.5
Unemployment, aged 15–74 *	6.8 (6.8)	8.4 (8.6)	9.4 (9.2)	8.5 (8.4)	7.7
GDP gap**	0.9 (0.9)	-4.8 (-4.6)	-4.1 (-2.7)	-0.8 (-0.6)	-0.1
Hours gap**	0.8 (0.8)	-4.2 (-4.0)	-4.2 (-2.7)	-1.2 (-1.1)	-0.2

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

Note. Potential hours refer to the long-term sustainable level for the number of hours worked according to the Riksbank's assessment.

Sources: Statistics Sweden and the Riksbank.

Table 7. Wages and labour costs for the economy as a whole

Annual percentage change, calendar-adjusted data unless otherwise stated

	2019	2020	2021	2022	2023
Hourly wage, NMO	2.6 (2.6)	2.0 (1.7)	2.5 (2.3)	2.5 (2.7)	2.6
Hourly wage, NA	3.9 (3.9)	4.4 (4.3)	1.0 (0.4)	1.7 (2.5)	2.6
Employers' contribution*	0.1 (0.1)	-1.1 (-1.2)	1.0 (0.9)	0.0 (0.0)	0,0
Hourly labour cost, NA	4.0 (4.0)	3.3 (3.2)	1.9 (1.4)	1.7 (2.5)	2.6
Productivity	1.6 (1.6)	0.1 (0.2)	1.8 (1.6)	1.4 (1.5)	0.8
Unit labour cost	2.5 (2.5)	3.2 (3.0)	0.1 (-0.3)	0.3 (1.0)	1.7

* 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 costs per hour are defined as the sum of actual wages, social security charges and wage taxes (total labour cost) divided by the total number of hours worked for employees. Unit labour costs are defined as the total labour cost divided by GDP at fixed prices. Via the short-time work scheme, companies can reduce the number of hours with government support while payroll expenses will not decrease as much. This means that the measured growth in hourly wages according to NA and unit labour costs will rise this year. However, companies' costs are also expected to increase more slowly than the statistics will show, as the government is providing support through the short-time work scheme.

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



SVERIGES RIKSBANK

Tel 08 - 787 00 00

registratorn@riksbank.se

www.riksbank.se

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