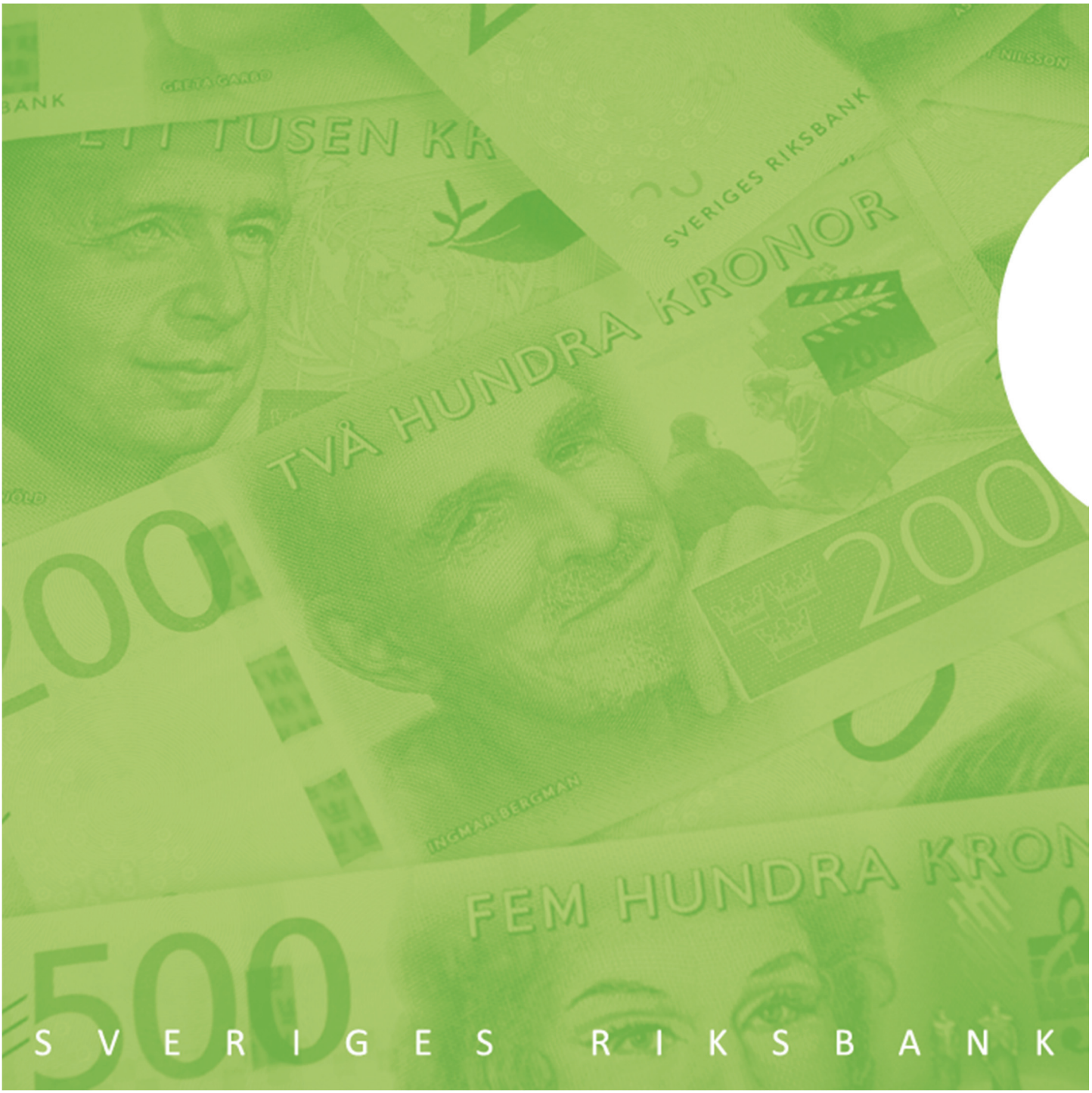
Monetary Policy Report

July 2020



Rectification 4 August 2020

An incorrect sentence has been corrected on page 6. The sentence should read: “Monthly statistics and more high-frequency data show, however, that production in Sweden has been hit hard and GDP is estimated to have fallen by around 8 per cent during the second quarter (see Figure 1:2).”

Monetary Policy Report

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

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

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

The Executive Board made a decision on the Monetary Policy Report on 30 June 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.

[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 (CPIF).
- At the same time as monetary policy is aimed at attaining the inflation target, it shall support the objectives of general economic policy for the purpose of attaining sustainable growth and a high level of employment. This is achieved through the Riksbank, in addition to stabilising inflation around the inflation target, endeavouring to stabilise production and employment around paths that are sustainable in the long term. The Riksbank therefore conducts what is generally referred to as flexible inflation targeting. This does not mean that the Riksbank neglects the fact that the inflation target is the overriding objective.
- It takes time before monetary policy has a full impact on inflation and the real economy. Monetary policy is therefore guided by forecasts for economic developments. The Riksbank publishes its own assessment of the future path for the 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. The trade-off is normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy.
- There is no general answer to the question of how quickly the Riksbank aims to bring the inflation rate back to 2 per cent if it deviates from the target. A rapid return may in some situations have undesirable effects on production and employment, while a slow return may weaken confidence in the inflation target. The Riksbank's general ambition has been to adjust monetary policy so that inflation is expected to be fairly close to the target in two years' time.
- To illustrate the fact that inflation will not always be exactly 2 per cent each month, a variation band is used that spans 1 to 3 per cent, which captures around three quarters of the historical monthly outcomes of CPIF inflation. The Riksbank always strives for 2 per cent inflation, regardless of whether inflation is initially inside or outside the variation band.
- According to the Sveriges Riksbank Act, the Riksbank's tasks also include promoting a safe and efficient payment system. Risks linked to developments in the financial markets are taken into account in the monetary policy decisions. With regard to preventing an unbalanced development of asset prices and indebtedness however, well-functioning regulation and effective supervision play a central role. Monetary policy only acts as a complement to these.
- In some situations, as in the financial crisis 2008–2009, the 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 put forward by the different Executive Board members.

PRESENTATION OF THE MONETARY POLICY DECISION

The monetary policy decision is presented in a press release at 9:30 a.m. on the day following the monetary policy meeting. The press release also states how the individual Executive Board members voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

Contents

CHAPTER 1 – Monetary policy during the coronavirus pandemic

Despite robust economic policy stimulus, the negative consequences of the pandemic are substantial all around the world. Several countries have recently begun to withdraw their restrictive measures and this paves the way for beginning an economic recovery. However, developments are very uncertain and the Riksbank assesses that it will take time before the global economy is back at the same level of activity as prior to the crisis. The crisis has clear effects on the Swedish economy, too, not least in the form of rapidly rising unemployment. Inflation has fallen tangibly, primarily as a result of falling energy prices but also as a consequence of other price movements connected in various ways to the pandemic. Even if the economy gradually recovers in the coming years, it will take some time before resource utilisation in the Swedish economy, like other countries, is back at normal levels.

To avoid the downturn in the economy and inflation being unnecessarily prolonged and profound, monetary policy needs to continue to be aimed at keeping interest rates low and helping ensure the credit supply functions. This ultimately creates the conditions for a recovery in the Swedish economy and contributes to inflation rising towards the target of 2 per cent at the end of the forecast period. The Executive Board has therefore decided on a number of measures. The scope for the asset purchases is extended from SEK 300 billion to SEK 500 billion. The purchases will be made up to 30 June 2021. After that, the size of the holdings is expected to be maintained. In September 2020, the Riksbank will also begin purchasing corporate bonds. The Executive Board has further decided to cut interest rates and extend maturities for lending to the banks. The repo rate is held unchanged at zero per cent. The measures provide support for the recovery in the economy and inflation.

Dramatic development of the global economy

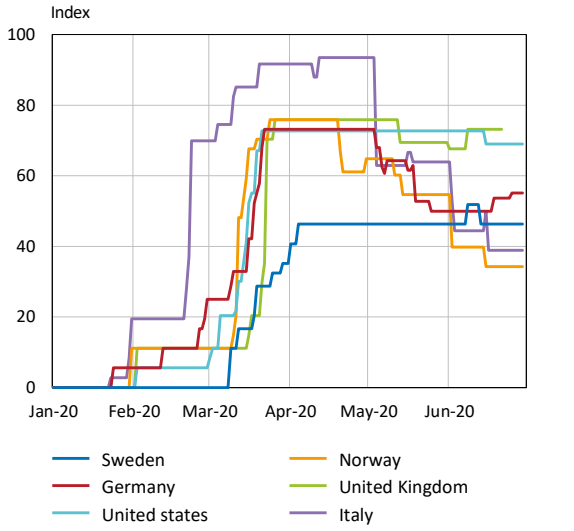
Signs of upturn after large falls in GDP in many countries

Extensive measures have been adopted around the world to limit the spread of the coronavirus. The negative economic consequences of the restrictive measures and people's concern over the spread of the virus have been substantial, as expected.

The downturn has been particularly severe in the euro area. Monthly outcomes point to the effects of the restrictive measures on the euro area economy being even greater up to April than the Riksbank had assessed in the scenarios published in the April Monetary Policy Report. To give support to these particularly hard-hit sectors and thus mitigate the economic decline and facilitate recovery, extensive fiscal and monetary policy measures have been taken.

In many areas, countries have begun to gradually withdraw their restrictive measures (see Figure 1:1). Borders have begun to open, people are beginning to be able to move more freely, shops have been allowed to open and children and young people have begun to return to school. The easing of the restrictive measures abroad has taken place somewhat sooner and at a faster pace than was assumed in the Riksbank's scenarios in April.

Figure 1:1. Measures of the degree 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.

Source: Oxford COVID-19 Government Response Tracker (OxCGRT)

During a phase with reduced restrictions it will be possible to slowly begin an economic recovery. There are now signs that this is beginning to happen. Outcomes for industrial production and the retail trade indicate, for instance, that GDP in the United States bottomed out in April and the European Commission's measure of household confidence and the Purchasing Managers' Index show a clear improvement in May and June. In the main scenario presented in this report, the economic recovery is expected to occur earlier and to move somewhat faster in both the United States and the euro area than in the scenarios in the April Monetary Policy Report. But the initial fall was also greater in the euro area and it will not be until early 2022 that GDP abroad has recovered to the pre-crisis level.

The main scenario is based on an assumption that the scope of the restrictive measures will gradually decline – even though there probably will be temporary setbacks around the world – and that economic policy still supports demand.

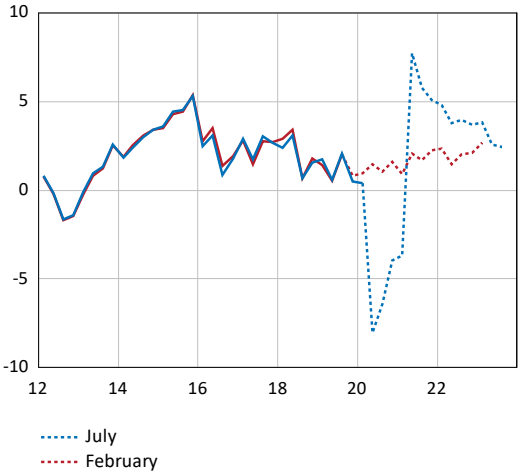
Large impact on the Swedish economy but so far the decline is less severe than in other countries

Economic activity has fallen heavily in Sweden, too, although the decline has not been quite as large as in other countries. Unlike the severe fall in GDP noted in, for instance, the euro area and the United Kingdom, GDP in Sweden was during the first quarter almost unchanged. The fact that the economic consequences have so far not been as great as in several other countries may partially be due to the restrictions not being as tight in Sweden (see Figure 1:1). Another contributing factor is that particularly vulnerable industries, such as tourism, comprise a smaller percentage of the economy in Sweden than the economies in, for instance, southern Europe.[3]

Monthly statistics and more high-frequency data show, however, that production in Sweden has been hit hard and GDP is estimated to have fallen by around 8 per cent during the second quarter (see Figure 1:2). This entails both a large decline in demand and substantial supply shocks. The dramatic developments are clearly visible in the labour market. The number of redundancy notices has soared and many people with fixed-term employment suddenly found themselves without jobs during the spring. Since the beginning of March, almost 200,000 people have registered as unemployed with the Swedish public employment service (Arbetsförmedlingen) and companies have applied for short-term work schemes for more than 600,000 employees. The number of hours worked has declined significantly, which is also due to a marked increase in sick leave.

The indicators that can be followed on a daily and weekly basis imply that production and demand stabilised in May and June (see also the box "The direction gives reason for hope"). In

Figure 1:2. GDP in Sweden
Annual percentage change



Sources: Statistics Sweden and the Riksbank

"The direction gives reason for hope"

Since the beginning of March, the Riksbank has held regular telephone interviews to follow up on the situation for Swedish companies during the corona crisis. In May and June, the economic situation stabilised and there are signs of improvement in several industries.[2] With regard to the industries hit hardest, such as tourism, the situation is still far from normal. In general, the main problem for companies now is that demand is weak, but some companies are also still struggling with production shocks. Demand for labour is low for natural reasons, following the short-term schemes, redundancy notices and layoffs in many industries. A majority of companies believe that the negative effects of the pandemic on demand will be prolonged. Most believe it will take nine months or more before the economic situation is more normal again, and companies in some industries say that the negative effects may linger for a couple of years. The substantial differences in demand between industries are also reflected in the financing situation. In the industries that are worst hit, access to liquidity is poor, while companies in industries with better sales do not perceive any such problems.

[2] See the Riksbank's company interviews in June: "The direction gives reason for hope" at www.riksbank.se.
[3] See also Y. Akkaya, C-J Belfrage, V. Corbo and P. Di Casola (2020) "GDP development in Sweden relative to other countries in the wake of Covid-19", Economic Commentaries no. 5, 2020, Sveriges Riksbank.

some parts of the economy there are also signs of some upturn in activity. With the aid of extensive economic policy measures, demand thus appears to have begun to recover.

The information that has become available since the April Monetary Policy Report points to the decline in GDP growth being on a par with that during the global financial crisis, and together with 2009 it is then the most substantial decline in a single year since 1940 (see Figure 1:3). The main scenario describes a gradual recover in the Swedish economy with effect from the second half of this year (see Figure 1:2). In Sweden, the upturn is not expected to be as clear as that abroad, which is partly linked to changes in the restrictive measures being less and the fall in the Swedish economy not being as profound. When demand rises and production gradually increases, the labour market is also expected to recover. However, even with gradually rising employment, unemployment is expected to be higher at the end of the forecast period than it was prior to the outbreak of the corona crisis.

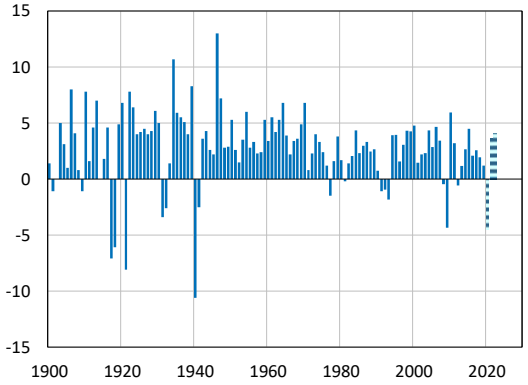
Inflation below target for a while

Inflation fell clearly between February and May. Falling energy prices contributed to low inflation even before the crisis, but the fall was reinforced during the crisis and contributed significantly to the downturn in inflation (see Figure 1:4). Inflation has fallen even when adjusted for energy prices (see Figure 1:5). Some of the price fall was due to actual price movements resulting from the pandemic, but changes in measurement methods also played a role.[4] As the restrictions are gradually withdrawn, prices that have been affected by changes in methods of measurement are expected to contribute to the reported inflation figures rising, while price movements directly related to the pandemic are expected to continue to distort the inflation figures both this year and in 2021 (see the article "Inflation outlook during the corona crisis"). The Riksbank's various measures of core inflation are also affected to varying degrees.

Resource utilisation abroad, like that in the Swedish economy, fell quickly during the spring, and it will take some time before it is back at normal levels again. Even if the economy recovers gradually, cost pressures will therefore remain low in the coming years. The pandemic has also triggered a number of changes that could contribute to higher inflation in the long run. The earlier globalisation trend can to some extent be reversed, which reduces competition and can lead to higher price pressures. In the main scenario, these factors are together expected to contribute to inflation rising slowly towards the target. With the support of expansionary monetary policy, demand will recover and inflation will approach 2 per cent towards the end of the forecast period (see Figure 1:5). However, inflation developments are more uncertain than usual.

[4] Some services, such as package holidays and tickets to sporting events, have not been sold at all and Statistics Sweden has therefore had to use special imputation measures to manage the situation. This means that artificial price observations have been temporarily included in the statistics. See also the article "More difficult to calculate inflation" in the April Monetary Policy Report.

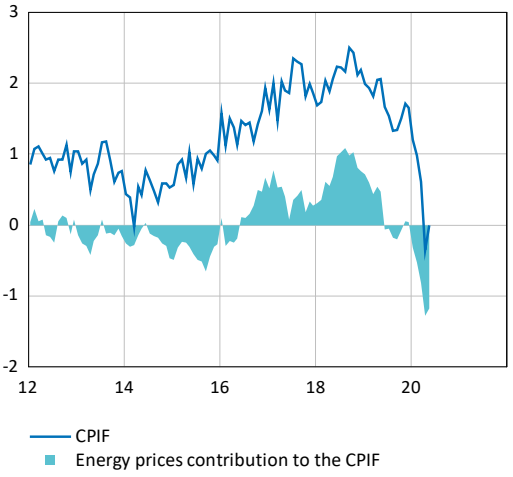
Figure 1:3. GDP in Sweden 1900–2022
Annual percentage change



Note. The series refers to data from historical monetary statistics for Sweden issued by the Riksbank up to end of 1950, after that by Statistics Sweden.

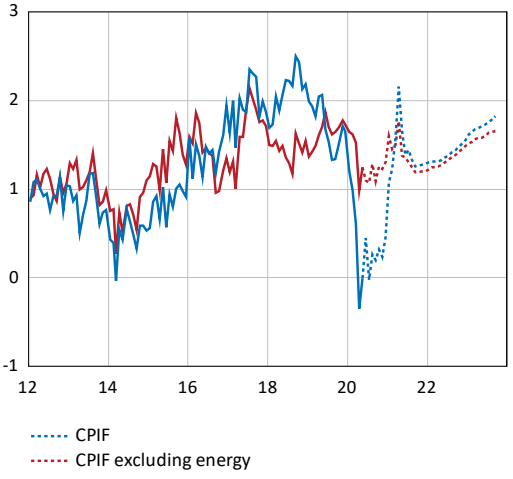
Sources: Statistics Sweden and the Riksbank

Figure 1:4. CPIF and contribution from energy prices
Annual percentage change and percentage points, respectively



Sources: Statistics Sweden and the Riksbank

Figure 1:5. CPIF and CPIF excluding energy
Annual percentage change



Sources: Statistics Sweden and the Riksbank

The negative effects of the pandemic on inflation could be more long-term if they spill over onto inflation expectations. As inflation has fallen, inflation expectations have also fallen somewhat in the past year (see Figure 1:6). If the crisis is prolonged, there is a risk that inflation expectations will fall further. But even if pandemics can be protracted, they are temporary. The downturn in long-term inflation expectations should thus be limited, which is also supported this far in survey responses and market pricing.

Monetary policy holding back interest rates

In connection with the financial crisis 2008, many central banks cut their policy rates to very low levels. This has led to a need to use complementary measures in monetary policy.

The complementary measures that central banks have at their disposal essentially concern increasing liquidity in the economy and in various ways exchanging risky assets for safe central bank assets. In this way, monetary policy affects both access to liquid funds and interest rates in the economy in general, which are important factors for, among other things, inflation. Measures of this type usually entail an increase in the central bank's balance sheet.[5]

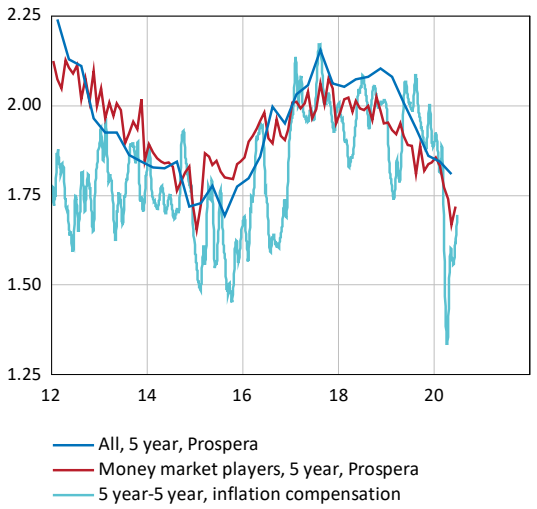
The measures the Riksbank has decided on in recent months are summarised in Table 1:1 below. They are aimed at holding interest rates down and contributing to the functioning of the credit supply by supporting market functioning. This creates the conditions for a good recovery in the Swedish economy, which helps inflation to rise towards the target in the long run.

Effective measures to mitigate the effects of the crisis

The corona crisis has entailed major losses of income for many companies, which resulted in problems paying wages, rent and interest. This development risks leading to redundancies and bankruptcies, and to banks and investors becoming uncertain whether the companies can service their debt. When credit is assessed as more uncertain, credit terms may be tightened and interest rates on loans may rise in relation to those on safe assets. At the beginning of the corona crisis, yields on more risk bonds rose, as did interest rates on banks´ short-term financing. Various markets functioned poorly and there was an evident risk of a rapid credit crunch.[6] Tighter credit terms and higher interest rates risk leading to the economic decline being more profound and prolonged, and to inflation deviating substantially, and for a long time, from the target. The monetary policy conducted by the Riksbank since the start of the corona crisis has been aimed at preventing this.

Figure 1:6. 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

[5] See for instance "Central bank balance sheets increasingly important for monetary policy", speech on 10 June 2020 by S. Ingves at www.riksbank.se.

[6] The Riksbank's financial market survey also indicates that market participants perceived the functioning of Swedish financial markets to be poorer than normal in April, see Financial markets survey spring 2020 at www.riksbank.se.

To support the credit supply and hold interest rates in the economy at low levels, the Riksbank is buying large volumes of bonds. The purchases mean that the demand for bonds increases, which leads to price increases on these bonds and a fall in yields. One risk that arises in times of crisis is that buyers of bonds become more cautious, as it may be more difficult to sell the asset later on. It may then be harder for companies and banks to borrow money by issuing securities. The Riksbank's purchases mean that the risk that investors will be unable to sell the asset in their turn will decline and this facilitates the supply of credit in the economy.

Funding via bank loans is more important than funding through issuing securities, particularly for smaller companies. Many smaller companies state that their financing situation has worsened (see the box "Worsened financing situation for companies"). To strengthen the incentives for the banks to maintain or increase their lending to companies, the Riksbank is offering particularly favourable loans to the banks for onward lending to companies. The Riksbank's measures thus prevent a liquidity shortage and make it easier for robust companies to finance their activities, either via bank loans or financial markets. Together with other measures introduced by the Government and authorities, it thus becomes easier for companies to manage the acute period of the crisis.

Many of the Riksbank's measures basically function as a kind of insurance policy, so that banks and companies can be sure that funding will be available at a low cost. Therefore, the fact that some of the Riksbank's programmes have not been used to the full should not be interpreted as them having no effect. The knowledge that there are programmes with a substantial scope contributes to dampening uncertainty and unease on important financial markets.

All in all, the different programmes have had a calming effect on the markets, and bond yields have on the whole fallen back (see Figure 1:7). A general increase in interest rates in the economy has been avoided, and the possibilities for companies to borrow by issuing bonds has improved in relation to when the crisis broke out in March. The measures ensure that the supply of credit in the economy functions well and hold interest rates in general at a low level, which, in turn provides support to the economy, and safeguards price stability.

Need for further measures to support low interest rates in the Swedish economy

Since the previous monetary policy meeting it has become somewhat clearer how the corona crisis has affected economic developments. Although the fall in Swedish GDP does not appear to be quite as substantial as the Riksbank feared in April, it is clear that the crisis is having serious economic consequences, not least

[7] On behalf of the Riksbank and Finansinspektionen, the National Institute of Economic Research has been asking companies questions about their financing situation once a quarter since 2018. As of May 2020, this question is asked every month.
[8] 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.

Worsened financing situation for companies

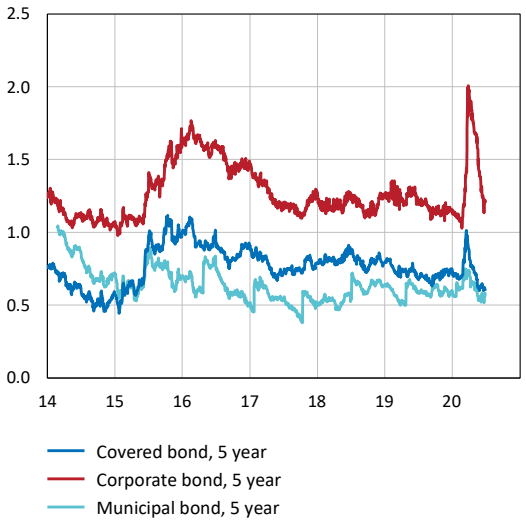
The combination of decreased revenues and turbulence in the financial markets at the beginning of the corona crisis has had a detrimental effect on financing conditions for Swedish companies. In March and April in particular, many companies described a situation with more expensive bank loans, harder credit assessments and a sporadically closed corporate securities market. This is visible, for instance, in the National Institute of Economic Research's survey and the Riksbank's Business Survey, as well as ALMI's loan indicator, where managers at local bank branches state that the percentage of loan applications that have been rejected has increased.[7] To counteract the credit crunch, the Government, the authorities and the Riksbank have taken a number of measures to improve access to financing.

Loans from Swedish banks, credit institutions and other lenders account for the largest share of companies' interest-bearing funding. From February to May this lending to companies increased, despite the rapid deterioration in the economic situation. The aggregate development can be explained by larger companies in particular taking on more loans. There are also signs that companies with access to the commercial paper markets shifted towards more bank borrowing when these markets began to deteriorate. Lending to smaller companies, on the other hand, has increased only moderately. The fact that lending to smaller companies has remained largely unchanged, while larger companies have increased their borrowing, implies that smaller companies are facing tougher conditions.[8] However, the interest rates charged to companies of various sizes have not increased tangibly.

The Riksbank's measures aim to safeguard the credit supply to companies in the crisis. It is therefore of central importance that liquidity also reaches the companies that have the greatest need of it. The Riksbank closely follows both aggregate and more detailed statistics to evaluate the measures taken during the ongoing pandemic, partly by analysing both the banks' lending to companies and developments on the securities markets.

Figure 1:7. Yield differential between different types of bonds and government bonds in Sweden

Per cent



Note. Covered bond, government bonds and corporate 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.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank

in the form of rapidly rising unemployment. The scope and causes of the economic crisis mean that it is not possible to fully counteract the downturn in the economy with economic policy. Comprehensive measures will contribute to inflation gradually rising towards 2 per cent. However, the depth of the crisis means that it will take time before inflation returns to the target again. To avoid the downturn in the economy becoming unnecessarily prolonged and profound, monetary policy needs to continue to be strongly aimed at ensuring the credit supply functions and that interest rates are held down also in the coming years.

The Executive Board currently assesses that a combination of measures is the most effective to achieve this, and has therefore taken a number of decisions (see the box "The Riksbank´s new measures to help the economy to recover").[9] The scope for the asset purchases is extended by SEK 200 billion, to SEK 500 billion, and these purchases will be made up to 30 June 2021 (see Figure 1:8). After that, the size of the holdings is expected to be maintained through further purchases that compensate for maturities (see Figure 1:9). Within the scope of the asset purchases, the Executive Board has decided to purchase government bonds, covered bonds and municipal bonds for SEK 100 billion between 1 October and 31 December 2020. Moreover, the Riksbank will begin purchasing corporate bonds in September 2020. The breakdown into different types of bond in the first half of 2021 will be decided during the autumn. In addition to the bond purchases, the Riksbank is offering to make weekly purchases of commercial paper up to a maximum holding of SEK 32 billion.

The Executive Board has also decided to cut the interest rates for lending to the banks against collateral and to extend the maturities of the loans to the banks for onward lending to non-financial corporations and in the weekly extraordinary market operations. At the same time, the repo rate is held unchanged at zero per cent (see Figure 1:10). The measures underline the Riksbank's aim to safeguard the role of the inflation target as nominal anchor for price-setting and wage-formation.

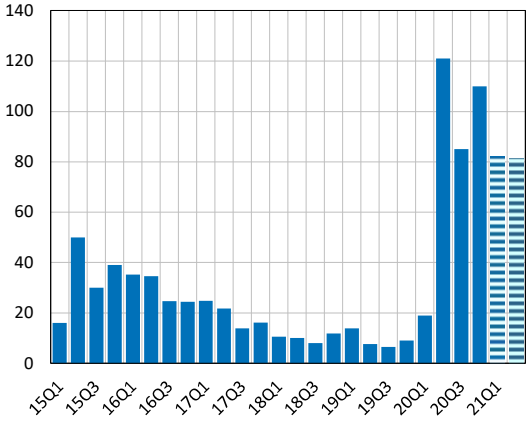
Interplay between different policy areas the most effective to alleviate the effects of the crisis

In Sweden, as abroad, comprehensive economic policy measures have been adopted since the coronavirus outbreak.[10] The Government has adopted historically extensive measures. These measures and those taken by the Riksbank and other authorities aim to alleviate the effects of the crisis and create the conditions for a faster recovery.

The cooperation of different policy areas gives the collected measures a more effective impact on the economy. After a dramatic economic decline like the one the Swedish economy is now undergoing, extensive economic policy measures will be

[9] See also annexes B, C and D to the minutes from the monetary policy meeting on 30 June at www.riksbank.se for further details.
[10] See the boxes "Fiscal policy support measures abroad" and "Next Generation EU" in Chapter 3, and the box "The Swedish Government's crisis measures" and the article "Measures taken by the central banks" in the April Monetary Policy Report.

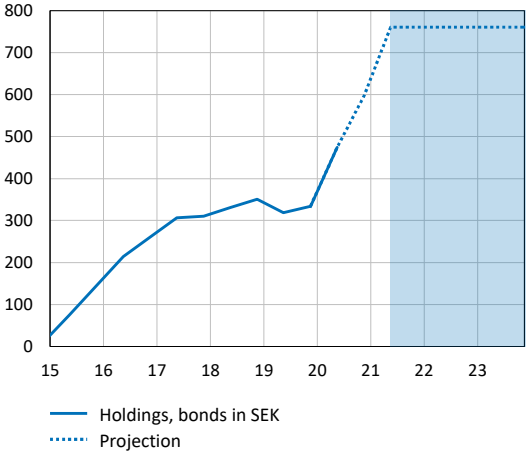
Figure 1:8. Purchases of bonds in Swedish kronor
Nominal amounts, SEK billion



Note: Refers to purchases of government bonds, municipal bonds, covered bonds and corporate bonds. The broken bar is a forecast based on decided purchases and on the assumption that the total scope is utilised.

Source: The Riksbank

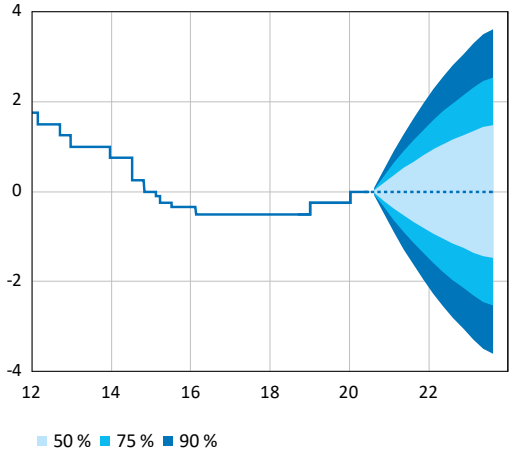
Figure 1:9. The Riksbank's holdings of bonds
Nominal amounts, SEK billion



Note. Forecast up to June 2021 refers to bond purchases that have been decided on, under the assumption that the entire framework is used. After that (shaded area) a projection based on an assumption of future decisions on purchases to an extent that compensates for maturities.

Source: The Riksbank

Figure 1:10. 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

needed for a long time to bring the economy back into balance. Both fiscal policy and monetary policy have a role to play. The monetary policy toolbox is being used forcefully today. But it is not possible to rapidly restore economic activity by means of monetary policy alone. With a low public sector debt, there are good conditions for fiscal policy to both bridge over the direct problems caused by the economic crisis and to strongly stimulate demand.

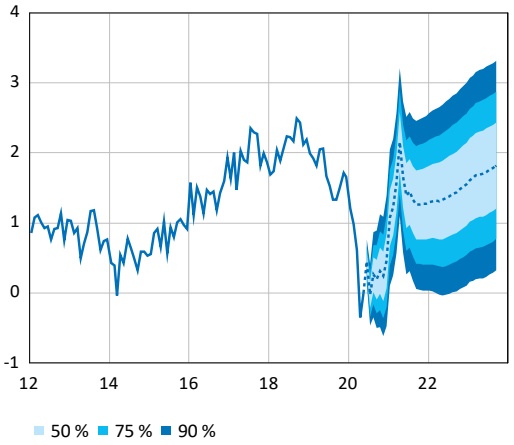
Considerable uncertainty regarding main scenario – monetary policy adapted to economic developments

The scope and the special nature of the crisis mean that it is difficult to determine how rapidly the economy will recover. The origin of the crisis is a health crisis that has affected essentially all countries around the world at the same time, which means that the sequence of events is different than if it had been a crisis that arose due to major imbalances in the macro economy or the financial system. When the pandemic declines in scope, the recovery may proceed faster than was the case after the financial crisis, for instance. The Riksbank assesses in its main scenario that the economy will show an upturn in the second half of the year, but that it will take a long time before resource utilisation is back at normal levels and inflation is once again close to 2 per cent (see Figure 1:11).

The article “Economic development according to two alternative scenarios” illustrates the uncertainty surrounding the main scenario with the aid of two other scenarios. One scenario describes a more rapid recovery in the global and Swedish economies, which could occur if the restrictive measures are withdrawn faster than expected and confidence and people’s consumption behaviour return more rapidly to more normal circumstances. In this scenario, inflation rises faster towards 2 per cent (see Figures 3:34–3:37). In the second scenario, the restrictive measures and people’s fear of being infected impact the economy over a longer period of time and the crisis thus becomes more prolonged with lower growth and higher unemployment over the coming years (see Figures 3:34–3:37). At present, the risks around the main scenario are assessed to be balanced, but it is worth noting that developments in the main scenario are based on an assumption of extensive economic policy support measures during the forecast period.

Crises can have more profound effects on the structure and functioning of the economy (see the articles “Inflation outlook during the corona crisis” and “The long-term effects of the coronavirus pandemic on production and employment”). There is thus a risk that the decline may have consequences that make the recovery more difficult with regard to GDP, the labour market and inflation. One example is if the crisis were to spread more clearly to the markets for housing and commercial property.

Figure 1:11. CPIF with uncertainty bands
Annual percentage change



Note. The uncertainty bands are based on the Riksbank’s historical forecasting errors.

Sources: Statistics Sweden and the Riksbank

The longer and more severe the downturn in the global economy becomes, the greater the risk will be that it also triggers a regular financial crisis or debt crisis when many countries find themselves in a situation with large budget deficits and high debts. In a scenario where the recovery in production and the labour market is much slower than in the Riksbank's main scenario, and where inflation prospects prove even more worrying, economic policy would need to become even more expansionary.

Preparedness to continue taking measures to support economic developments and inflation

The Riksbank's measures mean that there will be comprehensive monetary policy stimulus in the form of low interest rates and a large amount of liquidity for the foreseeable future. The combination of appropriate measures is constantly evaluated and will be adjusted to economic developments. The Riksbank is prepared to continue use the tools at its disposal to provide support to the economy and inflation. The question of which monetary policy measures are taken always entails a balance between the effects one wishes to attain and the possible side-effects that can arise at the same time. The Riksbank can supply further liquidity, so that a potential credit shortage will not prevent the economic recovery. Both lending to companies via the banks and purchases of bonds may also be extended further.

The repo rate can also be cut, if this is assessed to be a useful measure. At present, cutting the repo rate is not assessed to be the most effective tool to support the economic recovery. But this does not rule out such a possibility further ahead. There are several factors that are currently difficult to assess, which will determine whether it is appropriate to cut the repo rate below zero once 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.

It is not impossible that inflation might become higher than in the main scenario, due to a more rapid recovery, and also to poorer competition and a stronger trend towards declining globalisation (see the article "Inflation outlook during the corona crisis"). However, the risk of a scenario with excessively high inflation is judged to be small in the coming years. If inflation were to become somewhat higher than anticipated, there is no evident reason for monetary policy to react quickly.

The Riksbank´s new measures to help the economy to recover

Since the middle of March, the Riksbank has implemented a number of measures to support the credit supply to households and companies and hold back interest rates. For instance, the Executive Board decided on 16 March to purchase securities for SEK 300 billion in 2020. So far, the Riksbank has purchased securities for SEK 130 billion within this scope. Now the scope sum for asset purchases is being expanded by a further SEK 200 billion, to SEK 500 billion, and the programme is being extended to 30 June 2021. After that, the size of the holdings is expected to be maintained through further purchases that compensate for maturities. In addition to the asset purchase programmes described earlier, it has been decided that during the period 1 October to 31 December the Riksbank will buy government bonds, covered bonds and municipal bonds for SEK 100 billion. The corporate bond purchases will begin in September, and in addition to the bond purchases, the Riksbank is offering to make weekly purchases of commercial paper up to a maximum holding of SEK 32 billion. The breakdown into different types of bond in the first half of 2021 will be decided during the autumn.

On 12 March 2020, the Executive Board decided to launch a programme for corporate loans via monetary policy counterparties of up to SEK 500 billion. The purpose of the programme is to attain a wide coverage and secure safe and long-term funding for companies. The Executive Board has now decided to make it even more advantageous for its counterparties to borrow within the scope of this programme. The maturity is extended to up to four years. In addition, the interest supplement that applies if the requirement for onward lending to Swedish non-financial corporations is not met, is being cut form 0.20 percentage points to 0.10 percentage points.

The Riksbank's monetary policy counterparties can borrow or deposit an unlimited amount of Swedish kronor with the Riksbank overnight. In line with the plan to simplify the operational framework for monetary policy presented by the Riksbank in September 2019, the Executive Board has now also decided to cut the lending rate on the standing loan facility further. With effect from 2 July 2020, the interest rate will be the repo rate with a supplement of 0.10 percentage points, instead of 0.20 percentage points. This creates a narrow symmetrical interest rate corridor of 0.10 percentage points around the Riksbank's repo rate. It means that the Riksbank ensures that the overnight rate on the market for Swedish kronor will continue to be close to the repo rate and thus holds it down.

On 16 March, the Executive Board decided to offer the Riksbank's monetary policy counterparties credit with a maturity of three months within the scope of the extraordinary market operations. The Executive Board has now decided that with effect from 6 July 2020 the supplement on the repo rate of 0.20 percentage points for these credits will be removed. In addition, the Riksbank will within this framework also offer credits with a maturity of six months. In this way, these market operations can help market rates with slightly longer maturities to come closer to the repo rate.

Table 1:1. The Riksbank's measures

Date of decision	Measure	Scope	So far purchased/used	Details
12 March **30 June**	Programme for corporate loans via monetary policy counterparties	Up to SEK 500 billion	161.5 billion	Initiated 20 March. Extended to also cover sole proprietors on 6 April. 26 March decision on temporary extension of counterparty circle. **The maturity is extended to up to four years. In addition, the interest supplement that applies if the requirement for onward lending to Swedish non-financial corporations is not met, is being cut from 0.20 percentage points to 0.10 percentage points above the reporate.**
16 March **30 June**	The framework for the Riksbank's asset purchases	Up to SEK 300 billion **Extended by SEK 200 bn to SEK 500 bn**	130 billion	Programme runs until 31 December 2020. Exact allocation of purchase amounts will be determined later. **Programme extended until 30 June 2021**
16 March **30 June**	Within the framework: Purchases of government bonds, municipal bonds and covered bonds.	Total of SEK 22.5 bn up to 30 September 2020. **A total of SEK 100 bn more 1 October to 31 December 2020.**	Total of 124.5 bn, of which 11.5 bn government bonds, 11.3 bn municipal bonds and 90 bn covered bonds.	Purchases of government bonds were initiated on 18 March, purchases of covered bonds were initiated on 25 March, purchases of municipal bonds were initiated on 28 April. Purchase programme specified on 17 March, 20 March, 27 March, 21 April, 27 April, 15 May.
19 March **30 June**	Within the framework: Purchases of corporate bonds and commercial paper	The Riksbank is offering to make weekly purchases of commercial paper up to a maximum holding of SEK 32 billion **up to 31 December 2020.** **The Riksbank is offering to purchase corporate bonds for 10 bn up to 30 June 2021.**	Current holdings of commercial paper 5.7 bn (9.7 bn gross purchases, 4.8 bn maturities)	Purchases of commercial paper were initiated on 2 April. Decision to extend the programme on 3 April and 8 May. **Apply an issuer limit to not own more than 70 per cent of an individual issuer's total outstanding volume of commercial paper in SEK.** **Purchases of corporate bonds will be initiated in September.**
16 March **30 June**	Interest rate in standing loan facility cut	Unlimited		Cut from 0.75 to 0.20 percentage points above the repo rate **Cut from 0.20 to 0.10 percentage points above the repo rate** **This creates a narrow symmetrical interest rate corridor of 0.10 percentage points around the Riksbank's repo rate.**
16 March **30 June**	Weekly extraordinary market operations	Unlimited	25.7 billion	Loans against collateral for three months at interest rate 0.20 percentage points above the repo rate. **The supplement to the repo rate of 0.20 percentage points will be removed from these credits The credits will instead be offered at a variable rate corresponding to the Riksbank's repo rate.** **In addition, the Riksbank will within this framework also offer credits with a maturity of six months.**
16 March	Amended regulations on limitations for covered bonds as collateral	—		Further changes were decided on 19 March.
19 March	Loans in US dollars	Up to USD 60 billion	USD 2 bn	

Note. Municipal bonds refers to bonds issued by Swedish municipalities, regions and Kommuninvest i Sverige AB. So far purchased/used refers to utilisation up to and including 26 June.

CHAPTER 2 – Reduced pessimism and some stabilisation on financial markets

The economic consequences of the coronavirus pandemic have dominated developments on financial markets since March. Uncertainty over how companies, households and financial actors will cope with the crisis remains high, but expectations have recently become slightly less pessimistic. This has contributed to a stabilisation on the financial markets, both in Sweden and abroad. Swedish companies' costs for financing through the bond market have declined since April, while the cost of bank loans have not increased tangibly. Companies that are able to have, to some extent, replaced wholesale funding with bank loans, but there are signs that companies are facing greater difficulty in obtaining funding. Overall, the functioning of the markets has improved since March, and the financial conditions have eased after that, both in Sweden and abroad. However, the Riksbank's Financial Markets Survey shows that the functioning of the financial markets was poorer than normal in the spring. Significant risks remain going forward.

Somewhat calmer on the financial markets, but risks remain

Developments on the financial markets have recently been steered by the development of the coronavirus pandemic and its consequences for the global economy. Extensive fiscal policy support programmes have been presented and central banks have in various ways supported the credit supply and in some cases cut their policy rates. As an increasing number of countries are now easing their restrictions, hopes of a rapid recovery have grown. The slightly less pessimistic view, combined with the comprehensive programmes of measures, has resulted in a certain stabilisation of the financial markets, and financial conditions both abroad and in Sweden have become more expansionary since the April Monetary Policy Report (see Figure 2:1).[11] The main reason for this is that prices of risky assets have recovered since the most intensive phase of the crisis. Equity prices have risen substantially since the initial fall, volatility on equity markets has decreased heavily and yields on corporate bonds and mortgage bonds have fallen in relation to those on government bonds. But at the same time the Swedish krona has

Developments on the financial markets since the April Monetary Policy Report
Equity prices in Sweden and abroad have risen.
Yields on safe bonds have been stable and differentials between risky and safe assets have decreased. Yields on many asset types are on low levels from a historical perspective.
Signs of more difficult funding situation for companies.
The krona is stronger.

The transmission mechanism - from monetary policy to interest rates for households and companies

The repo rate has a direct effect on short-term interbank rates and government bond yields via the overnight rate. Expectations of the future repo rate and purchases of government, mortgage and corporate bonds affect the rates on these asset types, which are also steered by foreign interest rates. Government bond yields also act as an anchor for other types of bond yields, which, in turn, affect banks' funding costs. This ultimately affects the interest rates on lending to households and companies.

[11] 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

strengthened and housing prices have declined somewhat, which has contributed to counteracting the easing of financial conditions in Sweden. Developments during the months of May and June indicate that financial conditions in general have become somewhat more expansionary.

However, the rapid decline in economic activity continues to be a source of concern. The situation on the financial markets is fragile and conditional on the central banks continuing to support the credit supply in the economy. Many companies have seen their revenues decrease so much that they are having difficulty paying their expenses. There is thus still a considerable risk that an increasing number of companies may be forced into bankruptcy. By providing the Swedish financial system with sufficient liquidity to ensure the credit supply to companies and households continues to function, the Riksbank is attempting to counteract a negative spiral arising, in which the increased uncertainty leads to tighter credit conditions and higher interest rates, which in turn mean that otherwise robust companies cannot survive the crisis and that uncertainty is further increased.

Central banks have acted forcefully

During the crisis, several central banks with policy rates above zero have cut their rates. For example, both the Federal Reserve and the Bank of England have cut their policy rates to almost zero. The Riksbank and other central banks that already had policy rates close to zero have so far allowed them to remain there. For instance, the ECB has held its policy rate unchanged at −0.5 per cent. Apart from holding policy rates close to zero, many central banks have also taken other powerful measures to maintain the credit supply and liquidity on financial markets. This has included large-scale purchases of financial assets and lending programmes aimed at stimulating banks' lending to non-financial companies. Compared with the measures taken during the financial crisis, the use of credit facilities has been lower, while the asset purchases are expected to be more extensive.[12] The Federal Reserve took action early on to counteract the problems arising on the dollar market, by supplying liquidity both in the United States and globally. The dollar market is currently functioning well. The ECB has, in addition to retaining and extending its existing programme for asset purchases (APP), introduced a special programme for purchasing assets of EUR 1,350 billion (PEPP). The ECB has also lowered the capital requirements for banks, it is supplying more favourable liquidity facilities for the banks and has increased lending to banks to stimulate onward lending to companies.

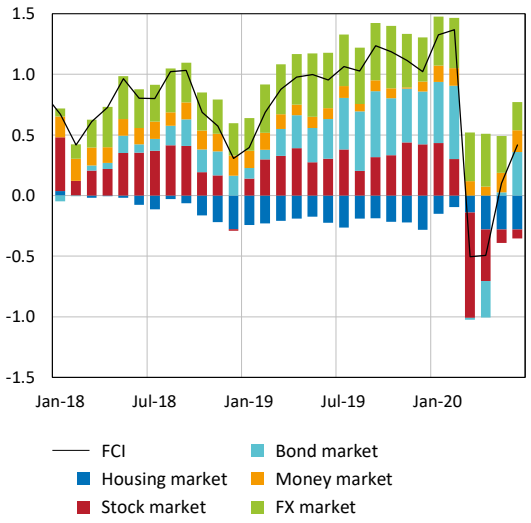
Stabilisation on the money and government bond markets

At the beginning of March, the demand for US dollars increased as a result of the increased unease on the financial markets and the interest on loans without collateral between the banks in US

[12] For further information, see P. Cavallino and F. De Fiore, "Central banks' response to Covid-19 in advanced economies", *BIS Bulletin,* No. 21 June 2020, Bank for International Settlements.

Figure 2:1. Financial conditions index, FCI

Standard deviations

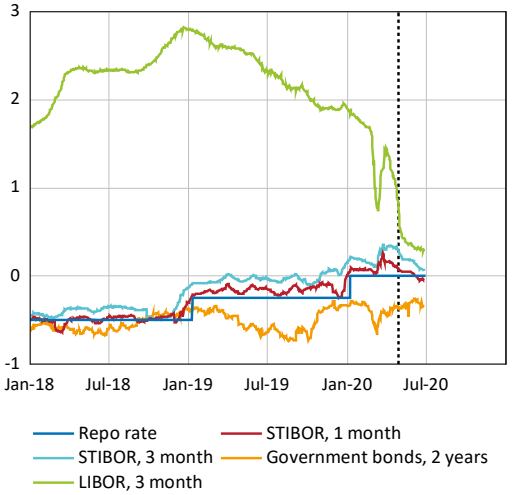


Note. A higher value indicates more expansionary financial conditions.

Source: The Riksbank

Figure 2:2. The repo rate and market rates

Per cent

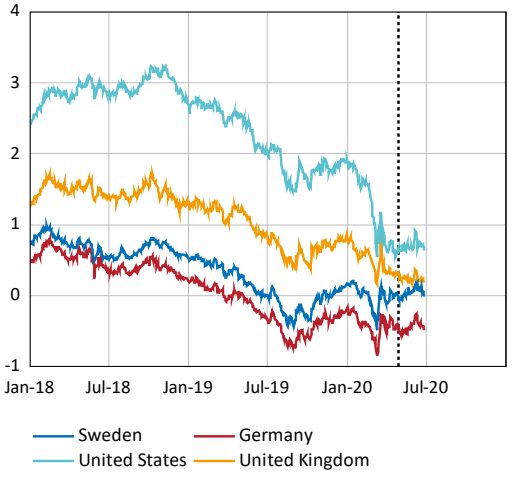


Note. Zero coupon rate with 2-year maturity calculated from government bonds. LIBOR in US dollar terms. The broken line indicates the Monetary Policy meeting in April.

Sources: Macrobond and the Riksbank

Figure 2:3. 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 Monetary Policy meeting in April.

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

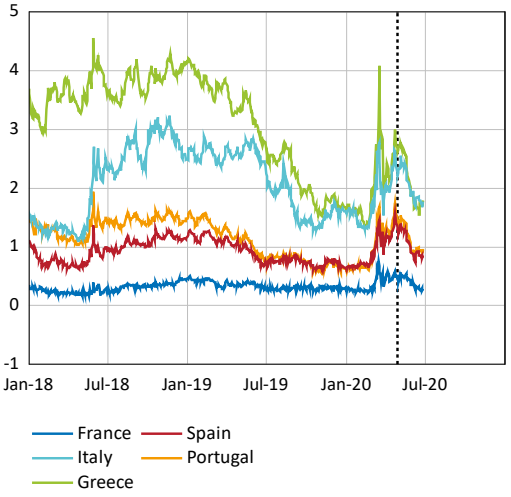
dollars, LIBOR, rose substantially (see Figure 2:2). One reason for the upturn in LIBOR was that the banks needed to replace the borrowing that normally takes place on the money market via commercial paper. This was because investors in the money market turned away from bank debt and towards more liquid and safer assets. Following extensive liquidity injections from the Federal Reserve and an increased risk appetite, LIBOR has fallen to more normal levels in relation to the policy rate in the United States. Swedish money market rates were also affected by the unease in the middle of March and STIBOR rose, although not to the same extent as LIBOR (see Figure 2:2). Recently, STIBOR has fallen back is currently close to zero per cent.

Government bond yields have been stable since the monetary policy meeting in April, but are still low in an historical perspective (see Figure 2:3). The continuing low yields on government bonds in many countries indicate that market participants are expecting policy rates to remain low for a long period to come. Central banks' asset purchases are also contributing to keeping yields low.

As early as the beginning of the crisis, government bond yields rose in some countries, such as Italy, Portugal and Spain (see Figure 2:4). This was probably due to market participants' concerns regarding high public debt levels and the governments' future ability to pay, particularly when equity prices for European banks have fallen and costs for investors to hedge against credit risks in European banks had risen substantially. This indicates a continued high risk of credit problems for European banks and states affecting one another in a negative spiral. However, following new measures programmes from the ECB, and Germany signalling a willingness to take part in joint European fiscal policy stimulus, the differential between government bond yields in Europe has declined.

Figure 2:4. Yield differential between European and German 10-year government bonds

Percentage points

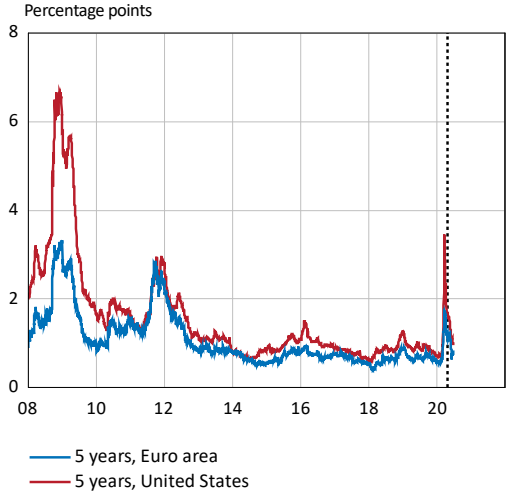


Note. Benchmark bonds. The broken line indicates the Monetary Policy meeting in April.

Source: Macrobond

Figure 2:5. 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 vertical line indicates the Monetary Policy Meeting in April.

Source: Macrobond

Yields on risky bonds have fallen

As market pessimism has declined, yields on corporate bonds abroad have fallen, following the clear upturn earlier in the year. The difference between corporate bonds yields and government bond yields reflects the risk premiums in credit markets. These premiums rose substantially at the beginning of the crisis, even for companies with good credit ratings. Following the central banks' extensive purchases of bonds, the premiums have now fallen again and are at low levels (see Figure 2:5).

The Swedish bond markets have seen a similar development. Risk premiums rose substantially in March, primarily for corporate bonds, but have since fallen back. Yields on covered bonds and municipal bonds have also fallen from the higher levels in March. These yields are now at the same levels as at the beginning of the year, and the Riksbank's asset purchases have probably contributed to his (see Figure 2:6).

During the initial phase of the crisis, there were clear signs that liquidity on the financial markets and the functioning of these markets had deteriorated. For instance, the differential between ask and bid rates on corporate bonds rose substantially.

The Riksbank's Financial Markets Survey also indicates that market participants perceived the functioning of Swedish financial markets to be poorer than normal in April, mainly as a result of the corona pandemic[13]. Although liquidity and market functioning have improved since March and April, the situation on the financial markets is fragile and conditional on the central banks continuing to support the liquidity supply in the economy.

Clear recovery on the stock markets

During February and March, equity prices fell sharply all around the world, partly due to fears that restrictive measures would reduce profitability. However, since the end of March, equity indices have risen (see Figure 2:7). The Swedish equity market has closely followed that in the United States, and has recovered relatively quickly. The upturn on the equity markets indicates that market participants have become less pessimistic about future macroeconomic developments, where economic policy measures are expected to contribute to a rapid recovery.

The uncertainty, measured according to market-based measures of volatility on the equity markets, has declined, but is still above the average for recent years.

The banks' financing situation is somewhat improved

As the Swedish banks to a large degree finance themselves via the global money markets, their financing costs have declined apace with the improved situation. The fact that the situation has improved is evidenced by STIBOR, which has fallen back (see Figure 2:2). The coronavirus pandemic and the measures to prevent the spread of the virus are having consequences on the real economy, however, such as an increased number of corporate bankruptcies. There is thus a risk that the banking sector will be negatively affected, with larger losses and poorer profitability. Developments on the housing market and in the commercial property market are particularly important, as the Swedish banks have substantial lending to these sectors and there is a high risk of losses there. Developments in these sectors are thus risk factors that the Riksbank is monitoring.

The cost to investors of hedging against credit risks in Swedish banks has increased, and the banks' equity prices have not recovered as much as the rest of the stock exchange. So far, however, yields on covered bonds have remained at normal levels after coming down from the higher levels in March, to which the Riksbank's purchases of mortgage bonds ought to have contributed.

Companies' financing costs still high

The bond market has become an increasingly important source of financing for companies in recent years. The total securities debt for Swedish non-financial corporates has more than doubled since 2013, and now amounts to around SEK 1,400 billion (see the article "The Swedish corporate bonds market").

[13] For further information, see "Financial Markets Survey Spring 2020"

Figure 2:6. Yield difference between bonds and government bonds in Sweden

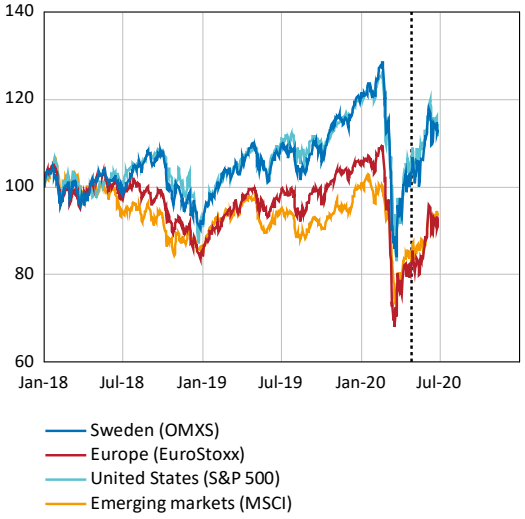
Percentage points

Note. Covered bonds and corporate 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. 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

Figure 2:7. Stock market movements in domestic currency

Index, 2 January 2018 = 100

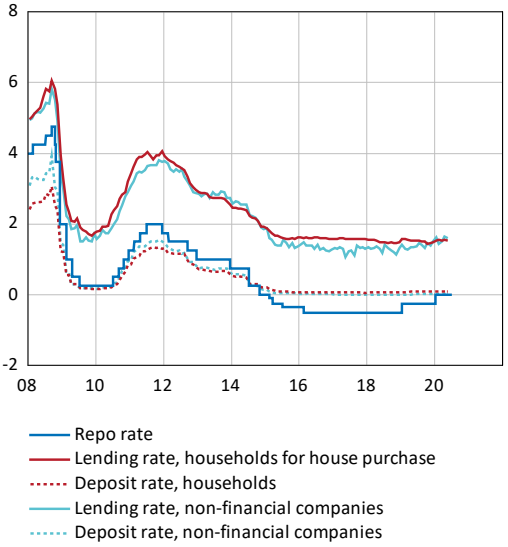


Note. The broken line indicates the Monetary Policy meeting in April.

Source: Macrobond

Figure 2:8. Repo rate together with the average deposit and lending rate to households and companies, new contracts

Per cent



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

Sources: Statistics Sweden and the Riksbank

However, the uncertainty over companies' future profitability and debt-servicing ability has increased the credit risk in the corporate sector. This applies in particular to companies in the worst-hit sectors, such as the travel, hotel and restaurant industries. When the credit risks increase, investors want greater compensation for buying bonds from these companies. Yields on these securities increase and consequently it becomes more expensive for companies to finance themselves. Although yields on corporate bonds have fallen since the monetary policy meeting in April, they are still above the pre-crisis levels. Issue volumes of corporate bonds and in particular commercial paper have fallen in relation to pre-crisis levels and have been partly replaced by traditional borrowing by the banks. The value of newly-issued corporate bonds and commercial paper was around one third lower in May than at the beginning of the year.

The banks also become less willing to lend money to companies in uncertain times. However, there has not been any tangible increase in the interest rates companies of various sizes pay on their loans (see Figure 2:8). And between February and May, there was an increase in lending from Swedish banks, credit institutions and other lenders to the corporate sector. However, the lending is primarily to larger companies (see Figure 2:9). This could be due to displacement effects, where the banks have limited funds to lend during a crisis and larger companies outcompete smaller ones. However, arguments against this are that a number of measures have been taken to facilitate the banks' credit granting, and that total lending has increased. Another possibility is that the banks assess that smaller companies are linked to larger credit risks and that they therefore, when offering loans, do so at a high interest rate. The Riksbank is closely monitoring developments in companies' funding channels.[14]

Stronger krona and lower inflation expectations

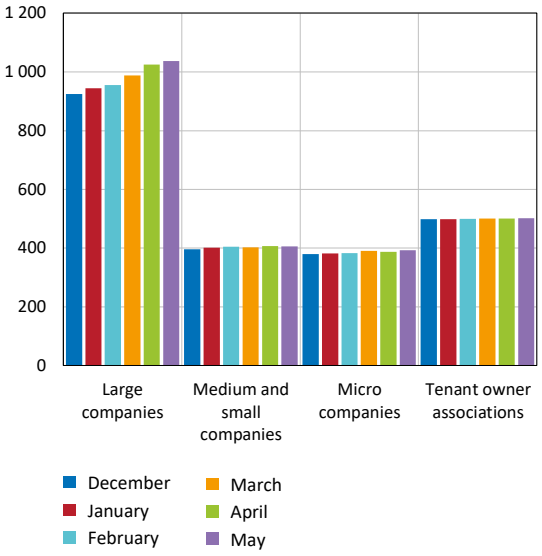
During periods of unease when market participants prefer safer assets, the krona exchange rate usually weakens, especially against the currencies that investors regard as safe harbours. The krona has appreciated substantially since April, measured according to the trade-weighted krona index KIX, but is still weak in a historical perspective (see Figure 2:10). The Riksbank's model analysis indicates that a large part of this appreciation can be explained by the more positive risk sentiment that is reflected in rising global equity prices.

Market-based measures of long-term inflation expectations fell clearly in the United States and the euro area in March (see Figure 2:11). In the euro area, the market-based measures of inflation expectations are now at very low levels. In the United States and Sweden, expectations are higher, but also somewhat below the inflation target.

[14] See also E. Frohm, J. Grip, D. Hansson and S. Wollert "Two-tier credit developments during the coronavirus pandemic", Economic Commentaries No. 6 2020, Sveriges Riksbank.

Figure 2:9. Loan stock broken down by company size

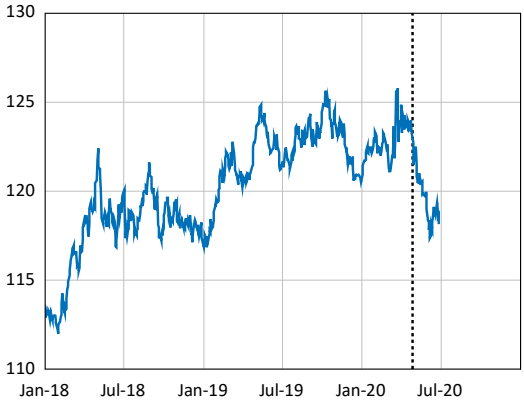
SEK billion



Sources: Statistics Sweden and the Riksbank

Figure 2:10. Nominal exchange rate, KIX

Index, 18 November 1992 = 100

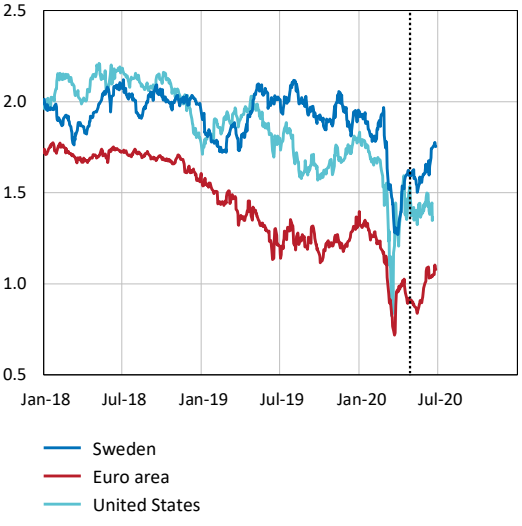


Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. The broken line indicates the Monetary Policy meeting in April.

Sources: National sources and the Riksbank

Figure 2:11. 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 time of the monetary policy meeting in April.

Sources: Bloomberg, Macrobond and the Riksbank

ARTICLE – The Swedish market for corporate bonds

To have the capacity to provide further support to the credit supply for Swedish companies, the Riksbank is looking to broaden purchases on the commercial paper market to also include corporate bonds. The corporate bond market has grown in recent years, not least as a result of substantial demand from investors when low-risk assets have been associated with very low yield. For many companies, bond borrowing has been more favourable then bank borrowing. In contrast with other Swedish bond markets, however, there are no market makers and the terms and creditworthiness differ relatively considerably between individual bonds. Overall, these factors make it more difficult to value corporate bonds than other bonds. The lack of market transparency and characteristic low turnover on the secondary market complicates the Riksbank's efforts to formulate appropriate purchases of these securities. This article aims to provide an overview of the Swedish corporate bond market.

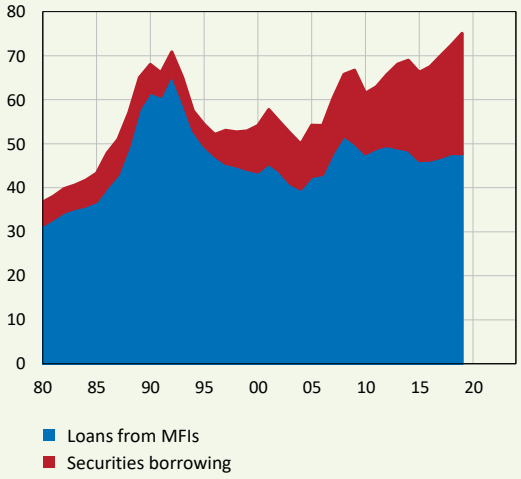
Wholesale funding among Swedish non-financial corporations has increased in recent years

Companies can fund their operations in three main ways: borrowing from banks and other agents, obtaining funding on the market, which is to say issuing commercial paper and bonds, and using equity from profits and shareholders' contributions. Wholesale funding makes up a relatively large part of US companies' total credit supply. In Sweden and Europe, the credit supply has instead traditionally taken the form of bank loans and it is not until recent decades, particularly after the banking crisis, that wholesale funding has increased in significance. The driving forces behind the credit growth in recent years include low funding costs for companies and strong cyclical development. At the same time, the very low interest rates have made it difficult for investors to obtain yield from low-risk assets. In light of this, investors have viewed corporate bonds as an increasingly attractive investment option, which in turn has made corporate bonds, as a form of funding, relatively more favourable for companies.[15]

For Swedish non-financial corporations, bank loans are still the main source of funding, but wholesale funding, which is particularly common among larger companies, now amounts to about a third of total borrowings. This corresponds to just over a quarter of GDP (see Figure 2:12).

A greater share of securities borrowing reduces the concentration of credit risk in the banking sector. This is positive from a stability perspective, but may at the same time affect the resilience of individual companies in the event of financial shocks. Securities borrowing can help a company if bank lending is more expensive or is not available to the same extent, but there is always a risk that the company encounters problems in renewing its funding if turbulence were to occur on financial markets when the companies bonds fall due.

Figure 2:12. Borrowing among non-financial corporates
Per cent of GDP



Note. Yearly data, includes securities borrowing and loans in both Swedish kronor and foreign currency. Securities borrowing 1980–1984 is based on the older classifications in the Financial Accounts.

Sources: Statistics Sweden and the Riksbank

[15] The European Central Bank has in recent years also bought corporate bonds for monetary policy purposes and thereby contributed to increased liquidity on the European market.

Property companies important on the Swedish market

The wholesale funding of companies can generally be divided up into commercial paper, which has maturities of up to one year, and corporate bonds, which have maturities of more than one year.[16] In May of this year, the outstanding volumes of commercial paper and corporate bonds amounted to SEK 134 billion and SEK 1,249 billion respectively, issued by approximately 350 non-financial corporations. Of these, SEK 102 and SEK 556 billion respectively were issued in Swedish kronor.[17]

The Swedish corporate bond market is concentrated to a small number of larger companies. In May of this year, the ten largest issuers were responsible for just under 30 per cent of the total outstanding volume issued in Swedish kronor, divided among just over 260 bonds. In a sector perspective, the bonds of property companies make up just under half of the total volume.[18] The average volume amounts to just under SEK 550 million per bond, but the volume in individual bonds varies between as little as SEK 100,000 and up to SEK 5 billion.

Other distinguishing features of the Swedish market are that a relatively small proportion of companies have credit ratings, and that the average maturity of a corporate bond is shorter than the maturity for the equivalent bonds in many other countries and that corporate bonds are relatively often issued with variable coupon rates.

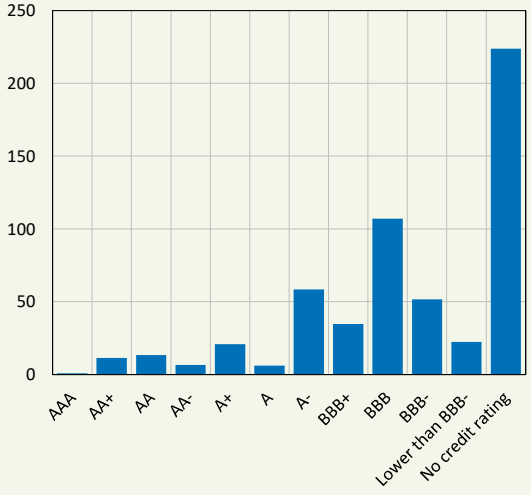
The corporate bond market is heterogeneous

The Swedish corporate bond market differs from other bond markets in Sweden in several ways. As companies regularly issue bonds to meet their funding needs, the bonds, even when issued by the same company, often have different terms. Among other things, these terms concern maturities and how interest payments are to take place, as well as which investors will receive compensation in the event of a company bankruptcy. In addition, the companies that issue bonds often have poorer credit ratings than issuers on other bond markets, for example central government and municipalities, and credit rating variations between companies are considerable. For investors overall, this means that the credit risk is comparatively high and also specific to each individual bond. One way for companies to facilitate the valuation of individual bonds and attract investors has been to obtain a credit rating. In May of this year, 60 per cent of the bond volume issued by non-financial corporations in Swedish kronor had such a rating (see Figure 2:13).[19] As a credit rating entails a cost for the company, it is primarily relatively large and creditworthy companies that have a rating.

The heterogeneity of the corporate bonds makes them more difficult to standardise. Companies wishing to issue a bond normally use a bank or other financial institution to examine interest from investors and when the bond is issued, the price is usually determined in an auction, although there can also be elements of negotiation between issuer and investor. After the bond is purchased on the primary market, which is to say directly upon issuance, it may then be traded in the secondary market, where banks and other brokers act as intermediaries. On the secondary market, however, there are no market makers, which is to say dealers who guarantee that they are always prepared to purchase or sell bonds for a stated price. This is an important difference from, for example, the government bond and covered bond markets, which can make corporate bonds relatively difficult to trade.[20] Many investors buy corporate bonds with the intention of retaining them until maturity, but some investors, such as mutual funds, may quickly need to sell some of their holdings under stressed circumstances, which contributes to large price movements.

Corporate bonds issued in Swedish kronor are owned, to a significant degree, by mutual funds and money market funds (30 percent) and insurance and pension institutions (almost 20 per cent). Foreign investors also own a significant proportion of bonds issued in Swedish kronor (almost 30 per cent) and completely dominate the holdings of Swedish corporate bonds issued in foreign currencies.

Figure 2:13. Credit ratings for corporate bonds issued by Swedish non-financial corporates in Swedish kronor
Outstanding nominal volume 31 May 2020, SEK billion



Source: Statistics Sweden

[16] In April, outstanding commercial paper issued in Swedish kronor by non-financial corporations had an average original maturity of almost 5 months.
[17] About 70 companies had outstanding commercial paper in April. However, this article focuses on the corporate bond market, the longer-term funding that forms a much greater proportion of companies' funding.
[18] This proportion s slightly larger than the property sector's share of bank lending.
[19] The percentage refers to the bonds where either the individual bond or its issuer has a credit rating. If the corresponding bonds issued in foreign currencies are also included, the share rises to close to 80 per cent.
[20] In the United States, work to increase transparency on the corporate bond market has come further than in Sweden and other European countries. There are also more agents who set prices and provide electronic platforms for trade.

Important to increase transparency on the Swedish market

In Sweden, corporate bonds as a form of funding are still fairly unusual in comparison with bank lending, but have increased in significance in recent years. Corporate bonds are issued with varying terms by companies with varying creditworthiness and the secondary market lacks market makers or other systems to ensure good transparency. Overall, these factors mean that the market is characterised by a lack of transparency and that the turnover on the secondary market is normally low.

These factors mean that the market is particularly vulnerable in the case of shocks and they complicate the Riksbank's work on buying these securities. The fact that the Riksbank nevertheless has decided to purchase corporate bonds during the period 1 September 2020 to 30 June 2021 reflects the importance of being able to offer broad support to the supply of credit to Swedish companies and have the capacity to handle a situation in which the credit supply to companies further deteriorates. Ultimately, a more well-functioning market requires considerable effort to increase transparency, something to which both market participants and public policy makers can contribute.

CHAPTER 3 – Signs of recovery after sharp fall in GDP

There have been dramatic developments in the global economy in recent months, dominated completely by the effects of the corona pandemic. Extensive measures have been implemented to limit the spread of infection and these, in combination with self-imposed restrictions, have had substantially negative economic effects with a sharp fall in GDP in the majority of economies. At the same time, there are now the first signs of recovery as the measures are gradually withdrawn.

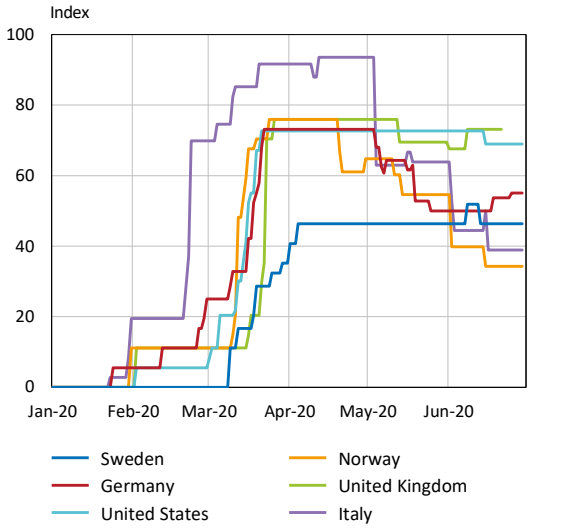
GDP growth has not been as weak in Sweden as in other countries in the first quarter. However, monthly statistics and more high-frequency data show that Swedish output has also been hit hard in the second quarter. The pandemic has also had a significant impact on the labour market. The number of redundancy notices has increased dramatically and so far companies have applied for short-term work schemes for more than 600,000 employees. Inflation, which has been dampened by falling energy prices, has also fallen as a result of the sharp decline in demand. In addition, measuring inflation has been made more difficult by the fact that several products are not being consumed at all during the pandemic. After the sharp decline in the economy in March and April, there have been signs in recent months of a cautious upturn, which is expected to continue during the second half of the year as society returns towards a more normal state. The upturn is being supported by powerful economic policy measures. This will help inflation rise towards the inflation target in the end of the forecastperiod.

Extensive measures have been implemented to limit the spread of infection

Since mid-March, extensive measures have been implemented to limit the spread of infection (see Figure 3:1). These have led to a substantial slowdown in activity in the global economy and GDP has fallen rapidly (see Figure 3:6). Economic activity has also fallen in Sweden, although not as much as in other countries. This is probably due to the measures to limit the spread of infection not being as extensive and to the fact that especially hard-hit sectors, such as tourism, make up a somewhat smaller share of the economy in Sweden than in many other countries.

To give support to the particularly hard-hit sectors and thus mitigate the economic decline and facilitate recovery, extensive fiscal and monetary policy measures have been taken in more or less all countries. In the United States, the fiscal policy support measures adopted so far[21] amount to around 9 per cent of GDP (see the box "Fiscal policy support measures abroad"). The scope of fiscal policy measures within the EU vary from one Member State to the next. In Germany, they amount to just over 13 per cent of GDP while in other large counties, such as France, Spain and Italy, they amount to less than 5 per cent of GDP. In Sweden, the extent of the fiscal policy measures is approximately 5 per cent of GDP, which is less than in Germany

Figure 3:1. 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.

Source: Oxford COVID-19 Government Response Tracker (OxCGRT)

[21] This refers to fiscal policy measures with a direct budgetary effect, that is to say discretionary decisions leading to higher public expenditure and/or lower revenues.

and the United States but more than in other large economies. In addition, the extent of deferments, other liquidity measures and guarantees adopted differs among the various countries. In addition to these national measures, the European Commission has proposed an extraordinary initiative of EUR 750 billion, corresponding to just over 5 per cent of EU GDP, to be financed by joint borrowing (see the box "Next Generation EU"). Furthermore, the central banks of most countries have implemented a large number of measures to provide rapid and powerful support to their economies. The majority of central banks have taken measures to maintain credit supply and liquidity in financial markets, primarily via bond purchases and by offering collateralised loans (see Chapter 2). Central banks that had policy rates above zero prior to the crisis, such as the Federal Reserve and Bank of England, have cut them to close to zero, while the Riksbank and the European Central Bank (ECB), for example, that already had policy rates closed to zero before the crisis, have kept rates unchanged.

A different aspect of the economic crisis this time is that it is characterised by an exogenous shock that has affected virtually every country in the world simultaneously. This means that the course the crisis has taken is different to what it would have been if the crisis had occurred as a result of major imbalances in the macroeconomy or the financial system. Once the pandemic has subsided and countries lift their restrictions, many business activities will therefore be able to restart and a large share of the population will be able to return to work. These factors suggest that the recovery this time may happen faster than it did after the financial crisis, for example. A precondition of this, however, is that many companies are able to avoid bankruptcy and that long-term unemployment does not rise significantly.

Continued relaxation of restrictions and gradual recovery in economic activity

The most acute stage of rapid contagion seems now, at least for the time being, to be over, and several countries have begun to ease their restrictions. It is not possible to predict the course of the pandemic going forward, but the forecast assumes that restrictions will continue to be gradually phased out in 2020. This assumption is compatible with individual countries, regions or cities reintroducing tougher restrictions, but the overall trend is assumed to be towards gradually less measures. These assumption are obviously associated with considerable uncertainty and if a new, larger wave of the virus occurs, it will lead to worse economic development (see the article "Economic development according to two alternative scenarios").

Once restrictions are relaxed and society gradually returns to normal, a substantial rise in economic activity abroad is expected. In Sweden, this rise will not be as great, which has in part to do with the change in restrictions being less and the fall not being as deep in the Swedish economy. Both in Sweden and abroad, there will then be a gradual recovery in 2021 and 2022.

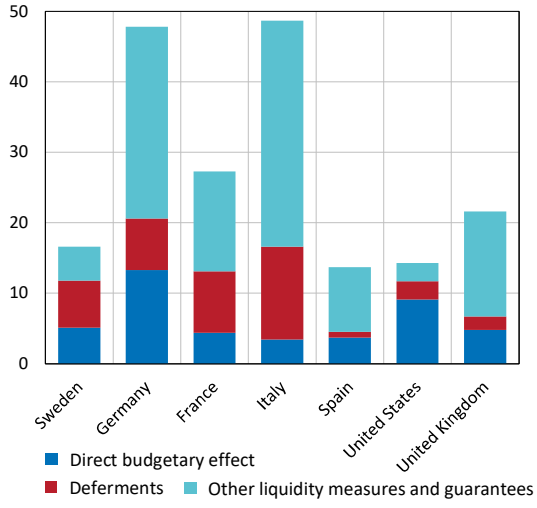
Fiscal policy support measures abroad

Comprehensive fiscal policy measures have been taken in more or less all countries to mitigate the economic consequences of the corona pandemic. The US Congress has approved a support package of fiscal policy measures with a direct budgetary effect corresponding to about 9 per cent of GDP (see Figure 3:2). In addition to these measures, the Congress has decided on various loan and guarantee programmes. The package contains cash transfers to households and increased unemployment benefit. Smaller companies are being offered both compensation for two weeks of sick leave and loans to manage cashflow. These loans can later be waived if they, for example, are used to retain employees or pay off other loans. Traditional loans with repayment are being offered to larger companies and hard-hit industries. In addition, the package includes measures to strengthen health and medical care services and to provide food programmes for vulnerable groups.

The fiscal policy measures taken within the EU vary from one Member State to the next. A common element, however, is short-time working arrangements, where central government in various countries is funding the costs for many companies of shortening working hours but paying their employees virtually the same wage. This is assessed to a high degree to have held back the upturn in unemployment. The European Commission has activated an escape clause in the growth and stability pact aimed at creating more scope for Member States to support their economies. By the middle of April, Member States had already taken measures corresponding in total to about 3 per cent of GDP. Since then, further stimulus packages have been launched in Italy, Germany and elsewhere. In mid-May, the Italian government published a new crisis package totalling EUR 155 billion, with comprehensive transfers to households and support to companies particularly seriously affected by the crisis. In Germany, the federal government has published new fiscal policy stimulation measures amounting to a total of EUR 130 billion. In total, German fiscal policy measures with a direct budgetary effect thereby amount to around 13 per cent of GDP (see Figure 3:2). Alongside measures taken at the national level, the European Commission has proposed an extraordinary programme of EUR 750 billion corresponding to just over 5 per cent of EU GDP, which is to be funded through joint borrowing.

Figure 3:2. Fiscal policy support measures

Per cent of GDP 2019



Note. Direct budgetary effect: discretionary decisions involving higher public expenditure and/or lower revenue. Deferments: measures that lead to a reduction in the budget balance in 2020 but that will be compensated for later. Other liquidity measures and guarantees: measures that do not necessarily lead to a reduced budget balance but may involve future expenditure when compensating credit losses. Total pledged deferments and liquidity measures and guarantees are shown for Sweden. Bruegel's assessment of what is utilised by corresponding items is shown for other countries. The information in the table has been updated as follows: Sweden 18 June, Germany 3 June, France 18 June, Italy 22 June, Spain 23 June, United States 27 April, United Kingdom 30 April.

Sources: Bruegel and the Swedish Government Offices

In several countries, the large stimulatory packages are causing a sharp increase in public indebtedness. This can be problematic in highly indebted countries in which public finances were already weak prior to the crisis. The high growth expected as a result of stimulus packages will, on the other hand, help to dampen countries' debt ratios. In contrast with many other countries that had high public indebtedness to start with, Sweden has a good chance of being able to meet and bridge over the problems caused by the economic crisis (see Figure 3:3). This could suggest a slightly faster recovery in Sweden.

The effects of the pandemic on the world economy are becoming increasingly clear

Sharp fall in GDP abroad but indicators point to the beginnings of a recovery

There have been dramatic developments in the global economy in recent months. These have been entirely dominated by the effects of the coronavirus pandemic. Extensive measures to restrict physical contact between people have been implemented to limit the spread of infection and these measures have had major negative economic effects. The work to reduce the spread of the disease is in different phases in different countries but, in countries showing signs of slowing contagion, restrictions have started to be eased (see Figure 3:1).

Global trade and global industrial output fell in March and in April (see Figure 3:4). The fall in April was of historic proportion and shows that trade decreased between basically all countries globally. Subdued economic activity can also be seen in the retail trade index, which shows a clear fall in the euro area and United States in March and April. Real-time indicators, such as mobility trends for places of work, also confirm the decline in March and April (see Figure 3:5). However, the fact that mobility started to increase at the end of April indicates that economic activity has started to recover. This coincided with some restrictions starting to be withdrawn in Germany, for example. Mobility trends also indicate that the decline in economic activity has been less in the United States than in the euro area. Overall, different growth indicators suggest a fall in global economic activity in March and an even greater fall in April, before a slight recovery in May.

In June, the upward trend has continued and the most recent figures indicate that around half of the decline in the euro area up until mid-April has now been regained. This picture is also supported by other high-frequency statistics such as electricity consumption, road transportation, travel by public transport and restaurant visits. As restrictions are gradually withdrawn, confidence among households and companies is expected to rise, the labour force to increasingly return to work, and output to increase. This is expected to have positive effects on the labour market, household consumption and corporate investment. However, greater than normal caution among households and companies, despite restrictions being eased, is expected to

Next Generation EU

At the end of May, the European Commission proposed a new, temporary fiscal policy support package totalling EUR 750 billion, which is more than 5 per cent of the Union's GDP. The support package shall counteract the damaging effects of the pandemic and help the economic recovery gather pace throughout the Union. Several countries in southern Europe have been hit particularly hard by the pandemic, with an extensive spread of infection and major economic impact. These countries already had high public indebtedness to begin with and the scope for them to conduct a powerful fiscal policy on the national level is therefore limited. This is an important reason behind the Commission's proposal to introduce new fiscal policy measures on the EU level.

According to the proposal, the support package, known as Next Generation EU, shall be financed via joint EU borrowing on the financial markets. The initiative will be an integrated part of the EU's long-term budget for the years 2021 to 2027, but the idea is for the lion's share of the money to be used in the first four years. Of the EUR 750 billion that the European Commission is set to borrow, EUR 250 billion is proposed to be used for onward lending to Member States. The remaining EUR 500 billion is to be distributed as grants. This may, for example, be investment support to projects that promote the transition to a sustainable and climate-neutral economy and support to individual companies threatened by bankruptcy due to the pandemic and the lockdown measures. But the Commission's proposal involves broad initiatives in virtually all the areas in which the Union currently operates and in addition, entirely new EU programmes are proposed.

The loans taken by the European Commission shall start to be paid off no earlier than 2028 and the intention is that the debt shall not be completely settled until 2058. Some of the repayment will be financed by individual Member States paying back their loans to the EU (a maximum of EUR 250 billion). The remaining part will be financed via future EU budgets. Here, the Commission proposes a number of income sources that will go directly to the Union, such as a new digital tax on companies with large turnovers and various revenues linked to the climate transition. This is a way of avoiding excessively high increases in Member State EU contributions in the future.

If the support package becomes a reality, it will involve a substantial expansion of the EU's budget. The Commission's draft long-term budget for 2021–2027, excluding the support package, amounts to EUR 1,100 billion, calculated in 2018 prices. The basic principle within the EU has so far been that the joint budget is financed via fees from individual Member States and via some revenues that go directly to the Union. Loan-financed grants to the extent now proposed are therefore something new. The governments in Denmark, the Netherlands, Sweden and Austria have criticised the design of the support package. These countries advocate that the package should be entirely aimed at onward lending to Member States and that the support should be more clearly concentrated to the regions and industries most hard-hit by the pandemic. The Commission's proposal is now the subject of negotiations.

burden the recovery. Overall, trade-weighted (KIX-weighted) GDP is expected to fall by just over 6 per cent this year before growing by just under 6 per cent in 2021 and just over 4 per cent in 2022. However, the assessments are shrouded in very great uncertainty, not least regarding the spread of the infection and subsequently restrictions.

Since the Monetary Policy Report in April, there has been a further escalation of the tensions between the United States and China, linked in part to the US allegations that China has withheld information on the outbreak of the coronavirus and stolen research results on COVID-19, and to the standpoint adopted by the United States that Hong Kong is no longer autonomous in relation to China. The continued strained relationship between the countries is impeding progress in phase 2 of the trade agreement and increasing the risk of dampened growth in the period ahead.

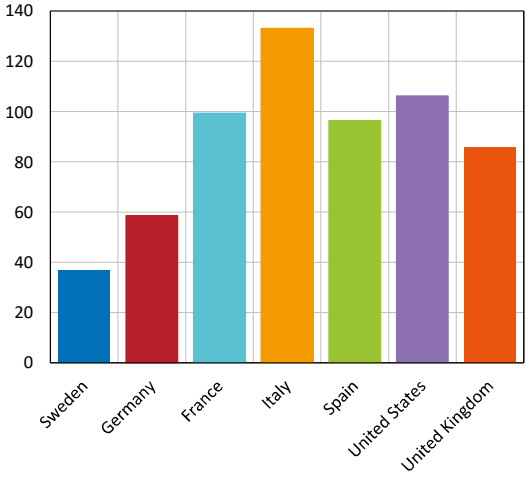
GDP in the euro area to fall by 8 per cent this year

GDP in the euro area fell by 3.6 per cent, as a normal quarterly rate, between the fourth quarter of 2019 and the first quarter of this year (see Figure 3:6). This large fall was a weaker development than in the assessment made by the Riksbank in April. Monthly data clearly indicates that the fall took place at the end of the quarter, which is a sign that the restrictions played a major role. Industrial output and retail trade fell by 12 and 11 per cent respectively in March and by 17 and 12 per cent respectively in April (see Figure 3:7 and Figure 3:8).

High-frequency data confirms the decline in March and April but also indicates a certain upturn in May and June. This development corresponds well with the development of confidence indicators. The European Commission's barometer for household confidence and purchasing managers' index show large falls in March and April, but also a clear improvement in May (see Figure 3:9). The exception, however, was the barometer for the service sector, which showed a further deterioration in May. The flash estimate for June indicates continued modest recovery in household confidence and continued strong recovery for the Purchasing Managers' Index. Even with this recovery in May and June, the average level of economic activity in the second quarter is deemed to be significantly lower than in the first quarter. Economic activity is expected to continue to rise in the coming months as restrictions are lifted further. After the substantial fall in the second quarter, GDP is therefore expected to rise rapidly in the third quarter, but the level of GDP in the second half of 2020 will be much lower than its pre-crisis level, and GDP this year is expected to fall by just over 8 per cent. The recovery will continue in the years ahead, with GDP growth of just over 6 per cent in 2021 and almost 4 per cent in 2022 (see Figure 3:6).

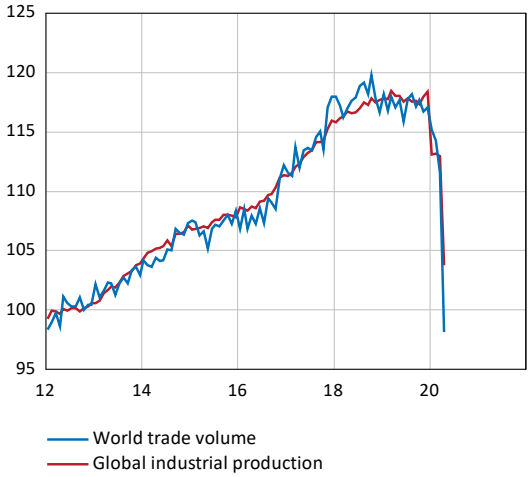
The very rapid decline in the economy is also leaving its mark on the labour market, with large falls in employment in Germany and Italy, for example. However, unemployment in the euro area as a whole rose only marginally in April. It was held back by short-

Figure 3:3. General government gross debt 2019
Per cent of GDP



Source: the IMF

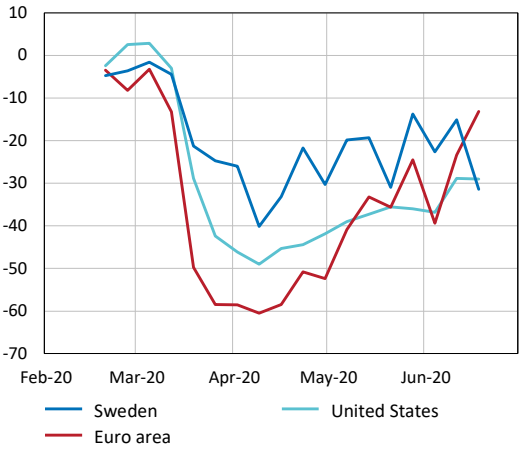
Figure 3:4. World trade volume and global industrial production
Index, 2012 = 100



Note. World trade refers to trade in goods.

Source: CPB Netherlands Bureau for Economic Policy Analysis

Figure 3:5. Mobility trends for places of work
Percentage deviation from the median value during the period 3 January–6 February



Note. The index shows the extent to which people have been at their places of work based on anonymised data from users who have activated the setting "location history" in their Android telephones.

Source: https://www.google.com/covid19/mobility/

time work schemes schemes, in which governments of many countries are largely funding companies' wage costs when working hours are reduced so that employees can keep both their jobs and their wages. The increase in unemployment is also being dampened by some of the labour force no longer actively looking for work as there are few job vacancies during the restrictions and there has been limited or no access to childcare. People not actively looking for work are not considered to be unemployed but instead "inactive".

Economic policy has been made more expansionary. The European Central Bank has taken measures aimed at keeping interest rates low and maintaining liquidity in the economy (see Chapter 2). In the main scenario, monetary policy is expected to remain highly expansionary over the entire forecast horizon. Fiscal policy measures have been introduced in several countries to support particularly vulnerable sectors and to guarantee the commitments of bank borrowers. In addition to this, initiatives have been taken at the EU level to support the economy in various ways (see the box "Fiscal policy support measures abroad"). However, the fiscal policy stimulation measures are expected to be gradually withdrawn over the next few year and fiscal policy is expected to be more or less neutral by 2022.

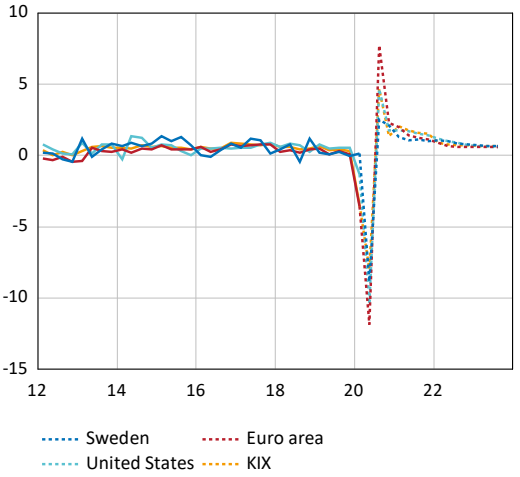
The pandemic is hitting growth and the labour market in the United States hard

US GDP fell by just over 1.2 per cent in the first quarter of this year, measured as a normal quarterly rate, between the fourth quarter of 2019 and the first quarter of this year (see Figure 3:6). Above all, it was weak household consumption that contributed to the negative growth, but investment and exports also decreased.

Outcomes for industrial output and the retail trade suggest that growth in the US economy bottomed out in April. The restrictions also peaked in April. Since then, a gradually phase-out of restrictions has begun. Decisions on restrictions are taken on the state level, however, and the degree of reopening differs among states. For the country as a whole, however, restrictions have only been marginally lifted (see Figure 3:1). A broad decline took place between March and April in the retail trade, with in particular trade in clothes, furniture and furnishings, and restaurant visits decreasing (see Figure 3:7). Both industrial output and retail trade increased again in May. Growth was relatively high in the retail trade but despite this, sales levels are still some way below what they were for the period before the pandemic. Real-time data for restaurant visits indicates that restaurants were closed (or at least had no visitors) from the end of March until the end of April but that visits have increased again in May and June (see Figure 3:10).

Total GDP growth in the US economy is expected to be sharply negative for the second quarter. Above all, it is household consumption and investment that are falling considerably, but imports and exports are also decreasing sharply. Most recently, however, there are signs that growth has started to increase and

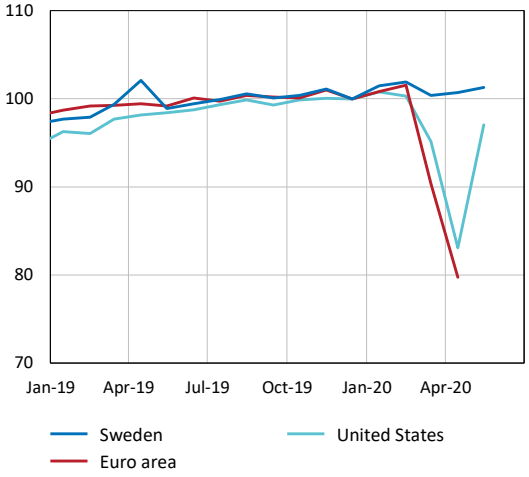
Figure 3:6. GDP in Sweden and abroad
Quarterly changes, per cent, seasonally-adjusted data



Note. KIX is an aggregate of the countries that are important to Sweden's international trade.

Sources: Bureau of economic analysis, Eurostat, national sources, Office for National Statistics, Statistics Sweden and the Riksbank

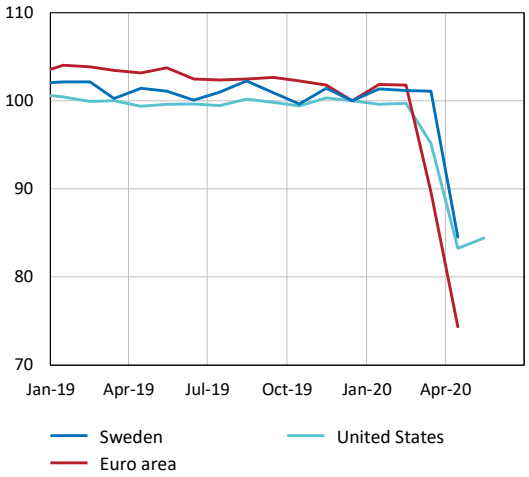
Figure 3:7. Retail trade sales in Sweden, the euro area and the United States
Index, 31 December 2019 = 100



Note. Retail trade sales in Sweden and the euro area are expressed in constant prices, sales in the United States is expressed in current prices.

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

Figure 3:8. Industrial output in Sweden, the euro area and the United States
Index, 31 December 2019 = 100



Sources: Eurostat, Federal Reserve and Statistics Sweden

during the third quarter, a certain upswing in economic activity is expected. The rate of recovery in the economy in the short term depends on how rapidly restrictions are lifted and, at present, there is substantial uncertainty over how soon this will happen. Thereafter, the recovery will be relatively slow, however – even though it is supported by both fiscal and monetary policy (see the box "Fiscal policy support measures abroad" and Chapter 2). It will take until the end of 2021 before GDP has recovered to around earlier levels. Overall, GDP in the United States is expected to fall by just under 6 per cent this year before growing by just over 5 per cent in 2021 and just under 5 per cent in 2022.

The shutdown of the US economy, which started in mid-March in states such as New York and California and then spread to most other states, has had major negative effects on the US labour market. More than 40 million people, equivalent to about 25 per cent of the labour force, have applied for unemployment benefit from mid-March to mid-June (see Figure 3:11). There are also signs that many have left the labour force, with, for example, a sharp fall in labour force participation in April (see Figure 3:12). Above all, it was younger people aged 16–24 who left the labour force.

Unemployment is expected to peak at historically high levels in the second quarter of the year. Due to the expected phase-out of restrictions, unemployment is projected to decrease by a few percentage points in the third quarter this year before continuing to fall in step with the recovery of the economy. At the end of the forecast period, unemployment is expected to be above its pre-crisis level and there is still spare capacity in the labour market.

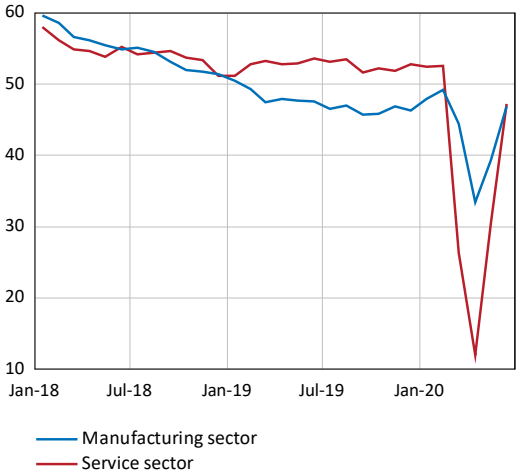
In addition to the hardships being experienced by the country, and indeed the rest of the world, as a result of the pandemic, there is also considerable social tension at the moment. Large-scale protests have occurred all over the country in order to bring attention to, among other things, police brutality and to demand change. At the same time, the US presidential campaign has begun prior to the election in November. The pandemic has changed the dynamic in that restrictions have so far made it more difficult for the candidates to campaign and will probably continue to do so in the autumn.

Resumed industrial output in China

In China, GDP fell by 10 per cent in the first quarter compared to the fourth quarter of 2019. The outcome was in line with the assessments made by the Riksbank in April. The number of reported COVID-19 cases has declined since mid-March and restrictions have been lifted in parts of the country classed as low-risk areas. However, the country's external borders are still strictly controlled with a quarantine policy in place to avoid a second wave of infection. The lifting of restrictions is reflected in the figures for industrial output, which increased in April by just under 4 per cent as an annual percentage change, which suggests that the economy started to recover in the second quarter. However, the retail trade is still weak and in April was 7.5 per cent lower in comparison with the same period last year.

Figure 3:9. Puchasing Manager's Index in the euro area

Index

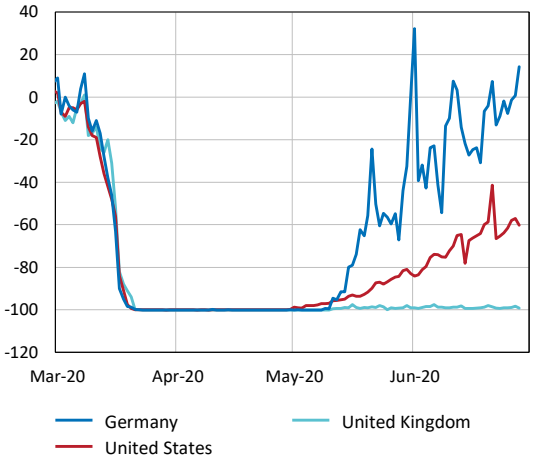


Note. Preliminary outcomes for June were published on 23 June 2020.

Source: Markit Economics

Figure 3:10. Restaurant visits abroad

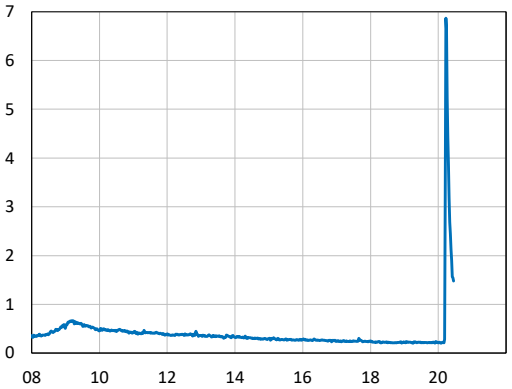
Annual percentage change



Source: Open table

Figure 3:11. Unemployment insurance weekly claims in the United States

Millions per week



Source: U.S. Department of Labor

Chinese authorities announced new fiscal policy stimulation measures during the National People's Congress on 22 May. During the congress, the authorities announced that the target for the budget deficit will be increased from 2.8 per cent to 3.6 per cent of GDP or more. They chose not to publish an official growth target for 2020 but the announced employment target, which is compatible with an unemployment rate of around 6 per cent, suggests a rather cautious view as regards the recovery of the economy this year. Overall, the Riksbank expects GDP to increase by about 0.5 per cent this year and be back at its pre-crisis level in the third quarter of 2020.

Some recovery in the oil price

The oil price, measured for Brent crude oil, has risen from just over USD 20 a barrel to around USD 35 since the monetary policy meeting in April. The increase can be explained by a larger-than-expected reduction in supply and optimism over an increase in global demand once the world's economies have opened up again. Demand has increased in countries like China, where output has picked up again at the same time as several countries have started to ease their restrictions. In May, the agreement on the record-high output reduction in OPEC countries and Russia entered into force, while several other producers have reduced their output in the hope of balancing the market. The agreement involves a reduction of 9.7 million barrels a day in May and June, which corresponds to about 10 per cent of global oil output, and then 7.7 million barrels a day for the rest of 2020. Early in June, they agreed to extend the output restrictions until the end of July. Globally speaking, oil reserves have increased sharply in recent months. This has put a downward pressure on the oil price, which in turn has contributed to both turbulence in financial markets and lower inflation. It is still uncertain, however, whether the increased demand and the decrease in supply will be sufficient to balance the market. According to forward pricing, the Brent price is expected to rise slowly towards USD 40 a barrel at the end of 2022 (see Figure 3:13).

Low inflationary pressures in both the euro area and the United States this year

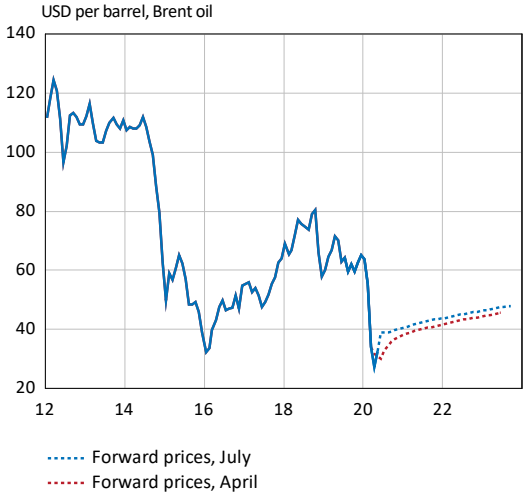
KIX-weighted inflation abroad is expected to decrease to just over 1 per cent this year, as a result of both low energy prices and reduced demand in the economy. Inflation is expected to rise next year and be just below 2 per cent in 2022 (see Figure 3:14).[22]

Inflation in the euro area is low. In April, HICP inflation fell to 0.3 per cent and even further in May to 0.1 per cent (see Figure 3:14). Energy prices fell by almost 10 per cent as an annual rate, while food prices rose. Underlying HICP inflation, adjusted for food, alcohol, tobacco and energy prices, fell to 0.9 per cent in May. There is considerable uncertainty surrounding these figures,

Figure 3:12. Labour force participation in the United States
Per cent of the population, 16 years and older

Source: U.S. Bureau of Labor Statistics

Figure 3:13. Price of crude oil
USD per barrel, Brent oil



Note. Forward prices are calculated as a 15-day average. The outcomes refer to monthly averages of spot prices.

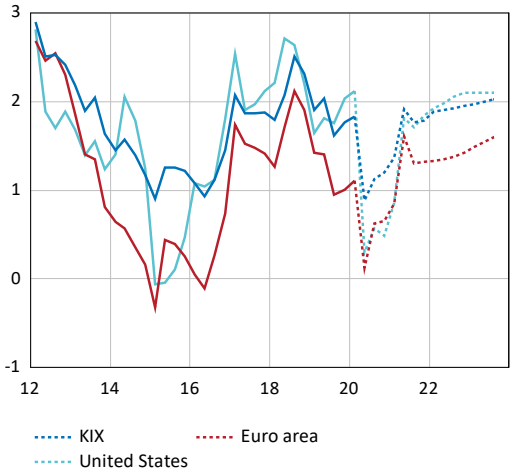
Sources: Macrobond and the Riksbank

[22] Current inflation figures must be interpreted with caution. Some products are not being sold at all and statistics offices around the world are using imputation methods to deal with the situation. Current research shows that these methods may underestimate actual living costs, see W.E. Diewert and K. J. Fox, (2020), "Measuring real consumption and CPI bias under lockdown conditions", NBER Working Paper Series 27144, NBER.

however, as it has not been possible to measure some prices due to the closure of many sectors in the economy. In the main scenario, inflation rises when resource utilisation increases in the coming years and it will amount to just under 1.5 per cent at the end of the forecast horizon.

The pandemic has made it more difficult to collect price data in the United States as well. There was a sharp decline in inflation in April. According to CPI, it fell to 0.3 per cent from 1.5 per cent in March. Energy prices contributed considerably to the decline but underlying inflation also decreased from 2.1 per cent in March to 1.4 per cent in April. In May, inflation fell slightly further, to 0.1 per cent, and underlying inflation decreased to 1.2 per cent (see Figure 3:14). Measured with the consumption deflator (PCE), inflation decreased from 1.3 per cent in March to 0.6 per cent in April and 0.5 per cent in May. Inflation is expected to remain low this year but inflationary pressures will increase as the US economy recovers and resource utilisation gradually normalises, in combination with rising oil prices. Inflation is expected to be close to 2 per cent at the end of the forecast period.

Figure 3:14. 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.

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

Figure 3:15. 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.

Source: the Riksbank

The krona will continue to strengthen somewhat in the years ahead

Since April, the krona has strengthened significantly, which seems to a large extent to be due to more positive risk sentiment in financial markets (see Chapter 2). 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. Long-term determinants, such as productivity in Sweden relative to abroad, suggest, however, that the krona will strengthen somewhat more in the slightly longer term (see Figure 3:15).

Substantial effects on the Swedish economy

GDP largely unchanged in the first quarter

During the first quarter, GDP increased by 0.1 per cent compared with the fourth quarter. Exports were the only GDP component to increase while consumption and investment fell. In contrast to the euro area and the United States, where sharp GDP falls were recorded, Sweden's GDP was therefore almost unchanged during the first quarter (see Figure 3:6). The fact that the Swedish economy has not been affected to the same extent as those in other countries is probably due to the lockdown not being so extensive in Sweden and to the hardest-hit tourism sector only making up a small part of the Swedish economy compared to countries in southern Europe, for example.[23]

[23] For more discussion, see Y. Akkaya, C-J Belfrage, V. Corbo and P. Di Casola (2020) "GDP development in Sweden relative to other countries in the wake of Covid-19,", Economic Commentaries no. 5, Sveriges Riksbank.

Sharp decline expected in second quarter

Many indicators suggest, however, that the Swedish economy will also be hit hard. Sentiment deteriorated rapidly in March and April and both the Economic Tendency Survey and the Purchasing Managers' Index noted their sharpest declines since measurements began (see Figure 3:16). Monthly indicators for demand and production also show substantial declines in March and April (see Figure 3:17). In May, however, sentiment has become marginally less pessimistic. High-frequency indicators that can be followed on a daily and weekly basis, and therefore stretch further than available quarterly and monthly data, suggest a cautious upturn in output and demand in some sectors in May and June.

GDP is expected to fall by 4.5 per cent this year, the sharpest decline for a single year since 1940 (see Figure 1:3). GDP is expected to be at its lowest in the second quarter of this year. A gradual recovery will then occur (see Figure 3:18). The assessment is shrouded in considerable uncertainty, however, both as regards the extent of the decline and how quickly the economy will recover. Furthermore, there is a lack of monthly data for some national accounts items, including investment, service exports and stocks, making them particularly difficult to assess now when the fluctuations are so considerable.

Signs that consumption is starting to rise

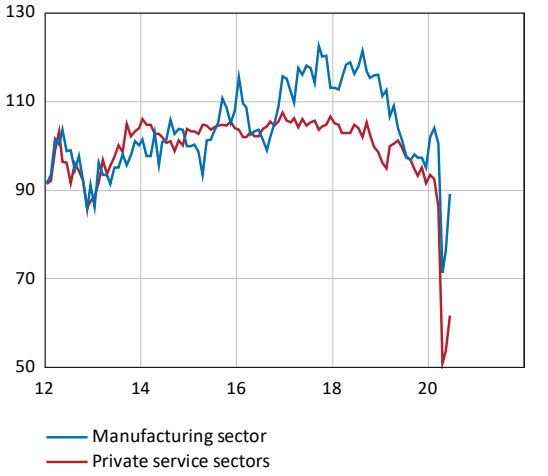
Household consumption decreased by 10 per cent in April compared with April last year according to the monthly indicator for household consumption (see Figure 3:19). The consumption of clothes and footwear, hotel, restaurant and café services and transport and vehicles all decreased by 30 per cent or more. The decline is offset by other parts of household consumption, such as the consumption of housing services (costs for accommodation, electricity and heating), having been unaffected or increased slightly. Retail sales index fell somewhat in March, but virtually all the fall has been recovered up until the end of May.

In May and June, household consumption seems to have recovered some of the decline in March and April according to weekly statistics for card transactions (see Figure 3:20). A likely explanation is that households feel they have slightly less need to save now that the first, most acute phase of the pandemic has passed and equity markets have started to recover. However, household consumption continues to be dampened by restrictive measures and by the rapid deterioration in the situation on the labour market.

During the autumn, society is expected to slowly return to normal and restrictions gradually phased out. It will take time, however, before households can travel and consume as before and consumption is not expected to be back at its pre-crisis level until the end of next year (see Figure 3:19). Household saving is expected to increase further this year when consumption falls at the same time as incomes are sustained by fiscal policy

Figure 3:16. Confidence indicators in Sweden

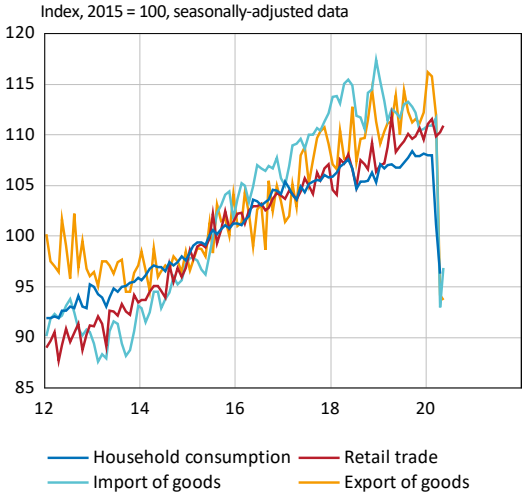
Index, average = 100, standard deviation = 10, seasonally-adjusted data



Source: National Institute of Economic Research

Figure 3:17. Demand indicators

Index, 2015 = 100, seasonally-adjusted data

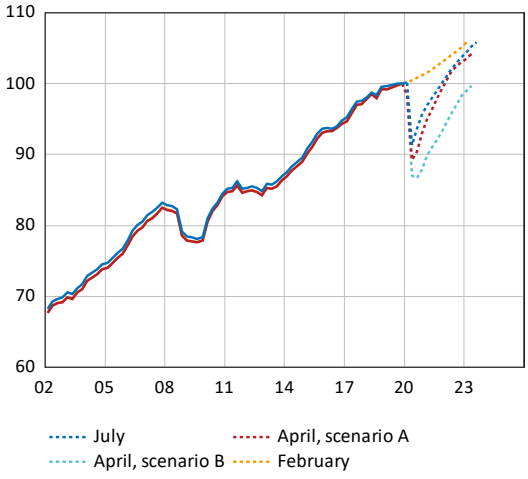


Note. The Riksbank's revision of exports and imports of goods.

Sources: Statistics Sweden

Figure 3:18. GDP in Sweden

Index, 2019 Q4 = 100



Sources: Statistics Sweden and the Riksbank

measures. As consumption returns to normal, household saving is also expected to fall back to approximately its current level.

Weak international situation burdening exports

Despite the slowdown in global trade and economic activity abroad, exports increased during the first quarter (see Figure 3:19). However, monthly statistics show that goods exports were weak at the end of the quarter. The decline accelerated in April when goods exports fell by about 15 per cent compared to March. In May, the level was largely unchanged from April.

There have been many clear signals indicating a major decline in exports. Export companies have spoken of gloomy prospects both in the Riksbank's business survey and in other large surveys. New export orders have fallen and are now markedly lower than normal. Several large industrial companies have been forced to reduce their production or shut down their plants for a period, when border and plant closures in the rest of Europe have led to a shortage of components. As a result of this, vehicle exports fell by about three quarters in April compared to the beginning of the year. Travel restrictions are also hitting tourism to Sweden and border trading hard, both of which are counted as exports in the statistics.

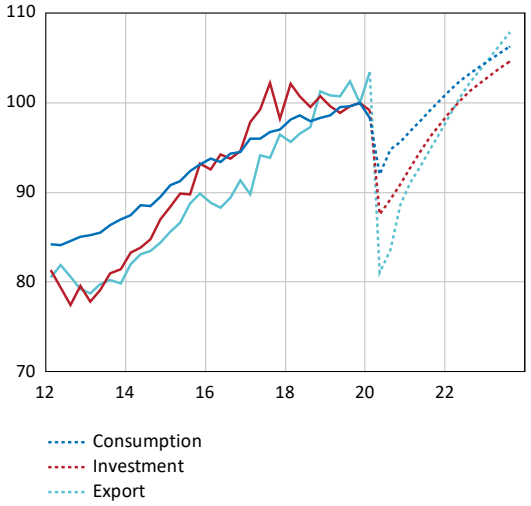
As restrictions are increasingly phased out around the world, the demand for Swedish goods and services is expected to rise again (see Figure 3:21). However, the deep decline and modest recovery abroad suggest that it will take until mid-2022 before exports are back at the same level as before the crisis (see Figure 3:19).

Investment also on hold

Investment decreased somewhat in the first quarter after weak growth last year. In the Riksbank's business survey, many companies have stated that the corona pandemic has forced them to put their new investments on hold. The fall in output and demand is expected to lead to a drop in business sector investment excluding housing of about 11 per cent this year.

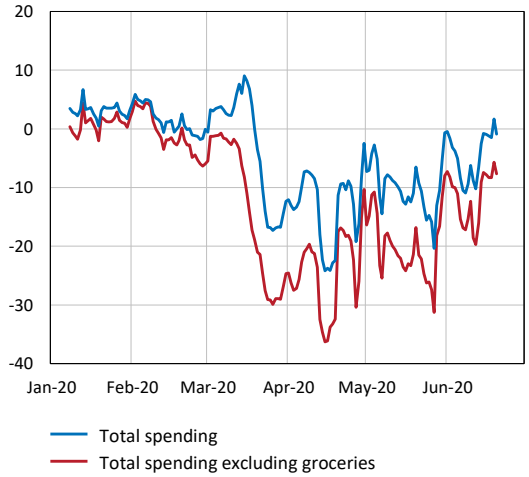
The rapidly deteriorated economic outlook caused housing prices to fall in March and April. In May, however, housing prices picked up again according to the HOX composite index. A majority of the households asked still expect housing prices to fall, however, and the supply of tenant-owned apartments for sale is unusually large, which suggests that housing prices will fall further. The weaker housing market is also dampening the propensity of housing developers to invest, something which had just started to recover. Housing investment is therefore expect to continue to fall this year. It takes a long time to start and complete the construction of housing. Despite the expectation that demand otherwise will already start to increase in the second half of this year, it will therefore take until the beginning of next year before housing investment starts to pick up.

Figure 3:19. Consumption, investments and exports
Index, 2019 Q4 = 100



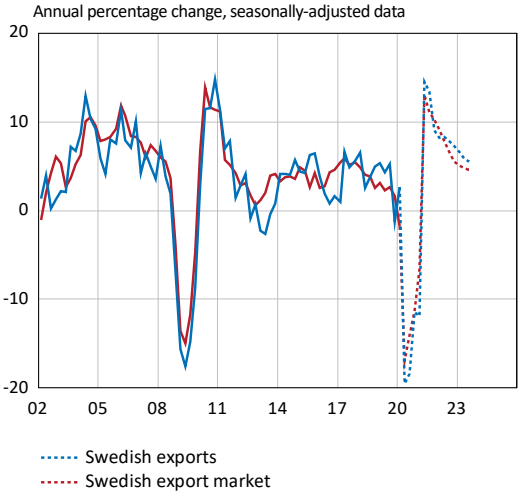
Sources: Statistics Sweden and the Riksbank

Figure 3:20. Turnover based on card transactions
Annual percentage change, 7 days moving average



Source: Swedbank Pay and Swedbank Research

Figure 3:21. 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.

Sources: Statistics Sweden and the Riksbank

The pandemic is causing large deficits in public finances

To mitigate the economic consequences of the pandemic, the Government has implemented fiscal policy measures of historic proportions. The costs of the measures already implemented or announced are assessed by the Government to amount to almost SEK 250 billion this year. Many of the measures are aimed at limiting the spread of infection, for example increased resources to municipalities and regions and the abolition of the initial qualifying day for sick pay, helping companies to survive and protecting jobs. As restrictions ease and society opens up, fiscal policy is expected to change direction and focus to a greater degree on stimulating demand more generally.

As Sweden has had a relatively low gross public debt (see Figure 3:3), there is considerable scope for public finances to stimulate the economy. The extensive fiscal policy initiatives are mitigating the decline in the economy and facilitating recovery. The Government's measures, in combination with lower tax revenues and higher public expenditure as a result of the crisis, are assumed to reduce general government net lending from 0.3 per cent of GDP in 2019 to about −7 percent of GDP in 2020. The consolidated gross debt of the public sector, the Maastricht debt[24], is expected to increase from 35 per cent of GDP in 2019 to 45 per cent of GDP in 2020. In the years ahead, gross debt is expected to remain at approximately the same level at the same time as net lending improves gradually and in 2022 will amount to just under −1 per cent of GDP.

Over 220,000 newly registered job-seekers in three months

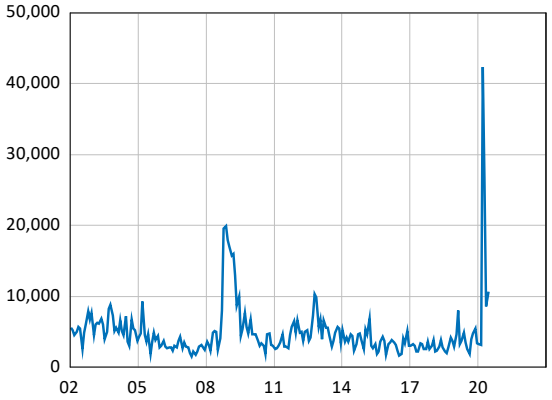
The pandemic and the restrictions introduced to prevent the spread of infection both in Sweden and abroad have had a significant impact on the labour market. Since 1 March, over 220,000 people have registered as unemployed at the Swedish Public Employment Service and almost 90,000 people have received notice of redundancy (see Figure 3:22). The crisis has affected most sectors, but most redundancy notices have been issued in the hotel and restaurant business. The manufacturing industry has also been affected as closures abroad have led to both a shortage of components and fewer new orders.

According to the Labour force surveys (LFS), employment has fallen sharply and unemployment rose to 8.5 per cent in May. However, the upturn in unemployment is being offset by a fall in the number of people in the labour force. When the chance of finding a job decreases and many temporarily employed people lose their jobs, fewer tend to look for work. Many leave the labour force instead. This can be seen, for example, in the number of applications to this autumn's higher education programmes, which is higher than it has been for several years.

The Government has introduced several measures to alleviate the tough economic situation in which many companies

Figure 3:22. Redundancy notices

Number per month



Note. Redundancies for June refer to the period 1–26 June.

Source: the Swedish Public Employment Service

[24] The Maastricht debt is the official measure of public sector debt. The measure is based on the Maastricht Treaty and is a concept used within the EU. The Maastricht debt includes central, regional and local government liabilities and the pension system's liabilities. The debt is consolidated in the sense that liabilities between central, local and regional government and pension systems are excluded.

find themselves as a result of the crisis. One of these measures is the short-time work scheme for employees. So far, companies have applied to short-time work schemes for over 620,000 employees. On average, 350,000 or about 11 per cent of the employees in the business sector are expected to be in short-time work scheme between 16 March and 31 December. The Government measures will probably lead to more employees retaining their jobs, although many will become unemployed despite the measures. The number of hours worked in the economy is expected to decrease significantly more than the number of persons employed, due in part to people being counted as employed when they are in short-time work scheme but working fewer hours. The short-time work scheme is also expected to benefit productivity this year, as companies can more easily adapt their labour input to their output. Hours worked are decreasing approximately the same as output, which indicates a more or less unchanged level of productivity.

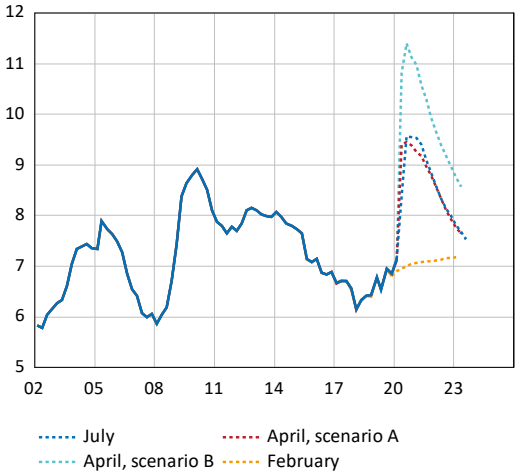
Employment is expected to continue to decrease in the second and third quarter, and then level off towards the end of the year. Unemployment is therefore rising quickly in a short period of time and is expected to amount to 9.6 per cent in the second half of 2020 (see Figure 3:23). According to this assessment, some of those who have lost their employment will choose to leave the labour force, for example to study (see Figure 3:24). If this does not happen, however, the upturn in unemployment will be greater.

When demand increases in 2021 and output gradually recovers, hours worked and employment are also expected to rise. Initially, hours worked will rise more quickly when the short-time work scheme ends, but employment growth will increase towards the end of 2021 and in 2022. At the end of 2023, the employment level is largely expected to be back at its pre-crisis level (see Figure 3:24). Unemployment will fall as employment rises more rapidly, but as there will also be an inflow of new labour, it will take longer before unemployment is back to the levels it was at before the crisis (see Figure 3:23). The longer the crisis lasts, the greater the risk of unemployment also being higher in the long term (see the article "The long-term effects of the pandemic on output and employment").

Low resource utilisation as a result of the crisis

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. High-frequency statistics show that demand has fallen sharply in the economy and both indicators and labour market statistics suggest that there is an increasing amount of spare capacity. According to the National Institute of Economic Research, the share of companies stating that there is a labour shortage is lower than the historical average and capacity utilisation in the manufacturing industry is on similarly low levels as during the

Figure 3:23. Unemployment rate
Per cent of the labour force, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

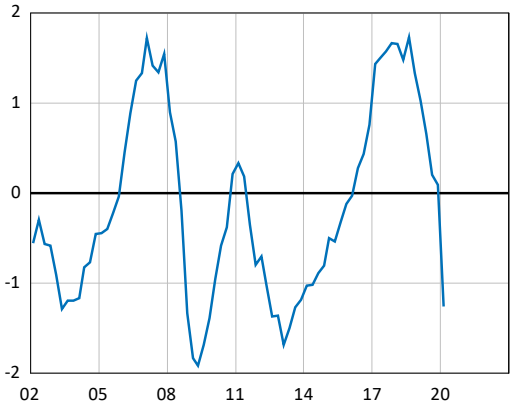
Figure 3:24. Employment rate and labour force participation
Percentage of the population, aged 15–74, seasonally-adjusted data

Sources: Statistics Sweden and the Riksbank

financial crisis in 2009. The Riksbank's resource utilisation indicator also fell sharply during the first quarter and indicates that resource utilisation is low (see Figure 3:25). Other measures of resource utilisation are the GDP, employment and hours gaps. As GDP, the number of persons employed and the number of hours worked recover and return to their pre-crisis levels, resource utilisation will normalise going forward (see Figure 3:26).

However, it is worth bearing in mind that the pandemic has led to factors of production being temporarily more or less eliminated. The assessment of GDP, employment and hours gaps is partly based on an estimate of the trend development for these variables. When the crisis affects the supply side so directly, several of the traditional indicators used to assess resource utilisation are therefore even more difficult to interpret.

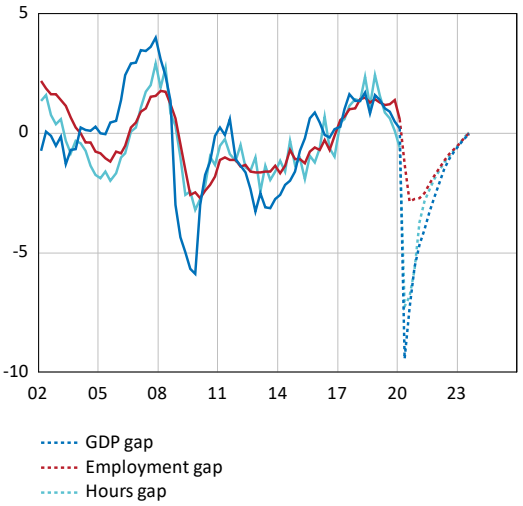
Figure 3:25. Resource utilisation indicator
Standard deviations



Note. The RU indicator is a statistical measure of resource utilisation. It is normalised so that the mean value is 0 and the standard deviation is 1.

Source: the Riksbank

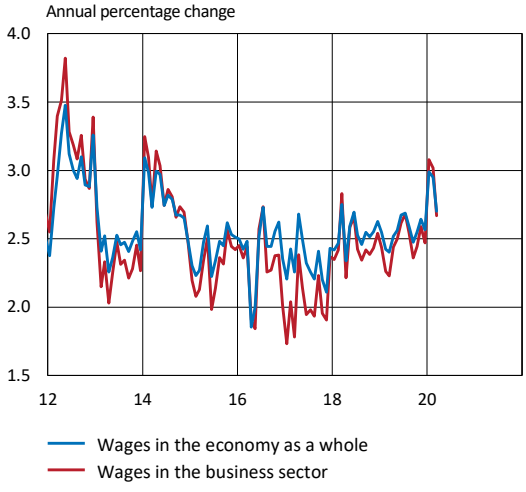
Figure 3:26. GDP gap, employment gap and hours gap
Per cent



Note. The gaps refer to the deviation of GDP and the number of hours worked from the Riksbank's assessed trends.

Sources: Statistics Sweden and the Riksbank

Figure 3:27. Wages in the business sector and the whole economy
Annual percentage change



Source: National Mediation Office

Low wage growth this year when the collective bargaining round is postponed

Since the last Monetary Policy Report, wage statistics have been published for the first quarter of 2020. According to the wage statistics by the national Mediation Office, wage growth increased at the beginning of the year (see Figure 3:27). This is partly due to this year's update of the sample. The new companies that have been included in the survey had higher wage growth than the companies that left the sample).

The social partners in industry have postponed this spring's major collective bargaining round until the autumn, which is expected to lead to total wages remaining on approximately the same level in the second and third quarter as in the first quarter. Wage growth is therefore expected to be low this year but to rise from next year onwards, as economic activity recovers after this year's rapid decline. It is possible, however, that there will be upward pressure on wages within areas where there has been a shortage of labour during the crisis, such as in the healthcare sector.

However, this year there will be a greater increase in hourly wages in the National Accounts, another source of statistics, as different support measures, such as the short-time work scheme and reduced sick-pay responsibility, will lead to the measured payroll expenses decreasing less than the number of hours worked.[25]

Many factors have contributed to low CPIF inflation

The strong economic activity, the weak krona and high energy prices contributed to CPIF inflation being close to 2 per cent from 2017 to spring 2019. Thereafter, CPIF inflation fell back slightly during the summer and autumn (see Figure 3:28). In 2020, inflation has fallen substantially for several reasons.

[25] Hourly wages according to the National Accounts can be calculated as payroll expenses divided by the number of hours worked. Via the short-time work scheme, companies can reduce the number of hours while payroll expenses will not decrease as much. This also means that the rate of increase in unit labour costs will rise this year. However, companies' costs are also expected to increase more slowly than the statistics will show. The wage and labour cost statistics from the National Accounts are adjudged to reflect payroll expenses from a wage-earner perspective to a higher degree than companies' wage costs.

The unusually mild winter dampened the demand for electricity. This has contributed to the gradual fall in electricity prices since the beginning of autumn 2019. Since February, the oil price has also fallen back sharply, contributing to lower fuel prices. The falling energy prices have pushed down CPIF inflation over the past six months. In May, lower energy prices contributed to a reduction in CPIF inflation by almost 1.2 percentage points.

In conjunction with the outcome in January 2020, the weights in the CPI calculation were updated. The effect of the weight adjustment on the measured rate of inflation was unexpectedly large this year and the effect is expected to reduce the rate of inflation by just over 0.2 percentage points during the rest of the year. The rate of inflation is expected to increase by as much in January 2021, when the annual weight update is assumed to be more normal again.

Inflation according to CPIF excluding energy amounted to 1.2 per cent in May. Falling energy prices contributed to a reduction in CPIF inflation to zero per cent (see Figure 3:28). The coronavirus crisis had a significant impact on the inflation figures. Among the larger sub-groups in the CPI basket, service prices were particularly affected (see Figure 3:29), in which unusually low price increases could be noted for, among other services, telephone subscriptions, car rental, domestic travel and hotel accommodation. There were also unusually low increases in the prices of clothes and footwear. The decline in CPIF inflation excluding energy from March to May is considered to be due to price falls related to the pandemic to some extent. Some of these were due to actual price falls resulting from the pandemic, while others were more the result of temporarily amended measurement methods. These issues mean that individual monthly outcomes should be interpreted with caution.

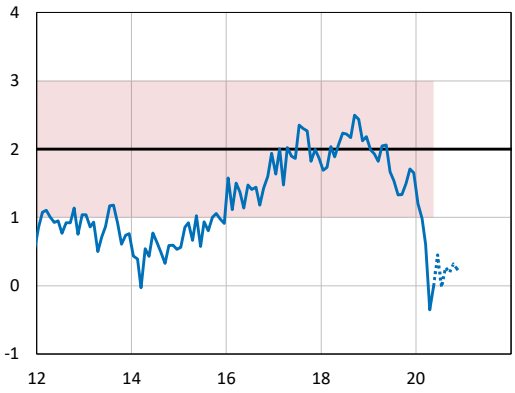
The rate of inflation is often affected by temporary price movements which have less significance for the development of inflation in the longer term. Like other central banks, the Riksbank therefore calculates and publishes various different measures of underlying or core inflation.[26] Most of these measures, which exclude or reduce the significance of prices that have previously varied substantially, indicate that more persistent inflation has also fallen in recent times (see Figure 3:30).

Indicators point to continued weak inflation over the coming period

According to the Economic Tendency Survey, price plans seen across the entire business sector have fallen substantially and are on historically low levels. According to the Riksbank's business survey, a majority of companies say that prices are now under considerable pressure and that they expect falling selling prices. Producer prices for consumer goods, on the other hand, are still rising faster than normal, both with regard to imported goods and goods produced in Sweden (see Figure 3:31).

[26] See the article "Why measures of core inflation?" in the Monetary Policy Report, October 2018.

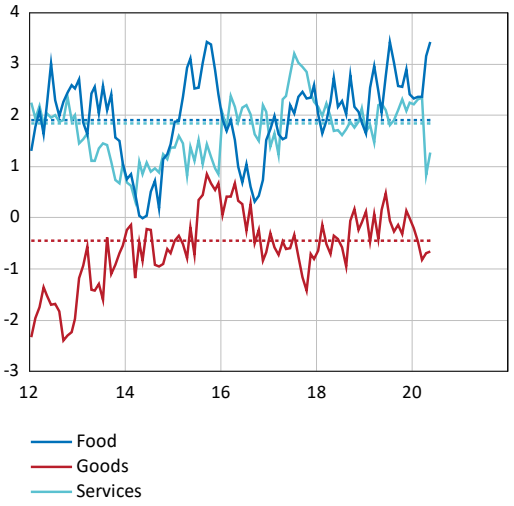
Figure 3:28. CPIF and variation band
Annual percentage change



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 broken line represents the forecast for the next 6 months.

Sources: Statistics Sweden and the Riksbank

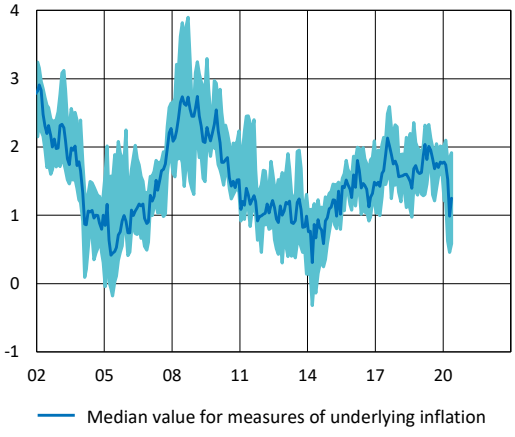
Figure 3:29. Food, goods and service prices
Annual percentage change



Note. The broken lines represent the average for the period 2000 to the latest outcome. The line showing the average for food overlaps the line showing the average for services.

Sources: Statistics Sweden and the Riksbank

Figure 3:30. 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 is expected to be very low in 2020. This is primarily due to weak growth in energy prices, and unexpectedly large price adjustments caused by the current crisis. Towards the turn of the year, the temporary effects are expected to abate and inflation is expected to rise. The assumption of low inflation this year is supported by the Riksbank's model forecast, which summarises information from a large number of indicators, such as price plans, producer prices and exchange rates (see Figure 3:32). From the beginning of August onwards, however, the assessment is higher than the model forecast. It is assumed that the model does not capture the new dynamic created by the temporarily amended measurement methods and the temporary effects. In addition, it is likely that the uncertainty band underestimates the prevailing uncertainty. The expectation that some sectors particularly affected by the crisis will compensate for this by increasing prices slightly more in the autumn is also in the assessment.

Higher inflation next year

As described above, there are clear elements of temporary effects in the current inflation figures. The level is expected to be higher again once the effect of the unexpectedly large weight adjustment in 2020 falls out of the annual change figures in January 2021. Energy prices will also stabilise and rise somewhat from their current low levels, which will contribute to a higher level of inflation at the beginning of 2021. At the same time, some temporary effects, directly linked to the coronavirus pandemic, will gradually decrease. Once these temporary effects disappear, inflation will also rise.

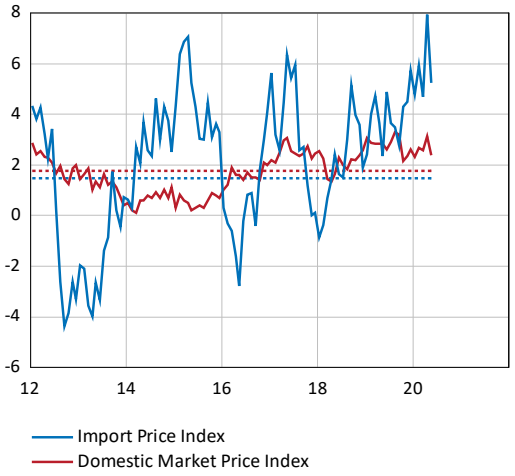
Inflation expected to rise slowly towards 2 per cent

Inflation is expected to gradually increases demand strengthens and wages and inflation abroad increase more rapidly. However, it is difficult to know the extent to which the current crisis will lead to higher or lower inflation a few years ahead. Negative shocks to the supply side of the economy may cause higher inflation for a period. This may happen, for example, if many companies were to go bankrupt resulting in reduced competition, or if the crisis were to lead to reduced trade in goods and services with other countries (see the article "Inflation outlook during the corona crisis").

There are, however, factors that may dampen inflation going forward and that suggest that inflation will be below 2 per cent over the next three years. Despite resource utilisation rising in the economy, it is expected to be much lower than normal. Companies' costs are also expected to rise more slowly than normal at the same time as the krona appreciates.

As actual inflation has fallen, so have short-term inflation expectations. If the crisis is prolonged, inflation expectations risk becoming entrenched at low levels. However, the pandemic will not last forever and a pandemic should not alter the scope and ability of monetary policy to fundamentally influence inflation. It

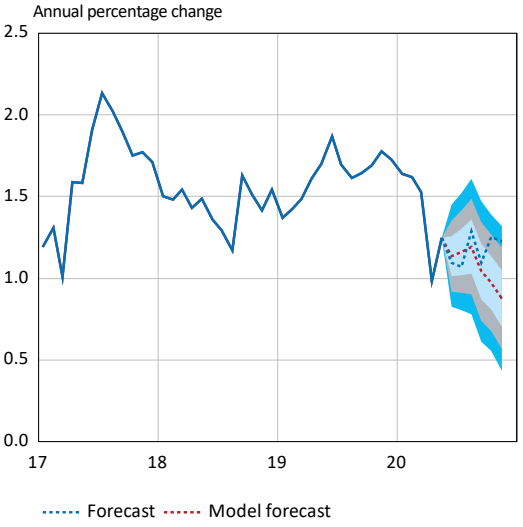
Figure 3:31. Producer prices for consumer goods
Annual percentage change



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 lines represent the averages since 2000.

Source: Statistics Sweden

Figure 3:32. 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.

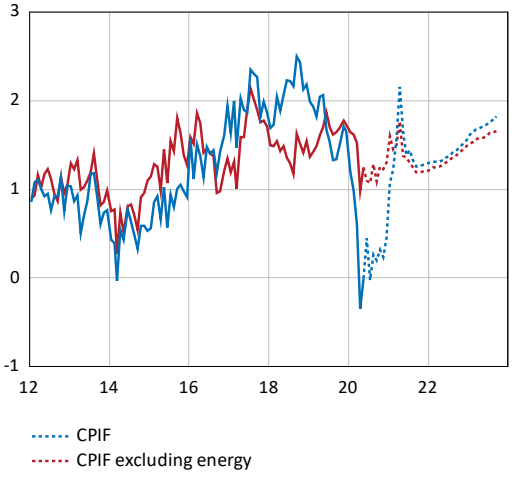
Sources: Statistics Sweden and the Riksbank

is therefore reasonable to believe that the decline in long-term inflation expectations will be limited.

The Riksbank's overall assessment is that the weak demand and low resource utilisation in Sweden and abroad suggest dampened inflationary pressures over the years 2021–2023.

But there are also a number of factors that point to higher inflation, and these are expected to lead to slightly higher price growth during the latter part of the forecast period. Overall, this means that inflation will gradually rise in 2022 and 2023, and be close to the target at the end of the forecast period (see Figure 3:33).

Figure 3:33. CPIF and CPIF excluding energy
Annual percentage change



Sources: Statistics Sweden and the Riksbank

ARTICLE – Economic development according to two alternative scenarios

This article presents two scenarios for future development to illustrate the great uncertainty surrounding the main scenario set out in this report. One scenario assumes that there will be a new, larger wave of infection later this year and that restrictions on society will again become necessary, affecting economies abroad and in Sweden. A new downturn in economic activity is assumed to entail a development in which the Swedish housing market is clearly weakened, weighing down the recovery. In the longer run, output is also affected by bankruptcies increasing, unemployment falling more slowly and investment being restrained further. Overall, in a scenario with a second wave, the recovery will proceed significantly more slowly than in the main scenario. In contrast, the second scenario entails a faster recovery than in the main scenario. One important condition for such a development is that restrictions on society can be eased increasingly over the summer in Sweden and internationally, and that the spread of infection stays on a low level over the autumn and winter. The heavy downturn in the second quarter of the year may then be followed, in principle, by an equally large upturn in the second half of the year. The recovery will then continue at a good pace next year, supported by rapidly improved sentiment among households and companies.

In its Monetary Policy Report in April, the Riksbank presented two scenarios, two conceivable paths that the economy could take. One scenario assumed that the spread of the infection is decreasing and that some restrictions on the life of the community will start to be eased relatively soon, with more substantial easing to follow in the summer. The other scenario assumed that the measures to limit the spread of infection would remain in place to a significant extent over the summer. Both scenarios involved the return to a normal situation for the economy being relatively lengthy. In addition, development in the second scenario was assumed to be worsened by a clear downturn on the Swedish housing market and greater long-term effects on the economy.

Since the previous monetary policy meeting, two months have passed and it has become slightly clearer how the coronavirus crisis has affected economic development, even if the National Accounts for the second quarter have not been published yet. As Chapter 3 describes, the economy abroad has been hit hard and the economic downturn in March and April was greater in the euro area than the scenarios in the Monetary Policy Report in April had assumed. At least so far, however, the recovery abroad seems to be proceeding slightly faster than expected since May, as more countries have started to ease restrictions on society.

In Sweden too, various indicators show that the economy was hit hard by the coronavirus pandemic during the spring. The labour market has developed in line with the scenarios in the previous Monetary Policy Report. However, the fall in GDP in the second quarter does not seem to have been fully as large as the scenarios assumed.

Continued great uncertainty over developments in the period ahead

The approximate magnitude of the economic downturn in the second quarter is thus starting to become clearer. However, future development is still very uncertain. As previously, this is mainly due to it being very difficult to to know how rapidly restrictions will be eased over the coming months, both in Sweden and internationally. As long as there is no vaccine and a sufficiently large proportion of the population has not developed immunity to the virus, there is a clear risk that the spread of infection will increase again and that this will be followed by new shutdowns and restrictions to limit physical contact.

Two scenarios for economic development in the period ahead

This article includes two scenarios for future development. The scenarios illustrate the great uncertainty surrounding the main scenario presented in this report, both as regards the spread of infection and the effects of the measures taken to restrict it. They also illustrate how the recovery may look if the crisis has long-term effects on the economy.

The first scenario assumes that a new, larger wave of infection will occur later this year and that new restrictions will be imposed on society, which will again hit economies abroad and in Sweden. The second scenario instead

illustrates a more favourable economic development, both in Sweden and abroad, in which the heavy downturn in the second quarter of this year is followed by a faster upturn in the second half of the year than in the main scenario. The main conditions for the scenarios are summarised in Table 3:1. Diagrams illustrating the development of the economy in scenarios can be found at the end of the article, as can tables showing annual mean values (see Tables 3:2 and 3:3).

Table 3:1. Summary of the assumptions in the scenarios

Scenario with a second wave
• Second wave of increased infection in the United States and Europe in the fourth quarter of 2020. No major outbreaks in 2021. • After easing in the summer, new measures are introduced to restrict physical contacts when infection picks up again in the fourth quarter. However, these measures are less comprehensive than in the spring. • A more protracted period of low economic activity leads to more bankruptcies, persistently higher unemployment and reduced investments, affecting output in the longer term. • Higher unemployment and more pessimistic sentiment affects the housing market, where prices fall and new construction declines.
Scenario with faster recovery
• Control measures and restrictions on society are lifted increasingly over the summer in Sweden and abroad. • The spread of infection decreases to a low level in the autumn and most restrictions are lifted. • Sentiment among households and companies improves rapidly. • The economic downturn over the spring has a minor effect on output in the long term.

Note. Both scenarios have been made under the technical assumption that monetary policy in Sweden will be the same as in the main scenario in Chapter 3.

Second wave of infection this year leads to slow recovery abroad

One threat to the development of the economy in the period ahead is the possibility that the recovery will be interrupted by a new wave of infection in the autumn as the influenza season starts. A new outbreak could also take place if the restrictions on society are lifted too rapidly or if infection cannot be held in check.

The alternative scenario with a second wave assumes that, for one or both of these reasons, a new, larger outbreak of infection takes place later this year. The economic recovery from the downturn in the spring is therefore interrupted by new measures to break the spread of infection. The scenario assumes that this happens in the fourth quarter. Developments would essentially be the same if new measures were introduced in the third quarter, but the economic effects described below would then probably occur slightly sooner.

The new wave will probably not affect output in the United States and euro area as seriously as the first wave this year did; see Figure 3:34. This is partly due to preparedness for the coronavirus now being higher and partly due to measures to hinder the spread of infection probably not being as comprehensive as they were in the spring. Just as in the spring, the restrictions are assumed to be in place for a couple of months before they start to be eased again.

The restrictive measures entail shocks to companies' output and weaker demand from households. Economic activity abroad therefore decreases clearly again towards the end of the year. This means that the economic recovery is delayed and it takes until the end of 2022 before output in Europe and the United States returns to the levels prevailing before the coronavirus pandemic. Inflation is lower than in the main scenario. Energy prices fall initially and then normalise, which affects short-term inflation. The weaker resource utilisation affects inflation with a certain time lag, meaning that inflation in the longer term develops significantly more weakly than in the main scenario.

Second wave of infection and downturn on housing market hold back Swedish economy

A new downturn in economic activity abroad means that demand for Swedish export goods and services is dampened. Even if the restrictions introduced in the United States and Europe are not as comprehensive as they were in the spring, they will probably also entail new shocks to transport systems and shortages of intermediate goods, affecting output in Sweden.

The second wave of infection leads Sweden to reintroduce some of the restrictions on travel and measures to reduce physical contact between people lifted over the summer. In addition, sentiment among households and companies deteriorates again, contributing to falling demand.

Overall, this leads to a renewed fall in Sweden's GDP in the fourth quarter of the year; see Figure 3:35. However, this fall is not as heavy as during the spring, as the scenario assumes that the restrictions are less comprehensive, above all abroad. Overall, GDP decreases by 5.7 per cent in 2020. No new, major outbreak of infection is expected to occur next year and a gradual easing of social restrictions will thus be possible in 2021.

It will, however, be a slow recovery in which the combined period of very low economic activity in 2020 weighs down development. The new downturn in demand over the fourth quarter puts companies under further pressure, particularly in the most exposed sectors, leading to more bankruptcies. Unemployment continues to rise to a level close to 11 per cent and does not start to fall until the middle of next year; see Figure 3:36.

As redundancy notices and unemployment again increase in the autumn, sentiment deteriorates, as do households' expectations for their private economies. This probably has greater repercussions for the housing market than were experienced in the spring. Housing prices and housing construction are therefore expected to develop more weakly

in 2021 in this scenario, compared with the main scenario. This contributes to the recovery being slower.

The long-term effects on output are also greater in this scenario, as bankruptcies become more and investments fewer. It takes about a year longer for GDP to return to the same level as prevailed before the coronavirus pandemic, compared to the main scenario; see Figure 3:35. It also takes significantly longer for unemployment to fall, which is partly due to the problem of unemployed people losing their connection to the labour market being greater in a scenario with a second wave; see Figure 3:36. This could also mean a weaker development of the labour force than in the main scenario, which would restrain the rise in unemployment slightly.

The new downturn in economic activity, which includes a larger downturn on the Swedish housing market, holds price increases back. In the short term, this development is driven by variations in energy prices, which cause inflation first to fall and thereafter to rise rapidly; see Figure 3:37. However, underlying inflation will be low. CPIF inflation will therefore fall again in the slightly longer term, after which it will rise slowly as activity in the economy increases.

It should be noted that this scenario was developed under the assumption that monetary policy stays the same as in the main scenario. It is probable that the slow recovery of output and the labour market and the weak development of inflation in the scenario would partly be countered with an even more expansionary monetary policy.

More rapid recovery possible given low infection and few restrictions in place in the autumn

A more optimistic scenario than in the forecast described in the main scenario is that the spread of the coronavirus decreases more rapidly and that infection stays on a low level over the autumn and start of next year. For example, this could be the case if methods and programmes for tests, tracing and isolation of new cases are implemented and developed, and turn out to be effective in restraining the spread of infection. Naturally, it would also be restrained if the pandemic were to be weakened or disappear by itself.[27]

Assuming that the spread of infection continues to decrease and stays on a low level over the autumn, measures to restrict physical contacts may be lifted increasingly over the summer and, in principle, be removed by the autumn, both in Sweden and abroad. This allows community life to return relatively rapidly to pre-crisis conditions. Negative production shocks among companies become ever smaller and demand increases steadily.[28] Activity in the economy therefore gets started and a heavy increase in output is seen in the second half of the year in the United States, euro area and Sweden; see Figures 3:34 and 3:35. For Sweden, this means that GDP could return to the same level as before the crisis by as early as the start of next year. In 2020, GDP decreases by 4 per cent on average.

The economic recovery then continues at a good pace in 2021, probably also supported by the rapid improvement of sentiment among households and companies as it becomes clear that the pandemic will no longer affect the life of the community.

Even though the strong economic downturn in the spring brought bankruptcies and rising unemployment with it, the rapid recovery means that the effects on output in the long term become relatively moderate. Unemployment falls steadily and, assuming that economic activity continues to develop strongly, it may return to the pre-crisis level in a couple of years' time; see Figure 3:36. Under the same conditions, once the effects of fluctuating energy prices have worn off, inflation will rise faster towards the target of 2 per cent as the economic situation normalises; see Figure 3:37.

Table 3:2. Scenario with a second wave
Annual percentage change, annual average

	2020	2021	2022
CPIF	0.3	0.9	0.8
GDP*	−5.7	1.0	4.9
Unemployment, 15–74 years**	8.8	10.6	9.7
No. of employed, 15–74 years	−2.3	−1.7	1.6
GDP abroad (KIX2)*	−9.3	4.5	4.9
CPI (KIX2)	0.6	1.1	1.3

*Calendar-adjusted growth rate **Per cent of labour force

Note. KIX2 is the euro area and the United States combined with their respective relative KIX weights (approximately 0.86 and 0.14 respectively).

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

Table 3:3. Scenario with faster recovery
Annual percentage change, annual average

	2020	2021	2022
CPIF	0.4	1.7	1.8
GDP*	−4.0	7.0	3.3
Unemployment, 15–74 years**	8.6	8.7	7.5
No. of employed, 15–74 years	−2.0	0.6	2.3
GDP abroad (KIX2)*	−6.9	10.1	2.3
CPI (KIX2)	0.7	1.6	1.7

*Calendar-adjusted growth rate **Per cent of labour force

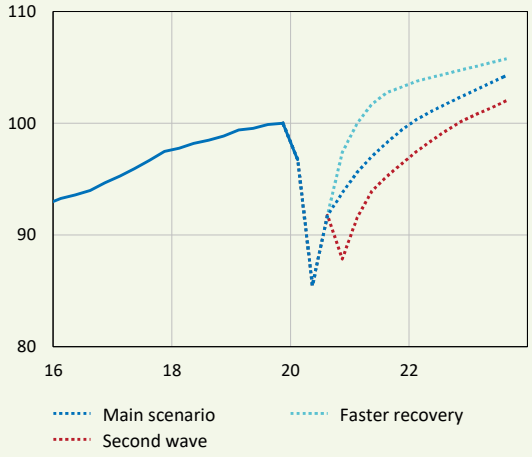
Note. KIX2 is the euro area and the United States combined with their respective relative KIX weights (approximately 0.86 and 0.14 respectively).

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

[27] Infection could also be contained if a vaccine is in place by the autumn. However, it seems less likely that this will happen.

[28] The scenario differs in this way from the main scenario. Here, the recovery in the summer and autumn is assumed to be basically unaffected by measures to restrict physical contact. In contrast, the forecasts in the main scenario entail economic activity, both abroad and in Sweden, continuing to be affected, to some extent, by restrictions this year, albeit not to such a large extent as in the event of a new, larger outbreak of infection as seen in the first alternative scenario.

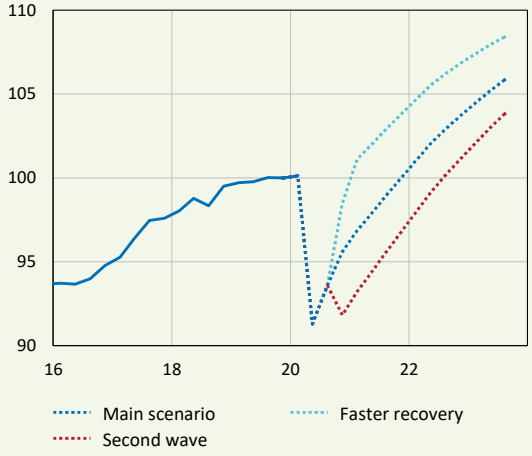
Figure 3:34. GDP abroad (KIX2)
Index 2019 Q4 = 100



Note. KIX2 is the euro area and the United States combined with their respective relative KIX weights (approximately 0.86 and 0.14 respectively).

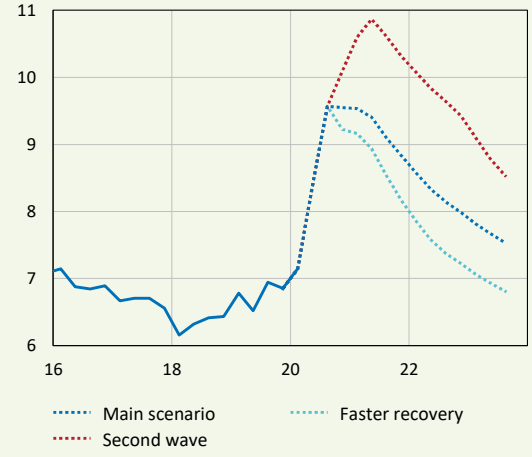
Sources: Eurostat, Bureau of Economic Analysis and the Riksbank

Figure 3:35. GDP
Index 2019 Q4 = 100



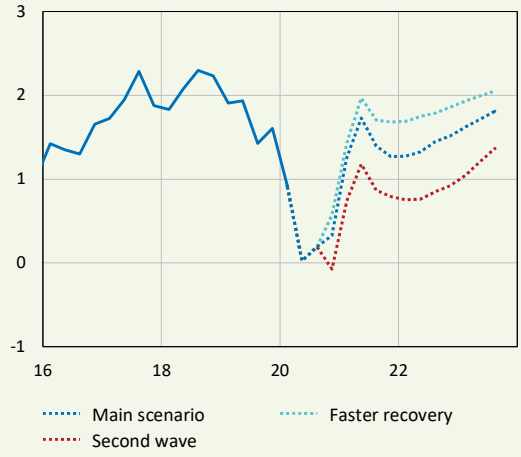
Sources: Statistics Sweden and the Riksbank

Figure 3:36. Unemployment
Percentage of labour force, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 3:37. CPIF
Annual percentage change



Sources: Statistics Sweden and the Riksbank

ARTICLE – Inflation outlook during the corona crisis

There are clear signs of temporary effects that are restraining inflation at present, such as low energy prices, measurement problems and unusually large weight adjustments. When these effects have eased off, inflation may rise relatively rapidly again. However, the crisis in which the Swedish economy finds itself will have more permanent effects. Some effects will restrain inflation in the period ahead, while other effects will act in the opposite direction. The noticeable fall in resource utilisation, both in Sweden and abroad, suggests that inflationary pressures will be restrained over the next few years. On the other hand, a number of factors having negative effects on the supply side of the economy may lead to a period of higher inflation. One example is that the trend towards increasingly internationally integrated production processes may be broken, which may lead to deteriorating productivity and weakened competitiveness. In turn, this may lead to higher prices. The Riksbank's overall assessment is that the effects on inflation of the weaker demand will be dominant in the years to come. However, there are a number of sources for upside risks for inflation, particularly in the later part of the forecast period.

Both economic outlook and inflation prospects have changed rapidly since the start of the year. In media and research circles, it has been discussed whether deflation or higher inflation will be the most likely scenario when looking ahead. A small part of that discussion is summarised here from a Swedish perspective.

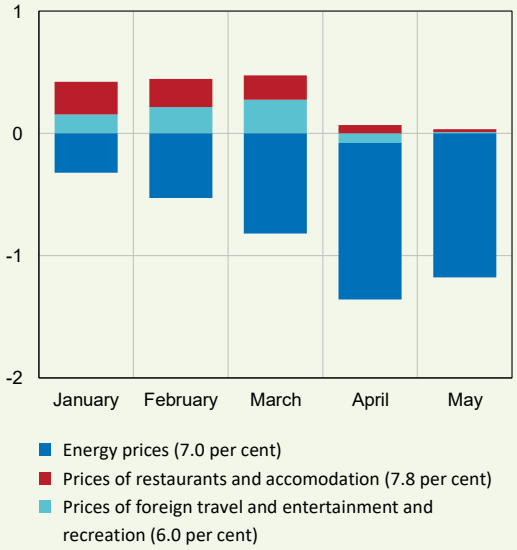
Several temporary factors are restraining inflation just now

There are clear signs of temporary effects that are restraining inflation at present.

The sharp fall in the price of oil from almost USD 70 a barrel at the end of 2019 to the record low quotation in April has directly affected consumer prices via lower fuel prices. Electricity prices have shown a similar development. While the low oil price can be explained by reduced demand and difficulties in cooperation between the oil-producing countries, the low electricity price is mainly due to the unusually mild winter and spring.

The measures to restrict the spread of infection have affected the production of statistics and, not least, the collection of prices that forms the basis of the monthly calculation of the CPI. Some services, such as package holidays and tickets to various entertainment and sporting events, have had no sales at all and Statistics Sweden has therefore had to use special measures, so called imputation method, to manage the situation.[29] This means that temporary, artificial price observations have been included in the statistics. Measurement problems also exist abroad, where they are significantly greater as restrictions on social life have been tighter. Figure 3:38 shows how much energy prices and prices more or less directly affected by the coronavirus crisis have contributed to CPIF inflation so far this year.

Figure 3:38. Contribution to CPIF inflation from prices especially affected during the coronavirus crisis
Percentage points



Note. The bars show each price group's contribution to the rate of increase in the CPIF. The figures in brackets refer to the weight in the CPIF.

Sources: Statistics Sweden and the Riksbank

In April and May, the negative contribution of energy prices to CPIF inflation was 1.3 and 1.2 percentage points respectively. These are the greatest negative contributions

[29] See the article "More difficult to calculate inflation" in Monetary Policy Report April 2020. The method involves allowing price indices for the products lacking price observations to follow the same price development as the nearest higher-level aggregate. For products without any appropriate higher-level aggregate, the price development is replaced by the annual percentage change in the total CPI.

measured in 40 years. The inflation contributions of the product groups foreign travel, entertainment and recreation, and restaurants and hotels, where many prices have had to be imputed, were also much smaller in April and May than earlier in the year. Overall, the contributions of other prices to CPIF inflation were, in principle, unchanged between March and April and rose clearly in May. Together, the product groups presented in the diagram weigh just over 20 per cent in the CPIF.

In addition to this, the effect of updated weights in the calculation of the CPI was unusually great this year. The changed weights are expected to restrain CPIF inflation by just over 0.2 percentage points more than has been historically normal.[30]

The consumption pattern has changed further in conjunction with the crisis. It is too early to say whether the change is temporary or more permanent, but the shifts this year will lead to the weights in the CPI system being adjusted in the period ahead, after a time lag. The effect of the weight changes will probably not be so great in Sweden, but it could be significantly greater abroad.[31] [32]

The recoil is expected to be clear when the temporary effects disappear

Among other things, the temporary effects described above mean that CPIF inflation does not reflect trend inflation very well just now.

It is difficult to assess the development of energy prices in the period ahead, but, as inflation is calculated, the negative contribution will disappear even if energy prices stay still at today's low levels until March-April next year. The most recent development, however, suggests that energy prices will make a positive contribution to inflation. Prices for both petrol and electricity have risen slightly over the recent period.

However, the low energy prices could lead to what are known as secondary effects or indirect effects if the situation becomes more prolonged. Examples of these could include lower transport costs, generating, in turn, lower mark-ups for various end products and lower prices for travel.[33]

The measured rate of price increase for the product groups in the CPIF that cannot be measured for price just now fell clearly when imputation started to be used. Once price measures function again in the aviation sector and entertainment and events, the level of inflation will rise if prices develop more or less as they did before the crisis. The situation may also look different in the travel industry, with higher prices, for example if the number of passengers is limited for a period or if budget airlines close down and competition is affected.

Furthermore, the annual weight adjustments are expected to become more normal in January next year, which, in turn, will lead to inflation then rising by approximately as much as the negative contribution was this year.

At the same time, inflation is thus expected to rise at the end of the year when the temporary effects wear off. Some sectors that have been affected particularly strongly by the crisis may be expected to attempt to compensate for this by raising prices a little extra.

Lower inflation expectations and substantial fluctuations in the krona exchange rate may affect inflation in the longer term

Prospera's survey shows that short-term inflation expectations have fallen sharply among all participants and are now close to the levels measured at the turn of 2014/2015. If inflation continues to be low, there is a risk that inflation expectations will become entrenched at low levels and impede wage formation and pricing mechanisms. So far, expectations over longer horizons have not fallen as much and, for money market participants, five-year expectations actually increased in June, compared with May. It is reasonable to expect long-term expectations to remain relatively stable on levels close to the target, as the pandemic has not fundamentally changed the possibilities and capacity of monetary policy to affect inflation.

The krona exchange rate weakened clearly from February until mid-March. Since then, the krona has strengthened significantly, which seems to a large extent to be due to more positive risk sentiment in financial markets. Such an exchange rate development is not so common if comparisons are made with previous crises. Changes in the exchange rate affect inflation with a certain delay, but the strong fluctuations in the exchange rate are also contributing to increasing volatility in inflation.

Weak demand is having a dampening effect on inflation

Companies' costs and mark-ups – and thereby inflation – are affected by variations in demand. In a crisis like this, with gradually rising unemployment, the resources of the economy will not be fully utilised. Companies' costs then tend to increase more slowly and prices can be kept low. The relationship between inflation and resource utilisation suggests that inflation will be low over the next few years. The circumstance that resource utilisation in certain parts of Europe was already low before the crisis and that the

[30] This is not actually a price effect but the weight adjustment affects the level of inflation for the current year.

[31] Consumption patterns have probably not been affected as much in Sweden as in other countries. The shifts in consumption taking place this year will probably not affect the weights in the CPI until 2022.

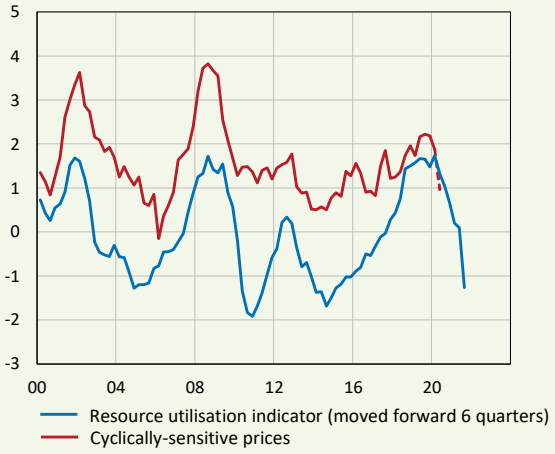
[32] See A. Cavallo (2020), "Inflation with covid consumption baskets", NBER Working Paper Series 27352, NBER.

[33] The final price companies set for a product or a service can usually be divided up into marginal costs and mark-ups. The prices for labour, capital and intermediate goods make up the company' costs.

situation is now deteriorating may spill over onto the Swedish economy and further restrain inflationary pressures.[34]

Weighting together price indices that have previously tended to covary with economic activity gives a view of how resource utilisation is affecting inflation just now and for some time to come (see Figure 3:39).[35] According to the aggregated index, economic activity seems to have had a positive effect on inflation from 2015 until 2019. Following this, the rate of increase has slowed for the prices sensitive to cyclical fluctuations. As these prices seem to be affected by resource utilisation with some delay, it can be assumed that the rate of increase will be dampened further for some time to come.

Figure 3:39. Resource utilisation indicator and cyclically-sensitive prices
Standard deviations and annual percentage change, respectively, quarterly data



Note. The RU indicator is a statistical measure of resource utilisation. It is normalised so that the mean value is 0 and the standard deviation is 1. The final observation for the time series with cyclically-sensitive prices (broken line) contains just two months (of three to obtain a full quarter) and should be interpreted with caution. The total weight for the product groups included in the index amounts to just over 48 per cent of the total weight in the CPIF.

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

More bankruptcies and changes in global supply chains may lead to higher inflation

Pricing is also affected by the competitive situation. The tougher competition is in a sector, the greater pressure there will be on companies to reduce mark-ups and push margins down.[36] Survey data from the Economic Tendency Survey and elsewhere clearly indicates that the competitive situation is an important factor behind companies' pricing behaviour. The number of bankruptcies has increased during the crisis. This may mean reduced competition, particularly in certain sectors such as hotels and restaurants. This, in turn, could contribute to higher prices.

One phenomenon that is linked to the discussion of competition and other matters is what are known as global value chains. These are international networks of companies, which may include developers, producers, subcontractors, investors and dealers. In the 1990s, when world trade was expanding rapidly, Swedish companies' participation in global value chains also increased. These upward trends, which research suggests seem to have held back inflation in recent decades, saw a clear break in conjunction with the financial crisis. After this, world trade has not developed as quickly anymore and companies in Sweden and abroad have not expanded their collaboration to the same extent as previously. It is still too early to say how the coronavirus pandemic will affect these trends, but it is likely that many companies will review their production processes in the period ahead.[37] The crisis has revealed how vulnerable such chains can be. If the number of corporate chains is reduced or supply chains are shortened, this could affect productivity and competition, and contribute to costs and consumer prices rising.

Table 3:4 below presents the subgroups in the consumer price index that may primarily be affected by changes in global value chains. Their weight in the CPI is just over 20 per cent. Over the last ten-year period, the prices for these goods have together contributed an average of −0.2 percentage points per year to CPIF inflation.

Table 3:4. Goods in the CPIF that may be affected by changes in global value chains[38]
Weights of various product groups in the CPIF

	Weight
Clothes, shoes, textile fabrics, yarns and haberdashery	4.5
Repair goods: Own housing	0.5
Furniture, carpeting and lighting	2.0
Household textiles and fittings	1.1
Household appliances and utensils	2.1
Purchases of vehicles, spare parts for cars etc.	5.2
Radio, TV, video, cameras, film etc.	2.7
Sporting and outdoor articles	0.7
Toys, games and hobby items	0.7
Diverse leisure goods excluding repairs	1.2
Total	**20.6**

Note: Weight refers to per cent in the CPIF.
Sources: Statistics Sweden and the Riksbank

[34] See for example R. A. Auer, C. Borio and A. Filardo (2017), "The Globalisation of Inflation: The Growing Importance of Global Value Chains", CESifo Working Paper Series 6387, CESifo Group Munich.
[35] This weighting is inspired by earlier studies of data for the United States; see T. Mahedy and A. Shapiro (2017), "What's down with inflation?", FRBSF Economic Letter (November 27), 2017-35 and M. Luzzetti, B. Ryan and J. Weidner (2019), "Revisiting cyclical and acylical inflation: How much can the Fed impact core?", Deutsche Bank Research, US Economic Perspectives.
[36] In a special survey conducted by the National Institute of Economic Research on behalf of the Riksbank in 2014, a majority of companies reported that competition had increased and that this had also led to mark-ups being low.
[37] See E. Frohm (2020), "Restrained foreign trade after 2009: discussion of possible consequences for Sweden", *Staff Memo*, Sveriges Riksbank.
[38] This is only an estimate and the number of product groups affected may be greater or smaller. This breakdown has been inspired by an analysis made by Deutsche Bank of how changed global value chains may affect the CPI in the United States.

Other supply factors and changed consumption patterns may also affect inflation in the longer term

Furthermore, it could be asked whether new consumption patterns may partly become permanent. Will international air traffic come up to the same levels as before the crisis and how will prices in that sector develop in the slightly longer run? New working patterns may also have affected our need for work-related travel and digital goods and services.

eCommerce, which had already clearly increased before the crisis, has presumably received another boost and the trend may start to lean even more sharply upwards.[39] This should have a restraining effect on inflation, at least for a time.

In addition to more bankruptcies and changes in global supply chains, there are also other supply factors that could lead to higher inflation. If the pandemic is not brought under control and new waves of increased infection take place, closed borders may reduce world trade by preventing products from being produced and transported as easily. More consumer prices may also be affected if the pandemic leads to demands for better contingency planning with a higher degree of self-reliance and more protectionism.

It cannot be ruled out that the pandemic, even in the longer run, will restrain the international freedom of labour. In addition, there may be demands for structural changes and compensation in some badly affected sectors, such as healthcare and elderly care. Structural transformation may also lead to shortages of qualified workers and impaired matching. These are factors that could affect the development of costs and prices.

Could the increased liquidity and higher debts affect inflation?

Powerful monetary policy measures have been implemented around the world recently and central bank balance sheets have grown rapidly following major asset purchases and comprehensive lending. There has been some discussion of whether all of this liquidity could lead to higher inflation. One aim of the measures has been to facilitate credit granting to companies. These monetary policy measures should therefore be seen as supplying lubrication to the financial system and not as a more traditional increase of the money supply, in which more banknotes and coins are used to purchase consumer-related goods and services.[40]

There has also been a discussion of whether rapidly increased public debt may lead to higher inflation. The arguments in the debate may vary, but most are based on a broad field of research concerning the interaction of fiscal policy and monetary policy. The final link in the chain of causes often indicates the risk that inflation will be allowed to pick up to reduce thereby a further increase of the debt burden. There are several examples of such processes in history and the scenario may be more likely now, after a long period of low global inflation.[41]

Inflation prospects are uncertain

The measurement problems suggest that the level of inflation may change rapidly in the coming months. These outcomes should be interpreted with great caution and international inflation comparisons will be particularly difficult to make. Ongoing fluctuations in the exchange rate may also contribute to increased volatility in inflation.

The Riksbank's assessment is that inflation will be very low this year. Dampened energy prices, more direct effects of the pandemic and unexpectedly large weight adjustments are contributing to this development. A change to a higher rate of inflation is expected at the end of the year when these temporary effects wear off.

But the crisis will also have more far-reaching effects on inflation. Some of these suggest that inflation will rise, while others point in the opposite direction. These mechanisms have been discussed in the international debate in recent months.

The Riksbank's overall assessment is that the weak demand and low resource utilisation in Sweden and abroad suggest dampened inflationary pressures over the years 2021–2023. But there are also a number of factors that are expected to lead to a higher rate of price increase towards the end of the forecast period.

[39] See S. Tenreyro (2020), "Monetary policy during pandemics: inflation before, during and after Covid-19", Speech, Bank of England.
[40] See M. Wolf (2020), "Why inflation might follow the pandemic", Financial Times, 19/5 and C. (2020), "Inflation after the pandemic: Theory and practice", VOX CEPR Policy Portal, June 13.
[41] See O. Blanchard (2020), "Is there deflation or inflation in our future?", VOX CEPR Policy Portal, May 24, J. Plender (2020) "Fears of Japanification spreading are misplaced", Financial Times, May 22 and L. Pastor (2020), "Will COVID-19 be followed by inflation? An inter-generational transfer perspective", VOX CEPR Policy Portal, June 12.

ARTICLE – The long-term effects of the pandemic on output and employment

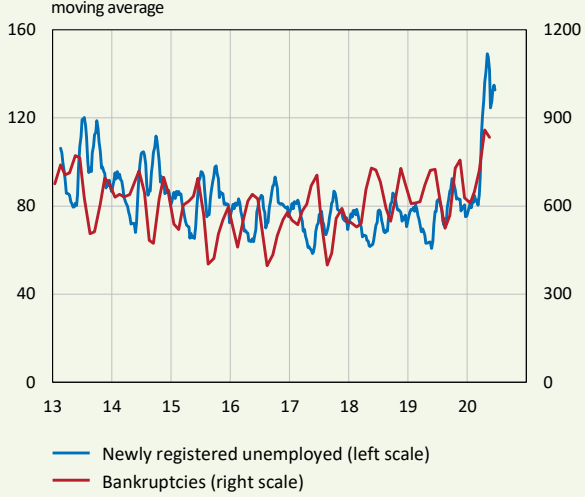
In a short time, the coronavirus pandemic has led to an extensive economic crisis. The number of corporate bankruptcies has risen and the negative effects on the labour market can be seen, not least, in historically high levels of redundancy notices and the large number of workers on short-time work schemes. Output and employment also risk being affected negatively by the pandemic in the longer term. The changes in demand may be long-term and, in addition, investment usually falls during economic crises, which have negative effects on output and productivity in the longer term. Faster structural change during the pandemic, for example due to increased digitalisation, may raise productivity but also means higher unemployment for a period as the labour market has to adapt. In addition, unemployment could stay on a high level, even after economic activity has turned around. This is because long periods of unemployment can reduce the knowledge and abilities of the unemployed, which makes it more difficult for them to find new jobs when demand for labour has recovered. Various policy measures, such as short-time work schemes and more training places, are holding unemployment down and reducing the risk of long-term negative effects. Despite these, however, the growth potential of the Swedish economy is estimated to be negatively affected by the crisis.

Comprehensive economic policy measures to mitigate the negative economic consequences

The restrictions introduced to hinder the spread of the coronavirus and people's changed behaviour have had major economic consequences in a short time. Demand has fallen sharply in many parts of the service sector, as well as in the manufacturing sector. The number of bankruptcies has increased (see Figure 3:40). Workers in short-time work schemes have grown in number, but redundancy notices and the number of newly-registered unemployed at the Public Employment Service have also increased (see Figures 3:22 and 3:40).

Together with the Riksbank and other authorities, the Government has taken comprehensive measures to mitigate the effects the coronavirus pandemic is having on the Swedish economy and to facilitate the recovery when the pandemic subsides.[42] Despite this, however, the labour market is expected to be negatively affected for some time to come, which also risks having long-term effects on development.

Figure 3:40. Newly registered unemployed at the Swedish Public Employment Service and bankruptcies
Hundreds per week and numbers per month respectively, 2-month moving average



Sources: the Swedish Public Employment Service and Statistics Sweden

Deep economic crisis may have long-term effects on the labour market

Historical experience shows that sharp falls in growth and employment, like the one taking place now, can have long-term effects and can thereby change the growth potential of the economy. In normal cases, the long-term levels of the labour market are not affected by economic variations.[43]

[42] See Chapter 1 for a description of the Riksbank's measures during the pandemic. A complete description of the Government's crisis measures can be found on the Government's website https://www.government.se/articles/2020/03/economic-measures-in-response-to-covid-19/.

[43] The long-run sustainable levels of unemployment, employment and participation in the labour force are the levels deemed to be achievable under the prevailing institutional conditions without the rest of the economy becoming unbalanced. Assessing how the actual development of the economy relates to what can be

However, very deep or prolonged economic crises can reduce long-term output and employment, and increase long-term unemployment. This is because deep crises can change the way the labour market functions and long periods of high unemployment can lead to what is known as hysteresis. This means that unemployment remains at a high level after the crisis. This is because long periods of unemployment can reduce the knowledge and abilities of the unemployed and make it more difficult for them to find new jobs when demand for labour rises again. This means that the long-term employment level becomes lower.

Short-time work schemes and other support measures are reducing hysteresis but, in a major crisis, it is usually difficult to avoid it completely, regardless of the policy measures implemented. The global nature of the coronavirus crisis is increasing the risk of long-term effects as international demand is important for small, export-dependent countries like Sweden.

Persistent changes in output and productivity

The coronavirus pandemic could lead to long-term changes in people's behaviour. For example, it may take a long time until travel, tourism or consumption of certain services and goods return to the levels that prevailed before the pandemic. Behavioural changes may also be more permanent, at least in those cases where the pandemic has strengthened a structural change that was already in progress.[44] An example of this is the increased digitalisation of the retail trade, where retail-outlet sales have been replaced, to a certain extent, by online shopping. The digitalisation of the retail trade is accelerating now that people are not making purchases in physical shops to the same extent as previously. It is probable that much of this structural change would also have occurred without the pandemic, but this would have been at a slower pace. Faster structural change may lead to productivity being raised if it is the least productive companies that close down.

During the crisis, some companies have experienced shocks to global supply and production chains, which may now lead these companies to reorganise their value chains and move some production from other countries to Sweden or nearby countries.[45] If this is a permanent behavioural change, it could increase demand for labour in Sweden. However, productivity is expected to be affected negatively in such a scenario, as companies will no longer be able to take advantage of the specialisation of work tasks in global value chains.[46] Falling productivity could increase companies' investments in labour-saving technology in the longer term, which could reduce their demand for labour and increase productivity again.[47] However, it is common for deep economic crises to have long-term negative effects on productivity as risk propensity normally decreases and causes large downturns in investment. In addition, prolonged high unemployment leads to the labour force becoming less productive.

Increased structural change leads to higher unemployment for a time

When structural change proceeds more rapidly, unemployment increases for a time. The reason for this is that it takes time for those losing their jobs to find new ones, particularly if the new jobs require different skills to the ones possessed by the unemployed. One sign of more rapid structural change is that the number of bankruptcies has increased (see Figure 3:40). Faster structural change combined with falling demand in most sectors is further increasing the risk of rising long-term unemployment.[48]

To avoid unemployment remaining at a high level over a long period, it is important that those who have been made redundant apply for the jobs that exist and are prepared to change profession. Job searching has fallen during the coronavirus pandemic, but there are some signs that the unemployed have shifted focus and have started to apply for work in professions that have not been affected as severely and for jobs that can be carried out at a distance.[49] This shows that job-seekers in Sweden have the ability to adjust, which is positive for long-term employment.

Groups with weaker footholds on the labour market are hit hardest in crises

So far, the measures adopted to mitigate the effects of the pandemic on the labour market have mainly been aimed at people with relatively stable jobs, and many fixed-term employees have lost their jobs.[50] Protecting more stable jobs is natural since it is desirable that the companies are able to resume production rapidly when demand returns. But the groups hit hardest are those just entering the labour market: the young and foreign-born. Entry into the labour market becomes harder in a crisis, and this has long-term negative effects on individuals' employment and incomes.[51] These effects may become particularly severe during the coronavirus crisis as sectors with a large number of entry level jobs (the retail trade, hotels and restaurants) have been

regarded as sustainable over the long term is an important part of the business cycle analysis.

[44] See, for example, J. M. Barrero, N. Bloom and S. J. Davis (2020) "Covid-19 is also a reallocation shock", NBER working paper no. 27,137.

[45] See The Riksbank (2020), Business Survey, May, and B. Javorcik (2020), "Global supply chains will not be the same in the post-Covid-19 world", chapter 8 in R. Baldwin and S. Evenett (eds.), Covid-19 and trade policy: Why turning inward won't work, VoxEU e-book, CEPR Press.

[46] Se K. Kilikoch and D. Marin (2020), "How COVID-19 is transforming the world economy", VoxEU.org.

[47] However, total demand for labour does not need to decrease as new jobs are usually created in other parts of the economy in the longer term.

[48] See L. Hensvik and O. Nordström Skans (2020), "IZA Covid-19 crisis response monitoring: Sweden", May 2020, IZA.

[49] See L. Hensvik, T. Le Barbanchon and R. Rathelot (2020), "Job search during the COVID-19 crisis", IZA Discussion Paper 13237.

[50] For example, short-time work schemes are aimed at employees with permanent jobs or fixed-term employment contracts.

[51] See, for example, M. Engdahl, M. Godard and O. Nordström Skans (2019), "Early Labor Market Prospects and Family Formation", IZA Discussion Paper 12092.

hit the hardest.[52] But it may also be the case that the recovery will proceed more rapidly when the crisis is over as, even in normal times, these sectors are relatively dynamic, with considerable staff turnover and relatively low demands for job-specific skills. It may therefore be easier to re-employ people in these sectors.

However, the structural problems on the labour market, namely that many low-educated and foreign-born people face difficulties in finding work, will persist after the coronavirus crisis. It may become even more difficult for these groups to gain a firm foothold in the labour market as competition for jobs will become tougher when unemployment is higher.

The labour force participation rate usually decreases in crises

Deep or prolonged economic crises usually lead to people who have long been without work leaving the labour force. This leads to lower unemployment but also entails a lower long-term employment level.

However, it is also important what people do upon leaving the labour force. Many older people who lose their jobs may choose to leave the labour force permanently by retiring. But among younger people, many usually choose to study when demand for labour decreases and the education system is expanded. This leads to the labour force participation rate becoming lower for a period, but it can be positive for both employment and productivity in the slightly longer run. The more successfully education and training measures are aimed at shortage occupations and the skills demanded by the labour market, the greater the positive effects are.

At present, there seems to be greater demand for education with more secure job prospects. For example, applications for courses in nursing and civil engineering have increased by 31 and 17 per cent respectively ahead of the autumn term for 2020.[53]

The coronavirus crisis is expected to lead to higher long-term unemployment and lower long-term employment

Developments on the labour market are important for monetary policy, both in the short and long terms. Employment and unemployment affect wage formation and thereby inflation. The long-term levels of the labour market also affect the development of output in the long term. These long-term levels cannot be observed directly but must be assessed on the basis of results from models and indicators. The assessments are always uncertain and, in addition, this uncertainty is even greater when the economy is far from being balanced, for example in deep economic crises.

The Riksbank's overall assessment is that the coronavirus crisis will affect the growth potential of the Swedish economy negatively, even if it is difficult to determine how large the effects will be. It is particularly difficult to assess how productivity will be affected by the crisis over the long term, as there is no consensus in the research over why productivity growth has been weak since the financial crisis of 2008.[54] If digitalisation increases and low-productivity companies close down due to the pandemic, long-term productivity growth may become higher. At the same time, however, reduced globalisation, reduced investment and long-term high unemployment tend to reduce productivity. The Riksbank thus does not consider it possible, at present, to assess how long-term productivity growth will be affected by the coronavirus crisis.

The Riksbank's overall assessment for the labour market is that the crisis will lead to lower long-term levels for the number of persons in employment and the number of hours worked, and to higher long-term unemployment. The increase in unemployment will be counteracted by the long-term labour force participation rate becoming slightly lower. However, these effects will not be permanent but will wear off after a while. How large persistent effects the coronavirus crisis will finally have on the labour market depends on how long the crisis lasts and on which measures are adopted. Reforms that contribute to a more inclusive labour market, greater mobility and possibilities for education, training and continuing professional development could counteract the negative effects. The Riksbank is carefully following developments and reviewing its assumptions as new information is received. Considering the effects of the coronavirus crisis and other factors, long-term unemployment is expected to be in the interval of 6–8 per cent (see Figure 3:41). This relatively high assessment of long-term unemployment is due to there being structural problems on the labour market which are expressed as unsatisfactory matching of unemployed people and vacant jobs. Unemployment is largely concentrated in groups with a low level of education.

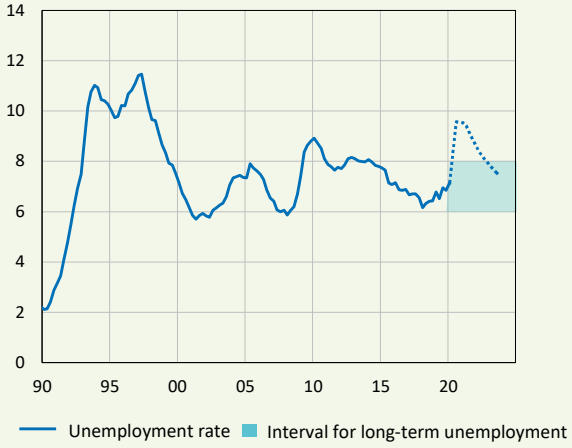
[52] See, for example, P. Andersson Joona (2020), "Pathways to work for refugees and family migrants, SNS Research Report and L. Hensvik and O. Nordström Skans (2020), "IZA Covid-19 crisis response monitoring: Sweden", May 2020, IZA.

[53] Swedish Council for Higher Education (2020), "Antagning till högre utbildning höstterminen 2020, statistik i samband med sista anmälningsdagen" (Admission to higher education, autumn term 2020, statistics in conjunction with final date for application).

[54] See, for instance, National Institute of Economic Research (2017), Wage Formation in Sweden 2017.

Figure 3:41. Unemployment and an interval for long-term unemployment

Per cent of the labour force, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Tables

In April, the situation was so uncertain that the Riksbank did not publish a forecast. The tables below therefore show a comparison with the assessment from the Monetary Policy Report in February, in brackets.

Table 1. Repo rate forecast

Per cent, quarterly averages

	Q2 2020	Q3 2020	Q4 2020	Q3 2021	Q3 2022	Q3 2023
Repo rate	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.08)	0.00

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2018	2019	2020	2021	2022
CPIF	2.1 (2.1)	1.7 (1.7)	0.4 (1.3)	1.4 (1.7)	1.4 (1.9)
CPIF excl. energy	1.4 (1.4)	1.6 (1.6)	1.3 (1.8)	1.4 (1.8)	1.3 (2.0)
CPI	2.0 (2.0)	1.8 (1.8)	0.5 (1.4)	1.4 (1.8)	1.4 (2.1)
HICP	2.0 (2.0)	1.7 (1.7)	0.5 (1.4)	1.4 (1.7)	1.4 (1.9)

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

	2018	2019	2020	2021	2022
Repo rate	−0.5 (−0.5)	−0.3 (−0.3)	0.0 (0.0)	0.0 (0.0)	0.0 (0.1)
10-year rate	0.7 (0.7)	0.1 (0.1)	0.1 (0.2)	0.5 (0.6)	0.8 (1.0)
Exchange rate, KIX, 18 November 1992 = 100	117.6 (117.6)	122.1 (122.1)	120.6 (122.7)	118.5 (120.3)	116.0 (117.5)
General government net lending*	0.8 (0.8)	0.3 (0.3)	−6.6 (0.0)	−2.7 (−0.1)	−0.7 (−0.1)

*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	2018	2019	2020	2021	2022
Euro area	0.11	0.49	1.9 (1.9)	1.2 (1.2)	−8.1 (1.1)	6.3 (1.4)	3.7 (1.3)
USA	0.15	0.08	2.9 (2.9)	2.3 (2.3)	−5.8 (1.8)	5.1 (1.9)	4.9 (1.8)
Japan	0.04	0.02	0.3 (0.3)	0.7 (1.0)	−5.0 (0.2)	2.9 (0.6)	1.5 (0.6)
China	0.19	0.09	6.6 (6.7)	6.1 (6.1)	0.6 (5.6)	10.2 (5.9)	5.8 (5.8)
KIX-weighted	0.75	1.00	2.6 (2.6)	2.0 (2.0)	−6.3 (1.9)	5.9 (2.1)	4.4 (2.0)
World (PPP-weighted)	1.00	—	3.6 (3.6)	2.9 (3.0)	−3.2 (3.2)	6.3 (3.6)	4.4 (3.6)

Note. Calendar-adjusted growth rates. The PPP-weights refer to the global purchasing-power adjusted GDP weights for 2019, according to the IMF. KIX-weights refer to weights in the Riksbank's krona index (KIX) for 2020. 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.

CPI	2018	2019	2020	2021	2022
Euro area (HICP)	1.8 (1.8)	1.2 (1.2)	0.6 (1.2)	1.3 (1.3)	1.4 (1.6)
USA	2.4 (2.4)	1.8 (1.8)	0.9 (2.3)	1.6 (2.2)	2.0 (2.2)
Japan	1.0 (1.0)	0.5 (0.5)	−0.1 (0.7)	0.1 (0.8)	0.4 (0.9)
KIX-weighted	2.2 (2.2)	1.8 (1.8)	1.3 (1.9)	1.7 (1.9)	1.9 (2.1)

	2018	2019	2020	2021	2022
Policy rates in the rest of the world, per cent	0.1 (0.1)	0.1 (0.1)	−0.3 (0.0)	−0.4 (0.0)	−0.4 (0.0)
Crude oil price, USD/barrel Brent	71.5 (71.5)	64.1 (64.1)	40.8 (59.9)	42.4 (56.7)	45.1 (55.7)
Swedish export market	3.8 (3.6)	2.4 (2.6)	−11.0 (3.0)	6.5 (3.3)	7.2 (3.3)

Note. International policy rate is an aggregate of policy rates in the US, the euro area (EONIA), 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

	2018	2019	2020	2021	2022
Private consumption	1.8 (1.7)	1.2 (1.0)	−4.3 (1.9)	3.6 (1.8)	4.3 (2.0)
Public consumption	0.8 (0.4)	0.3 (0.4)	0.5 (1.0)	1.6 (1.0)	1.4 (0.9)
Gross fixed capital formation	1.4 (4.2)	−1.3 (−1.3)	−7.7 (−0.2)	4.3 (1.7)	5.6 (2.5)
Inventory investment*	0.3 (0.4)	−0.1 (−0.3)	−0.8 (−0.5)	0.5 (0.0)	0.0 (0.0)
Exports	4.2 (3.2)	3.2 (4.5)	−11.3 (2.3)	5.5 (3.3)	7.9 (3.3)
Imports	3.8 (3.6)	1.1 (1.9)	−12.3 (1.0)	6.0 (3.0)	7.6 (3.1)
GDP	2.0 (2.2)	1.2 (1.2)	−4.5 (1.3)	3.6 (1.8)	4.1 (2.0)
GDP, calendar-adjusted	2.1 (2.3)	1.2 (1.2)	−4.8 (1.0)	3.5 (1.6)	4.1 (2.0)
Final domestic demand*	1.4 (1.9)	0.3 (0.2)	−3.7 (1.1)	3.1 (1.5)	3.7 (1.8)
Net exports*	0.3 (−0.1)	1.0 (1.3)	0.0 (0.7)	0.0 (0.3)	0.4 (0.2)
Current account (NA), per cent of GDP	2.4 (2.7)	4.1 (4.2)	4.5 (4.7)	4.2 (4.8)	4.3 (4.8)

* 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

	2018	2019	2020	2021	2022
Population, aged 15–74	0.8 (0.8)	0.7 (0.7)	0.5 (0.5)	0.4 (0.4)	0.4 (0.4)
Potential hours worked	0.9 (0.9)	0.8 (0.8)	0.7 (0.7)	0.6 (0.6)	0.6 (0.6)
Potential GDP	1.7 (1.9)	1.6 (1.8)	1.6 (1.7)	1.6 (1.7)	1.7 (1.7)
GDP, calendar-adjusted	2.1 (2.3)	1.2 (1.2)	−4.8 (1.0)	3.5 (1.6)	4.1 (2.0)
Number of hours worked, calendar-adjusted	1.8 (1.8)	−0.3 (0.1)	−5.0 (0.5)	2.9 (0.4)	2.2 (0.5)
Employed, aged 15–74	1.5 (1.5)	0.7 (0.7)	−2.1 (0.6)	−0.1 (0.3)	1.9 (0.5)
Labour force, aged 15–74	1.1 (1.1)	1.1 (1.1)	−0.1 (0.8)	0.5 (0.4)	0.8 (0.5)
Unemployment, aged 15–74 *	6.3 (6.3)	6.8 (6.8)	8.7 (7.0)	9.2 (7.1)	8.3 (7.1)
GDP gap**	1.4 (1.4)	0.9 (0.8)	−5.5 (0.2)	−3.7 (0.1)	−1.4 (0.4)
Hours gap**	1.8 (1.8)	0.8 (1.1)	−5.1 (0.9)	−2.7 (0.7)	−1.1 (0.7)

* 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 unless otherwise stated

	2018	2019	2020	2021	2022
Hourly wage, NMO	2.5 (2.5)	2.6 (2.6)	2.1 (2.8)	2.2 (3.0)	2.7 (3.1)
Hourly wage, NA	2.7 (2.8)	3.9 (3.6)	4.9 (3.0)	0.0 (3.0)	2.5 (3.1)
Employers' contribution*	0.7 (0.7)	−0.1 (−0.2)	−1.1 (0.1)	1.1 (0.1)	0.0 (0.1)
Hourly labour cost, NA	3.4 (3.5)	3.8 (3.5)	3.7 (3.1)	1.1 (3.1)	2.5 (3.2)
Productivity	0.2 (0.5)	1.5 (1.1)	0.3 (0.6)	0.5 (1.2)	1.8 (1.5)
Unit labour cost	3.4 (3.2)	2.4 (2.3)	3.5 (2.5)	0.6 (1.9)	0.6 (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 cost per hour is defined as the sum of actual wages, social-security charges and wage taxes (labour cost sum) divided by the number of hours worked by employees. Unit labour cost is defined as labour cost sum divided by GDP in fixed prices. Hourly wages according to the National Accounts can be calculated as payroll expenses divided by the number of hours worked. Via the short-time work scheme, companies can reduce the number of hours while payroll expenses will not decrease as much. This also means that the rate of increase in unit labour costs will rise this year. However, companies' costs are also expected to increase more slowly than the statistics will show. The wage and labour cost statistics from the National Accounts are thus adjusted to reflect payroll expenses from a wage-earner perspective to a higher degree than companies' wage costs.

Sources: National Mediation Office, Statistics Sweden and the Riksbank

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