Monetary Policy Report

December 2018

Monetary Policy Report

The Riksbank's Monetary Policy Report is published six 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 19 December 2018. 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 six 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 considerations 5

Economic activity is entering a more mature phase 5

Current monetary policy 7

Uncertainty and risks 8

ARTICLE – How are household cashflows and consumption affected by rising interest rates? 12

CHAPTER 2 – Financial conditions 14

International developments 14

Financial conditions in Sweden 16

CHAPTER 3 – The current economic situation 19

Inflation in Sweden 19

Global and Swedish economic activity 21

CHAPTER 4 – The economic outlook and inflation prospects 25

International developments 25

Sweden 28

Tables 34

CHAPTER 1 – Monetary Policy considerations

The global economy has grown rapidly in recent years but outcomes and indicators are now suggesting that economic activity has started to enter a phase of more subdued GDP growth, which is in line with the Riksbank's forecasts. Resource utilisation continues to be high in the Swedish economy, even though outcomes for both growth and inflation have been weaker than expected. The employment rate is historically high, companies are reporting major shortages of labour and cost pressures are rising. The strong economic activity has helped inflation to rise gradually since 2014 and to settle around 2 per cent over the last two years.

The conditions remain good for inflation to be close to the inflation target in the period ahead. As inflation and inflation expectations have become established at around 2 per cent, the need for a highly expansionary monetary policy has decreased slightly. The Executive Board has therefore decided to raise the repo rate from −0.50 per cent to −0.25 per cent. The fact that inflation has become lower than expected illustrates that there continues to be uncertainty over the strength of inflationary pressures and so, as before, it is important that monetary policy proceeds slowly. The forecast for the repo rate indicates that the next rate rise will therefore probably occur during the second half of 2019. Reinvestments of principal payments and coupons in the government bond portfolio will continue until further notice. The expansionary monetary policy underlines the Riksbank's aim to safeguard the role of the inflation target as nominal anchor for price-setting and wage formation.

Economic activity is entering a more mature phase

Continued good global economic activity and gradually rising cost pressures

The global economy has grown rapidly in recent years but outcomes and indicators are now suggesting that international economic activity is entering a phase of more subdued GDP growth. The high confidence among households and companies has cooled off slightly and various indicators of world trade in the period ahead have fallen back in many countries.

But even if peak growth is deemed to have passed, growth will be high enough for resource utilisation to continue to rise in several important countries. Wages are rising at an increasing rate in Germany and the United States, for example. This is contributing towards rising inflation, even if the lower oil price is a counteracting factor. Monetary policy is moving in a less expansionary direction but the financial conditions are continuing to support economic development both in Sweden and abroad.

Uncertainty over global developments remains, not least as regards the United Kingdom's withdrawal from the EU and the ongoing trade conflict between the United States and several other countries. The risks may, if they materialise, have a major impact on the global economy, but they are difficult to quantify in a forecast.

Table 1:1.

Important factors for monetary policy
International GDP growth is slowing down, resource utilisation has normalised in many areas and cost pressures are rising. Monetary policy is moving in a less expansionary direction.
Slow appreciation of the krona exchange rate.
Economic activity in Sweden is entering a more mature phase and resource utilisation continues to be higher than normal.
Inflation and inflation expectations have become established at around 2 per cent. Rising cost pressures in the Swedish economy and thus good conditions for inflation to remain close to 2 per cent.
Conclusion: Repo rate raised by 0.25 percentage points to −0.25 per cent. The forecast indicates that the next rate rise will probably occur during the second half of 2019. Reinvestments of principal payments and coupons in the Riksbank's bond portfolio will continue until further notice.

Table 1:2.

Important forecast revisions since the Monetary Policy Report in October
Slightly lower inflation in the coming years, among other things due to unexpectedly weak outcome.
Weaker Swedish GDP growth this year due to lower outcomes than expected in the third quarter. Higher employment and lower unemployment next year.
Lower productivity growth and slightly lower wage growth, overall higher unit labour costs.

High activity in the Swedish economy despite slowdown

After the rapid growth rate of recent years, economic activity in Sweden is entering a more mature phase. The growth rate has slowed down in the second half of the year and, in the period ahead, GDP is expected to increase slightly more slowly than its historical average (see Figure 1:2). Household consumption is expected to grow at a more moderate pace in the period ahead, compared with recent years. The slowdown of the housing market, with decreased housing construction, is contributing to the slowdown in domestic demand. Housing investment is now decreasing after having increased heavily over the period 2014–2017.

The supply of labour has increased rapidly, which, together with the strong economic activity, has contributed towards the employment rate and labour force participation rate reaching historically high levels in Sweden. The labour market is continuing to develop strongly. Demand for labour is high and employers are finding it increasingly difficult to find the skills they demand, which is reflected in the long recruitment times. The percentage of companies stating that they are experiencing labour shortages is the highest since the Economic Tendency Survey started reporting measurements for the entire business sector in 1996. In the period ahead, employment, like GDP, is expected to increase at a slower rate. The employment rate, however, is expected to remain at a high level in the years to come. Unemployment is expected to rise slightly, which, to a significant extent, can be explained by structural factors. The overall view of resource utilisation in the Swedish economy is that it will fall back but will continue to be higher than normal.

Rising cost pressures and inflation close to target

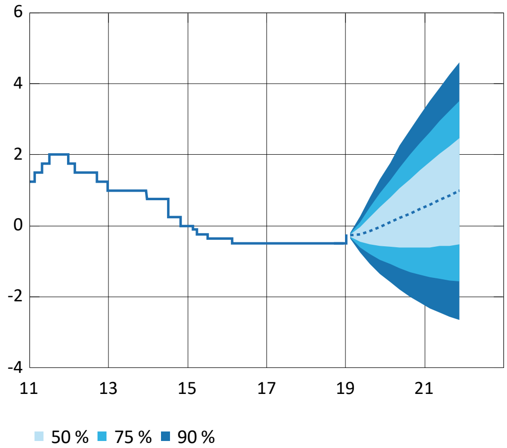
Subject to a certain time lag, a high level of resource utilisation in the economy usually means rising inflation. Over the last two years, CPIF inflation has been close to the inflation target of 2 per cent, and, in November, it amounted to 2.1 per cent (see Figure 1:3). In addition to the strong economic activity, one contributory factor has been rapidly rising energy prices. In 2019, CPIF inflation is expected to drop temporarily to below 2 per cent as the rate of increase in energy prices slows down (see Figure 1:4).

By studying measures of core inflation, it is possible to gain an understanding of the more permanent part of the measured rate of inflation.[2] The median of different rates of core inflation has been lower than CPIF inflation over the year and amounted to 1.6 per cent in November.

The surprisingly weak productivity growth means that unit labour costs have become higher than expected. This indicates that cost pressures are rising in the economy. Other contributory factors for rising inflation in the next six months are higher rent increases, a higher rate of increase in food prices and the effects of earlier krona depreciations. Together with gradually higher inflationary pressures abroad, this means that conditions are also

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

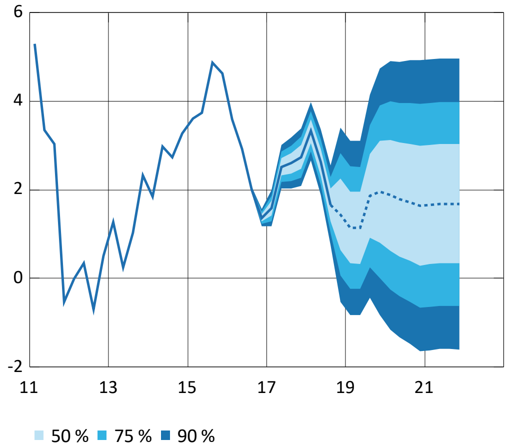
Figure 1:1. Repo rate with uncertainty bands
Per cent



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

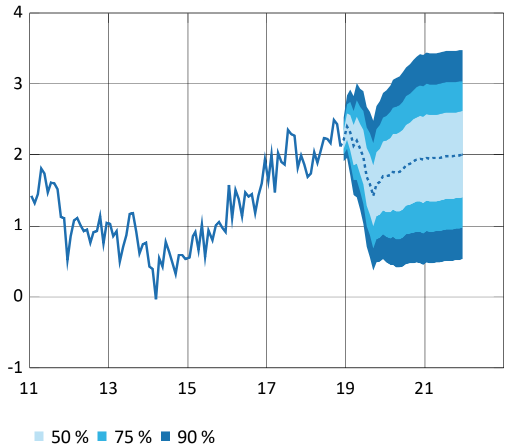
Figure 1:2. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. There is also uncertainty for the outcomes for GDP, as the figures in the National Accounts are revised several years after the preliminary publication.

Sources: Statistics Sweden and the Riksbank

Figure 1:3. 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

good for inflation to be close to the inflation target in the coming years.

Current monetary policy

The Riksbank's monetary policy with a negative policy rate and extensive purchases of government bonds has had a clear impact on short-term and long-term market rates and on the krona exchange rate in recent years. Monetary policy has contributed to inflation and inflation expectations becoming established at close to 2 per cent, to economic activity being strong and to unemployment falling.

Conditions good for inflation close to 2 per cent
Since the Monetary Policy Report in October, international developments have been largely in line with the Riksbank's forecasts. There is still uncertainty over developments, but the picture of good international economic activity still stands.

As expected, Swedish GDP growth has slowed down during the second half of this year. However, the downturn in the third quarter was greater than expected. One contributory cause of this was that household consumption fell by a surprisingly large degree, but this can partly be explained by temporarily weak car sales. The expansionary monetary policy has contributed towards domestic demand growing rapidly for a period. It is natural that demand growth is now entering a calmer phase.

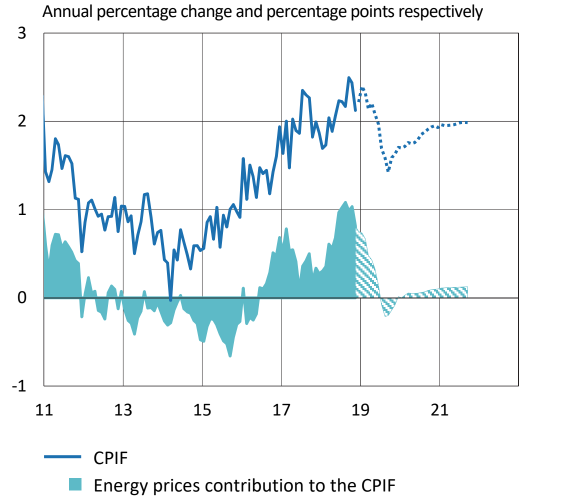
Activity in the Swedish economy continues to be high and has contributed to the strong development of the labour market and rising inflationary pressures. Since October, employment has increased more than expected and unemployment has become lower. At the same time, CPIF inflation has become lower than expected but remains just over the inflation target of 2 per cent.

Resource utilisation continues to be high in the Swedish economy. Wage growth has certainly become a little lower than the Riksbank's forecast over recent months and the forecast has been revised downwards slightly. But at the same time, growth in productivity has become significantly weaker than expected, which means, all in all, that unit labour costs have become higher than expected.

The inflation forecast for the coming years has been slightly revised downwards, among other reasons due to lower than expected outcomes recently (see Figure 1:5). However, the conditions are good for inflation to be close to the inflation target in the period ahead. During the second half of 2019, CPIF inflation is expected to fall back, as the rate of increase of energy prices slows down, but it will still continue to be close to the target of 2 per cent after that. Inflation expectations among other participants in the economy are also close to 2 per cent, both in the short and long term (see Figure 1:6).

The repo rate is being increased to −0.25 per cent
It has taken time and heavy monetary policy stimulus to raise inflation to close to the inflation target. Over the last two years,

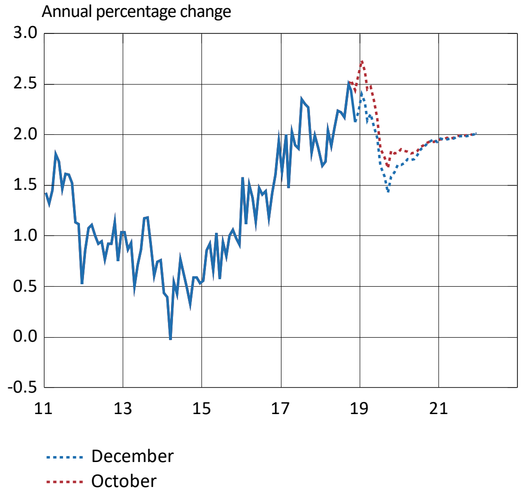
Figure 1:4. CPIF and contributions from energy prices
Annual percentage change and percentage points respectively



Note. The contribution of energy prices to the CPIF in the forecast is calculated as the annual percentage change in energy prices multiplied by their current weight in the CPIF.

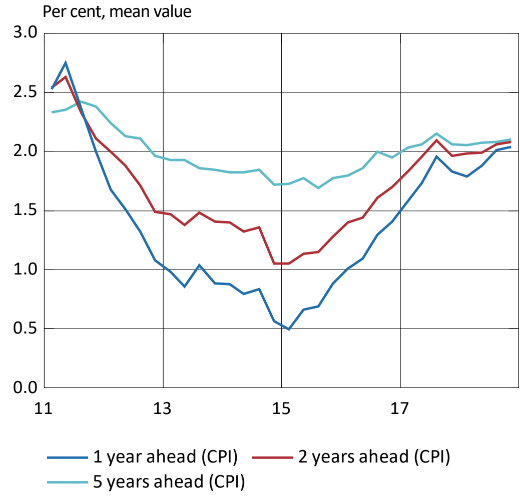
Sources: Statistics Sweden and the Riksbank

Figure 1:5. CPIF
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 1:6. Inflation expectations among all participants
Per cent, mean value



Source: Kantar Sifo Prospera

the Swedish economy has been characterised by a strong labour market, inflation around the target and stable inflation expectations of about 2 per cent. Even though inflation has been lower than expected in recent months, the conditions remain good for inflation to remain close to the inflation target. As inflation and inflation expectations have become established at around 2 per cent, the need for a highly expansionary monetary policy has decreased slightly. Consequently, it is now appropriate to start reducing the support from monetary policy. The Executive Board has decided to raise the repo rate by 0.25 percentage points from the historically low level of −0.50 per cent to −0.25 per cent (see Figure 1:7). The inflation forecast assumes that monetary policy stimulus will be decreased slowly.

Important that monetary policy proceeds cautiously

It is important that economic activity remains strong and has an impact on price development. With a repo rate of −0.25 per cent, monetary policy will continue to be expansionary and will thereby also continue to support economic activity. In this way, monetary policy will help inflation be close to 2 per cent even when the contribution made by energy and import prices becomes smaller in the future. The real repo rate is expected to be negative over the entire forecast period (see Figure 1:8).

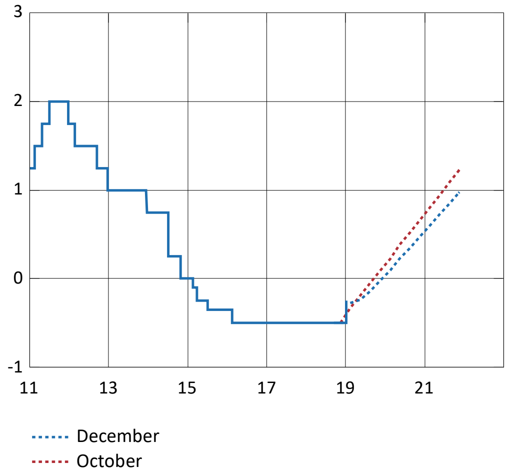
The pacing of rate rises in the period ahead will be adjusted according to the development of the economic outlook and inflation prospects. There is uncertainty over global economic activity and the strength of domestic demand. The fact that inflation has moreover been lower than expected recently, illustrates that there is still uncertainty over the strength of the inflationary pressures, and it is important, as before that monetary policy proceeds slowly. The forecast for the repo rate has therefore been revised downwards to indicate that the next repo rate rise will probably occur during the second half of 2019 (see Figure 1:7). After this, the forecast indicates approximately two rate rises per year by 0.25 percentage points each time.

At the end of November, the Riksbank's government bond holdings amounted to just under SEK 350 billion, expressed as a nominal amount (see Figure 1:9). Net purchases of government bonds were concluded in December 2017, but principal payments and coupons in the government bond portfolio will be reinvested until further notice. In December 2017, the Executive Board also decided that reinvestments of the large principal payments due in the first six months of 2019 should be allocated evenly across the period from January 2018 to June 2019 (see Figure 1:10). This means that the Riksbank's holdings of government bonds will increase temporarily in 2018 and the beginning of 2019.

Uncertainty and risks

Forecasts of future economic developments are always uncertain, as illustrated by the uncertainty bands in Figures 1:1–1:3. In the Riksbank's forecasts, the risks of both stronger and

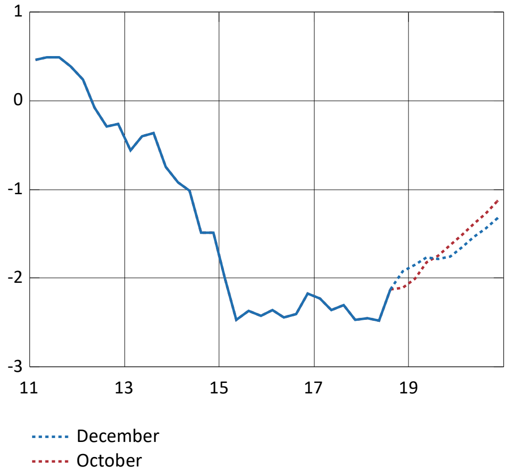
Figure 1:7. Repo rate
Per cent



Note. Outcomes are daily data and the forecasts refer to quarterly averages.

Source: The Riksbank

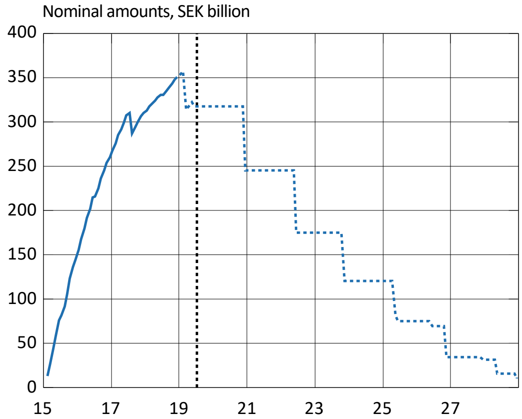
Figure 1:8. Real repo rate
Per cent, quarterly averages



Note. The real repo rate is the Riksbank's expected real interest rate, calculated as a mean value of the Riksbank's repo rate forecast for the year ahead minus the inflation forecast (CPIF) for the corresponding period. Outcomes are based on the latest forecasts at that time.

Source: The Riksbank

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



Note. Forecast up until June 2019, after that a technical projection with the assumption that no further reinvestments are made. The development of the holdings is also affected to a certain extent by the bonds' market prices and by which bonds the Riksbank chooses to reinvest in. The vertical line marks the shift between the forecast and technical projection.

Source: The Riksbank

weaker development shall, in principle, be balanced. It is difficult, however, to assess the likelihood of future events and the consequences they might have should they occur.

Neither is it obvious how monetary policy should relate to uncertainty and risks. There are occasions on which monetary policy deliberations may wish to pay particular attention to certain risks, the consequences of which may have a severe impact on economic development. But, on other occasions, it may be necessary to await more information before adjusting monetary policy.

Several uncertainty factors around growth prospects in Europe

International developments are of great significance for Sweden’s economic outlook and inflation prospects. This applies particularly to developments in Europe, where various economic indicators have shown signs of weakness recently. The Riksbank’s assessment is that this largely reflects temporary factors, but that there is a risk that economic activity in the euro area is slowing down at a faster rate than in the Riksbank’s forecast.

Uncertainty remains over the effects for both the United Kingdom and the rest of Europe of the United Kingdom's withdrawal from the EU. The Riksbank’s forecast assumes that the withdrawal will be made in an orderly manner. Recently, however, uncertainties over the withdrawal have increased (see the box “The United Kingdom's withdrawal from the EU” in Chapter 4). There is therefore a risk of increased turbulence on the financial markets for some time to come.

Discussions between the EU and the Italian government on the Italian budget are also continuing to create uncertainty over developments in Europe. Yields for Italian government bonds rose steeply after the new government took up its duties in May and have remained on high levels since then, but have fallen slightly since October.

Even though some progress was made recently in conjunction with the G20 meeting at the start of December, the trade conflict between the United States and China remains as a significant risk for growth from a global perspective. Falling export orders in large parts of the world could be an indication that this conflict has already had an impact on foreign trade. There are also signs that growth in the Chinese economy is starting to slow down. Without more expansionary fiscal and monetary policies, growth could very well fall further in the period ahead.

The continued strong development of the US economy should be weighed against these downside risks. The effects of the expansionary fiscal policy on growth in the short term may be greater than the Riksbank assesses in its forecast. In the longer term, however, there are also downside risks for US growth, for example if question marks were to arise over the sustainability of public finances. In an unfavourable scenario, this could lead to substantially higher interest rates and restrained growth.

Internationally, uncertainty over the inflation prospects is primarily related to the risks in the real economy. Weaker

Side-effects of monetary policy

The Riksbank continuously analyses the effects of the negative repo rate and the extensive bond purchases on the economy.

Low interest rates can create incentives for substantial risk-taking in the economy. Assets may become overvalued, risk may be incorrectly priced and the indebtedness of various agents may increase in an unsustainable manner. The increase in Swedish household indebtedness has long been a cause for concern. Among other factors, the increase is due to structural problems on the housing market and the falling trend for real interest rates in Sweden and abroad, while the expansionary monetary policy has also contributed. Many years of rapidly rising housing prices and heavily increased indebtedness have made households sensitive to both price falls on the housing market and rising interest costs (see also the article “How are household cashflows and consumption affected by rising interest rates?”). It is therefore important to increase households’ resilience in different ways and to limit the risks of their high indebtedness.

The functioning of the financial markets may be affected by a negative repo rate and government bond purchases. So far, the markets have been able to manage negative interest rates relatively smoothly. The Riksbank’s purchases of government bonds has meant that a relatively large proportion of the stock is not available for trade on the market. There are signs that it will take a slightly longer time to carry out transactions and, in the Riksbank’s Financial Market Survey, most respondents state that the government bond market functions poorly. However, Swedish National Debt Office dealers are contributing positively to liquidity in the market.

The negative interest rates have not led to increased demand for cash. The value of outstanding banknotes and coins is much lower now than when the repo rate first became negative. It is still only a small portion of borrowing that takes place at negative interest rates and then only from certain larger companies and parts of the public sector. Neither has the profitability of the banks decreased as a result of the low and negative interest rates. On the contrary, the profitability of the Swedish banks has been high and stable in recent years and their financial results and lending capacity have not been affected significantly. In addition, any side-effects of the negative interest rate should become smaller now that the repo rate is starting to be raised.

The Riksbank’s overall assessment is that the side-effects of a negative policy rate and government bond purchases have so far been manageable.

development of global demand could lead to international inflation failing to rise in line with the Riksbank's forecast.

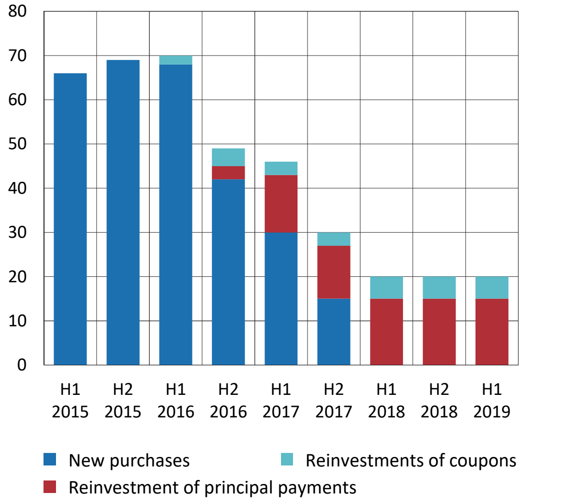
Important that the krona does not appreciate too quickly
Changes in the krona exchange rate are always difficult to forecast. The Riksbank's forecast predicts a gradual strengthening of the krona. A faster appreciation of the krona would subdue import prices further, making it more difficult to stabilise inflation around the target. Naturally, the krona could also turn out to be weaker than in the current forecast. This could then contribute to higher import prices and higher inflation than in the Riksbank's forecast. However, in the prevailing situation, the risks linked to an unexpectedly strong krona are judged to be more difficult to manage, considering how long it has taken inflation to become established at a level close to the target of 2 per cent.

Household consumption has showed signs of weakness and the development of housing investment remains uncertain
Household consumption has developed relatively weakly over the year, even if the weak consumption in the third quarter is primarily judged to be due to temporary factors. But this weaker development is also confirmed by falling confidence among Swedish households, which is now slightly below a normal level (see Figure 1:11).

The downturn in confidence is not large enough to have any significant effects on the development of consumption in the coming period. Households' disposable incomes are expected to continue to grow at a relatively good rate in the period ahead and, in addition, households have saved a large portion of their incomes, which provides scope for continued relatively good growth in consumption.

But there are significant uncertainty factors. For some time now, the Swedish housing market has been in a weaker phase (see Figure 1:12). Developments in the period ahead are uncertain and a weaker development of prices on the housing market than in the Riksbank's forecast cannot be ruled out. This could restrain household consumption more clearly. In addition, households are sensitive to interest rates due to their high indebtedness and large proportion of mortgages at variable interest rates. The Riksbank's repo rate path indicates very slow interest rate rises in the period ahead. But exactly how this will affect overall household consumption remains uncertain (see the article "How are household cashflows and consumption affected by rising interest rates?"). It should also be borne in mind that the repo rate may be expected to continue to rise beyond the forecast horizon. Household interest expenditure as a proportion of disposable income could be more than twice as high as it is now if the repo rate were to return to more normal long-run levels (see Figure 1:13).

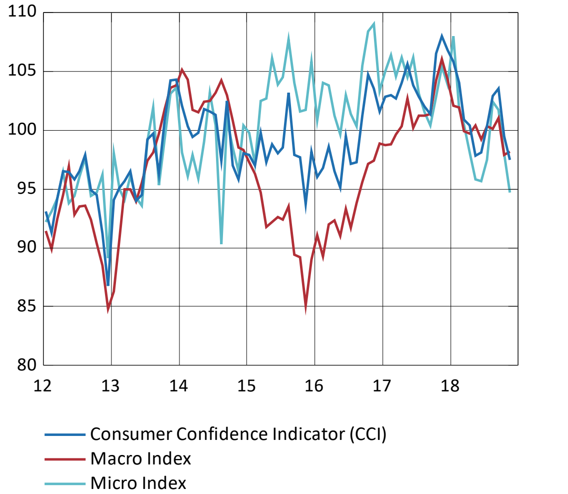
Figure 1:10. The Riksbank's purchases and reinvestments
Nominal amounts, SEK billion



Note. The development of reinvestments from mid-2018 onwards is a forecast and refers to nominal amounts. The final amounts will depend on current market prices.

Source: The Riksbank

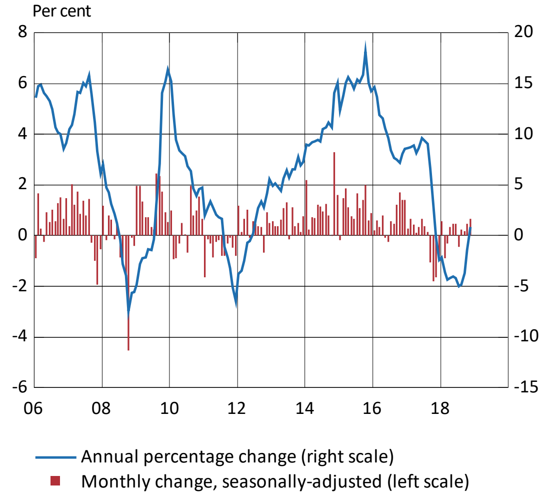
Figure 1:11. Confidence indicators, households
Index, average = 100, standard deviation = 10



Note: Micro and macro index summarising households' views on their own finances and on the Swedish economy.

Source: National Institute of Economic Research

Figure 1:12. House prices according to HOX Sweden
Per cent



Sources: Valueguard and the Riksbank

Uncertainty over domestic cost pressures is contributing to risks for inflation prospects in Sweden

Despite the high resource utilisation and record labour shortages, wage growth in the Swedish economy has remained low, even if it has risen compared to last year. At the same time, productivity has developed surprisingly weakly, which has led cost pressures in terms of unit labour costs to increase at a historically normal rate. But productivity varies greatly and is difficult to forecast, contributing to uncertainty over future cost pressures in Sweden.

One effect of the summer's dry and warm weather was that harvests in Sweden were heavily reduced. As a result, commodity prices for foods have recently increased by much more than usual, especially grain-related products. The Riksbank's assessment is that these price changes will affect inflation in the short term. But the effects on Swedish inflation could potentially be greater and more prolonged than the Riksbank is forecasting.

All in all, there are a number of factors that could lead to both lower and higher inflation than is assumed, and the Riksbank is prepared to adapt monetary policy to ensure inflation is close to the target of 2 per cent. The downside risks are considered to deserve particular attention, as with the prevailing interest rate levels it is easier to manage inflation surprises on the upside than on the downside.[3]

The risks in the housing market must be managed

Household debt as a percentage of disposable income is expected to continue to increase in the years ahead, even if the increase will occur at a slower rate than in recent years (see Figure 1:14).

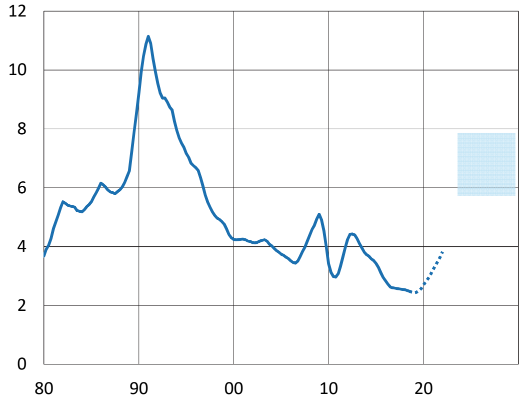
It is important that all mortgages are subject to thorough credit assessment and that macroprudential policy is designed appropriately. The Riksbank supports Finansinspektionen's amortisation requirements, which are steps in the right direction for the reduction of the proportion of households with high debts in relation to the value of their homes and their incomes.

But addressing the structural problems on the Swedish housing market will, above all, require measures within housing and tax policy. Examples of feasible measures include reviewing the rent-setting system, the taxation of capital gains from housing property sales and also property tax and tax deduction for interest expenditure.

Recently, several housing developers have had problems, which has exposed shortcomings in the funding model they used in the new production of housing. If the uncertainty on the housing market persists, or if housing prices fall further, there is a risk that more actors on the housing market will experience difficulties. In the longer term, the actors' funding models may have to be changed so that more tenant-owned apartments can be produced.[4]

[3] For a discussion of the risks linked to excessively low inflation, see for instance the box in Chapter 1, Monetary Policy Report October 2018.
[4] See the article "The new production of housing and financial stability" in Financial Stability Report 2018:2.

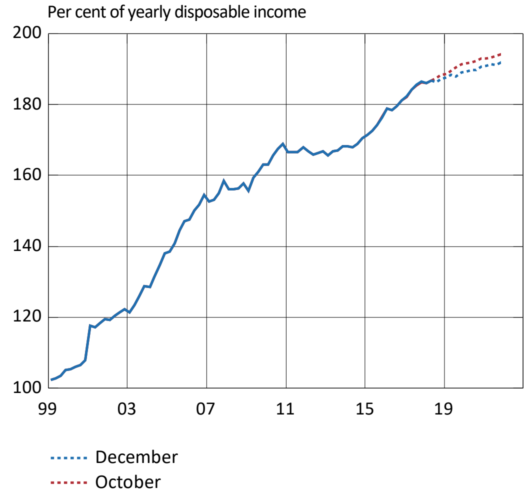
Figure 1:13. Households' interest expenditure
Percentage of disposable income



Note. Four-quarter moving average. The broken line represents the Riksbank's forecast. The blue field illustrates an interval for interest expenditure that is calculated on the current debt-to-income ratio, a long-term interval for the repo rate of 2.5–4 per cent and an assumption of a 2 per cent margin between the repo rate and the interest rate faced by households. Interest expenses are adjusted for tax deduction for interest expenditure.

Sources: Statistics Sweden and the Riksbank

Figure 1:14. Household debt ratio
Per cent of yearly disposable income



Note. Households' total debts as a share of their disposable income totalled over the past four quarters.

Sources: Statistics Sweden and the Riksbank

ARTICLE – How are household cashflows and consumption affected by rising interest rates?

Increasingly high household debt and the large proportion of mortgages taken out at variable interest rates have amplified the effects of monetary policy on households' disposable income. According to the Riksbank's forecast, the repo rate will be raised by about 1.5 percentage points over the next three years. This is expected to subdue disposable income by 1.3 per cent. The effects on total household consumption are expected to be relatively limited, due in part to households having prepared themselves to a certain extent for the forthcoming rate increases. But there is uncertainty over the total effect on consumption. Differences in propensity to consume between highly and lowly indebted households may play a part. In addition, housing prices are subdued when interest rates rise, which may make it more difficult to mortgage the home in order to increase consumption. The interest-rate sensitivity of households is a more important factor to take into consideration than before now when rate rises are coming to the fore. But the monetary policy assessment is ultimately steered by how the repo rate affects the entire macroeconomy and the prospects for inflation.

Households more sensitive to interest rate adjustments

According to classic economic theory, the real interest rate mainly affects household consumption by influencing the trade-off between current and future consumption. But the interest rate can also affect household consumption via other channels.

When the interest rate changes, a transfer of income occurs from borrower to lender **- a cashflow effect**. The extent to which consumption is affected depends on how borrowers' propensity to consume relates to that of lenders. If the borrowing households are highly indebted and have mortgages with short interest-rate fixation periods, the effects will be greater.[5]

As the interest rate affects housing prices, it can also affect the scope of households to consume by borrowing against their home as collateral - **a loan collateral effect**.[6] If households are highly indebted, this effect will also be greater.[7]

Cashflow effects subdue households' disposable income when the interest rate rises

Households' disposable income can be defined approximately as follows:

Disposable income ≈ wages + transfer payments + ***interest income*** *+ other capital income –* ***interest expenditure*** *– taxes*

One way of calculating how household cashflows are affected by rising interest rates is to use the Financial Accounts' measures of households' interest-bearing assets and liabilities as a basis.[8] As households' liabilities are approximately twice as large as their interest-bearing assets, a rate rise leads to a negative net effect on households' total disposable income.[9] This effect has increased over time as household indebtedness has grown.

The Riksbank's forecast indicates that the repo rate will rise by 1.5 percentage points over the next three years.[10] The calculations assume that deposit and lending rates will initially rise somewhat more slowly than the repo rate.[11] Based on current levels of debt, interest-bearing assets and disposable income, it is possible to calculate the cashflow effect this repo rate rise would have. Such a calculation indicates that increased interest expenditure will subdue households' disposable income by 1.8 per cent while rising interest income will boost it by 0.5 per cent. In all, households' disposable income will hence decrease by 1.3 per cent.

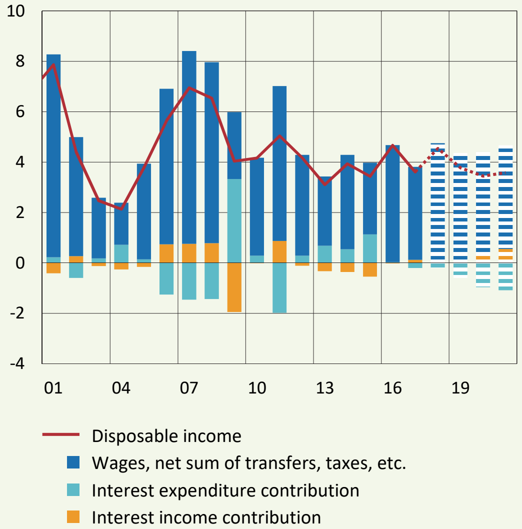
[5] See P. Gustafsson, M. Hesselman, and B. Lagerwall, "How household cashflows and consumption are affected by higher interest rates?", Staff Memo, Sveriges Riksbank, 2017.
[6] See Walentin, K. (2014), "Housing Collateral and the Monetary Transmission Mechanism," *Scandinavian Journal of Economics*, pp. 635-668, 2016.
[7] See D. Finocchiaro, M. Jonsson, C. Nilsson and I. Strid, "Macroeconomic effects of reducing household debt", *Economic Review*, 2016:2, Sveriges Riksbank.
[8] These calculations are an update of the calculations presented one year ago. See the article "How are households affected by rising interest rates?" in Monetary Policy Report, December 2017.
[9] In addition to interest-bearing assets, households also have other financial assets in the form of, for example, shares and funds, as well as real assets in the form of property.
[10] This is slightly more than was presented in the Riksbank's calculations one year ago, when the repo rate was expected to rise by 1.25 percentage points over the next three years.
[11] The calculations are also based on everyone being able to utilise a 30-percent tax deduction for interest expenditure.

Effects on household consumption probably limited ...

The cashflow effects of higher interest rates is one of several factors that will affect households' disposable income in the years ahead. Figure 1:15 shows the contributions of different components to the change in disposable income according to the Riksbank's forecast. Repo rate rises over the next three years will contribute to lower disposable income. This is illustrated by the broken turquoise columns under zero. The minor effects of rising interest income are shown by the broken yellow columns above zero. The high broken blue columns above zero illustrate the contribution from factors such as rising wages and will exceed the columns below zero by some considerable distance over the next three years.[12]

Figure 1:15. Contributions to households' disposable income

Per cent and percentage points, respectively



Note. Wages refers to payroll expenses. Net of transfer payments, taxes, etc., are a collective item that refers to the sum of all other income minus tax. Interest income and expenditure are inclusive of FISIM adjustment but before tax, in contrast to the calculations presented in the text.

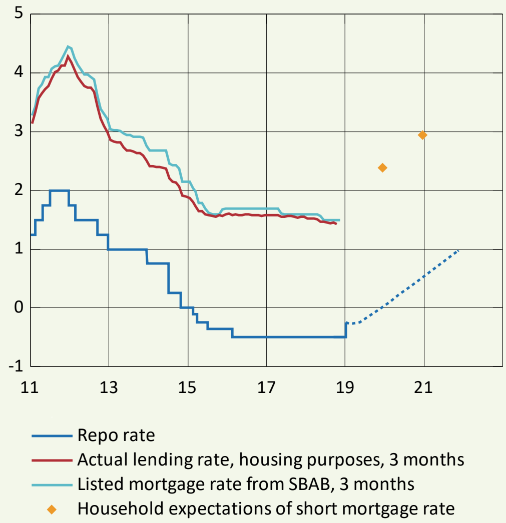
Sources: Statistics Sweden and the Riksbank

It is also likely that households have to some extent allowed for coming rate rises, which is in part supported by their expectations of short-term mortgage rates (see Figure 1:16). This may by one explanation for why households have increased their saving to a historically high share of their income in recent years (see Figure 4:9).

These factors indicate that the cashflow effects from rising interest rates will have a relatively limited effect on household consumption in the years ahead.

Figure 1:16. Repo rate, household expectations and lending rate to households

Per cent



Note. Household expectations of the short mortgage rate are according to the Economic Tendency Survey for December.

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

... but there are several uncertainty factors

The Riksbank's analysis of data on individual household debt indicates a wide variation in indebtedness among different groups.[13] This means that cashflow effects on disposable income will be significantly greater for the most indebted households than for the average indebted household. How saving and propensity to consume are distributed among highly and lowly indebted households will hence have a bearing on the total consumption effect. A study from IMF with data up to 2012 also suggests that household saving is very unevenly distributed.[14]

As described earlier, rising interest rates may also subdue housing prices and reduce the scope for taking further mortgages to maintain consumption, via a loan collateral effect. Many Swedish households are highly indebted in relation to the value of their home and risk having limited access to credit in the event of falling housing prices.[15]

Repo rate to be raised at a slow pace

The interest-rate sensitivity of households has become an increasingly important factor to consider in monetary policy. However, the Riksbank's repo rate path indicates that the rate will be increased at a slow pace, which suggests that the total effects on household cashflows will be limited. And ultimately, it is the total effect of the repo rate on the macroeconomy and inflation that guides monetary policy decisions.

[12] The forecast in Figure 1:15 does not tally exactly with the previous calculations, the aim of which was to capture the isolated effects of an interest rate adjustment. The forecast in Figure 1:15 takes into account that debts rise and that loans to households have different maturities.

[13] See K. Blom and P. van Santen (2017), "Theindebtedness of Swedish households – Update for 2017", *Economic Commentaries* No. 6, 2017, Sveriges Riksbank.

[14] Se IMF, "Sweden selected issues", 2017.

[15] About 20 per cent of new mortgage borrowers in the Finansinspektionen (FI) 2018 mortgage survey have mortgaged their homes to the maximum amount allowed by FI's mortgage cap, i.e. 85 per cent of the value of the home. These households are dependent on expensive unsecured loans if they want to take out new loans.

CHAPTER 2 – Financial conditions

The global economy is now entering a more mature phase in which market participants are re-evaluating various financial assets. Since October, for example, equity prices and government bond yields have fallen in many countries. Financial conditions abroad remain expansionary but have been tightened somewhat. Both market participants and central banks abroad are expecting monetary policy to become less expansionary in the period ahead, However, market participants have recently begun to expect a slower pace in the tightening. Financial conditions in Sweden have been affected by developments abroad but remain expansionary and are providing support to economic development. The Swedish krona has been relatively stable and has developed in line with the forecast in October.

International developments

Slower policy rate rises expected abroad

In recent months, developments in the financial markets have been characterised by increased uncertainty and volatility. Market participants now see signs that the slowdown in the global economy may be more pronounced than previously expected, which has led to the re-evaluation of various financial assets. Developments have led to lowered expectations regarding future policy rates, lower government bond yields, lower equity prices and greater differences between yields on corporate bonds and government bonds. Market participants still expect monetary policy to become less expansionary going forward, but now anticipate that the tightening to occur at a slower pace than was anticipated in October.

Consequently, monetary policy expectations in the United States have recently fallen back (see Figure 2:1). Market pricing indicates that the Federal Reserve will increase the interval for the policy rate to 2.25–2.50 at its meeting on 19 December but pricing now indicates only one further increase in 2019. Earlier in the autumn, pricing indicated just under three increases in 2019. Expectations regarding the level of the US policy rate next year are in line with what they were at the beginning of the autumn.

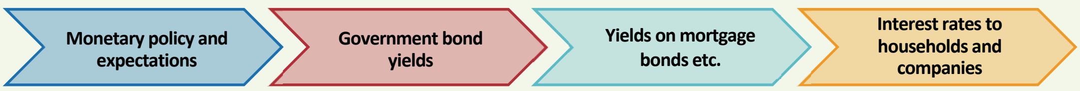
In the euro area as well, monetary policy expectations have fallen. In October, pricing indicated that the European Central Bank (ECB) was expected to increase its policy rates for the first time after the summer of next year. Market pricing now indicates

Table 2:1.

Developments on financial markets since the Monetary Policy Report in October
Market participants’ expectations of the level of future policy rates are lower both in Sweden and abroad.
Government bond yields have fallen both in Sweden and abroad.
The krona exchange rate is in line with the forecast from October.
Share indices have fallen both in Sweden and abroad.
Lending rates to Swedish companies and households have fallen slightly.
Growth in bank lending to households has decreased somewhat while lending to non-financial corporations has risen.

The transmission mechanism - from the repo rate 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 regarding the future repo rate and government bond purchases affect the development of longer-term government bond yields, which are also influenced by foreign yields. Government bond yields act as an anchor for other types of bond yields, which in turn affect banks' funding costs. This ultimately affects the lending rates for households and companies.



that the first increase is not expected until the end of next year (see Figure 2:1). At its monetary policy meeting on 13 December, the ECB maintained the monetary policy direction it communicated earlier in the autumn. The ECB will terminate its net purchases of bonds at the end of the year and expects to keep policy rates at their current levels at least through the summer of 2019. In conjunction with the announcement, the ECB also communicated that reinvestments of principal payments in the bond portfolio are expected to continue after the policy rate has begun to be raised.

Just as in the United States and the euro area, monetary policy expectations have also shifted downwards in the United Kingdom. Pricing now indicates that market participants expect the next policy rate increase from the Bank of England to come later, compared with expectations in October. Since October, the risks of the United Kingdom exiting the EU without a withdrawal agreement have increased and the British pound has depreciated. As long as this risk remains, uncertainty in the financial markets is expected to be heightened.

Norges Bank kept its most important policy rate unchanged at 0.75 per cent at its monetary policy meeting on 13 December. Although the policy rate forecast was revised marginally downwards, both the forecast and other communication from the central bank indicate that a policy rate rise will occur in the first quarter of next year.

Long-term government bond yields have fallen

Government bond yields in many countries have fallen since October and are back at their early autumn levels (see Figure 2:2). The downturn reflects the downward revision in monetary policy expectations after signs that the economic slowdown will be more pronounced than previously expected by market participants.

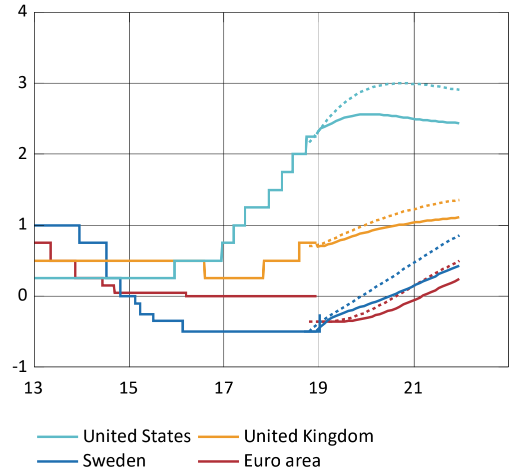
Nominal bond yields in particular have fallen back. A contributory factor of this is that the fall in the oil price has led to market participants in many countries expecting lower inflation. This trend is particularly clear for the United States. Recent developments on equity markets also seem to have contributed to an increased demand for bonds and lower yields.

The downturn in oil prices has led to financial measures of expected inflation also falling in Europe and has contributed to a decline in nominal bond yields for most countries in the euro area.

Tensions between the Italian government and the European Commission regarding the wording of the Italian central government budget continue to affect the yields on Italian government securities. The differentials in relation to German bond yields therefore remain elevated compared with early 2018. However, the situation in Italy has not had any clear spillover effects to other countries in the euro area (see Figure 2:3).

Figure 2:1. Policy rates and rate expectations according to forward rates

Per cent

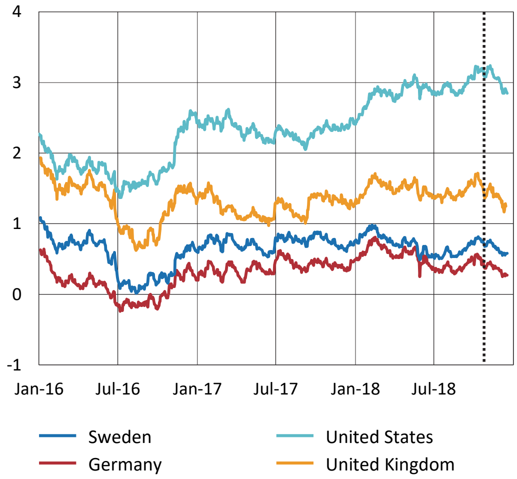


Note. Forward rates describe the expected overnight rate, which does not always correspond to the policy rate (the main refinancing rate for the euro area). Unbroken lines refer to 17 December 2018, broken lines refer to 19 October 2018.

Sources: The national central banks, Macrobond and the Riksbank

Figure 2:2. Government bond yields with 10 years to maturity

Per cent

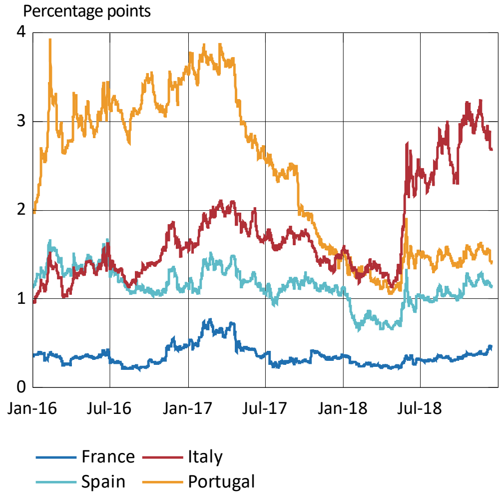


Note. Implied zero-coupon yields from government bonds for Sweden, Germany and the United Kingdom. 10-year benchmark bonds for the United States. The vertical line indicates the Monetary Policy Meeting in October.

Sources: The national central banks, Macrobond and the Riksbank

Figure 2:3. Yield differential in relation to Germany, 10-year

Percentage points



Note. Yield differentials refer to 10-year benchmark bonds.

Source: Macrobond

Some turbulence on riskier financial markets

Since the beginning of October, markets for riskier assets have also been affected by the general uncertainty in the financial markets. Already at the beginning of October, equity prices fell significantly in many parts of the world (see Figure 2:4). As the signs that the US economy has entered a more mature phase have become clearer, scepticism has spread as to whether the high valuation of the US stock market is sustainable in the long term. Share prices in China have also fallen as previously high growth expectations have been adjusted down slightly. However, the authorities have made support purchases of stocks and implemented other measures to improve corporate funding conditions, which has slowed down the decline in Chinese equity prices.

To begin with, government bond yields were not particularly affected by movements on the equity markets, something which reinforces the view that the decline in equity prices at the end of October was a question of an isolated correction on the equity market. Recently, however, government bond yields have fallen back while equity prices have continued to decline. The movements on the equity markets since October have also led to the expected volatility remaining at a higher level compared with the low levels of recent years (see Figure 2:5). This has also contributed to a rise in interest rates on corporate borrowing in relation to yields on government bonds with similar maturities (see Figure 2:6).

Less expansionary financial conditions abroad

Despite the downward revision in monetary policy expectations since October, both market participants and central banks abroad are counting on monetary policy gradually becoming less expansionary in the period ahead. Furthermore, equity prices have fallen and interest rates on corporate borrowing have risen (see Figures 2:4 and 2:6). Overall, the financial conditions have become slightly tighter in recent months and this development is expected to continue going forward.

Financial conditions abroad are still expansionary, however. Central banks abroad are continuing to conduct very expansionary monetary policy and despite the rate rises in the United States, the US policy rate is still below the level considered by the Federal Reserve to be normal in the long term. In addition, equity prices in many parts of the world continue to be relatively highly valued and various yield differentials are still below their historical average.

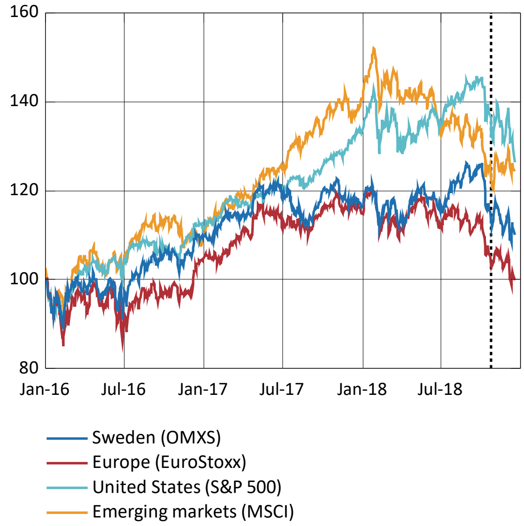
Financial conditions in Sweden

Falling interest rate expectations in the longer term in Sweden

Since the Monetary Policy Report in October, expectations of the future repo rate have fallen in the longer term, in line with international developments. Expectations are now at approximately the same level as at the beginning of the autumn.

Figure 2:4. Stock market movements in local currency

Index, 4 January 2016 = 100

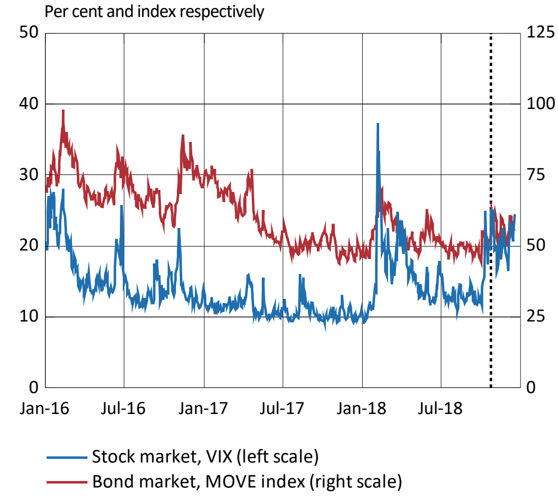


Note. The vertical line indicates the Monetary Policy Meeting in October.

Source: Macrobond

Figure 2:5. Volatility index for US equity and bond markets

Per cent and index respectively

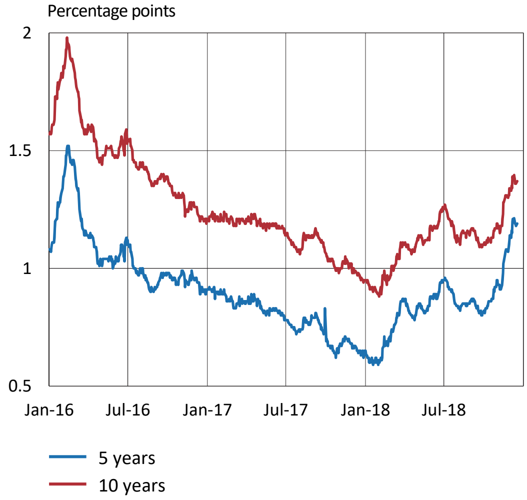


Note. Volatility Index (VIX) shows the expected volatility on the US stock market based on options prices. Merrill Lynch Option Volatility Estimate (MOVE) Index is a measure of the expected volatility of US government bonds based on options prices. The vertical line indicates the Monetary Policy Meeting in October.

Sources: Chicago Board Operations Exchange and Merrill Lynch

Figure 2:6. Difference between yields on corporate bonds with a good credit rating and on government bonds in the United States

Percentage points



Note. Yield differentials refer to 5-year and 10-year benchmark bonds.

Source: Macrobond

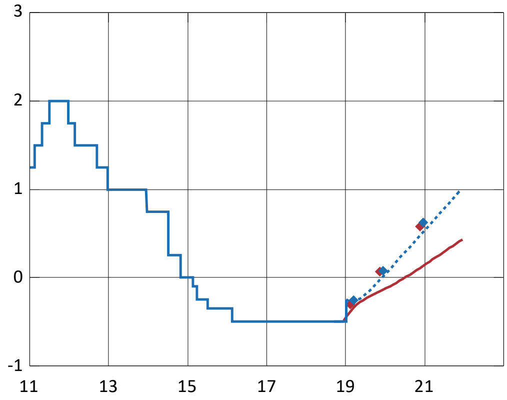
Both pricing on the financial markets and the forecasts of market participants continue to indicate that the market expects the repo rate to be increased in either December or February. International developments have thus not affected expectations on the Riksbank in the near term.

As before, there is a difference between the Riksbank's repo rate path and the expectations according to market pricing (see Figure 2:7). This difference is not remarkable in a historical perspective, however. Market expectations as measured in Prospera's survey remain in line with the repo rate path (see Figure 2:7).

Since October, government bonds yields in Sweden have fallen in line with international developments (see Figure 2:2). Similar to in other countries, market-based measures of inflation expectations have also fallen. Swedish corporate bond yields have also developed in line with other countries and the yield differential between these bonds and government bonds has increased somewhat since October. Recently, therefore, financial conditions in Sweden have become somewhat tighter. They remain expansionary, however, and are providing support to economic development.

Figure 2:7. Repo rate and market expectations

Per cent

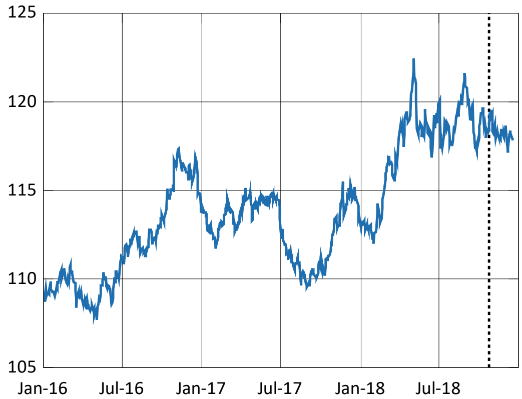


Note. The forward rate refers to 17 December 2018 and is a measure of the expected repo rate. The Prospera survey responses show the average for money market participants 8 November 2018 respectively 13 December 2018.

Sources: Macrobond, Kantar Sifo Prospera and the Riksbank

Figure 2:8. Competition-weighted nominal exchange rate, KIX

Index, 18 November 1992 = 100



Note. KIX refers to an aggregate of countries that are important for Sweden's international transactions. The vertical line indicates the Monetary Policy Meeting in October. A higher value indicates a weaker exchange rate.

Sources: National sources and the Riksbank

The Riksbank carefully monitors the functioning of the bond market

The market for Swedish government bonds and interest derivatives is important for the transmission of monetary policy to the rest of the economy. The Riksbank therefore carefully monitors how the government bond market and adjacent markets are functioning, by performing surveys, analysing data and having regular contact with market participants.

In recent years, turnover on the Swedish government bond market has decreased. This lower turnover is due in part to financial regulations but also to a reduction in the amount of bonds remaining in the market and which market participants can actively trade as a result of the Riksbank's bond purchases.

According to the Financial Market Survey recently published by the Riksbank, two-thirds of respondents who are active on the Swedish fixed income market consider that the government bond market is functioning poorly. But market participants can also manage their interest rate risk in other markets, particularly in the market for interest rate swaps, where the participants can manage interest rate risk using derivative contracts. The survey respondents consider that the interest rate swap market is functioning well and turnover in this market has recently increased significantly.

The krona is in line with the forecast in October

Since the Monetary Policy Report in October, the krona has strengthened slightly, in line with the Riksbank's forecast. Neither have expectations of Swedish monetary policy relative to other countries changed noticeably since October even though interest rate expectations in the longer term have shifted down slightly more in Sweden than in other countries.

The krona is a currency that tends to weaken when movements occur on markets for riskier assets, but it has nonetheless been relatively stable since October (see Figure 2:8).

Lower lending rates to households

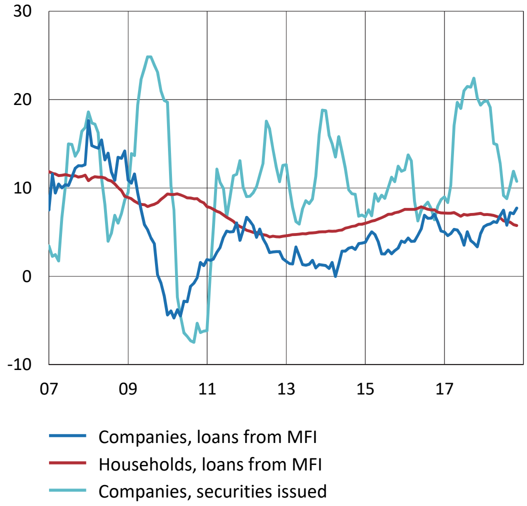
Banks still have high profitability and are finding it easy to obtain funding both in Sweden and abroad. Their funding costs are still considered to be low, even though yields on covered bonds have increased somewhat relative to government bond yields. The conditions for bank lending to households and businesses therefore remain favourable.

The growth rate in lending to households has fallen and is expected to continue to be subdued in the period ahead (see Figure 2:9). One reason for this is the downturn in housing prices over the past year coupled with households expecting higher mortgage rates going forward. In addition, the latest tightening of the amortisation requirements is a factor that is expected to subdue growth in lending to households to some extent.

At the same time, lending rates to households have fallen during the year and the average mortgage rate for new agreements was 1.47 per cent in October (see Figure 2:10). A contributory cause of this is the increased competition on the mortgage market. New players have offered competitive mortgage rates and established players have reduced their lending rates, probably to avoid losing market share.

Bank loans to companies, which remain the primary source of funding for Swedish companies, increased by 7.7 per cent in October, compared with the same period last year (see Figure 2:9). In earlier years the increases have been on average just under 4.9 per cent. In addition, companies are borrowing to an increasing extent directly on the capital markets, for example by issuing corporate bonds. This borrowing component now makes up more than a third of total corporate debt.

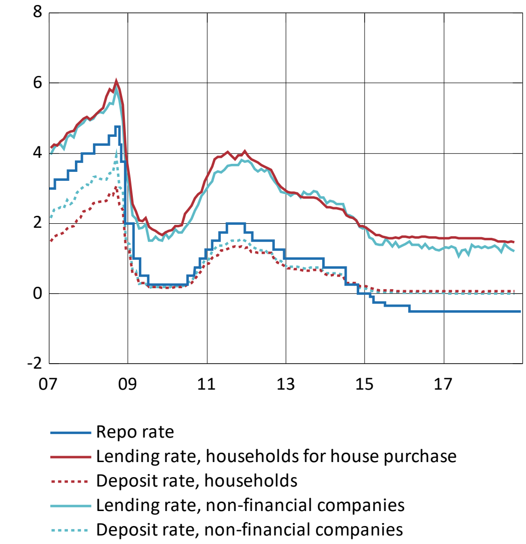
Figure 2:9. Bank lending to households and companies
Annual percentage change



Note. Lending by Monetary financial institutions (MFI) to households and non-financial corporations adjusted for reclassifications and bought and sold loans, according to financial market statistics. Securities issued by non-financial corporations have been adjusted for currency impact. The data extend until the end of October 2018.

Source: Statistics Sweden

Figure 2:10. 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 weighted averages of all interest rates for different maturities.

Sources: Statistics Sweden and the Riksbank

CHAPTER 3 – The current economic situation

After several years of recovery, with high GDP growth and rapidly falling unemployment, global economic activity has entered a phase of more subdued GDP growth. In Sweden, GDP fell during the third quarter, which was largely because households and companies brought forward their vehicle purchases to the second quarter as a result of changes in tax regulations at the beginning of July. Although GDP growth has been moderate in recent quarters, sentiment in the corporate sector is still high and during the coming quarters GDP is expected to increase at a normal pace. The demand for labour is high. Many companies are reporting a shortage of labour and resource utilisation in the economy is higher than normal. In November, inflation was 2.1 per cent, which was lower than the forecast in October. Most measures of underlying inflation were still somewhat below 2 per cent in November, but indicators of price development point to an upturn in the near term. In the coming months, CPIF inflation is expected to be just over 2 per cent.

Inflation in Sweden

Inflation 2.1 per cent in November

In November, CPIF inflation amounted to 2.1 per cent (see Figure 3:1), which was lower than expected. This is partly due to relatively volatile components such as fuel prices and fruit and vegetables prices showing somewhat weaker development. The rate of price increase for other goods and services was lower than expected. Inflation excluding energy prices, which amounted to 1.4 per cent, was also lower than was forecast in October.

The strong economic situation in Sweden has contributed to inflation rising gradually since 2014 and now being over 2 per cent. At the same time, cost pressures, measured as unit labour costs, have increased at a faster pace in recent years. Rapidly rising energy prices and a weaker krona have also contributed to the upturn in inflation.

However, part of this upturn is deemed to be due to temporary price variations. To estimate the level of the more lasting part of the measured rate of inflation, one can study various measures of core inflation that exclude or reduce the significance of prices that vary substantially.[16] The Riksbank's different measures of core inflation indicate that the more persistent part of the rate of inflation is lower than the measured rate of CPIF inflation. The median of all the measures the Riksbank calculates and publishes regularly amounted to 1.6 per cent in November (see Figure 3.2). Two of the measures that appear the most useful according to an evaluation are UND24 and CPIFPC. UND24, which weights the components of the CPIF on the basis of how volatile the price changes are, amounted to 1.8 per cent in November. The

[16] See the article "Why measures of core inflation" in Monetary Policy Report, October 2018. Some of the measures includes have a median that has deviated from the CPIF since 1995.

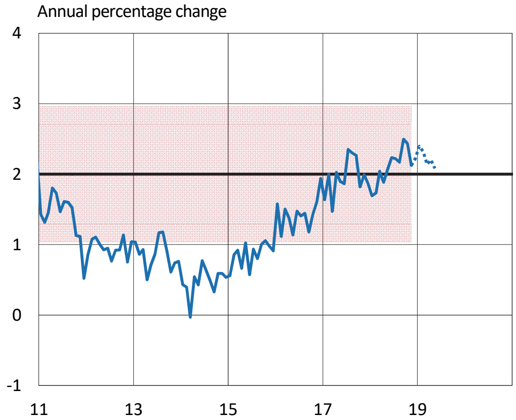
Table 3:1.

Expected development in MPR October	Actual development
CPIF inflation 2.4 per cent and CPIF excluding energy 1.7 per cent in November.	CPIF inflation was 2.1 per cent and CPIF excluding energy was 1.4 per cent.
GDP growth 1.1 per cent, third quarter.	GDP growth was −0.9 per cent.
Unemployment 6.4 per cent in fourth quarter.	Monthly outcome indicates unemployment will be lower.

Note. MPR refers to the Monetary Policy Report. Inflation refers to the annual percentage change. GDP growth refers to the seasonally-adjusted quarterly change in per cent, calculated at an annual rate. Unemployment refers to percentage of the labour force.

Figure 3:1. 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.

Sources: Statistics Sweden and the Riksbank

CPIFPC, which calculates common trends in the components, was 1.6 per cent.

Inflation still above 2 per cent in near term

In the coming months, the rate of price increase for services, goods and food is expected to rise somewhat. Higher rent increases, effects of earlier krona depreciations and rising food prices due to the dry summer all contribute to this.

The annual rate of increase in service prices has slowed down in relation to last year, while the rate of increase on prices on goods and food has risen. The rate of price increase on imported goods in the producer channel has risen as the krona has depreciated, but the rate of increase for domestic market prices has also risen somewhat in recent months (see Figure 3:3). According to the Economic Tendency Survey, more companies than normal, particularly within the trade sector, expect prices to increase over the next three months.

New questions on prices in the Economic Tendency Survey can further explain company pricing. Figure 3:4 shows how the different factors have affected the trade and services companies' prices since 2015.[17] In the services sectors it is increased demand and gradually higher domestic costs that are pushing up prices. In the trade sector, on the other hand, it is rising import costs that have played a predominant role, with minor contributions from domestic costs. However, competition has held back price increases among both service companies and in the trade sector.

The Riksbank's model forecast, which summarises the information from a large number of models and indicators, implies that the growth rate in CPIF excluding energy will rise somewhat towards the beginning of next year (see Figure 3:5). Higher rent increases next year and a higher rate of increase in food prices as a result of the dry summer are factors that contribute to the Riksbank's forecast being somewhat higher than the model forecast.

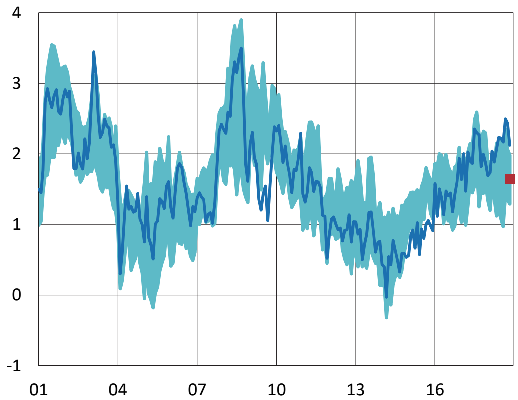
The forecast for inflation, measured in terms of the CPIF excluding energy, has been revised down in relation to the assessment in October. Moreover, fuel prices have fallen, which means that CPIF inflation has been adjusted downward somewhat more than the CPIF excluding energy. However, CPIF inflation is still expected to remain above 2 per cent up to the beginning of next year.

Inflation expectations close to 2 per cent

Inflation expectations, according to the survey responses, have been close to 2 per cent for more than a year on all horizons (see Figure 1:6). According to the Kantar Sifo Prospera quarterly survey, expectations rose marginally in

[17] In 2015, the Riksbank reached an agreement with the National Institute of Economic Research to introduce new recurring questions in the Economic Tendency Survey. The purpose of the new questions is to gather information on companies' views regarding developments in prices and costs and on the most important factors for their pricing. The new questions are aimed at the trade and service sectors and should therefore reflect developments in consumer prices.

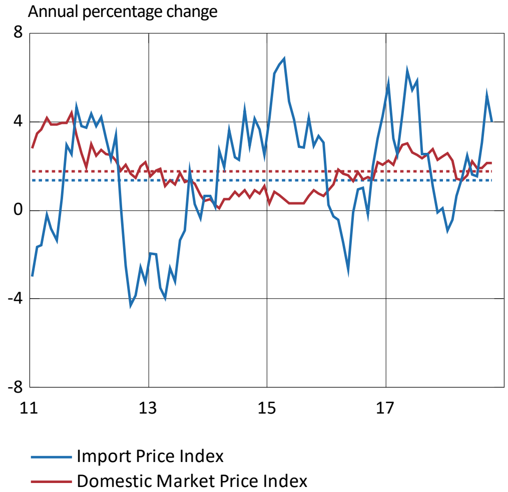
Figure 3:2. CPIF and different measures of underlying inflation
Annual percentage change



Note. The line represents CPIF. The field shows the highest and lowest outcomes among different measures of underlying inflation. The measures included are CPIF excluding energy, UND24, Trim85, CPIF excluding energy and unprocessed food, persistence-weighed inflation (CPIFPV), factors from principal component analysis (CPIFPC) and weighted mean inflation (Trim1). The red dot represents the median value in November 2018 for all measures of underlying inflation.

Sources: Statistics Sweden and the Riksbank

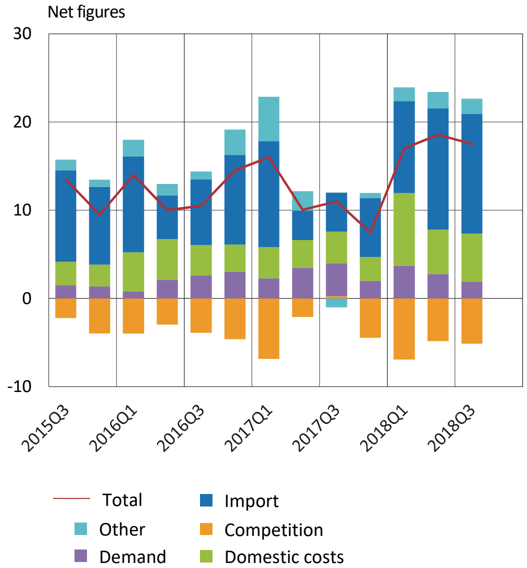
Figure 3:3. Producer prices for consumer goods
Annual percentage change



Note. Broken lines represent the averages since 2000.

Source: Statistics Sweden

Figure 3:4. The driving forces behind price changes by companies in the trade and services sectors
Net figures



Note. The figure shows how different factors have affected the unweighted net figure for the question of what has happened with prices in the last three months in both the trade and services sectors.

Sources: National Institute of Economic Research and the Riksbank

December. Five years ahead, CPI inflation is expected to be 2.1 per cent. Long-term inflation expectations for the CPIF are somewhat lower and amounted to 1.9 per cent among Money market participants. Pricing of financial instruments also indicates that the long-term inflation expectations are close to 2 per cent, although they have fallen somewhat in recent months in line with international developments.

Global and Swedish economic activity

Continued good growth in United States, but growth in euro area slowing down

While GDP growth in the United States has been strong, developments in the euro area have been more subdued this year. World trade in goods increased by only around 3.5 per cent during the third quarter, compared with the corresponding quarter last year, which is a clear slowdown since 2017 when the rate of increase was around 5 per cent. Indicators point to developments in world trade remaining weak going forward.

GDP in the euro area increased by 0.6 per cent in the third quarter, compared with the second quarter and calculated as an annual rate (see Figure 3:6). The low growth was mainly due to temporary factors. For instance, car production slowed down during the autumn when new methods of measuring fuel consumption and exhaust emissions led to problems of adjustment in the car industry (see the box “New regulations for measuring fuel consumption and exhaust emissions slowing down car production in Europe”). Corporate sector confidence has slowed down, but still indicates higher than normal growth (see Figure 3:7). Households are still optimistic and their incomes are rising at an increasingly fast pace. GDP is expected to increase and unemployment to fall going forward, but both at a slower pace as there is now less spare capacity in the economy.

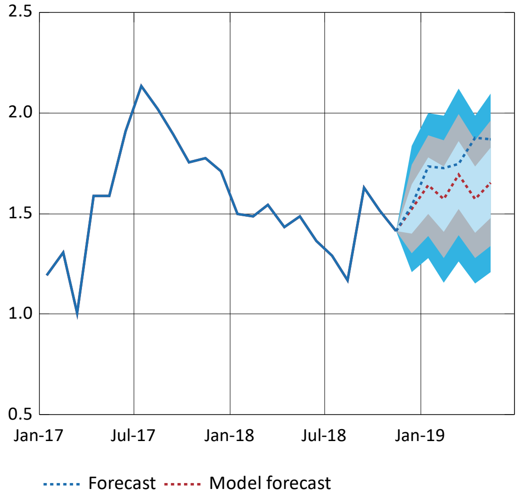
During the third quarter, GDP in the United States increased by 3.5 per cent, compared with the second quarter and calculated as an annual rate. Households continued to consume at a good pace. Companies’ stocks and imports increased faster, at the same time as investment slowed down, probably due to uncertainty linked to the trade conflict with China, for instance. Household confidence has declined marginally but is nevertheless at one of the highest levels since the financial crisis. Corporate sector confidence is also very high. However, growth is expected to slow down somewhat during the fourth quarter, as resource utilisation becomes increasingly strained.

Slowly rising inflationary pressures abroad

In the euro area, inflation fell to 1.9 per cent in November partly as a result of both energy and food prices slowing down. However, underlying inflation, which excludes these components, fell as well and was only 1.0 per cent. Also in the

Figure 3:5. CPIF excluding energy, model forecast with uncertainty bands

Annual percentage change

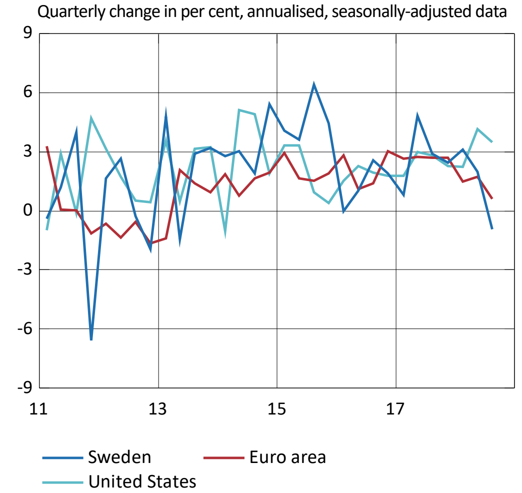


Note. The uncertainty bands 50, 75 and 90 per cent are based on the models' historical forecast errors.

Sources: Statistics Sweden and the Riksbank

Figure 3:6. GDP in Sweden and abroad

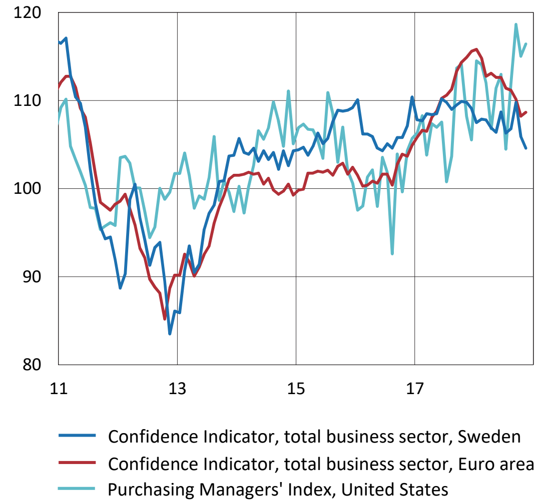
Quarterly change in per cent, annualised, seasonally-adjusted data



Sources: Bureau of economic analysis, Eurostat and Statistics Sweden

Figure 3:7. Confidence indicators in Sweden and abroad

Index, mean value = 100, standard deviation = 10



Note. The Purchasing Managers’ Index from the United States and the confidence indicator from the euro area are normalised from January 1998. Purchasing Managers’ Index, United States refers to the Riksbank’s aggregation of the manufacturing and services sectors.

Sources: Institute for Supply Management (ISM), European Commission, National Institute of Economic Research and the Riksbank

United States inflation fell in October, to 2.2 per cent. Underlying inflation measured with the deflator for household consumption excluding energy and food, declined somewhat to 1.8 per cent in October.

The oil price has fallen substantially since the beginning of October and this is expected to contribute to inflation abroad falling. Core inflation, that is, inflation excluding energy and food prices, is expected to rise somewhat in most developed countries, but nevertheless remain relatively moderate.

In the euro area, inflation is expected to remain around 2 per cent at the end of the year and then to gradually fall as a result of oil prices, among other factors. Core inflation is still low, but is expected to rise gradually in the coming quarters. The labour market is strong and wage growth in labour costs per employee was the highest in 10 years during the third quarter (see Figure 4:3).

In the United States, the contribution from energy prices is expected to continue to fall during the remainder of the year and inflation is therefore expected to fall to just below 2 per cent during the first quarter of next year.

Temporarily negative Swedish growth

Swedish GDP declined by 0.9 per cent in the third quarter, compared with the second quarter and calculated as an annual rate. Households' and companies' purchases of private cars and light vehicles fell heavily. This was largely due to the amended Swedish tax regulations coming into force in the second half of the year, but the change in methods of measuring exhaust emissions in the EU may also have played some role here (see the box). Housing investment fell for the second quarter in a row and is now lower than a year ago. Household consumption of durable goods developed weakly, which is assumed to be at least partly due to the unusually hot summer. Otherwise, the hot and dry summer only had a minor impact on GDP growth. Even if one disregards temporary effects, both GDP and consumption have been moderate in recent quarters.

The high level of confidence among companies, for instance, indicates that growth will become positive again in the fourth quarter (see Figure 3:7). The companies in the Riksbank's Business Survey from November also testify to strong economic activity. Exports and imports of goods increased in October, while the retail trade and household consumption were weaker. Production in the trade sector rose in October. The number of housing starts has continued to decline over the year and housing investments are expected to continue falling and have a clearly negative contribution to GDP growth in the coming quarters.

The Riksbank's model forecasts for the short term indicates that GDP will grow by 3.0 per cent the third quarter, calculated at an annual rate (see Figure 3:8). The Riksbank's assessment is below the model forecast, as the model is not considered to completely capture the decline in housing

New regulations for measuring fuel consumption and exhaust emissions subduing car production in the EU

On 1 September this year, the EU introduced more stringent regulations regarding how fuel consumption and emissions levels will be measured on newly produced cars and light vehicles. The regulations that have applied previously have been criticised because the results show a lower fuel consumption and lower emissions than is actually the case in normal traffic situations. The idea is to both make the test results more realistic and globally comparable.

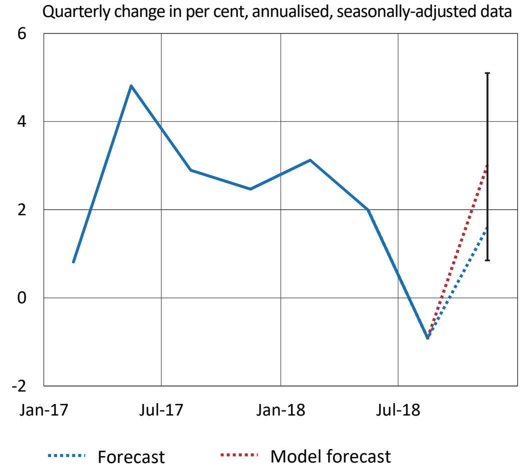
The introduction of the new regulations has led to adjustment problems for the car industry in the EU, with the consequence that both production and registration of new cars has varied substantially from one month to another. Registrations in the euro area rose in July and especially in August, the month before the new regulations came into force, only to fall by almost 40 per cent in September. The recovery in October was relatively modest and survey data for the German motor vehicle industry does not indicate any rapid recovery in the near term.

One explanation why the new regulations are creating such large problems for car manufacturers is that each car model must be tested for all of the engine alternatives and drivelines, which means that thousands of measurements need to be made. Some car manufacturers appear to have underestimated the complexity of the changeover and began this work rather late in the day. In addition, the new, more realistic tests show a higher fuel consumption and larger emissions than the old results. This has caused car manufacturers to implement various measures, at a late stage, to reduce their emissions so that customers in the different countries will not have to pay higher energy taxes. In addition, the test results have to be approved by the relevant authorities to certify each individual car model with regard to all engine alternatives and types of driveline.

The new regulations on emissions can to some extent be a partial explanation for the weak figures in recent months regarding registration of new cars in Sweden.

There is good reason to believe that car production and sales of new cars in the EU will gradually recover in the coming period as the adjustment problems are dealt with.

Figure 3:8. GDP, model forecast with uncertainty bands
Quarterly change in per cent, annualised, seasonally-adjusted data



Note. The model forecast is an average of forecasts from different statistical models. The vertical line refers to a 50 per cent uncertainty band based on the models' historical forecast errors.

Sources: Statistics Sweden and the Riksbank

investment. GDP is expected to increase by 1.6 per cent, calculated as an annual rate, in the fourth quarter and by 1.9 per cent in the first quarter of 2019.

Continued high demand for labour

Developments on the labour market remain strong and in October and November both the number of people in the labour force and the number of employed rose. Above all, the number of employed has increased rapidly, which has caused unemployment to fall. Individual monthly outcomes are uncertain and should be interpreted with caution, but the outcomes nevertheless imply that the upturn in unemployment noted during the summer has not continued. Indicators of developments in the labour market also point to the demand for labour remaining high. Monthly outcomes from the Labour Force Surveys, the business sector recruitment plans as described in the Economic Tendency Survey and the number of job vacancies according to Statistics Sweden all indicate that employment will continue to increase in the coming quarters, albeit at a somewhat slower pace than before (see Figure 3:9). The labour force is also expected to increase during the fourth quarter, but not as quickly as employment, which will cause unemployment to fall somewhat.

High resource utilisation in the economy

The amount of spare capacity in the economy is affecting the development of wages and prices with a time lag. Resource utilisation in the economy is not directly observable, however. The Riksbank therefore follows a number of different indicators to be able to make an assessment.

Several indicators point to resource utilisation being higher than normal (see Figure 3:10). As the employment rate has risen and unemployment has decreased, the proportion of companies reporting labour shortages has also increased to a very high level. This applies in particular to the service sector and to the construction and manufacturing industry. Other signs that there is little spare capacity on the labour market are the high vacancy rate in the business sector and the long average time for recruitment.[18] All in all, the Riksbank assesses that resource utilisation in the economy is higher than normal, which is compatible with the high level of the Riksbank's resource utilisation indicator (see Figure 4.16).

Slowing rising rate of wage increase

The rate of wage increase has risen slowly over the past year. According to preliminary short-term wage statistics, wages in the whole economy increased by on average 2.5 per cent during the first three quarters of the year, compared with the same period last year. This is a somewhat higher rate of increase than in 2017, when wages rose by an average of

[18] The vacancy rate measures the number of unfilled jobs that need to be filled immediately.

Figure 3:9. Employment and recruitment plans

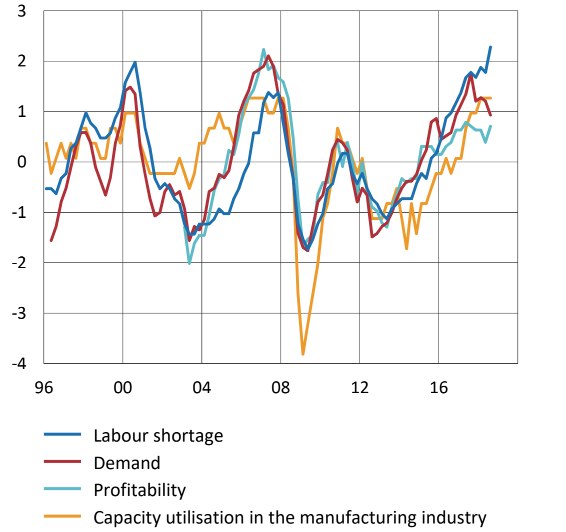
Annual percentage change and net figures, respectively, seasonally-adjusted data

Note. Recruitment plans refer to expectations of the number of employed in the business sector three months ahead, moved forward one quarter.

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

Figure 3:10. Indicators of resource utilisation

Standard deviation

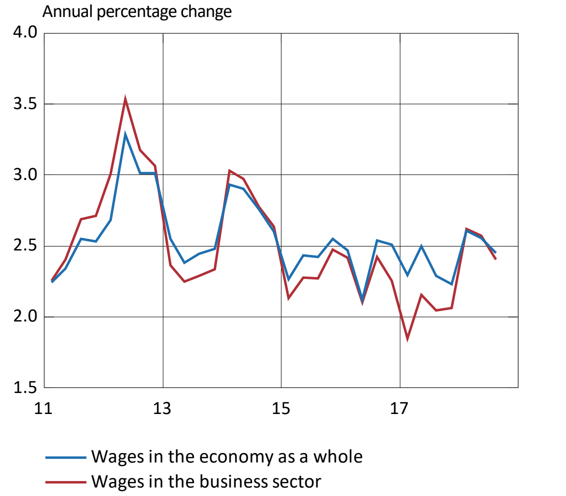


Note. The series are normalised from 1996.

Sources: National Institute of Economic Research and the Riksbank

Figure 3:11. Wages in the business sector and the economy as a whole

Annual percentage change



Note. Wages according to short-term wage statistics. The National Mediation Office's forecast of final outcome 2017Q4–2018Q3.

Source: National Mediation Office

2.3 per cent. The upturn was particularly visible in the business sector (see Figure 3:11). Wage outcomes according to the National Accounts are usually more volatile. But these also imply that the rate of wage increase is higher in the first three quarters of this year than the average for last year. The weak productivity growth in the third quarter also means that unit labour costs increased faster than expected.

CHAPTER 4 – The economic outlook and inflation prospects

After a period of recovery, the global economy is now entering a phase in which growth will be lower compared with developments in recent years. Inflation abroad will be subdued next year due to the fall in the oil price, but higher demand for labour and rising wages will eventually contribute to higher inflation. Monetary policy abroad will slowly become less expansionary. In Sweden, GDP growth has been unusually high for a few years and economic activity has strengthened. This is due to both favourable global growth and the Riksbank's expansionary monetary policy, which have stimulated domestic demand. There are clear signs on the labour market of unusually strong economic activity and wage growth is therefore expected to rise in the period ahead. In the coming years, gradual repo rate rises will contribute to a normalisation of the economic situation and to cost pressures rising at a rate compatible with the inflation target. An expected appreciation of the krona will subdue price growth and overall, CPIF inflation is expected to be around 2 per cent during the forecast period. This is largely the same assessment as in the Monetary Policy Report in October.

International developments

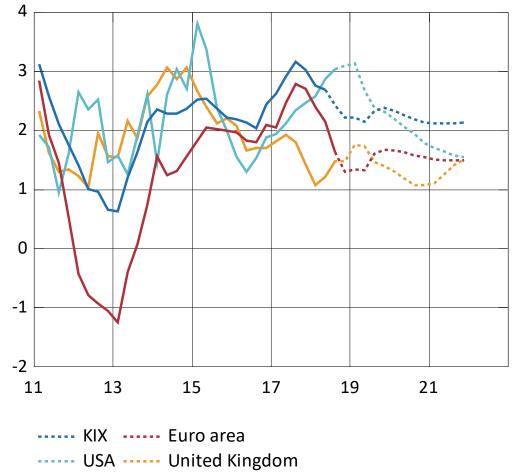
Subdued international growth

Trade-weighted growth abroad has slowed down in recent quarters and this slowdown is expected to continue in 2019 and 2020. Towards the end of the forecast period, KIX-weighted GDP is expected to grow by a good 2 per cent a year (see Figure 4:1). Growth in imports has stagnated in the world's developed economies and even several emerging economies are now showing signs of a slowdown in imports. This decline should, however, be viewed in the light of relatively strong economic developments in recent years, as demand in many countries has grown at a healthy pace and resource utilisation has consequently risen. This year and next year, Swedish export markets are expected to grow by 4 per cent a year. Thereafter, the growth rate will fall towards 3.5 per cent, which is in line with the average growth rate over the last ten years.

The ongoing trade conflict between the United States and several other countries poses risks to international economic prospects, but the measures hitherto implemented are expected to have only marginal effects on global growth. The US Administration has let it be known that previously announced increases in tariffs on Chinese imports will be postponed until the end of the year. Negotiations between the governments of the two countries on future trade relations are expected to continue over the coming months.

Another uncertainty factor for international growth is the terms of the United Kingdom's withdrawal from the EU (see the box "The United Kingdom's withdrawal from the EU").

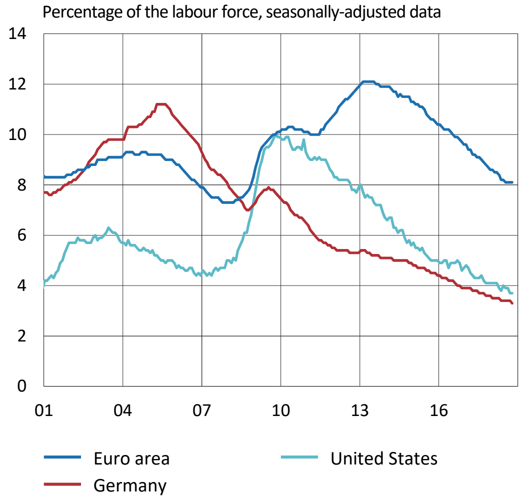
Figure 4:1. GDP in various countries and regions
Annual percentage change



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

Sources: Bureau of Economic Analysis, Eurostat, national sources, Office for National Statistics and the Riksbank

Figure 4:2. Unemployment in various countries and regions
Percentage of the labour force, seasonally-adjusted data



Source: OECD

Strong economic activity in the United States

Economic activity in the United States remains strong, with high GDP growth and strong confidence among households and companies. A contributory cause of the rapid growth is the increases in public expenditure and the tax cuts previously determined by congress. This year, GDP is expected to rise by almost 3 per cent, but growth is expected to be lower in the period ahead when both fiscal and monetary policy become less expansionary.

Unemployment is below 4 per cent (see Figure 4:2) and the total resource utilisation in the US economy is assessed as higher than normal. Wage growth continues to rise and corporate costs for labour, including wages and other compensation, is now increasing by almost 3 per cent in annualised terms (Figure 4:3).

Modest growth in the euro area

Growth in the euro area has slowed significantly after the recovery in recent years, when both private consumption and investment grew at an unusually rapid rate. The slowdown is deemed in part to be temporary, but going forward, households are expected to increase their consumption at a more modest rate and in the coming years, GDP is expected to grow by about 1.5 per cent a year, which is approximately the same forecast as in the October report. Resource utilisation has risen significantly in recent years and is currently deemed to be close to a normal level. This is noticeable on the labour market, for example, where unemployment has fallen in many countries and where corporate costs for labour are now growing at an increasingly rapid rate (see Figure 4:3).

The United Kingdom government has reached an agreement with the European Commission on the terms of the country's withdrawal from the EU, but this has met strong political opposition in the UK parliament. The risk of a disorderly withdrawal have therefore increased. In a scenario with a no-deal Brexit, growth would be negatively affected particularly in the UK, but also in several of the countries in the euro area with close trade links to the UK. In the forecast, it is assumed that, despite everything, London and Brussels will succeed to conclude an agreement and that the UK will leave the EU in an orderly fashion (see the box "The UK's withdrawal from the EU").

Expansionary economic policy in China

In China, there are signs of somewhat lower growth in domestic demand. For example, growth in both investment and consumption has declined over the last year. A contributory cause of the lower investment growth is the dampening effect of new regulations on credit growth.

The trade conflict with the United States is also creating problems and there is a risk that the conflict will escalate further. The negative effects of the measures introduced so

The United Kingdom's withdrawal from the EU

The UK government and representatives of the EU have negotiated for almost one and a half years on the conditions of the agreement intended to regulate the terms of the country's withdrawal from the EU. In November, the parties reached a consensus and the withdrawal agreement they proposed has since been the object of intense political discussion in the United Kingdom.

The formal process for the United Kingdom's withdrawal, which began in March 2017, entails the country leaving the EU by 29 March 2019. According to the proposed agreement, a transitional period would then begin and run until 31 December 2020. During the transitional period, the intention was that many laws and regulations would remain unchanged. The United Kingdom would also remain in the single market during this period and within the EU customs union. The country will then continue to follow EU laws on free movement of goods, services, capital and labour, and will also continue to pay into the EU's budget. But it would lose its right to take part in the decisions made within the EU. Another aspect regulated in the proposed withdrawal agreement is the rights that would apply to British citizens living in the EU and the rights of EU citizens living in the United Kingdom.

The most difficult issue in the negotiations has been how to avoid a hard border between Ireland and Northern Ireland following the UK withdrawal. No final solution was reached here and the intention is therefore that the negotiations will continue during the transitional period.

In the United Kingdom the agreement has met with strong political opposition and an earlier planned vote on the withdrawal agreement in the UK Parliament has been postponed. However, the formal withdrawal procedure is continuing with or without an agreement which means that the United Kingdom will leave the EU by 29 March next year. If the withdrawal is postponed, it will require that the remaining countries' heads of government and heads of state, in consultation with the United Kingdom, take a unanimous decision on this question. Alternatively, the United Kingdom can unilaterally decide to break off the withdrawal process.

Developments in recent weeks have increased the uncertainty over the forms for the withdrawal. Most analysts agree that there is a broad majority among the members of the British Parliament opposing that the United Kingdom leaves the EU without a withdrawal agreement. However, opinions are divided on what is the best alternative to this type of disorderly withdrawal.

Even if the United Kingdom and the EU enter into a new agreement on the actual withdrawal, there is still the task of negotiating the future trade terms and conditions, that is the rules governing trade after the end of the intended transitional period up to the end of December 2020.

far have been partly counteracted by the Chinese currency weakening against the US dollar in recent months. As a result of the trade barriers and the slowdown in the growth in domestic demand, the authorities have indicated that fiscal policy will become more expansionary in the period ahead. Monetary policy has also been redirected in a more expansionary direction with the lowering of reserve requirements for the banks in several stages over the year. The measures are expected to help bring Chinese GDP growth this year in line with the government's growth target of around 6.5 per cent, after which it will gradually become lower. In 2021, growth is expected to be 6 per cent.

The price of crude oil has fallen

The global market price of crude oil has fallen by a little over USD 15 a barrel since the end of October (Figure 4:4). Among other reasons, this is because several important oil-producing countries, including the United States, Russia and Saudi Arabia, have increased production over the year. In the United States, the number of oil rigs has increased, something which indicates continued high production in the period ahead. In addition, the US government has exempted certain countries from the sanctions introduced towards Iran, meaning that China and seven other countries can continue to import oil from Iran over a six-month period.

Alongside these supply factors, the slowdown in the global economy, together with unease over escalated trade conflicts, has affected the oil price. The lower oil price will subdue inflation abroad this year and next year, compared with the forecast from October.

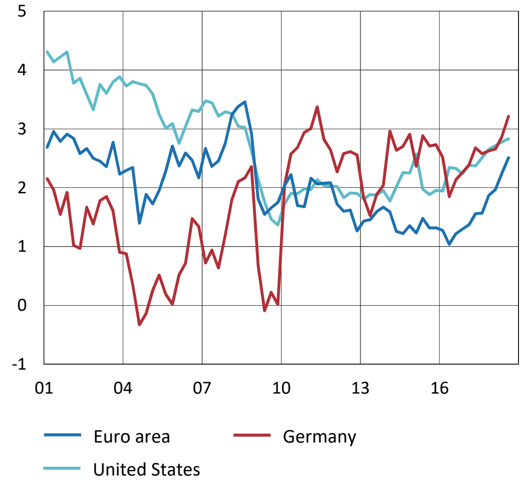
At the same time, forward prices for oil, which give an indication of price developments going forward, suggest that the oil price is now expected to remain around 60 dollars a barrel. The effect of energy prices on global inflation in 2020 and 2021 is therefore expected to be small.[19]

Slowly rising cost pressures abroad

In both the United States and the euro area, wage growth fell substantially in conjunction with the downturn that followed the financial crisis and, for several years, wages continued to increase slowly. This development means that companies' overall costs for labour, in which wages form the most important component, grew slowly (see Figure 4:3). In the United States, the economic recovery after the financial crisis has continued uninterruptedly since the end of 2009 and unemployment has fallen below 4 per cent. Over the last two years, the higher demand for labour has also had an impact on wage growth and companies' costs for labour are now rising faster. The forecast is for cost pressures to continue to

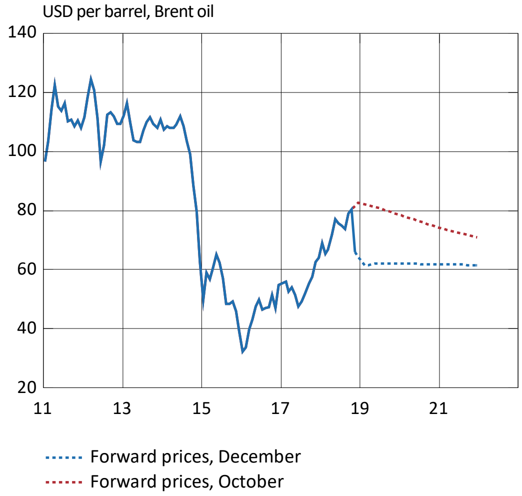
[19] KIX-weighted inflation will however be higher in 2020 and 2021, compared with the forecast in the October Monetary Policy Report. This is primarily due to a new and higher forecast for inflation in Turkey. Excluding Turkey, only minor revisions have been made to KIX-weighted inflation for 2020 and 2021.

Figure 4:3. Compensation per employee
Annual percentage change, seasonally-adjusted data



Sources: Bureau of Labor Statistics and ECB

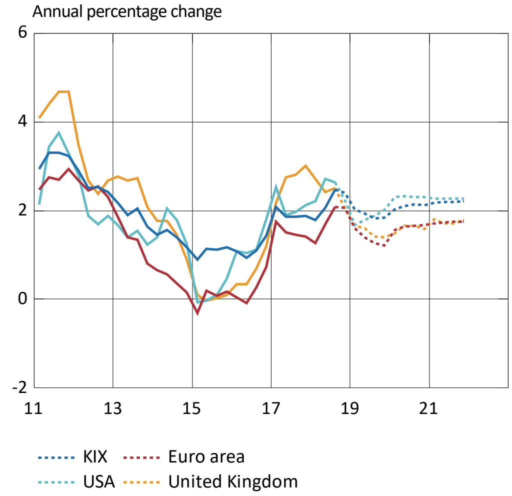
Figure 4:4. Price of crude oil
USD per barrel, Brent oil



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

Sources: Macrobond and the Riksbank

Figure 4:5. CPI in various countries and regions
Annual percentage change



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

Sources: The Bureau of Labor Statistics, Eurostat, national sources, Office for National Statistics and the Riksbank be relatively high, which will contribute to keeping up the price increases. However, the lower oil price will contribute to CPI inflation becoming lower next year, but after this consumer prices are expected to rise by just over 2 per cent per year (Figure 4:5).

In the euro area's largest economy, Germany, unemployment has shown a falling trend since the mid-2000s. Less than 3.5 per cent of the German labour force is now unemployed, which is the lowest level measured since the start of the 1980s. This development has contributed towards holding up wage growth and companies' costs for labour are now rising by over 3 per cent, calculated as an annual rate. In recent years, the labour market situation has moreover improved substantially in Spain and unemployment has also fallen in France and Italy. The higher demand for labour has contributed towards the costs per employee faced by companies having started to rise at a faster rate in the euro area and the forecast shows cost pressures remaining fairly high in the years ahead. As in the United States, the lower oil price means that consumer price growth declines next year, but after this, higher cost pressures will lead inflation to become higher again. In 2020 and 2021, HICP inflation is expected to be 1.6 and 1.7 per cent, respectively (Figure 4:5).

Krona to strengthen in the years ahead

The real krona exchange rate has shown a weakening trend over a long time. The risk of escalated trade conflicts between the United States and the EU has probably contributed to the depreciation over the past year (see Figure 4:6). The Riksbank assesses that the real krona exchange rate is weak compared with the levels justified by long-term factors.[20] This indicates that the exchange rate will strengthen in coming years, both in real and nominal terms. Experiences from earlier periods of interest rate increases also suggest a stronger exchange rate going forward.[21]

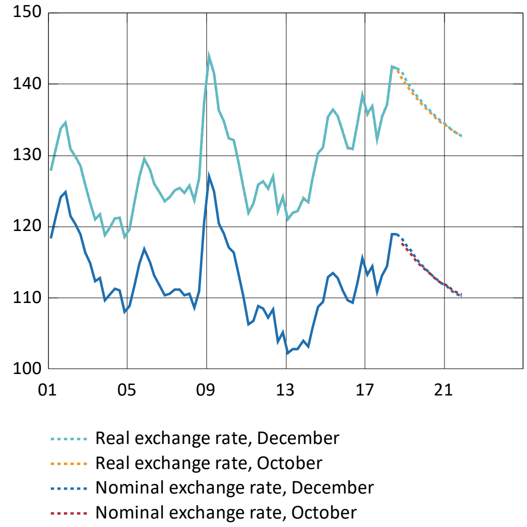
Sweden

Some economic slowdown

Increasingly strong economic activity abroad and high domestic demand, stimulated by an expansionary monetary policy, have contributed to several years of high Swedish growth and to rising resource utilisation. Economic activity has now entered a more mature phase and, in the years ahead, growth is expected to be somewhat lower. This is due both to the slowdown of international growth and the reduction of housing construction from recent years' historically high levels. Household consumption is also expected to grow at a more moderate pace in the period

[20] See the article "Development of the Swedish krona in the longer term" in the Monetary Policy Report from October.
[21] See the article "What usually happens when the repo rate is raised?", in the Monetary Policy Report in October.

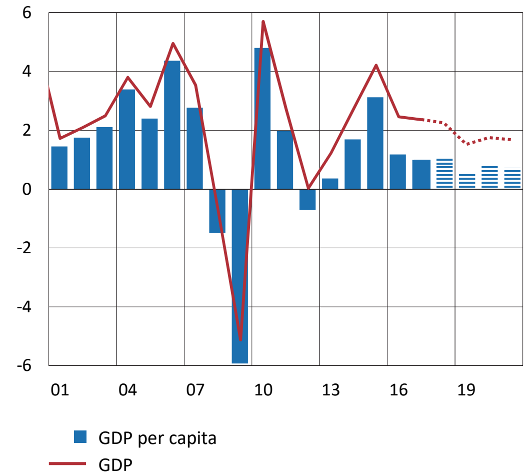
Figure 4:6. Real and nominal exchange rate, KIX
Index, 18 November 1992 = 100



Note. The real exchange rate is calculated using the CPIF for Sweden and the CPI for the rest of the world. The KIX is an aggregate of 32 countries that are important for Sweden's international transactions.

Sources: National sources, Statistics Sweden and the Riksbank

Figure 4:7. GDP and GDP per capita
Annual percentage change, calendar-adjusted data



Sources: Statistics Sweden and the Riksbank

ahead, compared with recent years. Overall, Sweden's GDP is expected to grow by 2.2 per cent this year and then fall to an average of 1.8 per cent a year in 2019–2021 (see Figure 4:7).

Reduced construction is weighing down domestic demand

The high demand for Swedish goods and service has driven up capacity utilisation, in industry, and this has in turn increased the investment need of the business sector. This need will decrease somewhat, however, as demand from abroad grows more slowly. However, over the next few years, investment will mostly be affected by the slowdown in the housing market. The main reason that housing construction will decrease in the period ahead is that the rapid increase in housing prices seen in recent years has stopped. Housing construction increased rapidly between 2013 and 2017, and this also boosted housing supply, albeit with a certain time lag. This, in turn, has led to a slowdown in demand, particularly in the more expensive segment, and the rise in prices has therefore come to a halt. The amortisation requirements, introduced in 2016 and tightened this year, are also deemed to have softened the demand for housing, albeit to a limited extent.

In November, housing prices measured with HOX in seasonally adjusted terms were just under 4 per cent lower than the highest level, recorded in August 2017. The price fall so far is very moderate, compared with the price rise in previous years, and in recent months housing prices have risen again (see Figure 1:12). But it is uncertain how the development of prices will look in the period ahead, and this itself is having a restraining effect on willingness to invest.

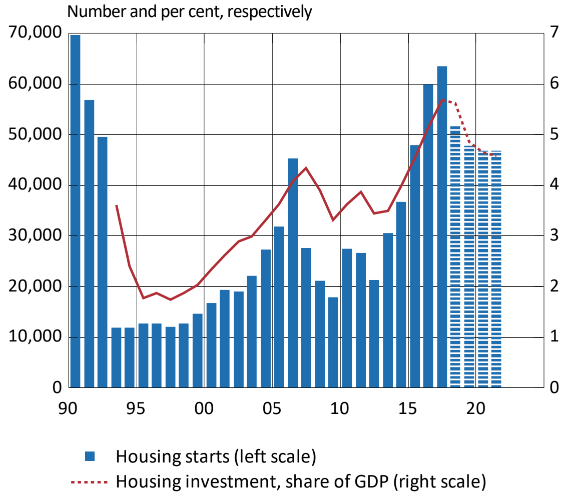
The lower housing prices are expected to lead to significantly lower housing construction in the coming years, compared with the recent years high levels. The downturn is expected to primarily affect the construction of tenant-owned apartments. At the same time, the slowdown in new construction and continued stable demand will facilitate the ongoing stabilisation of prices. Housing investment is assessed on the whole to decline by almost 20 per cent during the years 2018–2021, compared with the level in 2017. This will subdue domestic demand and GDP growth, especially next year. But this should be regarded in the light of the major positive contributions to growth in recent years. During the period 2013 to 2017, housing investment as a percentage of GDP increased, from around 3.5 per cent to just over 5.5 per cent. In the coming years, this percentage is expected to fall by around one percentage point to just over 4.5 per cent (see Figure 4:8).

Moderate growth in household consumption

The fall in prices on the housing market has also had a certain impact on household consumption, above all because confidence in the development of the economy in the period ahead has become slightly weaker. Purchases of durable

Figure 4:8. Housing starts and housing investments

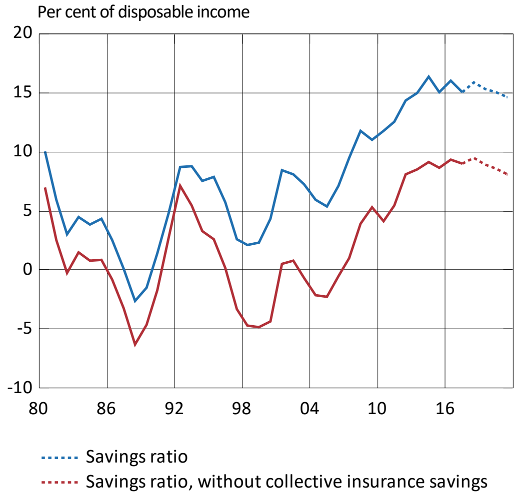
Number and per cent, respectively



Sources: Statistics Sweden and the Riksbank

Figure 4:9. Household savings

Per cent of disposable income



Note. Collective insurance savings consist of savings households do not control themselves, e.g. premium pension and collective agreements insurances.

Sources: Statistics Sweden and the Riksbank

goods, such as cars, has slowed down recently, compared with the strong development seen in recent years.

Next year, taxes on work and pensions will be cut, which will contribute to higher disposable incomes. But higher mortgage rates and lower employment growth will nevertheless mean that disposable incomes grow more slowly going forward (see the article "How are household cashflows and consumption affected by rising interest rates?"). Households have for a long period of time been saving a large portion of their incomes and will reduce their saving to some extent to maintain an even growth in consumption (see Figure 4:9). All in all, consumption will show somewhat slower growth than normal in the coming years and household savings are somewhat higher than in the assessment in the Monetary Policy Report from October.

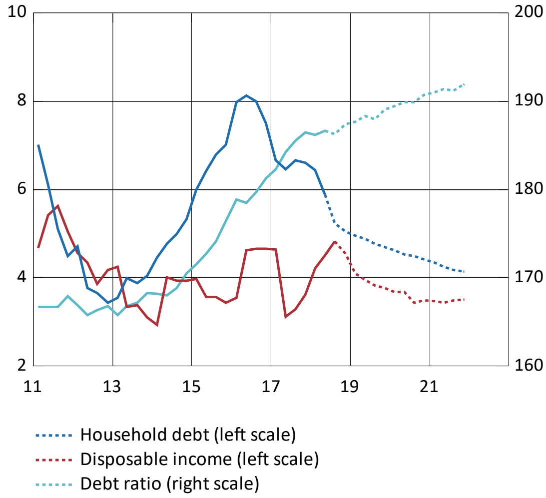
Debt rising at a slower rate

Despite the price downturn on the housing market, household debt will continue to increase, albeit at a slower pace. Several factors are expected to contribute to a further weakening in debt growth going forward. Firstly, interest rate on households' loans will rise as monetary policy is made less expansionary and this will reduce the willingness of households to take out new loans. Secondly, housing construction will decrease, causing a reduction in borrowing to fund new homes. At the same time, the amortisation requirements will cover an increasing number of households.[22] One important reason why debt is nevertheless growing more rapidly than household income is because earlier price increases still mean that a typical home-buyer is paying a higher price and borrowing a greater amount than the previous owner.[23] Another reason that can contribute to continued build-up of debt is that some households are increasing their debt by borrowing with their existing home as collateral, even if they do not move home. At the end of 2021, the debt-to-income ratio is expected to be just over 190 per cent (see Figure 4:10).

Historically high employment rate

Developments on the labour market have been strong for several years and the employment rate has risen to historically high levels (Figure 4:11). The supply of labour has increased rapidly both due to rising population growth and because an increasing proportion of the population have chosen to participate in the labour force. However, during the years ahead, the working-age population is expected to increase at a slower rate, thereby slowing the growth of the labour force. One reason for this lower growth is that

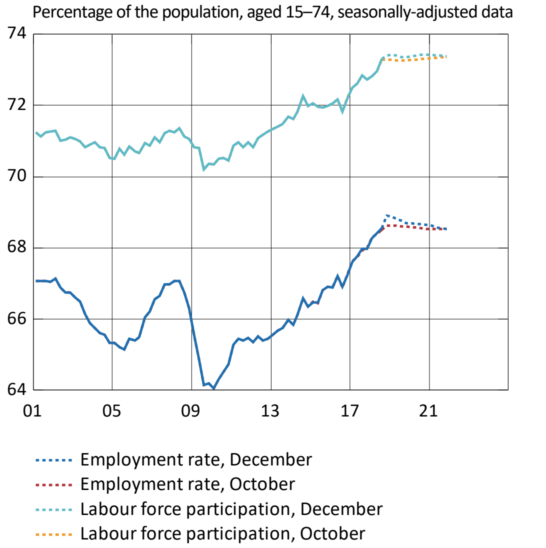
Figure 4:10. Household debts and disposable income
Annual percentage change and per cent of disposable income, respectively



Note. Households' total debts as a share of their disposable incomes summed over the past four quarters.

Sources: Statistics Sweden and the Riksbank

Figure 4:11. Employment rate and labour force participation
Percentage of the population, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

[22] As the housing stock is sold at higher price levels, more and more households will be subject to the amortisation requirements.
[23] For a discussion of how to interpret debt growth based on developments on the housing market, See R. Emanuelsson, G. Katinic and E. Spector, "Developments on the housing market and their contribution to household debt", Economic Commentaries no. 14 2018, Sveriges Riksbank.

immigration is expected to be lower. Another is a changed age structure in the Swedish-born population. Over the next few years, the proportion of young people and older people in the population will grow, thus lowering the proportion of the population of working age.

The strong economic situation has meant that demand for labour is also high and employment is expected to increase by almost 2 per cent this year. Resource utilisation in the labour market is deemed to be higher than normal and is expected to continue to be fairly high in the years ahead (see Figure 4:12). The number of persons employed is expected to increase at a slower pace in the period ahead and unemployment will rise somewhat (see Figure 4:13).

Wage growth increases

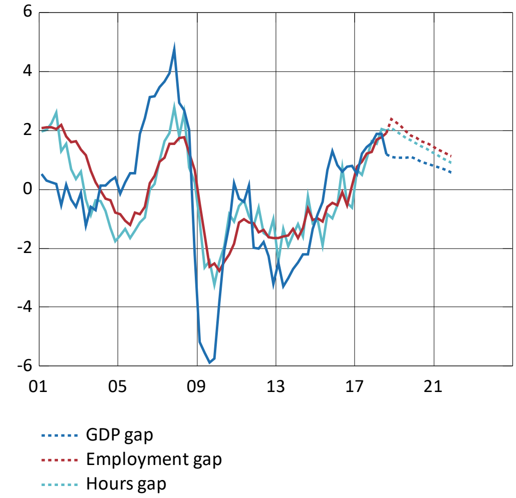
Wage growth has been low in recent years, in relation to both a historical average and the economic situation. Weak productivity growth over the last ten years has restricted the scope for wage increases while wage growth has also remained low abroad. In recent months, wage growth has once again been slightly lower than expected and the forecast is revised down somewhat. However, wages have increased at a faster pace in 2018 compared with previous years, especially in the business sector, and the upturn is expected to continue in the years ahead. This is indicated by a number of factors. The labour market situation is strong, inflation has risen and inflation expectations appear to have been established around the inflation target of two per cent. In addition, wages are increasing at an increasingly rapid rate internationally (see Figure 4:3), at the same time as productivity growth is expected to rise gradually. This increases the scope for higher wage increases going forward (see Figure 4:14).

Unit labour costs are expected to increase at a slightly faster rate in the coming year, compared with the assessment made in the Monetary Policy Report in October (see Figure 4:15). The reason for this is that productivity growth has been lower than expected. For 2020 and 2021, the forecasts for productivity and labour costs per hour are about the same as in the October report. This means that unit labour costs are expected to increase by around 2 per cent a year during the forecast period, which is a relatively normal rate of increase (see Figure 4:15).

Higher cost pressures in the years ahead

When economic activity enters a more mature phase, it is normal for cost pressures to be high in the following years, even though GDP growth becomes lower. Resource utilisation affects cost pressures via different channels and wages form one such important channel. Higher demand for labour gradually leads to faster wage growth and a subsequent rise in corporate expenses. But it normally takes quite a long time, between one and two years, before these effects via cost

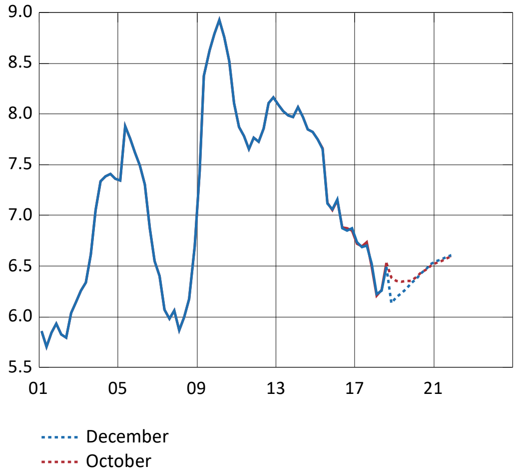
Figure 4:12. GDP gap, employment gap and hours gap
Per cent



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

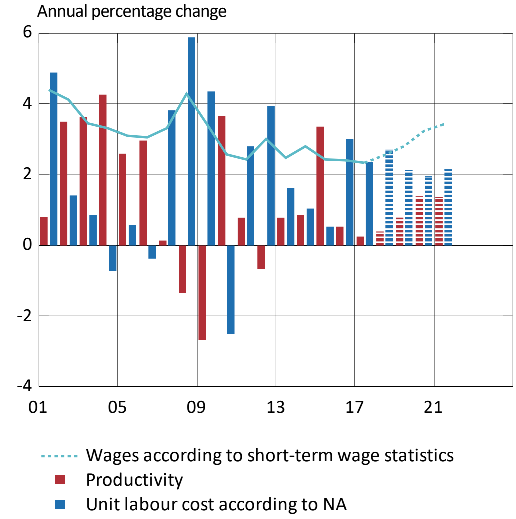
Sources: Statistics Sweden and the Riksbank

Figure 4:13. Unemployment
Per cent of the labour force, 15–74 years, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 4:14. Wages and labour costs in the whole economy
Annual percentage change



Sources: National Mediation Office, Statistics Sweden and the Riksbank pressures have their full impact on prices in the consumer channel. The time lag is illustrated in Figure 4:16, which shows one of the Riksbank's measures of resource utilisation, the RU indicator, together with inflation measured in terms of the CPIF excluding energy. In the figure, the RU indicator is lagged six quarters to clarify the covariation with inflation. As is clear from the figure, there is no exact link between resource utilisation and price growth but, despite everything, there is a clear pattern here: rising resource utilisation normally leads after one or two years to inflation also becoming higher.

The time lag between resource utilisation and its impact on price growth has consequences for monetary policy. In the forecast, gradual increases in the repo rate will contribute to a normalisation of the economic situation and will help to ensure that the future effects of resource utilisation on cost pressures are not excessive.

Minor revisions to the inflation forecast

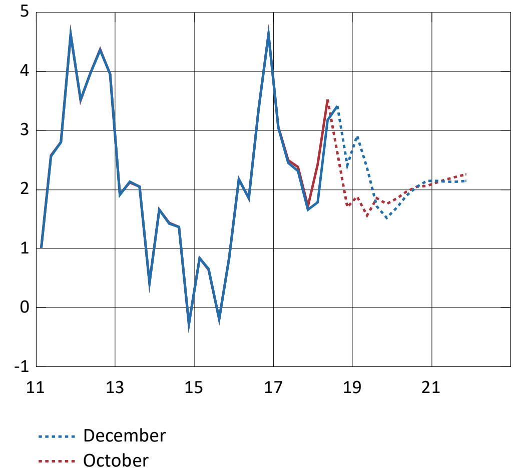
Inflation has been clearly below the Riksbank's inflation target for a number of years, but several different factors have recently contributed to higher price growth. Economic activity in Sweden has strengthened and the krona has depreciated, something which has contributed to higher prices for imported goods and food. More recently, rising energy prices have also helped push up inflation. CPIF inflation has therefore been close to the inflation target of 2 per cent over the past two years.

In November, CPIF inflation amounted to 2.1 per cent. Different measures of core inflation are lower, however, and the median value of several such measures was 1.6 per cent in November. CPIF inflation excluding energy amounted to 1.4 per cent in November and this was lower than the forecast in the Monetary Policy Report from October. But, during the coming six months, an upturn is expected in core inflation as a result of higher rent increases and the effects on consumer prices of earlier krona depreciations. Moreover, the dry summer means that food prices are expected to rise faster in the coming months.

Even though inflation has been lower than expected, the assessment is that conditions remain good for inflation to remain close to 2 per cent. In the years ahead, the exchange rate is expected to appreciate at the same time as energy prices are expected to increase at a much slower rate, compared with developments in recent years. Going forward, both these factors will have a dampening effect on inflation. But economic activity is strong and the forecast is that resource utilisation will remain high in the coming years, although it is assessed to be somewhat lower than was forecast in the October Monetary Policy Report. The high resource utilisation is also expected to have an impact on cost pressures going forward. Unit labour costs are now expected to rise somewhat faster in the coming year than was previously assessed.

Figure 4:15. Unit labour cost

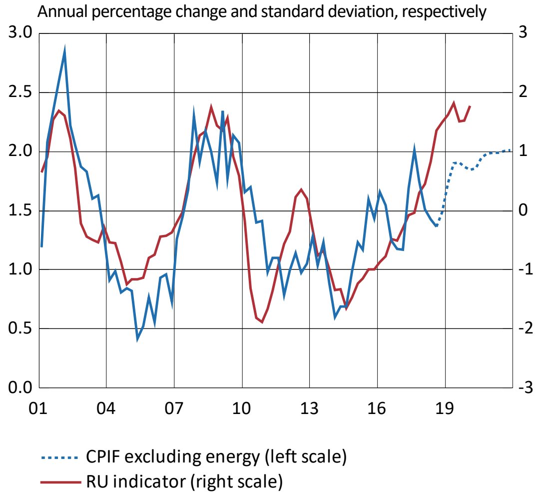
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 4:16. CPIF excluding energy and the RU indicator

Annual percentage change and standard deviation, respectively

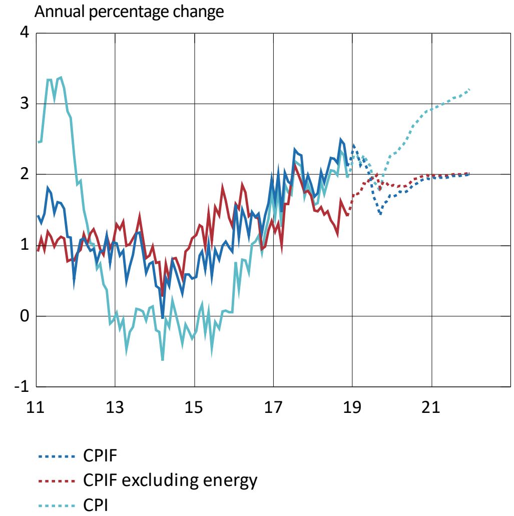


Note. The RU indicator is lagged 6 quarters and is a measure of resource utilisation. It is normalised so that the mean value is 0 and the standard deviation is 1.

Sources: Statistics Sweden and the Riksbank

Figure 4:17. CPIF, CPIF excluding energy and CPI

Annual percentage change

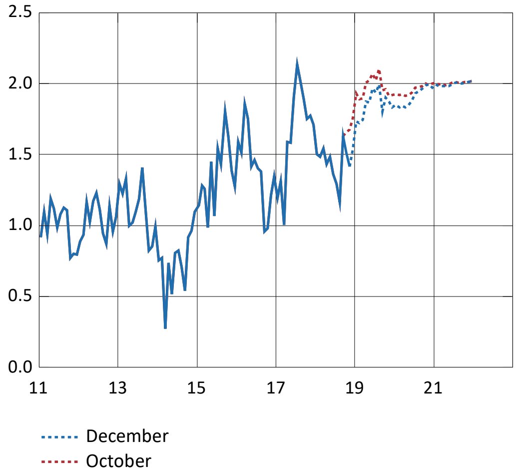


Sources: Statistics Sweden and the Riksbank

All in all, these factors mean that inflation measured in terms of the CPIF excluding energy will rise and be close to 2 per cent over the forecast period (see Figure 4:17). When the repo rate and mortgage rates rise, household interest expenditure will increase faster, causing CPI inflation to be significantly higher than CPIF inflation. In 2021, the CPI is expected to increase by around 3 per cent.

The forecasts for CPIF inflation and CPIF inflation excluding energy have been revised down somewhat for 2019 and 2020 (see Figures 1:5 and 4:18). This is primarily a result of the lower outcomes for inflation in recent months, but also due to somewhat lower indirect taxes contributing to a downward revision.

Figure 4:18. CPIF excluding energy
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Tables

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

Table 1. Repo rate forecast

Per cent, quarterly averages

	Q3 2018	Q4 2018	Q1 2019	Q4 2019	Q4 2020	Q4 2021
Repo rate	−0.50	−0.50 (−0.50)	−0.27 (−0.33)	−0.02 (0.09)	0.48 (0.66)	0.98 (1.23)

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2017	2018	2019	2020	2021
CPIF	2.0 (2.0)	2.1 (2.2)	1.9 (2.1)	1.8 (1.9)	2.0 (2.0)
CPIF excl. energy	1.7 (1.7)	1.4 (1.5)	1.9 (2.0)	1.9 (2.0)	2.0 (2.0)
CPI	1.8 (1.8)	2.0 (2.0)	2.1 (2.6)	2.6 (2.9)	3.1 (3.2)
HICP	1.9 (1.9)	2.0 (2.1)	1.8 (2.1)	1.8 (1.8)	1.9 (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

	2017	2018	2019	2020	2021
Repo rate	−0.5 (−0.5)	−0.5 (−0.5)	−0.2 (−0.1)	0.3 (0.4)	0.8 (1.0)
10-year rate	0.7 (0.7)	0.7 (0.7)	1.1 (1.4)	1.9 (2.1)	2.5 (2.7)
Exchange rate, KIX, 18 November 1992 = 100	112.9 (112.9)	117.6 (117.5)	116.0 (115.6)	113.0 (112.9)	110.9 (111.1)
General government net lending*	1.5 (1.6)	0.9 (0.9)	0.7 (0.9)	0.6 (0.7)	0.5 (0.7)

* 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	2017	2018	2019	2020	2021
Euro area	0.11	0.48	2.5 (2.5)	1.9 (1.9)	1.5 (1.6)	1.6 (1.6)	1.5 (1.5)
USA	0.15	0.09	2.2 (2.2)	2.9 (2.8)	2.6 (2.6)	2.0 (2.0)	1.6 (1.6)
Japan	0.04	0.02	1.9 (1.7)	0.7 (1.1)	0.8 (1.1)	0.5 (0.4)	0.9 (0.9)
China	0.19	0.09	6.9 (6.9)	6.6 (6.6)	6.0 (6.0)	6.0 (6.1)	6.0 (6.0)
KIX-weighted	0.75	1.00	2.9 (2.9)	2.5 (2.6)	2.3 (2.3)	2.2 (2.2)	2.1 (2.1)
World (PPP-weighted)	1.00	—	3.7 (3.7)	3.7 (3.8)	3.6 (3.6)	3.7 (3.7)	3.6 (3.6)

Note. Calendar-adjusted growth rates. The PPP weights refer to the global purchasing-power adjusted GDP weights for 2018, according to the IMF. KIX weights refer to weights in the Riksbank's krona index (KIX) for 2018. 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	2017	2018	2019	2020	2021
Euro area (HICP)	1.5 (1.5)	1.8 (1.8)	1.4 (1.9)	1.6 (1.6)	1.7 (1.7)
USA	2.1 (2.1)	2.5 (2.5)	1.8 (2.3)	2.3 (2.2)	2.3 (2.2)
Japan	0.5 (0.5)	1.0 (1.1)	1.2 (1.4)	1.9 (1.8)	1.5 (1.5)
KIX-weighted	1.9 (1.9)	2.2 (2.2)	1.9 (2.2)	2.1 (2.0)	2.2 (2.1)

	2017	2018	2019	2020	2021
Policy rates in the rest of the world, per cent	−0.1 (−0.1)	0.1 (0.1)	0.2 (0.2)	0.4 (0.5)	0.7 (0.8)
Crude oil price, USD/barrel Brent	54.8 (54.8)	72.1 (74.9)	62.1 (80.7)	61.9 (76.4)	61.7 (72.4)
Swedish export market	4.9 (5.0)	4.2 (4.2)	4.0 (4.0)	3.6 (3.6)	3.5 (3.5)

Note. Policy rates in the rest of the world refer to a weighted average of USA, the euro area, Norway and the United Kingdom.
Sources: Eurostat, IMF, Intercontinental Exchange, national sources, OECD and the Riksbank

Table 5. GDP by expenditure

Annual percentage change, unless otherwise stated

	2017	2018	2019	2020	2021
Private consumption	2.2 (2.2)	1.4 (2.1)	2.0 (2.2)	2.1 (2.3)	2.0 (2.1)
Public consumption	0.0 (0.0)	0.6 (0.9)	0.5 (1.0)	0.8 (1.1)	0.8 (1.0)
Gross fixed capital formation	6.0 (6.1)	4.3 (2.8)	0.0 (0.1)	2.8 (2.8)	2.8 (2.8)
Inventory investment*	0.1 (0.1)	0.2 (0.4)	−0.1 (0.1)	−0.2 (−0.2)	0.0 (0.0)
Exports	3.2 (3.2)	2.4 (3.2)	3.3 (3.6)	3.7 (3.7)	3.5 (3.5)
Imports	4.8 (4.8)	2.4 (3.4)	2.2 (2.7)	3.3 (3.5)	3.8 (3.8)
GDP	2.1 (2.1)	2.2 (2.3)	1.5 (1.9)	2.0 (2.0)	1.8 (1.8)
GDP, calendar-adjusted	2.4 (2.4)	2.3 (2.4)	1.5 (1.9)	1.8 (1.8)	1.7 (1.7)
Final domestic demand*	2.4 (2.4)	1.8 (1.9)	1.0 (1.2)	1.8 (2.0)	1.8 (1.9)
Net exports*	−0.5 (−0.5)	0.1 (0.1)	0.6 (0.5)	0.3 (0.2)	0.0 (0.0)
Current account (NA), per cent of GDP	3.7 (3.6)	3.2 (3.0)	3.5 (3.2)	3.6 (3.3)	3.5 (3.1)

*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

	2017	2018	2019	2020	2021
Population, aged 15–74	1.1 (1.1)	0.8 (0.8)	0.6 (0.6)	0.5 (0.5)	0.5 (0.5)
Potential hours worked	0.9 (0.9)	0.9 (0.9)	0.8 (0.8)	0.8 (0.8)	0.7 (0.7)
Potential GDP	1.9 (2.0)	1.9 (2.1)	2.0 (2.1)	1.9 (2.0)	1.9 (2.0)
GDP, calendar-adjusted	2.4 (2.4)	2.3 (2.4)	1.5 (1.9)	1.8 (1.8)	1.7 (1.7)
Number of hours worked, calendar-adjusted	2.1 (2.1)	1.8 (1.8)	0.7 (0.6)	0.4 (0.4)	0.3 (0.4)
Employed, aged 15–74	2.3 (2.3)	1.8 (1.7)	1.0 (0.8)	0.4 (0.5)	0.4 (0.5)
Labour force, aged 15–74	2.0 (2.0)	1.4 (1.4)	1.0 (0.8)	0.6 (0.6)	0.5 (0.6)
Unemployment, aged 15–74 *	6.7 (6.7)	6.3 (6.3)	6.3 (6.4)	6.5 (6.5)	6.6 (6.6)
GDP gap **	1.2 (1.2)	1.5 (1.5)	1.1 (1.3)	0.9 (1.1)	0.7 (0.8)
Hours gap **	1.0 (1.0)	1.9 (1.8)	1.8 (1.6)	1.4 (1.3)	1.0 (1.0)

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

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

Sources: Statistics Sweden and the Riksbank

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

Annual percentage change, calendar-adjusted data unless otherwise stated

	2017	2018	2019	2020	2021
Hourly wage, NMO	2.3 (2.3)	2.5 (2.6)	2.8 (2.9)	3.2 (3.3)	3.4 (3.4)
Hourly wage, NA	2.5 (2.5)	2.7 (2.8)	2.8 (2.9)	3.3 (3.3)	3.5 (3.5)
Employers' contribution*	0.0 (0.0)	0.2 (0.3)	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)
Hourly labour cost, NA	2.5 (2.5)	2.9 (3.1)	2.9 (3.0)	3.4 (3.4)	3.5 (0.0)
Productivity	0.2 (0.2)	0.4 (0.6)	0.8 (1.2)	1.4 (1.4)	1.4 (1.3)
Unit labour cost	2.4 (2.4)	2.7 (2.6)	2.1 (1.8)	2.0 (2.0)	2.1 (2.2)

* Contribution to the increase in labour costs, percentage points

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

Sources: National Mediation Office, Statistics Sweden and the Riksbank

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PRODUKTION SVERIGES RIKSBANK.
ISSN 1654-1030 (print)
ISSN 2000-2076 (online))