

Monetary Policy Report

July 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 to conduct.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 produce 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 current Monetary Policy Report is submitted as an account of monetary policy.

The Executive Board made a decision on the Monetary Policy Report on 2 July 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 have a negative effect on confidence in the inflation target. The Riksbank's ambition has generally been to adjust monetary policy so that inflation is expected to be fairly close to the target in two years' time.
- To illustrate the fact that inflation will not always be exactly 2 per cent each month, a variation band is used that 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 imbalance in 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

Swedish inflation on target, uncertain international situation 5

Current monetary policy 7

Uncertainty and risks 9

ARTICLE – The Phillips curve and monetary policy 13

CHAPTER 2 – Financial conditions 17

International developments 17

Financial conditions in Sweden 20

CHAPTER 3 – The current economic situation 23

Inflation in Sweden 23

Global and Swedish economic activity 24

CHAPTER 4 – The economic outlook and inflation prospects 29

International outlook 29

Sweden 31

Tables 36

CHAPTER 1 – Monetary policy considerations

Economic developments abroad remain favourable. The overall prospects for global economic activity remain largely unchanged since the Monetary Policy Report in April, even if uncertainty has increased as a result of, for example, increased trade restrictions and economic policy developments in Italy. In Sweden, economic activity is high, the labour market remains strong and inflation is on target. The krona exchange rate has developed more weakly than expected and together with more rapid energy price increases, this will contribute to higher CPIF inflation in the year ahead compared with the previous assessment. Further ahead, however, the forecast for CPIF inflation is unchanged.

One important condition for inflation to remain close to 2 per cent is that monetary policy continues to be expansionary. This is underlined by the fact that measures of underlying inflation, which provide an indication of where inflation is heading, suggest that inflationary pressures are still moderate. The Executive Board has therefore decided to hold the repo rate unchanged at –0.50 per cent. The forecast for the repo rate is also unchanged and indicates as before that slow repo rate rises will be initiated towards the end of the year. Reinvestments of redemptions and coupon payments in the government bond portfolio will continue until further notice, in accordance with previous decisions. 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.

Swedish inflation on target, uncertain international situation

GDP growth abroad (aggregated with the weights in the KIX krona index) was almost 3 per cent last year and economic activity has improved in most countries. Economic developments abroad remain favourable even though 2018 began with slightly weaker growth rates. The upturn in global trade, as well as confidence among households and companies, has softened slightly from high levels but this development is deemed partly to be an effect of temporary factors and not a sign of clear deterioration in economic activity. However, uncertainty has increased regarding, for example, increased trade restrictions and economic policy developments in Italy, which have also caused fluctuations in financial markets in recent times. In an environment where interest rates abroad are rising, there is also uncertainty regarding developments in several emerging market economies. So far, the increased uncertainty is deemed to have had only marginal effects on the global economy. However, it is difficult to quantify in a forecast how these risks may affect future developments.

During the first half of 2018, a higher oil price has contributed to rising inflation in both Sweden and large parts of the world. However, measures of underlying inflation are subdued and even though global inflation is expected to rise slightly, it is deemed to remain relatively moderate in the years ahead. This is an important reason why the normalisation of international monetary policy is occurring slowly - even if central banks are in

Table 1.1.

Important factors for monetary policy
International economic activity is strengthening but uncertainty has increased. Moderate increase in global inflation and slow normalisation of monetary policy abroad.
The krona exchange rate is expected to strengthen gradually in the years ahead.
Resource utilisation in Sweden is still higher than normal.
Inflation expectations compatible with the inflation target, CPIF inflation close to 2 per cent but moderate underlying inflation.
Conclusion: Monetary policy needs to remain expansionary for inflation to be close to target. The repo rate is held unchanged at –0.50 and as in April, slow repo rate increases are expected to be initiated towards the end of the year. Reinvestments of redemptions and coupon payments in the Riksbank's bond portfolio will continue. The mandate that facilitates a rapid intervention on the foreign-exchange market is being extended.

Table 1.2.

Important forecast revisions
Higher oil prices going forward in line with futures prices.
Weaker krona throughout the forecast period.
Higher inflation in the year ahead, as a result of a more rapid rate of increase in energy prices and a weaker krona.

different phases. The Federal Reserve is making monetary policy gradually less expansionary with policy-rate rises and a tapering of asset holdings, while the European Central Bank (ECB) continues to increase its asset holdings. The ECB has communicated that it expects net asset purchases to be concluded in December, but that policy rates will continue at current levels at least until the end of the summer of 2019. Market pricing has therefore been adjusted so that the ECB is expected to increase its policy rate slightly later and at a slower pace in the coming years compared with the assessment in April. The financial conditions abroad and in Sweden are still expansionary and households and companies still meet low interest rates.

The economic situation in Sweden is strong and growth has been high for several years (see Figure 1:2). Very low interest rates and good development in Swedish export markets have contributed. Favourable funding terms have also contributed to substantially increased housing construction. In the forecast, GDP growth abroad is expected to fall to a pace more in line with a long-term trend while housing construction in Sweden declines. This means that Swedish growth will also decline in the coming years to historically more normal growth rates. Overall, GDP is expected to grow by just over 2.5 per cent this year and then increase by about 2 per cent a year in 2019 and 2020.

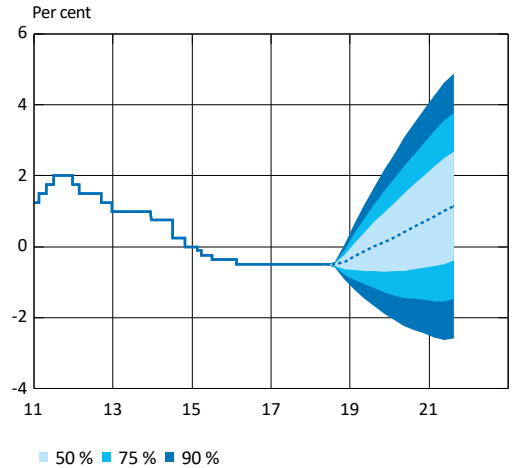
Developments on the labour market have been very strong for several years. Labour supply has increased rapidly as a result of both high growth in the population and an upturn in the labour force participation rate. The employment rate has been rising and unemployment has been falling for almost five years. In May, seasonally adjusted unemployment was 6.1 per cent. The inflow into the population and the labour force still largely consists of people who will probably have a relatively weak connection to the labour market. For instance, in many cases these are people who lack upper-secondary school education. To further reduce unemployment significantly, a number of different economic policy measures are required in addition to the expansionary monetary policy. The Riksbank expects unemployment to increase slightly in the years ahead.

Resource utilisation is deemed to be higher than normal. Considerable shortages and long recruitment times suggest that companies are having difficulties finding the staff they seek. All in all, resource utilisation on the labour market, and in the economy as a whole, is expected to rise further this year and continue to be higher than normal in the years ahead. A high level of resource utilisation on the labour market has contributed to wage growth beginning to rise, and this is expected to continue in the period ahead.²

Inflation has trended upwards in recent years (see Figure 1:3). The upturn is primarily deemed to be a result of rising resource utilisation, which has made it easier for companies to raise their prices. Another contributory factor is the weaker krona, which

² For a discussion on the correlation between resource utilisation, wages and inflation, see also the article "The Phillips curve and monetary policy" in this report.

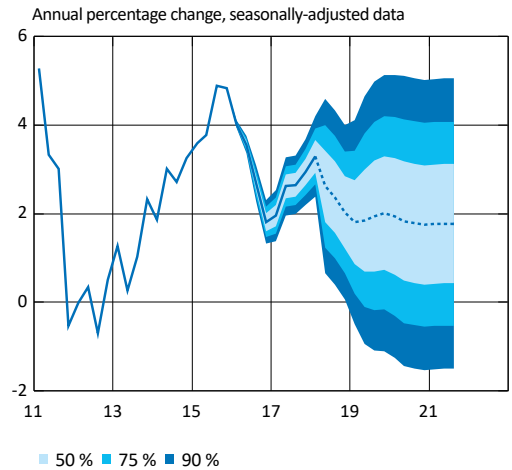
Figure 1:1. Repo rate with uncertainty bands



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

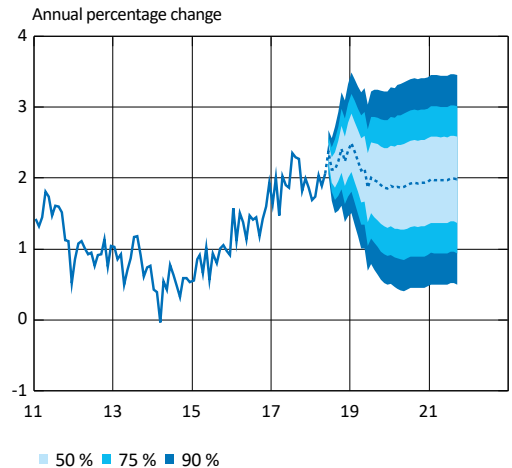
Figure 1:2. GDP with uncertainty bands



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. CPI with uncertainty bands



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

Sources: Statistics Sweden and the Riksbank

has exerted upward pressure on the prices of imported goods and services. In the coming years, rising inflation abroad and high resource utilisation in Sweden are expected to contribute to inflationary pressures. At the same time, the krona is expected to strengthen gradually, subduing the rate of inflation. The cyclical conditions for the development of inflation are deemed to be largely unchanged compared with the previous Monetary Policy Report, while the expectation is that the krona will be weaker and energy prices will increase more rapidly. Inflation will therefore be slightly higher in the year ahead and then be approximately unchanged compared with the previous forecast. Overall, it is the Riksbank's assessment that inflation will be close to 2 per cent in the next few 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.³ Since 2014, inflation has risen and over the past year, it has been close to the target. Both short- and long-term inflation expectations have also risen and they are also close to 2 per cent (see Figure 3:5). Monetary policy has helped strengthen economic activity and reduce unemployment.

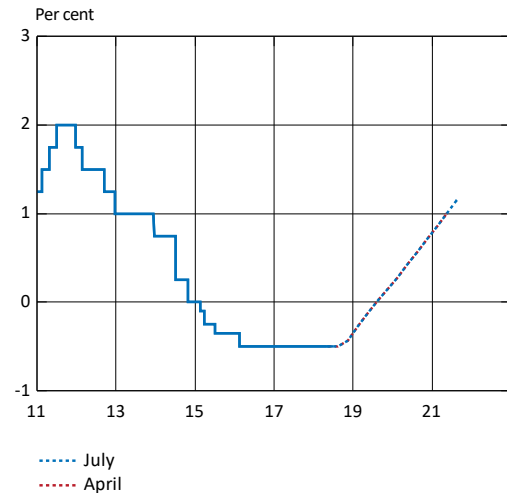
Expansionary monetary policy for continued on-target inflation going forward

Certain question marks about the strength of international economic activity in the period ahead are reflected in short-term indicators. But economic activity has continued to strengthen both in Sweden and abroad and the overall economic prospects remain largely unchanged. Inflation has been slightly higher than expected and as a result of rapidly rising energy prices and a weaker krona, the forecast for CPIF inflation has been revised up for the year ahead to just above 2 per cent. In the slightly longer term, the forecast for inflation is unchanged.

How the krona develops has bearing on inflation. The exchange rate is expected to strengthen gradually in the coming years but the forecast is associated with uncertainty. It is important that the krona exchange rate develops in a manner compatible with inflation remaining close to target.

Measures of underlying inflation, which provide an indication of where inflation is heading, suggest that inflationary pressures are still moderate. For inflation to remain close to 2 per cent, it is important that economic activity continues to be strong and has an impact on price increases. Monetary policy therefore needs to continue to be expansionary and the Executive Board has decided to hold the repo rate unchanged at -0.50 per cent. The forecast for the repo rate is also unchanged and indicates that slow repo rate rises will be initiated towards the end of the year (see Figure 1:4). The Riksbank's strategy for the gradual

Figure 1:4. Repo rate



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

Source: The Riksbank

The inflation target and measures of underlying inflation

The inflation target is formulated in terms of the CPIF, and monetary policy is normally focused on inflation being close to target a few years ahead. This is why monetary policy is based on forecasts for CPIF inflation. Inflation is constantly affected by temporary price movements, that have little significance for the development of inflation in the longer term. To gain a better understanding of the trend, or underlying inflation, the Riksbank also analyses other measures of inflation than CPIF. Measures of underlying inflation provide an indication of where inflation is heading in the slightly longer term.

Many central banks use measures of underlying inflation in their analysis and communication but there is no uniform definition of the concept. It is common to construct measures of underlying inflation by excluding individual components, whose price changes are deemed to be temporary, from the normal inflation measure. As these temporary variations tend to cancel each other out over time, a more even time series is derived that can reflect underlying inflation in a better way.

An example of a component that often varies considerably and hence has a major impact on the measured rate of inflation, is energy prices. Changes in energy prices may have effects on inflation that are not merely temporary, however. A more lasting strengthening in global economic activity often leads to a trend of higher energy prices. An increase in energy prices can also result in higher prices of other products, thereby gradually affecting wages and inflation expectations as well. As with other measures of underlying inflation, a measure that excludes energy prices should therefore only be seen as an indicator.

Another way of measuring underlying inflation is to use statistical methods to exclude or lessen the significance of prices that have historically been seen to vary sharply. The Riksbank's measures TRIM85 and UND24 are examples of this, but the Riksbank also regularly calculates other measures.

Inflation measured in terms of the CPIF has been close to the target of 2 per cent over the last year while several measures of underlying inflation declined during the second half of last year. The Riksbank sees this as an indication that trend inflation is lower than CPIF inflation and that continued expansionary monetary policy is needed to keep CPIF inflation close to 2 per cent going forward.

³ See the article "The effects of monetary policy on financial variables" in Monetary Policy Report, April 2017.

normalisation of monetary policy involves continuing to reinvest redemptions and coupon payments in the government bond portfolio for some time after the increases in the repo rate have begun.⁴

At the end of June, the Riksbank's government bond holdings amounted to about SEK 330 billion, expressed as a nominal amount (see Figure 1:5).⁵ Until further notice, redemptions and coupon payments will be reinvested in the government bond portfolio. In December 2017, the Executive Board decided to bring forward reinvestments of the large redemptions that are due during the first half of 2019. The Riksbank already started reinvestments in January and these will continue until the middle of 2019 (see Figure 1:6). This means that the Riksbank's holdings of government bonds will increase temporarily in 2018 and the beginning of 2019.

The Executive Board has also taken a decision to extend the mandate that facilitates rapid intervention on the foreign-exchange market until February 2019. Inflation is close to the target of 2 per cent and the krona exchange rate has weakened over the last year. But in the years ahead, it is expected to strengthen (see Figure 1:7) and the exchange rate is still a source of uncertainty as regards the development of inflation. An excessively rapid appreciation of the krona would make it more difficult for the Riksbank to stabilise inflation.

Just as in many other countries in the world, Swedish monetary policy is expansionary and will remain so in the coming years. For example, the real repo rate is expected to be negative throughout the forecast period (see Figure 1:8).

Monetary policy considerations

The Swedish economy continues to develop strongly with a level of resource utilisation that is higher than normal and a CPIF inflation rate that has been close to 2 per cent for some time.

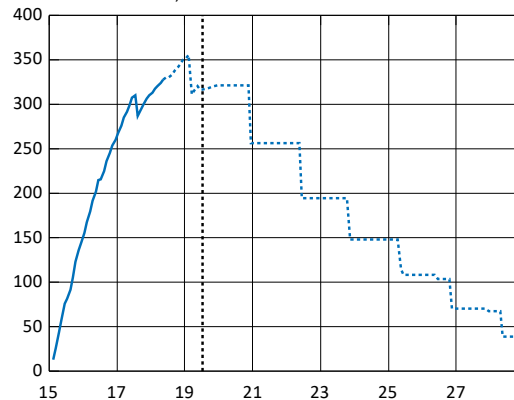
Both short- and long-term inflation expectations are also compatible with the inflation target. Compared with the Monetary Policy Report in April, inflation is now expected to be higher in the year ahead and be just above target (see Figure 1:9). This could be an argument in favour of making monetary policy slightly less expansionary, for example by increasing the repo rate slightly earlier than in the Riksbank's forecast.

But it has taken time to bring up inflation and inflation expectations and there are also factors that could speak for making monetary policy slightly more expansionary by, for example, delaying repo rate increases. Uncertainty about developments abroad, especially regarding trade conditions, has increased and expectations have shifted towards a slightly more expansionary monetary policy in the euro area. If monetary policy in Sweden were to normalise too early, it could lead to a more rapid appreciation of the krona and lower inflation.

⁴ See the article "The Riksbank's strategy for a gradual normalisation of monetary policy" in Monetary Policy Report, December 2017.

⁵ In addition to purchases made since 2015, the holdings also include the portfolio built up during 2012 and reinvestments of redemptions and coupon payments.

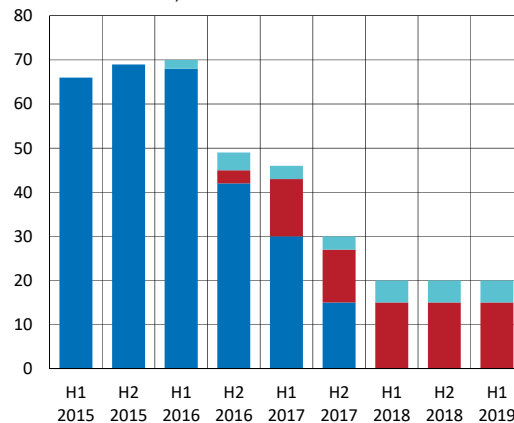
Figure 1:5. The Riksbank's holdings of government bonds
Nominal amounts, SEK billion



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

Figure 1:6. The Riksbank's purchases and reinvestments
Nominal amounts, SEK billion

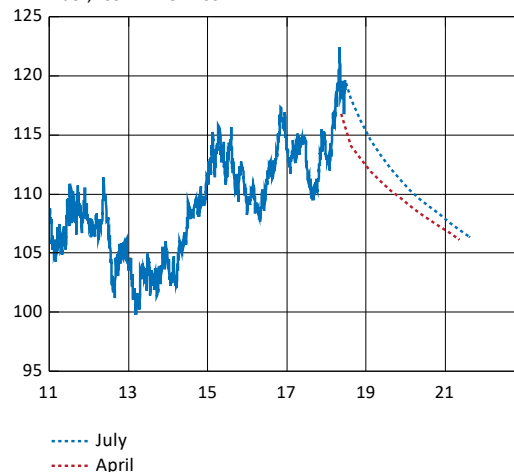


■ New purchases ■ Reinvestments of coupons
■ Reinvestments of redemptions

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

Source: The Riksbank

Figure 1:7. Competition-weighted nominal exchange rate, KIX
Index, 1992-11-18 = 100



--- July
--- April

Note. Outcomes are daily rates and forecasts refer to quarterly averages. KIX refers to an aggregate of countries that are important for Sweden's international transactions.

Sources: National sources and the Riksbank

Overall, the Executive Board deems it appropriate to keep monetary policy unchanged. As previously, wage growth and various measures of underlying inflation suggest that inflationary pressures in the economy are moderate. Monetary policy therefore needs to proceed cautiously to keep inflation close to target. In addition, the upward revision of the forecast in the shorter-term perspective is primarily associated with energy prices temporarily rising more rapidly. And in the slightly longer term, the inflation forecast is unchanged. The repo rate is therefore being left unchanged at -0.50 per cent and as in April, the repo rate forecast indicates that slow increases will be initiated towards the end of the year. If the conditions for inflation were to change, so that it becomes higher or lower, the Executive Board is prepared to adapt monetary policy.

Uncertainty and risks

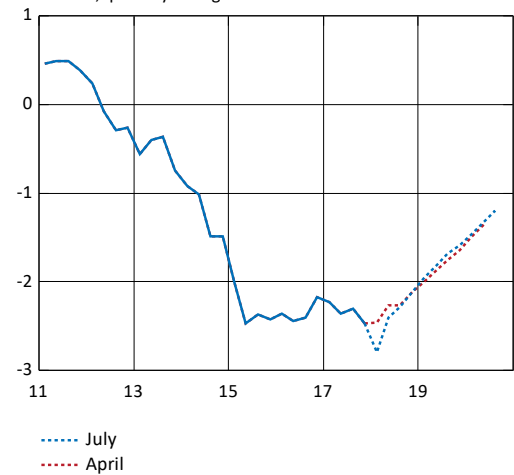
Forecasts of future economic developments are always uncertain, as illustrated by the uncertainty bands in Figures 1:1–1:3. In the Riksbank's forecasts, the risks of more and less favourable developments shall in principle be balanced. It is difficult, however, to assess the likelihood of future events 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.

Uncertainty about growth abroad

Developments in the euro area, Sweden's most important trading partner, are still strong. The Riksbank's previous forecasts underestimated growth in the euro area in 2017, illustrating that stronger growth than in the forecast cannot be ruled out. Confidence among households and companies is high, although it has declined recently. At the same time, uncertainty regarding the forecast has increased. The economic policy situation in Italy is one source of the increased uncertainty. Yields on Italian government bonds rose sharply during the second half of May. One of several explanations for the yield upturn is the question mark regarding the sustainability of public finances in Italy should fiscal policy be made more expansionary and national debt once again increased faster than GDP (see Figure 1:10).⁶ This development could, in a worst-case scenario, have consequences for the European Monetary Union. Another related factor that explains the rise in yields is the link to Italian banks, which have substantial holdings of domestic government bonds. However, the institutions charged with managing problem banks in the

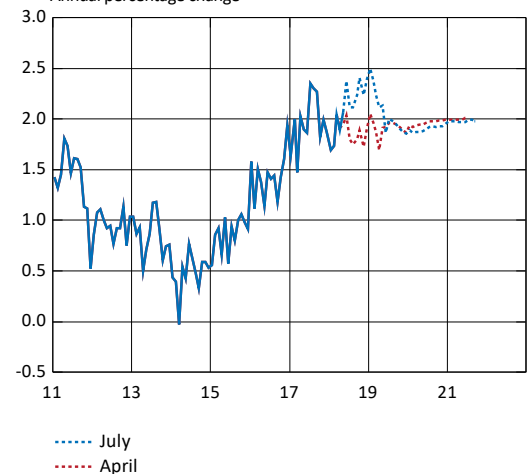
Figure 1:8. Real repo rate
Per cent, quarterly averages



Note. The real repo rate is calculated as the mean of the Riksbank's repo rate forecast for the year ahead minus the inflation forecast (CPIF) for the corresponding period.

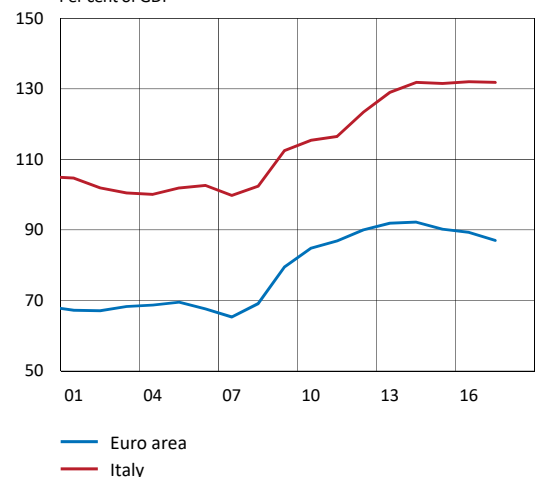
Sources: Statistics Sweden and the Riksbank

Figure 1:9. CPIF
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 1:10. Public gross debt in Italy and the euro area
Per cent of GDP



Note. Refers to consolidated gross debt in the public sector (Maastricht debt).

Source: Eurostat

⁶ For a discussion of which factors affect the assessment of sustainability in a country's public finances, see the article "The sustainable development of public debt?" in the Monetary Policy Report, July 2011.

euro area are significantly better equipped today than when the European sovereign debt crisis broke out in the autumn of 2011. As regards other European risks, uncertainty regarding the effects of the United Kingdom's exit from the EU still lingers.

The recent escalation in the trade conflict between the United States and other countries has significantly increased the uncertainty surrounding the prospects for global trade and international growth. If the conflict escalates further or spreads to even more countries, the effects on international growth risk being greater.⁷

There is also uncertainty as regards developments in several emerging market economies. High inflation, large current account deficits and political risks entail vulnerabilities for these countries in an environment in which international interest rates are increasing and the US dollar is strengthening.

Uncertainty about inflation abroad

Despite strengthened economic activity, inflation remains low in many countries. Against this backdrop, the Riksbank's forecast indicates that the rising level of resource utilisation abroad will only gradually have an impact on inflation, which is hence projected to rise at a slow pace. But the possibility cannot be ruled out that the correlation between resource utilisation and inflation has been more permanently weakened, resulting in inflation rising even more slowly. On the other hand, were inflation to follow historically normal correlations with resource utilisation, international inflation could instead be higher than in the Riksbank's forecast.

Recently rising oil prices have led to the forecast for inflation abroad being revised up in the near term but not in the longer term. The possibility that the oil price will continue to rise or have more lasting effects on inflation abroad cannot be ruled out. This is also a factor that could lead to higher international inflation than in the Riksbank's forecast.

Housing market posing significant risks to growth in Sweden

The Riksbank has been discussing the risks on the Swedish housing market for a long time. Since the autumn of 2017, housing prices have fallen in Sweden, but the price fall has recently come to a halt (see Figure 1:11). As before, the Riksbank's assessment is that prices are starting to stabilise and will then rise at a moderate pace in the period ahead. But the lower housing prices are nevertheless expected to subdue housing investment and GDP growth, particularly in 2019. There are now also signs that confidence among Swedish households has been slightly negatively affected by the slowdown in the housing market (see Figure 3:8). Nevertheless, the downturn that has occurred so far is not expected to have any significant effects on the development of consumption in the years ahead.

However, uncertainty over price developments in the housing market is considerable, and a greater price fall cannot be

Side-effects of monetary policy

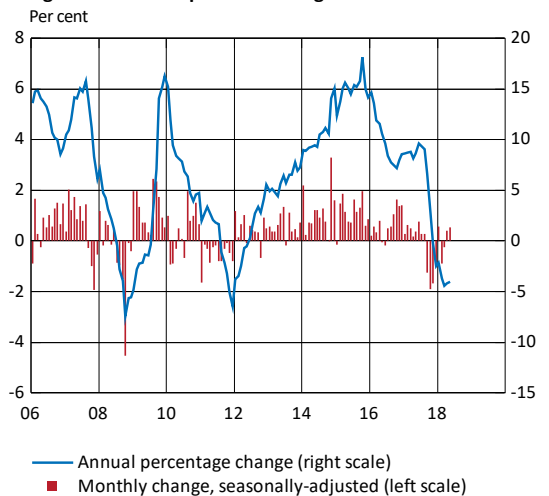
There is apprehension that the monetary policy conducted in recent years may lead to undesirable side-effects. The Riksbank continuously analyses the effects of the negative repo rate and the extensive bond purchases.

The profitability of Swedish banks has been high and stable in recent years despite low and negative interest rates. Neither do the negative interest rates seem to have led to an increased demand for cash; on the contrary, demand is lower than when the repo rate first became negative. It is still only a small portion of deposits that take place at negative interest rates and then only from certain companies and parts of the public sector.

Another possible consequence of low and negative interest rates is that they can create incentives for excessive 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. It is therefore important to increase households' resilience in different ways and limit the risks of their high indebtedness.

Another possible side-effect is that the functioning of the financial markets may be impaired by the negative interest rate and government bond purchases. So far, the markets have been able to manage negative rates without much friction. Turnover on the government bond market has fallen in recent years, probably due in part to the fact that the Riksbank's bond purchases have led to a decrease in the volume of bonds available for trading on the market. But other circumstances, such as new financial regulations, may also have affected turnover. Compared with the previous year, market makers on the government bond market say that market liquidity has deteriorated while Swedish and foreign investors judge that there has been no significant change. The Riksbank is closely monitoring developments by, for example, having regular contacts with relevant participants.

Figure 1:11. House prices according to HOX Sweden



Sources: Valueguard and the Riksbank

⁷ See the box "Increased trade barriers and the Riksbank's forecast: an update" in chapter 4 in this report.

ruled out. This could dampen housing investment substantially more than in the Riksbank's forecast, and also have a significantly negative effect on household consumption.

Uncertainty surrounding the inflation forecast

As described above, inflation abroad can be both higher and lower than in the Riksbank's forecast. Historical correlations suggest that lower international inflation will also, all other factors being equal, lead to lower inflation in Sweden, and vice versa when inflation abroad rises.⁸

Recently rising oil prices are expected to contribute to higher inflation in the year ahead both abroad and in Sweden. The Riksbank's forecast assumes that energy prices will increase significantly more slowly in the period ahead than they have recently. A risk is if energy prices increase more rapidly than is assumed in the forecast or if the price increases that have already occurred have a more lasting effect on inflation and inflation expectations.

Changes in the krona exchange rate are as always difficult to forecast. The Riksbank's forecast predicts a strengthening of the krona. A more rapid appreciation of the krona than expected would further dampen import prices, making it more difficult to stabilise inflation around the target. The problems could be particularly serious if confidence in the inflation target were to once again weaken through falling inflation expectations. The krona may also be weaker than in the Riksbank's forecast, as has been the case this year. This could then contribute to higher import prices and higher inflation than in the forecast.

Prices for services are affected to a large extent by domestic cost pressures. The slowdown in the rate of increase in service prices illustrates the uncertainty surrounding the strength of the cost pressures and underlying inflation. A circumstance that could lower companies' costs is unexpectedly weak wage development. But cost pressures also depend on productivity development and low wage increases need not therefore lead to lower inflation.⁹

There are signs that wages in the euro area and particularly in Germany are now beginning to increase more rapidly. The parties in the Swedish manufacturing industry place great emphasis in their wage bargaining on competitiveness and cost developments abroad. If wages increase faster abroad, this may also have an impact on wage formation in Sweden.

There are thus a number of factors that could lead to both lower and higher inflation than is now being assumed, and the Riksbank is prepared to adapt monetary policy to ensure inflation is close to the target of 2 per cent. The risks of excessively low inflation merit particular attention, as at the prevailing interest rate levels excessively low inflation is more difficult to manage than excessively high inflation.

Risks of excessively low inflation

Monetary policy has a clear focus: to stabilise inflation around the inflation target of 2 per cent. The inflation target has been an important condition for the, in many ways, favourable developments in the Swedish economy since the mid-1990s. With a shared perception of how prices will develop in the future, it will be easier for economic agents to plan for the long term and the coordination of expectations lays the foundation for efficient price-setting and wage formation.

Persistently below-target inflation increases the risk of economic agents adjusting their expectations and starting to assume that inflation will not return to target even in the longer term. This would have an adverse effect on wage formation, for instance.

With an inflation rate and inflation expectations that are more permanently below target, the nominal interest rate will also be lower on average. This will in turn increase the risk of the repo rate reaching its lower bound, in the same way as if the target were to be lowered. This reduces the Riksbank's scope for cutting the repo rate in the future if inflation becomes low or economic activity wavers. Moreover, too low an inflation rate can make it difficult to adapt real wages between individuals in a company and between different industries, as nominal wages usually rise and are rarely lowered. This can impair the functioning of the labour market and lead to higher unemployment.

⁸ See, for instance, J. Lindé and A. Reslow, "Do Swedish forecasters properly account for Sweden's international dependence?", *Economic Review* No. 2 2017, Sveriges Riksbank.

⁹ See the article "The Phillips curve and monetary policy" in this report.

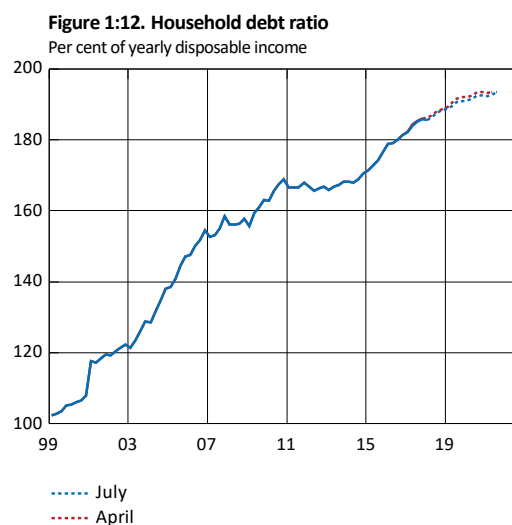
The risks in the housing market must be managed

Household debt as a percentage of disposable income is expected to continue to increase in the years ahead, even if lower housing prices will cause the increase to occur at a slower rate than in recent years (see Figure 1:12).

In addition to bank loans, many households also have indirect debt as a result of the loans taken out by their housing cooperatives. In other words, a household that owns a tenant-owned apartment can be even more affected by rising interest rates. If the cooperative has to increase its fees to service its bank loans, the household may have to face both higher monthly fees and higher interest expenses for its own bank loan.¹⁰

Finansinspektionen's decision on tighter amortisation requirements came into force in March. The Riksbank assesses that this will help bolster the resilience of households somewhat. At the same time, the fundamental causes of the high household indebtedness still remain. This has to do with long-term structural problems in the Swedish housing market. To mitigate the risks associated with household indebtedness it is therefore a matter of urgency that housing and tax policy measures, and where necessary macroprudential measures, are implemented. Politicians need to take a holistic approach and review the rent-negotiation system, the taxation of capital gains from housing property sales as well as property tax and tax relief on interest expenditure.

Recently a number of new actors have begun to establish themselves on the Swedish mortgage market. These new players are increasing competition on the market, and will probably contribute to lower mortgage rates. This development could also increase the demand for new mortgages and hence contribute to greater indebtedness among households. Although the amount that the borrower is allowed to borrow is also determined by their income and other credit conditions, mortgage actors that are not banks are not currently covered by macroprudential policy measures. It is therefore important that all future mortgages, regardless of lender, are subject to a thorough credit assessment and covered by current and future relevant macroprudential regulation.¹¹



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

Sources: Statistics Sweden and the Riksbank

¹⁰ See Financial Stability Report 2018:1, Sveriges Riksbank.

¹¹ See the article "New players on the mortgage market" in Financial Stability Report 2018:1, Sveriges Riksbank.

ARTICLE – The Phillips curve and monetary policy

This article aims to describe the relationship between resource utilisation and inflation in light of low wage increases in Sweden in recent years. The relationship between resource utilisation and wage development looks to have weakened in Sweden. The Riksbank's forecast is still based on the assessment that wage development is affected by resource utilisation with a certain time lag, but takes into account that the relationship seems to have weakened. However, the relationship between resource utilisation and inflation does not seem to have weakened. Inflation is affected by several factors in addition to wage growth, including productivity growth, energy prices and the exchange rate. It is not possible therefore to say in advance how monetary policy might change if wage increases turn out to be lower than forecast.

In many countries, wage growth and inflation have been relatively subdued in recent years, despite unemployment having declined and resource utilisation having increased. This has led to a discussion on whether the relationship between the development of the real economy and price and wage growth has changed.¹² Most of this discussion is based on the so-called Phillips curve, of which there are a number of different variants.¹³ The idea behind the relationship is that when economic activity is strong and unemployment is low, many employers compete for employees, which leads to higher wages, faster cost increases and higher inflation.

The debate about the Phillips curve has taken place in many different countries around the world but has also applied to developments in Sweden. Some analysts have drawn the conclusion that the Swedish Phillips curve has collapsed.¹⁴ The Riksbank has previously analysed and discussed the correlation between resource utilisation on the one hand and wage development and inflation on the other.¹⁵ This article aims to shed further light on the Phillips relationship in Sweden and the scope for monetary policy to keep inflation around the target in light of the low wage increases in recent years.

What does the Phillips curve look like in Sweden?

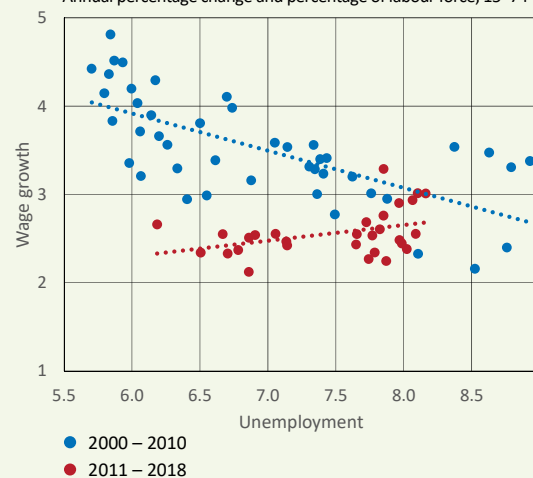
Figure 1:13 shows the relationship between wage growth and unemployment in Sweden since 2000. We clearly see that the relationship is negative for the period 2000–2010, in

accordance with a classic Phillips curve, but seems to have weakened since then.

Figure 1:14 shows a similar relationship between CPI inflation and unemployment. The relationship is slightly

Figure 1:13. Phillips curve with wage growth and unemployment

Annual percentage change and percentage of labour force, 15–74 years.



Note. Wages according to short-term wage statistics. Blue and red lines show the estimated regression correlation for the period 2000–2010 and 2011–2018 respectively.

Sources: National Mediation Office, Statistics Sweden and the Riksbank

negative for the period 2000–2010 and, in contrast with the relationship between wages and unemployment, looks to have strengthened somewhat in recent years.¹⁶

¹² See, for instance, J. Cunliffe, "The Phillips curve: lower, flatter or in hiding?", speech, Bank of England, 14 November 2017, and O. Blanchard, "The US Phillips Curve: Back to the 60s?", Policy Brief, Peterson Institute, 2016.

¹³ The Phillips curve is named after William Phillips, who presented a study in 1958 that showed a negative relationship between nominal wage increases and unemployment in the United Kingdom in the period 1861–1957. Similarly, Samuelson and Solow established a negative relationship between inflation and unemployment in the United States during approximately the same period. The work of Friedman and Phelps questioned the existence of a permanent relationship between inflation and unemployment and developed the so-called expectations-augmented Phillips curve.

¹⁴ See for instance Industriarbetsgivarna (Swedish Association of Industrial Employers), "Den svenska Phillipskurvan har kortslutits [The Swedish Phillips curve

has short-circuited]", January 2017, and "Strukturella faktorer försvagar Phillips/kurvan [Structural factors weaken the Phillips curve]", 13 March 2018.

¹⁵ See for instance the article "The relationship between resource utilisation and inflation" in Monetary Policy Report, October 2016, Sveriges Riksbank and the article "Strong economic activity but subdued wage increases" in Monetary Policy Report, July 2017, Sveriges Riksbank. See also P. Jansson, "The ideological debate on monetary policy – lessons from developments in Sweden", speech, Sveriges Riksbank, 6 December 2017, and H. Ohlsson, "Data, correlations and economic policy challenges", speech, Sveriges Riksbank, 29 May 2018.

¹⁶ The conclusion that the relationship has not weakened after the crisis was also reached in the article "The relationship between resource utilisation and inflation" in Monetary Policy Report, October 2016. See also S. Karlsson and P. Österholm, "A

Figure 1:14. Phillips curve with inflation and unemployment
Annual percentage change and percentage of labour force, 15–74 years



Note. Inflation refers to the CPIF. Blue and red lines show the estimated regression correlation for the period 2000–2010 and 2011–2018 respectively.

Sources: Statistics Sweden and the Riksbank

In the monetary policy analysis, the Riksbank uses broader measures than solely unemployment to assess resource utilisation in the economy. In addition, the effects from resource utilisation on wage growth and inflation often occur with a significant time lag. Figure 1:15 therefore illustrates the Phillips relationship in the form of time series with wage development, CPIF inflation and the Riksbank’s indicator for resource utilisation (the RU indicator) 6 quarters earlier.

Figure 1:15. Short-term wages, the CPIF and the RU indicator 6 quarters earlier

Annual percentage change and standard deviation respectively



Note. The National Mediation Office’s forecast for definitive outcomes for short-term wages 2017Q2–2018Q1. The RU indicator is a measure of resource utilisation. It is normalised so that the mean value is 0 and the standard deviation is 1.

Sources: National Mediation Office, Statistics Sweden and the Riksbank

The RU indicator summarises the information in survey data and labour market data and often gives a similar picture of resource utilisation in the economy to the one provided by the GDP gap or the hours worked gap. The figure shows that there has historically been a clear relationship between resource utilisation and wage and price growth. As resource utilisation has strengthened in recent years, inflation has risen in line with previous relationships. Wage growth has not increased in the same way, however. Figure 1:15 also shows how the Riksbank’s wage and inflation forecasts relate to resource utilisation.

Why then does the relationship between resource utilisation and wages seem to have weakened, while the relationship with inflation has not weakened in the same way?

Low wage increases in recent years

Wage growth is partly determined by expected productivity growth and expected inflation. Expected productivity growth reflects the scope for real wages, which, together with expected inflation, reflects the scope for nominal wages. Furthermore, wage growth is affected by the labour market situation, the negotiating strength of wage-earners and international competitiveness, which is often discussed in terms of wage growth in Sweden’s most important competitor countries.

Table 1:3 summarises how these factors may have affected wage development in Sweden in recent years.

Table 1:3. Possible explanatory factors behind recent wage development

Explanatory factor	Possible recent effect on wages in Sweden
Productivity growth	— Lower productivity growth is deemed to have reduced the scope for real wages.
Expected inflation	+ Higher expected inflation may have contributed to higher nominal wages.
Labour market situation	+ Rising resource utilisation may have helped sustain wage growth.
Negotiating strength among wage-earners	— Increased and changed labour supply may have subdued wage demands.
International competitiveness	— Low wage increases in the euro area have probably subdued wage development in Sweden as well.

There is strong support for some factors, whereas others are to be interpreted as plausible contributory factors. Weak productivity growth has probably held back wage increases, while higher inflation expectations and the strong economic and labour market situation may have had the opposite effect. At the same time, wage increases may have been

Note on the Stability of the Swedish Phillips Curve”, Working Paper 2018:6, Örebro University School of Business.

subdued by a number of factors, including a changed labour supply, and relatively weak wage development in the euro area.

... but inflation still close to target

Despite relatively low wage increases in recent years, inflation has still risen towards the target of 2 per cent. Inflation is affected by a number of different factors in addition to wage development. One important factor is domestic cost pressures for companies, which are largely determined by how much wages increase in relation to productivity growth in the economy. For a small, open economy like Sweden, import prices also have a significant impact on companies' costs and on consumer prices. The cost of imported goods is determined by both global market prices and the exchange rate. Company mark-ups, which reflect how much companies increase their prices in relation to their costs, play a role in price-setting as does expected future inflation; the more companies expect prices in general to rise, the greater their propensity to raise their own prices today.

Table 1:4 summarises how these explanatory factors may have affected inflation in recent years.¹⁷

Table 1:4. Possible explanatory factors behind recent inflation

Explanatory factor	Possible recent effect on inflation in Sweden
Domestic cost development	— Low wage increases have held back cost development.
	+ Lower productivity growth has helped sustain cost development.
Global market prices	+ Higher oil prices, among other factors, have contributed to higher import prices.
Exchange rate	+ Weaker krona has contributed to rising costs via higher import prices in Swedish krona.
Price mark-ups	— Lower price mark-ups may partly reflect increased competition.
	+ Price mark-ups may also reflect the economic situation and have risen as economic prospects have improved
Expected inflation	+ Higher expected inflation has contributed to higher prices in companies.

The low productivity growth has probably held back wage development while sustaining the rate of increase in domestic cost pressures. Recently rising oil prices and the weakening of the krona have also contributed to pushing up

costs and inflation, without a direct link to wage development in Sweden.

Increased competition from, for example, e-commerce may have made many companies reduce their mark-ups, although these are also driven by the demand situation and economic activity.¹⁸ It is the Riksbank's assessment that the ever-stronger economic situation in recent times has enabled companies to increase their price mark-ups.

Against this background, it is not very surprising that the observed relationship between resource utilisation and wage or price growth – the Phillips curve – can look different over different time periods. There are thus several feasible explanations for the recent development of moderate wage increases and inflation that has nevertheless been close to target.

The risk of low wages going forward – how will inflation be affected?

Figure 1:16 shows the Riksbank's wage forecast together with estimated empirical relationships from a number of different models that explain wage growth in terms of expected productivity growth, expected inflation and resource utilisation in Sweden and the euro area.¹⁹

The Riksbank's forecast implies that the rate of increase in Swedish wages is picking up, but will remain lower than is indicated by historical relationships.

The fact that productivity is only expected to increase at a moderate pace in the years to come means, however, that domestic cost pressures will grow by about 2 per cent a year in the Riksbank's forecast, despite wage increases remaining relatively moderate (see Figure 1:17).

The high resource utilisation will also continue to enable companies to maintain their margins. These factors will counteract the dampening effect on inflation of the expected appreciation of the krona going forward. Overall, these factors contribute to the expectation that CPIF inflation will remain close to 2 per cent in the years ahead (see Figure 1:17).

An uncertainty factor in the Riksbank's forecasts is that the factors that have held back wage increases in recent years may be more permanent and that wage growth in the period ahead will not increase in the way the Riksbank expects. If wage development is weaker than expected, there are several feasible scenarios for inflation.

¹⁷ See also "Why inflation has risen", article in Account of monetary policy 2017 and "Evaluation of the Riksbank's forecasts", Riksbank Studies, March 2018, Sveriges Riksbank.

¹⁸ See for instance M. Jonsson, "Increased competition and inflation", Economic Review 2007:2, Sveriges Riksbank, for a more detailed description of how increased competition can affect company pricing. The fact that both eCommerce and

economic activity affect company pricing is confirmed by the Riksbank's Business Survey; see "The Riksbank's Business Survey: The economic upswing is continuing", June 2018, Sveriges Riksbank.

¹⁹ See the article "Strong economic activity but subdued wage increases" in Monetary Policy Report, July 2017, Sveriges Riksbank, for a more detailed description of the estimates.

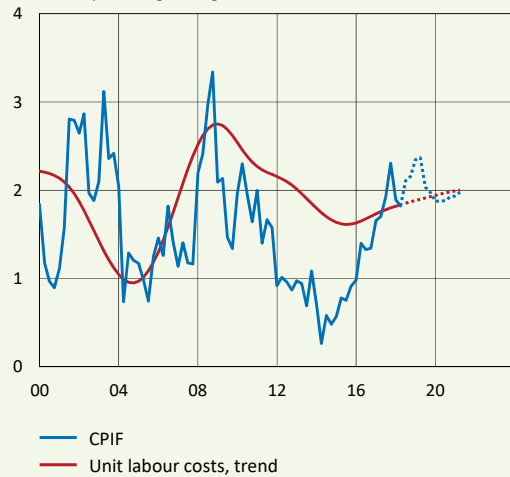
Figure 1:16. The Riksbank's wage forecast and empirically estimated correlations
Annual percentage change



Note. Wages according to short-term wage statistics. The National Mediation Office's forecast for definitive outcomes for short-term wages 2017Q2–2018Q1. The field contains adjusted values between 2012Q1 and 2018Q1 and model forecasts thereafter.

Sources: Swedish National Mediation Office and the Riksbank

Figure 1:17. Inflation and unit labour costs
Annual percentage change



Note. The trend in unit labour costs (for the entire economy) has been calculated using a so-called HP filter based on the Riksbank's forecast in July 2018 and an assumption that unit labour costs will increase by 2 per cent across the forecast horizon.

Sources: Statistics Sweden and the Riksbank

One scenario is if *both wages and inflation are lower than in the Riksbank's forecast*. Continued low wage increases for competitiveness reasons could be a factor behind such a scenario.²⁰ Domestic cost development and inflation would probably then be lower than in the Riksbank's forecast. As inflation has been below target for several years, such a development could weaken the inflation target's contribution as an anchor for price-setting and wage formation, even if the Riksbank deems there to be scope to make monetary policy more expansionary if necessary, or to maintain the expansionary monetary policy for longer.

Another scenario is if *wages increase more slowly than expected but inflation nevertheless rises in line with the Riksbank's forecast*. This could happen if lower wage increases reflect slower productivity growth, so that cost pressures nevertheless develop as expected, and company pricing otherwise follows the assumptions in the Riksbank's forecast.

As mentioned earlier, inflation is affected by many other factors, including developments in energy prices and the exchange rate. It is hence not possible to say in advance exactly how the inflation forecast and monetary policy would change if wage increases continue to be low instead of rising in accordance with the Riksbank's forecast.

²⁰ The fact that there are now signs of wages abroad increasing more rapidly reduces the risk for this scenario.

CHAPTER 2 – Financial conditions

In Sweden, financial conditions have become more expansionary since the Monetary Policy Report in April. The Swedish krona is weaker than forecast and market pricing indicates expectations of a slower pace of repo rate rises. At the same time, households and companies meet low interest rates and credit growth continues to be on a high level. Abroad, monetary policy is in different phases. The Federal Reserve is continuing its normalisation of monetary policy and has raised its policy rate since April, while the European Central Bank has communicated an intention to extend its net asset purchases until the end of the year. Market pricing indicates expectations of a further rate rise from the Federal Reserve this year, while the European Central Bank is expected to hold policy rates unchanged over the next twelve months. The development of government bond yields internationally continues clearly to reflect the divergence in monetary policy expectations between economies, where the difference in interest rate levels between the United States and other economies has continued to increase. Interest rate differences have also increased between Germany and those euro area countries where uncertainty about economic and political developments is greater.

International developments

Central banks in different phases

In conjunction with its monetary policy meeting in June, the European Central Bank (ECB) left policy rates unchanged. The ECB announced that net asset purchases will continue by EUR 30 billion per month until September this year, in accordance with earlier decisions. After September, it intends to reduce the size of the monthly net asset purchases to EUR 15 billion per month until the end of December, when they are expected to be concluded entirely. The ECB expects policy rates to remain at current levels at least through the summer of 2019.

Expectations of the ECB's policy rate according to market pricing have fallen since April (see Figure 2:1). The policy rate is now expected to be held unchanged for at least the next twelve months, in line with the ECB's communications. Increased uncertainty over economic and political developments in Italy and a number of outcomes for macroeconomic statistics, which have been weaker than market participants had expected, have probably also contributed to this development.

The Federal Reserve is continuing to make its monetary policy gradually less expansionary. At the monetary policy meeting in

Table 2:1.

Developments on the financial markets since the Monetary Policy Report was published in April
Market participants' expectations of future policy rates are relatively unchanged in the United States but have fallen in the euro area, the United Kingdom and Sweden.
Government bond yields are more or less unchanged in the United States but have fallen slightly in the euro area, United Kingdom and Sweden.
The krona has developed weaker than was forecast in April.
Stock market indices have risen in the United States but are at lower levels in the euro area, Sweden and emerging market economies.
Lending rates for households and companies are unchanged.
Credit growth among households remains high.
Continued high rates of credit growth among households and non-financial companies.

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.



June, the interval for the policy rate was raised to 1.75–2.00 per cent. At the same time, the gradual tapering of the Federal Reserve’s asset holdings, which began in October last year, continues. The median forecast of the members of the monetary policy committee indicated, according to the decision in March, further two rate rises by 0.25 percentage points this year, three next year and two in 2020. Expectations of the future policy rate in the United States, according to market pricing, have risen and indicate, roughly in line with the Federal Reserve’s asset holdings, which began in October last year, continues. The median forecast from the members of the monetary policy committee indicated, according to the decision in June, a further two rate rises by 0.25 percentage points this year, three next year and one in 2020. Expectations of the future policy rate in the United States remain unchanged since April, according to market pricing (see Figure 2:1). This indicates somewhat fewer rate increases going forward than the central bank is forecasting.

The Bank of England held its monetary policy unchanged in June and has continued to communicate that any future rate rises will be limited in number and will be implemented gradually. Since April, market expectations of the future policy rate have fallen, even if they shifted up slightly after the meeting in June. Macroeconomic statistics, which have been slightly weaker than expected, have probably contributed to this development (see Figure 2:1).

The central banks thus continue to be in different phases and, according to market pricing, the differences have increased since April. Market participants’ overall assessment is that the normalisation of monetary policy will proceed slowly and that global monetary policy will therefore remain expansionary.

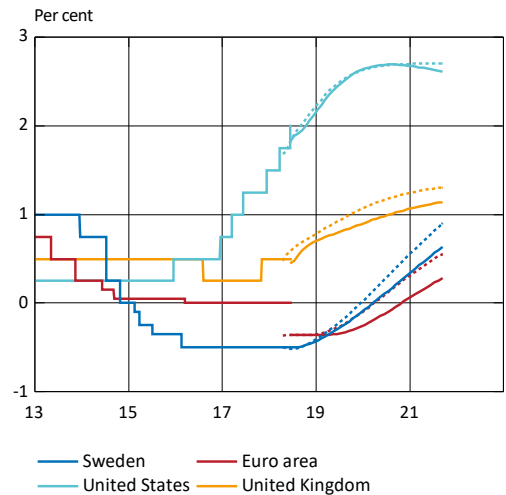
Increased political unease in the euro area reflected in interest rates

The development of government bond yields internationally is continuing to reflect the difference in monetary policy expectations between the countries. In the United States, government bond yields for all maturities have risen since the autumn of 2017 as increased fiscal policy stimulus and positive macroeconomic statistics have led to expectations of higher future inflation and growth. Since the Monetary Policy Report in April, US government bond yields have been at a relatively unchanged level (see Figures 2:2 and 2:3).

Unlike in the United States, government bond yields in Germany and the United Kingdom have been relatively stable over the last two years and, since April, yields have fallen slightly in conjunction with the downward revision of monetary policy expectations (see Figures 2:2 and 2:3).

Large price movements on bond markets occurred in May, due to uncertainty over the sustainability of the Italian public finances. Some of the proposals announced by the incoming Italian government were interpreted by the markets as possible threats to the fiscal policy framework. The political situation in

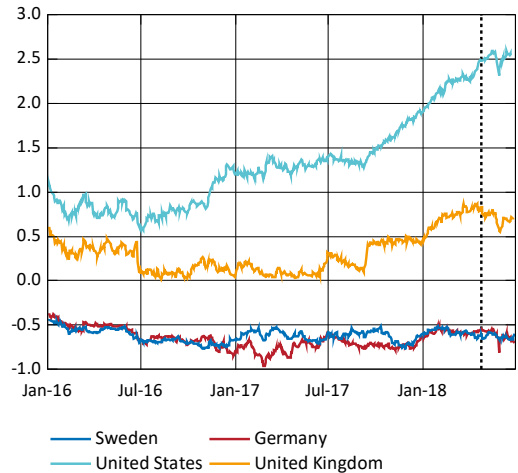
Figure 2:1. Policy rates and rate expectations according to forward rates



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 are estimated on 29 June 2018, broken lines are estimated on 27 April 2018.

Sources: The national central banks, Macrobond and the Riksbank

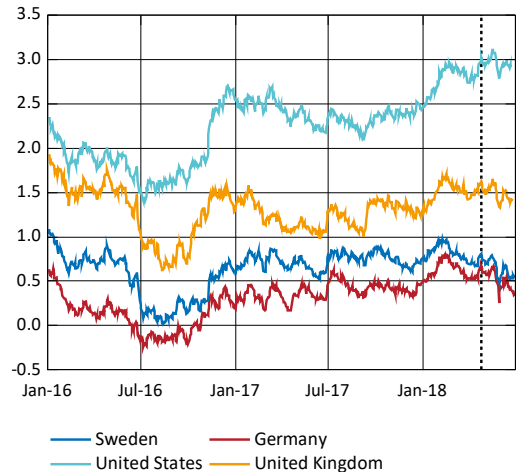
Figure 2:2. Government bond yields with 2 years to maturity



Note. Implied zero-coupon yields from government bonds. The vertical line indicates the Monetary Policy Meeting in April.

Sources: The national central banks and the Riksbank

Figure 2:3. Government bond yields with 10 years to maturity



Note. Implied zero-coupon yields from government bonds. The vertical line indicates the Monetary Policy Meeting in April.

Sources: The national central banks and the Riksbank

Italy has thus created uncertainty that has spread to some extent. Bond yields have risen in those countries with prevailing uncertainty over economic policy (see Figure 2:4). At the same time, government bond yields fell in those countries perceived as more secure, such as Germany. From a historical perspective, however, the yield differentials against Germany continue to be small.

The dollar has strengthened and emerging market economies' currencies have weakened

In an environment of increased political uncertainty in the euro area and increasing differences in monetary policy between the United States and other countries, the dollar has strengthened against most currencies since April.

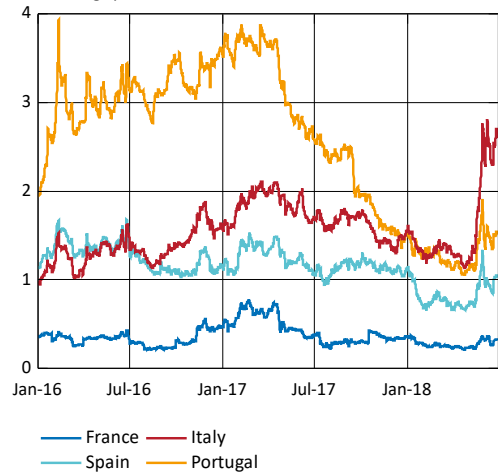
Rising US interest rates compared to other economies and expectations of a stronger dollar have led to a weakening of emerging market economies' currencies (see Figure 2:5). Fundamental risks, such as high inflation and large current account deficits in some of these countries, as well as internal political and external geopolitical risks, have contributed to capital outflows from these economies.

Uneven development on the stock markets since the start of the year

Equity markets, which developed strongly at the beginning of the year, have seen uneven growth since the end of January, above all due to increased political and geopolitical uncertainty (see Figure 2:6). Since April, the US stock exchanges have developed stronger than the European ones, due to continued good profit growth for companies in the United States and expectations of higher economic growth, which has led US equity prices to rise. In the euro area and emerging market economies, the increased political and geopolitical uncertainty over the same period has instead led towards falling equity prices. Renewed uncertainty over trade restrictions has contributed towards slightly lower demand for high-risk assets, which has led international equity prices to fall in general recently.

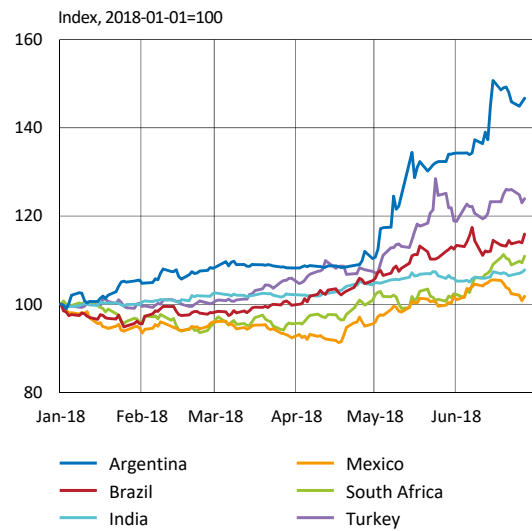
The expected volatility of equity and bonds has followed roughly the same pattern and has on average been higher than levels in the second half of 2017 (see Figure 2.7). The strong increase in volatility on the stock market at the end of January coincided with increased concerns that wages in the United States would rise rapidly, with increased inflation and rising policy rates as a result. Following this, volatility returned to slightly lower levels. On the credit markets, yield differentials between corporate bonds and government bonds have increased slightly since April, above all in the United States but also in the euro area to a certain extent.

Figure 2:4. Yield differential in relation to Germany, 10-year
Percentage points



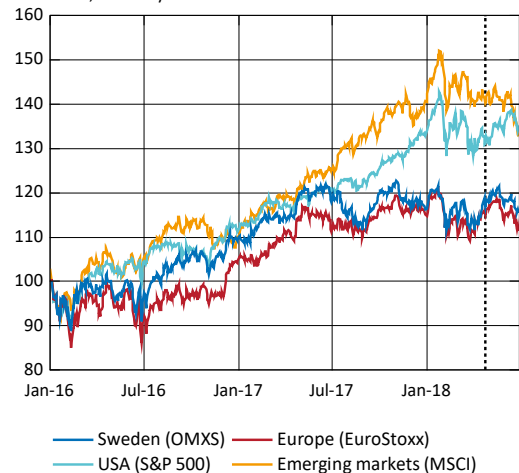
Note. Yield differentials refer to 10-year benchmark bonds.
Source: Macrobond

Figure 2:5. Emerging market economies' currencies against the dollar
Index, 2018-01-01=100



Note. A value higher than 100 indicates a weaker exchange rate.
Source: Macrobond

Figure 2:6. Stock market movements in local currency
Index, 4 January 2016 = 100



Note. The vertical line indicates the Monetary Policy Meeting in April.
Source: Macrobond

Financial conditions in Sweden

Market expectations of continued expansionary monetary policy

Since the monetary policy decision in April, expectations of the future level of the repo rate have fallen according to pricing on the financial markets and are now below the Riksbank's repo rate forecast, above all in the slightly longer term (see Figures 2:1 and 2:8). Expectations that the ECB will postpone the date of the first rate rise and normalise monetary policy at a somewhat slower rate have probably contributed towards this development (see Figure 2:1). Market participants' expectations of the repo rate according to surveys have remained relatively unchanged in recent months and are largely in line with the repo rate path (see Figure 2:8).

In Sweden, government bond yields have followed the development of German yields since the start of the year and have fallen slightly since April (see Figures 2:2 and 2:3). On the credit markets, yields for mortgage bonds and corporate bonds, above all with longer maturities, have fallen slightly less than the government bond yields, which has led yield differentials between these bonds to increase slightly. The slowdown in housing prices still does not appear to have led to any clearly increased risk premium for mortgage bonds (see Figure 2:9).

Continued strong interest in the Riksbank's bond purchases

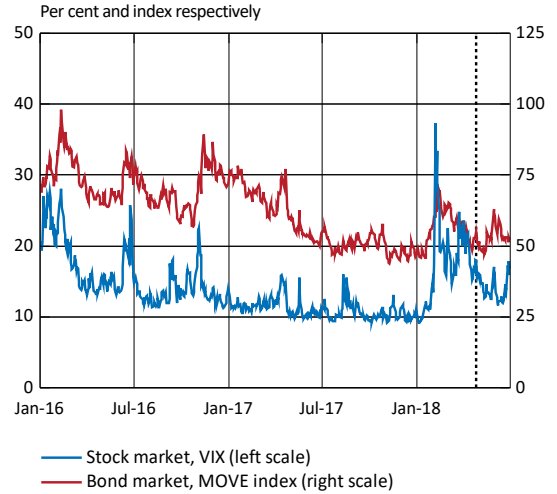
Since they were initiated in the spring of 2015, the Riksbank's bond purchases have helped push down both government bond yields and other market rates. The purchases have thus contributed towards the expansiveness of monetary policy. Interest in participating in the Riksbank's auctions has been good overall. The Riksbank has, on average, received offers that clearly exceed the volume that the Riksbank has offered to purchase.

In December 2017, the decision was taken to reinvest bonds that mature in 2019 as early as during 2018. This has meant that the Riksbank has continued to purchase nominal and real government bonds over the first six months of 2018 at approximately the same rate as the Swedish National Debt Office issues bonds.

Market participants say that it now takes longer to trade large blocks of government bonds than it did a number of years ago. The Swedish National Debt Office's primary dealers, who act as intermediary for buyers and sellers, reported in the Office's latest survey that market liquidity has deteriorated for nominal government bonds.²¹ At the same time, Swedish and foreign investors assessed that liquidity had not changed substantially since the previous year. Turnover in the Swedish government bond market has fallen, but this is a trend that had already started before the Riksbank initiated its bond purchases. Market participants report that the lower turnover is due both to

²¹ See "Förtroendet för Riksgälden 2017" (Confidence in the Swedish National Debt Office 2017), Prospera Sifo/Kantar, survey conducted on behalf of the Swedish National Debt Office.

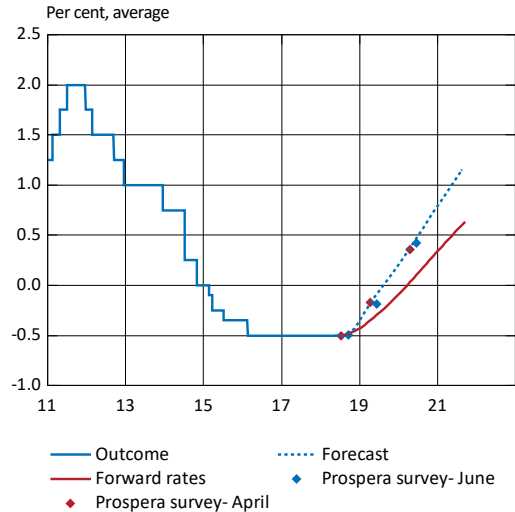
Figure 2:7. Volatility Indices



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 April.

Sources: Chicago Board Options Exchange and Merrill Lynch

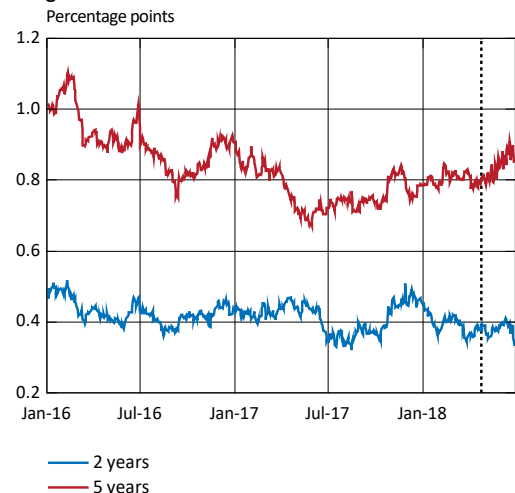
Figure 2:8. Repo rate and market expectations



Note. The forward rate is estimated on 2018-06-29 and is a measure of the expected repo rate. The survey responses show the average for money market participants 2018-03-27 respectively 2018-05-30.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

Figure 2:9. Yield spread between mortgage bonds and government bonds



Note. Yields on mortgage bonds and government bonds are zero coupon yields calculated using the Nelson-Siegel method. The vertical line indicates the Monetary Policy Meeting in April.

Sources: Macrobond and the Riksbank

financial regulations and to a decrease in the volume of bonds available for trade as the Riksbank has increased its holding.

The Riksbank follows carefully how the government bond market and adjacent markets are functioning, both by analysing data and through regular contact with market participants.

The krona is weaker than was forecast in April

In competition-weighted terms, KIX, the krona has weakened over the first six months of the year and has had a weaker development than expected. This weakening has coincided with increased unease and volatility on the financial markets but also with expectations of a slightly slower normalisation of monetary policy in Sweden relative to abroad.

The krona also weakened after the monetary policy decision in April. At the start of May, the krona strengthened in conjunction with the publication of the minutes of the monetary policy meeting and the inflation outcome for April, which was in line with the forecasts of the Riksbank and the market. Since then, the krona has weakened again, which has again coincided with increased unease on the financial markets and expectations of slightly slower interest rate increases in Sweden (see Figure 2:10). Over the second quarter, the krona has, on average, been almost 2 per cent weaker than in the forecast from April.

Since April, political uncertainty in the euro area and continued unease over trade wars has also affected sentiment on the Swedish stock exchange, which has fallen in line with European ones (see Figure 2:6).

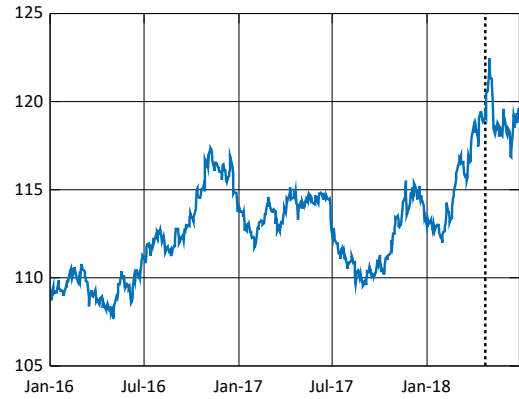
Corporate and household indebtedness is continuing to increase

The continued expansive monetary policy has contributed towards a favourable development in the banks' funding terms and profitability. The conditions for households and companies to obtain credit therefore remain good. Households' bank loans are continuing to increase at almost the same rate, despite the downturn that has been seen in housing prices since the autumn of 2017. The rate of increase in household debt is faster than the rate of increase in incomes, which means that the debt-to-income ratio is rising successively.

Bank loans still constitute the primary source of funding for Swedish companies, although securities borrowing has increased rapidly and corresponds to about one-third of total corporate borrowing. The driving forces behind the increased securities borrowing are good demand from investors and better funding conditions compared with bank loans. The annual rate of growth in securities borrowing has fallen considerably in the last two months, but remains high from an historical perspective. Since the start of last year, it has averaged 17 per cent. The growth rate for bank borrowing over the same period has been around 5 per cent (see Figure 2:11).

Since the repo rate entered negative territory for the first time in February 2015, lending rates to households and companies have also fallen, albeit slightly less than the repo rate.

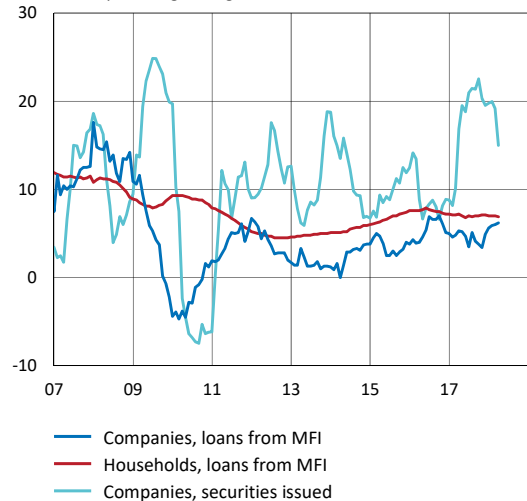
Figure 2:10. Competition-weighted nominal exchange rate, KIX Index, 1992-11-18 = 100



Note. Outcomes are daily rates. KIX refers to an aggregate of countries that are important for Sweden's international transactions. The vertical line indicates the Monetary Policy Meeting in April.

Sources: National sources and the Riksbank

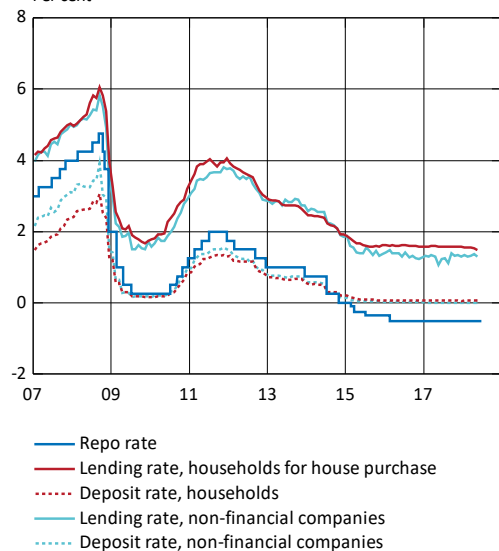
Figure 2:11. Bank lending to households and companies
Annual percentage change



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 extends until the end of April 2018.

Source: Statistics Sweden

Figure 2:12. Repo rate together with the average deposit and lending rate to households and companies, new contracts
Per cent



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

Sources: Statistics Sweden and the Riksbank

Since mid-2015, the average interest rate for new bank loans to non-financial corporations has amounted to about 1.4 per cent. At the same time, the average mortgage rate for new agreements has averaged about 1.6 per cent (see Figure 2:12). Since the turn of the year, new participants on the housing market have listed lower mortgage rates and some established participants have also lowered their rates. The Riksbank carefully follows developments on the mortgage market and so far the lower listed rates have not had any broad impact on average mortgage rates. Average deposit rates for households and companies have remained largely unchanged since the middle of 2015 and are close to zero.²² Overall, the impact of the repo rate on deposit and lending rates has been in line with the Riksbank's expectations.

²² Most financial corporations and some non-financial corporations and municipalities are experiencing negative deposit rates. For technical reasons, however, the negative deposit rate is usually reported as a charge and is therefore not always visible in the figures from Statistics Sweden. Despite this, deposits at negative rates form a small portion of total deposits from non-financial corporations. See the article "Perspectives on the negative repo rate" in Monetary Policy Report July 2016.

CHAPTER 3 – The current economic situation

High international growth in 2017 has been followed by a weaker start to 2018. The more subdued developments are expected to be partly temporary. Confidence among households and companies is still at high levels, despite problems in Italy and increased protectionism. In Sweden, growth was good in the first quarter and confidence remains high, particularly in the manufacturing sector. Optimism has nevertheless dampened somewhat and GDP is expected to grow at a historically normal pace in the second and third quarters. On the labour market, employment and the labour force are continuing to increase, although unemployment is not expected to decline further. Energy prices have been unexpectedly high and are expected to contribute to inflation exceeding 2 per cent for the remainder of the year, an upward revision compared with the forecast in April.

Inflation in Sweden

Inflation 2.1 per cent in May

In May, CPIF inflation amounted to 2.1 per cent (see Figure 3:1). It was thus somewhat higher than in the forecast in the April Monetary Policy Report. Rising oil prices and the weak development of the krona have contributed to energy prices increasing faster than expected. The CPIF excluding energy was at the same time 1.5 per cent.

Service prices have increased more slowly over the past six months, after rising at an increasingly rapid trend rate in recent years (see Figure 3:2). The rate of increase in service prices was pushed up last year by certain temporary factors, such as an unusually high rate of increase in prices of foreign travel and banking services.²³

Various measures of underlying inflation have trended upwards since 2014. After several years of low price increases in relation to cost increases, the current strong economic activity seems to have made it easier than before for companies to raise their prices. Earlier krona depreciations, which have an effect on prices of food and other imported goods with a time lag, have also contributed to the rise in inflation. According to several measures of inflation, the rate of increase in underlying inflation has been largely unchanged in recent months and the median value for the different measures amounts to 1.5 per cent (see Figure 3:3).

Higher inflation the rest of the year

The Riksbank's forecast for the rate of increase in the CPIF has been revised up in relation to the forecast in April, and it is expected to amount to a little over 2 per cent during the remainder of the year. This is primarily explained by the development in energy prices being adjusted upwards as a result

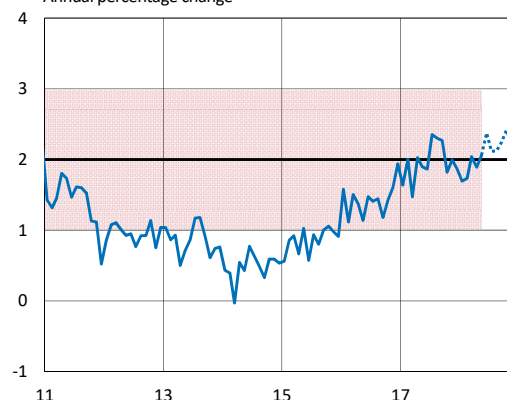
²³ The prices measured regarding foreign travel were affected by a new calculation method last year, which entailed a temporarily higher rate of increase during the summer months.

Table 3:1.

Expected development in April MPR	Actual development
CPIF inflation 2.0 per cent in May.	CPIF inflation was 2.1 per cent.
GDP growth 2.6 per cent in first quarter	GDP growth was 2.9 per cent.
Unemployment 6.3 per cent in second quarter.	Monthly outcomes for April and May somewhat lower than forecast.
GDP growth in the euro area 1.2 per cent in first quarter.	GDP growth was 1.5 per cent.
GDP growth in the United States 2.6 per cent in first quarter.	GDP growth was 2.2 per cent.

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 dotted line refers to the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

of the higher oil price on the global market and the weaker krona.

The Riksbank's short-term models, which summarise the information in a large number of indicators, imply that the CPIF excluding energy will also rise somewhat faster in the remainder of the year (see Figure 3:4). The krona depreciation over the past year is one of the factors contributing to this. The rate of increase for producer prices of consumer goods in the domestic market has been stable in recent months. The rate of increase for imported producer prices for consumer goods has risen apace with the krona depreciation. According to the Economic Tendency Survey, trading companies' expectations of future price increases have risen during the same period.

The rate of increase in the CPIF excluding energy is expected to be in line with the model forecasts over the coming months, and then to rise to around 1.8 per cent towards the end of the year, which is somewhat higher than the forecast in April, but somewhat lower than was forecast by the Riksbank's short-term models. The main reason why the Riksbank's assessment is lower than the model forecasts in the autumn is that the patterns in recent years, with somewhat lower monthly price increases during the autumn, are not completely captured by the models.

Inflation expectations close to 2 per cent

After having been very low at the start of 2015, measures of inflation expectations have shown an increase over the last three years. Expectations over the longer term have been close to 2 per cent over the last year and, as inflation has risen, inflation expectations over the shorter term have also risen to close to 2 per cent.

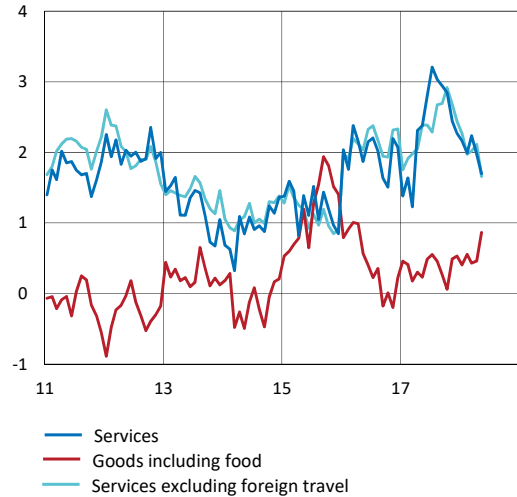
According to TNS Sifo Prospera's survey in June, inflation expectations were largely unchanged in relation to the previous survey. Five years ahead, the respondents expect CPI inflation to be 2.1 per cent (see Figure 3:5). Long-term inflation expectations for the CPIF amounted to 1.9 per cent among money market participants.

Global and Swedish economic activity

Temporarily weak development at the beginning of 2018

Following high growth figures last year, international growth slowed down somewhat at the beginning of this year. GDP growth was lower in most countries and regions in the first quarter of 2018 in relation to the last quarter of 2017. In the euro area, growth was almost halved and GDP increased by 1.5 per cent when calculated at an annual rate. The downturn in the United States was less pronounced and the corresponding growth amounted to 2.2 per cent. The lower GDP growth is assessed to be temporary to some extent, partly due to weather conditions in both the United States and the euro area. Important indicators of growth such as global trade, industrial production and the retail trade also slowed down during the first

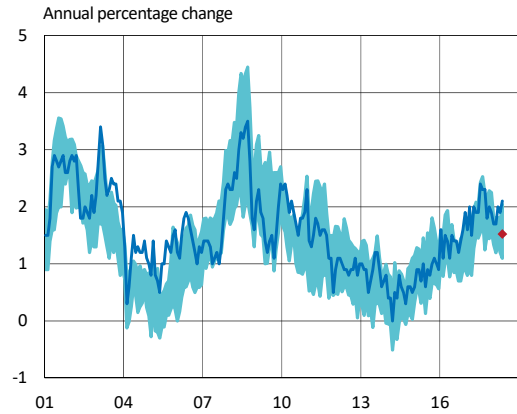
Figure 3:2. Prices of goods and services in the CPI
Annual percentage change



Note. Goods including food is a combination of the aggregate goods and food in the CPI. Together, these account for 45 per cent of the CPI. Service prices account for 45 per cent of the CPI.

Sources: Statistics Sweden and the Riksbank

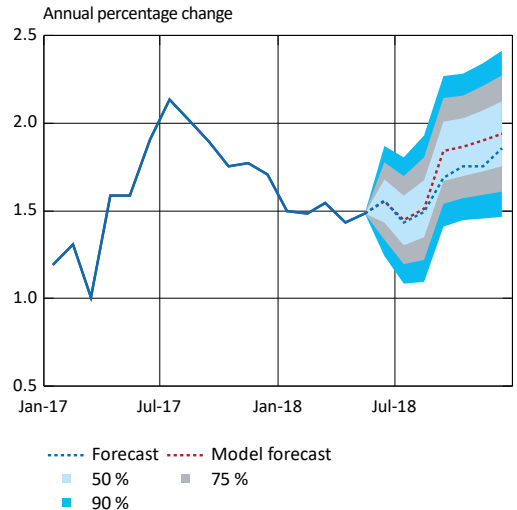
Figure 3:3. The CPIF and different measures of underlying inflation
Annual percentage change



Note. The field shows the highest and lowest outcomes among different measures of underlying inflation. The measures included are the CPIF excluding energy, UND24, Trim85, HICP excluding energy and unprocessed food, persistence-weighted inflation, factors from principal component analysis and weighted mean inflation. The red dot represent the median in May 2018 for all different measures of underlying inflation.

Sources: Statistics Sweden and the Riksbank

Figure 3:4. CPIF excluding energy, model forecast with uncertainty bands
Annual percentage change



Note. The uncertainty bands are based on the models' historical forecast errors. The model forecasts are adjusted with regard to the new seasonal pattern following on from method changes in the calculation of the price index for package holidays.

Sources: Statistics Sweden and the Riksbank

quarter and confidence declined in the corporate sector (see Figure 3:6).

However, there are a number of factors that indicate good global growth during the second and third quarters. Consumer confidence is high and the labour market has continued to improve in the countries most important for Sweden's trade. Interest rates charged to households and companies are low and the banks offer generally favourable credit conditions.

Developments in corporate sector confidence give some cause for concern, as it has declined during the second quarter. In recent months, threats of extended trade barriers and concern regarding developments in Italy have probably contributed to the decline. However, confidence in the corporate sector is still, despite the decline, at a level higher than an average since 1999.

Rising inflation abroad

In recent months, inflation has in total increased in the regions most important to Sweden (see Figure 4:3). In the euro area, inflation rose to 2.0 per cent in June. Increased uncertainty over future oil production contributed to energy prices increasing rapidly. The upturn in energy prices is expected to push up inflation in the coming year. Inflation excluding energy and food prices at the same time amounted to 1.0 per cent (see Figure 3:7), and is expected to rise somewhat in the coming quarters, thanks to continuing improvement in the labour market and higher wage growth.

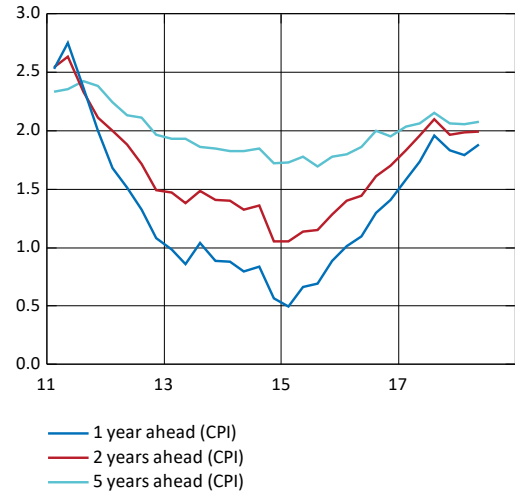
In the United States, CPI inflation continued to increase and was 2.8 per cent in May. Underlying inflation, measured in terms of the consumption deflator excluding energy and food, amounted to almost 2.0 per cent (see Figure 3:7).

Swedish GDP growing somewhat more slowly

Swedish GDP continued to grow at a good pace during the first quarter. It was primarily domestic demand that grew rapidly and despite falling exports, GDP increased by almost 3 per cent compared with the fourth quarter of 2017, calculated at an annual rate.

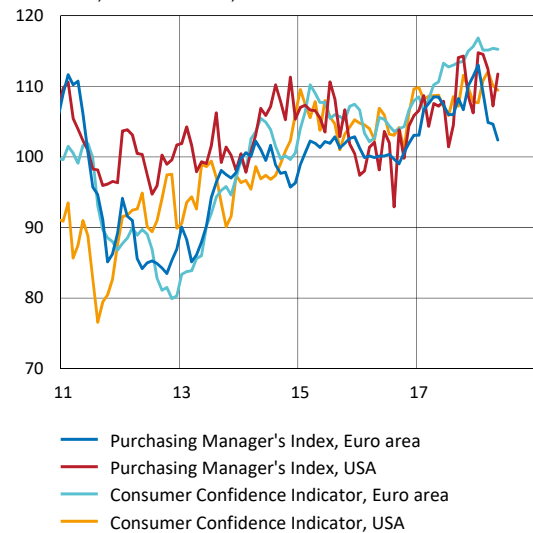
All in all, the indicators point to somewhat lower growth during the second quarter. According to the Economic Tendency Survey, confidence in the business sector and among households has dampened since autumn 2017 (see Figure 3:8). The downswing is probably to some degree linked to the price adjustment that took place on the housing market, when confidence declined most clearly among households and construction companies. In an historical perspective, however, companies still appear to be optimistic, especially in the manufacturing industry. The picture of sentiment in the business sector agrees well with the Riksbank's May Business Survey, in which manufacturing companies paint a very positive picture of economic activity and future prospects, while companies in the retail trade and construction sector are somewhat less optimistic. Retail trade sales developed strongly in April and May after a

Figure 3:5. Inflation expectations among all participants
Per cent, mean



Source: TNS Sifo Prospera

Figure 3:6. Confidence indicators abroad
Index, mean value = 100, standard deviation = 10



Note. The series have been normalised from January 1999. The Riksbank's aggregate of confidence in the US manufacturing and service sectors.

Sources: European Commission, Institute for Supply Management (ISM), Markit Economics, University of Michigan and the Riksbank

Figure 3:7. Underlying inflation abroad
Annual percentage change



Note. HICP excluding energy, food, alcohol & tobacco is shown for the euro area. Deflator for PCE excluding energy and food is shown for the United States.

Sources: Bureau of Economic Analysis and Eurostat

weak start to 2018, but business sector production showed weak development in April.

The Riksbank's models for short-term forecasting, which use the information from a large number of indicators, point to GDP growth dampening somewhat in the second quarter (see Figure 3:9). The Riksbank's forecast is somewhat lower than the model forecast, as the models are not judged to be able to give full consideration to the downturn in housing construction. Falling housing investment means that GDP will grow somewhat slower than the historical average in both the second and third quarters.

Weak housing price developments and reduced housing construction

Taking into account seasonal variations, housing prices according to the HOX index rose in April and May (see Figure 1:11). The downturn since autumn 2017 thus amounts to just over 5 per cent for tenant-owned apartments and single-family dwellings taken together. With regard to single-family dwellings, other measures of prices, such as the Property Price Index and the Statistics Sweden Real Estate Price Index, so far show a slightly smaller decline in prices.

Although the number of housing starts has declined, the inflow of new housing remains at a high level. The number of houses for sale has thus increased, which in turn indicates that the weak development in prices will continue. According to the housing price statistics supplier, Mäklarstatistik, turnover of housing has declined significantly in recent months, compared with the same period last year. The development at the beginning of the year could be partly explained by the tougher amortisation requirement for new mortgages that was introduced on 1 March. Almi's loan indicator is also pointing to households finding it more difficult to obtain loans recently than compared with the second half of 2017.

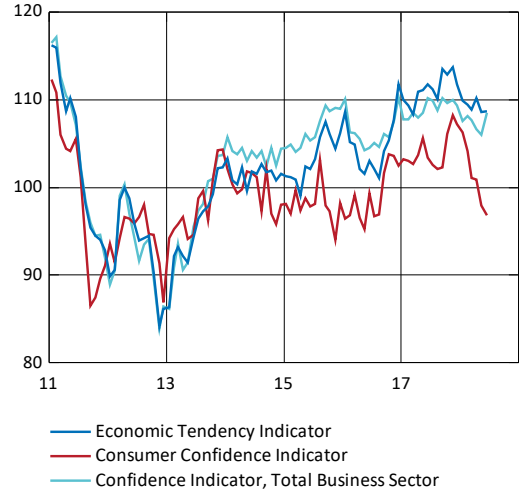
The recent weak development in prices is expected to be followed by a lower housing construction this year in line with the Swedish National Board of Housing, Building and Planning's forecast in June for the number of housing starts. A lower level of construction can be detected in several indicators such as fewer housing starts, fewer new building permits and less optimistic construction companies.

Continued high demand for labour

Both the supply of labour and the demand for labour have increased significantly in recent years. This has meant that both the labour force participation rate and the employment rate are at record high levels (see Figure 4:10). Both the number of persons in the labour force and the number of persons employed continued to increase in April and May and unemployment has remained largely unchanged compared with the first quarter. The monthly outcomes for the second quarter, 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

Figure 3:8. Confidence indicators

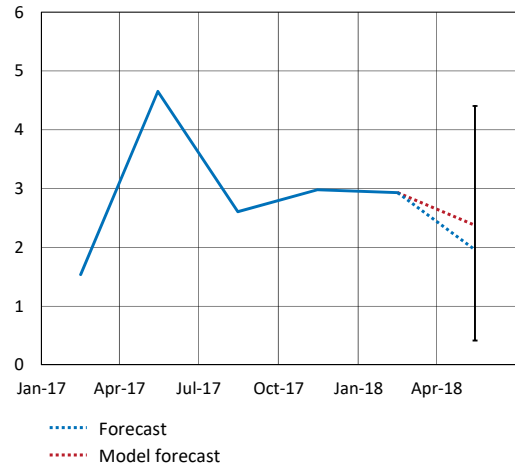
Index, average = 100, standard deviation = 10, seasonally-adjusted data



Source: National Institute of Economic Research

Figure 3:9. GDP, model forecast with uncertainty bands

Quarterly change in per cent, calculated as an annual percentage change, 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

Figure 3:10. 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, lagged one quarter. Recruitment plans for 2018 Q2 refer to an average of the monthly outcomes in April to June 2018.

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

the coming quarters, albeit at a somewhat slower pace than before (see Figure 3:10).

Since the end of last year, the number of registered unemployed belonging to so-called vulnerable groups has begun to decline (see Figure 3:11). The number of registered unemployed outside of the vulnerable groups has declined faster, however, and as a percentage of the total unemployed, the vulnerable groups now comprise just over 75 per cent. The upturn in recent years in the percentage belonging to a vulnerable group makes it difficult to envisage a continued decline in unemployment. The upturn is largely due to an increasing number of people born outside of Europe becoming registered with the employment service. Those born outside of Europe are a heterogeneous group, but have on average greater difficulty in obtaining work than other groups in the labour market. This is partly because many in the group lack upper-secondary school education and because it takes time to learn the Swedish language. Moreover, those born abroad rarely have the same access to informal and formal networks as those born in Sweden.

Resource utilisation in the economy higher than normal

The amount of spare capacity in the economy is affecting wages and prices, albeit with some time lag. As it is not possible to observe resource utilisation in the economy, the Riksbank makes an assessment of it based on a number of different indicators.

Capacity utilisation in the manufacturing industry is high, both according to the National Institute of Economic Research and according to Statistics Sweden. The percentage of companies reporting labour shortages is also very high, which also applies to the vacancy rate that measures the number of unstaffed positions that need to be filled immediately. Moreover, the average recruitment time in the business sector is long.

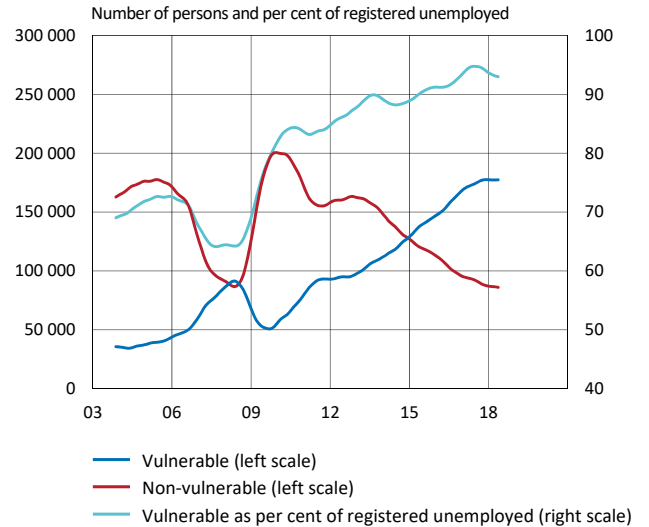
All in all, the Riksbank assesses that resource utilisation in the economy is higher than normal, which is compatible with the high level of the Riksbank’s resource utilisation indicator (see Figure 3:12).

Somewhat higher wage increases

The high level of resource utilisation and the increasingly strained situation on the labour market contribute to the expectation that wages will rise. The National Mediation Office’s estimates indicate that average wage growth from January to April this year was around 2.6 per cent as a yearly percentage change, which is somewhat higher than in 2016 and 2017, when wages rose by 2.4 per cent (see Figure 3:13).

The National Accounts’ hourly wages and labour costs per hour in the economy as a whole developed in line with short-term wages during the first quarter. Productivity, like wages, has grown relatively slowly in recent years. Although unit labour costs developed relatively weakly at the end of last year and the beginning of 2018, they are on average expected to develop at a

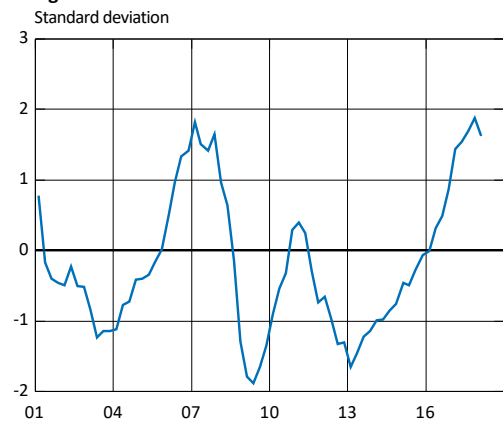
Figure 3:11. Registered unemployed by vulnerable and non-vulnerable groups



Note. Vulnerable groups refer to unemployed without upper-secondary education, born outside of Europe, people aged 55–64 years and persons with disabilities.

Source: Swedish Public Employment Service

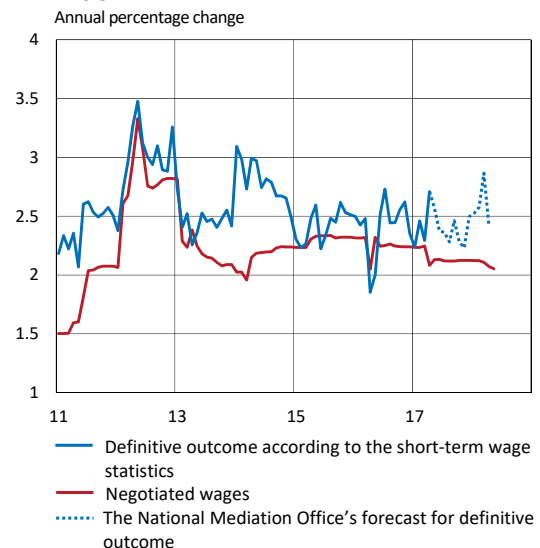
Figure 3:12. Resource utilisation indicator



Note. The RU indicator is a statistical measure of resource utilisation which summarise information from a range of indicators for resource utilisation in the Swedish economy. It is normalised so that the mean value is 0 and the standard deviation is 1.

Source: The Riksbank

Figure 3:13. Wages and wage agreements in the economy as a whole



Source: National Mediation Office

normal rate, in historical terms, during the second and third quarters.

Resource utilisation affects wages, labour costs and inflation after a certain time lag and the Riksbank assesses that wages will grow slightly faster going forward. However, the rate of increase will still be slow in relation to the high level of resource utilisation, see the article “The Phillips curve and monetary policy”.

CHAPTER 4 – The economic outlook and inflation prospects

International economic activity is favourable and growth is good. Although growth is expected to decline in the coming years, resource utilisation will continue to rise in the developed economies, resulting in gradually rising wage growth and inflation. The economic situation in Sweden is also strong and GDP growth has been high for several years. The current assessment is that resource utilisation is higher than normal, which is largely a result of favourable developments abroad, an expansionary monetary policy, and substantially increased housing construction. When international growth slows down to a rate more in line with the long-term trend and housing construction slows down in the wake of the recent downswing in housing prices, this will also mean that growth in Sweden slows down in the coming years. The increasingly stronger labour market will contribute to wage growth gradually rising going forward, which together with rising international inflation is expected to continue to contribute to rising inflation in Sweden. At the same time, the krona is expected to strengthen gradually during the forecast period, subduing the rate of inflation. Overall, it is the Riksbank's assessment that CPI inflation will be close to 2 per cent in the coming years.

International outlook

Favourable international economic activity

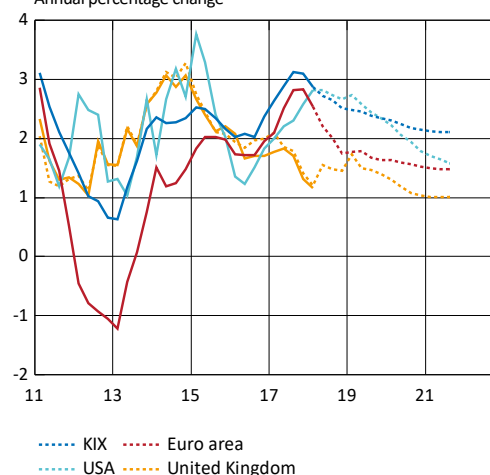
Following relatively strong GDP growth in 2017, 2018 began with somewhat weaker growth rates in most countries and regions (see Figure 4:1). Industrial production and the retail trade weakened in general, as did confidence among companies. However, this development is assessed to be partly an effect of temporary factors and not a sign of clearly weaker economic developments. As resource utilisation continues to rise and monetary policy becomes less expansionary, KIX-weighted GDP growth is expected to slow down gradually, from almost 3 per cent this year to just over 2 per cent in 2020.

Growth in the emerging economies is assessed to remain high. As these countries have a greater weight in global GDP than in KIX-weighted GDP, global GDP growth will on the whole be higher than the KIX-weighted GDP and amount to 3.8 per cent on average during the period 2018–2020.

Economic activity remains good in the United States

Confidence among US companies is high and households are optimistic, which on the whole indicates continued high GDP growth in the short term. The labour market is strong and unemployment is at the lowest level for almost 20 years. The expansionary fiscal policy in the form of tax cuts and increased public expenditure is expected to increase GDP growth this year and next year. Financial conditions continue to be favourable for growth, even if they become less expansionary as the Federal Reserve continues to raise its policy rate and reduce its asset holdings. GDP growth is expected to be almost 3 per cent in 2018 and then to decline to around 2 per cent in 2020. The tariffs

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

introduced so far cover a relatively small part of the economy and are therefore assessed to only have a slightly dampening effect on US growth. This effect could be greater both for the United States and other countries if the protectionist measures were to escalate (see the fact box “Increased trade barriers and the Riksbank’s forecast: an update”).

High growth in emerging economies

Growth is assessed to remain high in emerging economies, especially in Asia and Eastern Europe. The fact that the oil price has risen (see Figure 4:2) contributes positively to the recovery in some economies, especially in Russia. However, rising US interest rates have contributed to concern in countries that are dependent on dollar funding. In addition, a number of country-specific factors such as geopolitical unease and reduced confidence in economic policy have affected countries such as Argentina, Brazil and Turkey.

In China, the economy is expected to continue to grow at a good pace this year, in line with the Chinese government’s growth target for GDP of around 6.5 per cent. Growth is expected to be gradually lower going forward as the readjustment towards a more consumption and services-driven growth proceeds, and is expected to amount to around 6 per cent in 2020. New regulations have recently contributed to dampening the high credit growth. In line with the assessment for the US, the announced and partly introduced tariffs on Chinese goods have limited impact on growth.

Slower growth in the euro area and the UK

Retail trade and industrial production showed weak development in the euro area at the beginning of the year. Retail trade has since recovered, while industrial production is still showing a weak development. Confidence among both households and companies has declined in recent months, but is still high and indicates good GDP growth. All in all, GDP growth is assessed to be above normal this year (see Figure 4:1). In the coming years, growth will slow down towards a more normal pace, as the pent-up consumption and investment needs are met and resource utilisation will rise. In Italy, the political unease is expected to contribute to slowing down growth, although this will only marginally affect growth in the euro area as a whole. In the United Kingdom, resource utilisation is high and GDP growth is expected to be low in the coming years (see Figure 4:1).

Slowly rising inflation abroad

The rising oil price during the first half of 2018 contributes to inflation in many parts of the world being expected to increase faster going forward (see Figures 4:2 and 4:3). For many countries and regions inflation is expected to rise to above 2 per cent during the second half of 2018, which is the highest rate of increase since 2011.

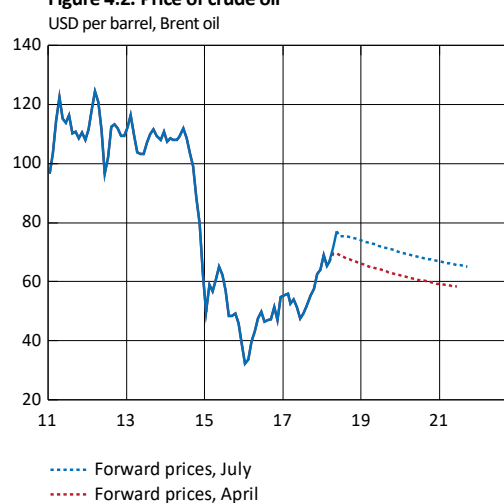
Inflation excluding energy and food prices, is also expected to rise somewhat, but nevertheless remain relatively moderate. In

Increased trade barriers and the Riksbank’s forecast: an update

On 23 March this year, the United States introduced import tariffs on steel and aluminium of 25 and 10 per cent respectively. All in all, these goods comprise just under two per cent of the total imports to the United States. Time-limited exemptions were initially granted for several of the largest exporters to the United States, including Canada and Mexico, as well as countries within the EU, but as of 1 June the tariffs have also begun to apply to these countries. On 22 June the EU introduced counter-measures, which include extended tariffs on steel and aluminium products, agricultural products and motorcycles. The United States has recently notified intentions to introduce tariffs on the import of motor vehicles and vehicle components. This could entail a significant escalation of the trade barriers, as the value of these imports is more than ten times greater than the value of steel import.

The United States has also announced that they are to raise import tariffs on Chinese goods for a total of USD 50 billion, of which goods worth 34 billion will be covered by 25-per cent tariffs with effect from 6 July. China has announced that they will respond with equivalent tariff increases on goods from the United States, starting 6 July. So far, a relatively small share of the trade between the United States and China is concerned, which indicates a limited impact on GDP growth in the two countries. In addition to the tariff increases that have been decided, the United States has announced that further tariff increases may be introduced against China. Moreover, the United States has announced measures to make Chinese investments in the United States more expensive. All in all, the macroeconomic effects of the measures that have been introduced and announced so far are assessed to be limited. If the trade conflicts between the United States and other countries were to escalate further, or to lead to more countries establishing trade barriers, the effects on the global economy could be greater.

Figure 4:2. Price of crude oil



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

Sources: Macrobond and the Riksbank

the euro area, more strained resource utilisation is expected to mean that wages rise a little faster going forward, which will contribute to core inflation rising gradually from around 1 per cent to just below 2 per cent towards the end of the forecast period. The new wage agreements in Germany, which are a little higher than last year's, also support this picture. In the United States, core inflation has risen somewhat faster and this development is expected to continue as resource utilisation becomes increasingly strained.

Weaker demand in the United Kingdom, together with the earlier effects of a weaker sterling now having faded, contribute to inflation in the UK slowing down during the forecast period.

Krona weaker but will appreciate gradually

The krona exchange rate has weakened over the year, in both nominal and real terms (see Figure 4:4). This is due to some extent to changed expectations of future monetary policy in Sweden in relation to other countries. However, the krona also tends to weaken in times of increased uncertainty regarding international economic developments, which means that concern over increased global protectionism and developments in Italy may have contributed to this development. The fact that Sweden has had a stronger development in the real economy than other countries suggests that the krona should be stronger than its current level in the longer term. However, it is very uncertain exactly how much stronger, and how fast the appreciation will be.

Sweden

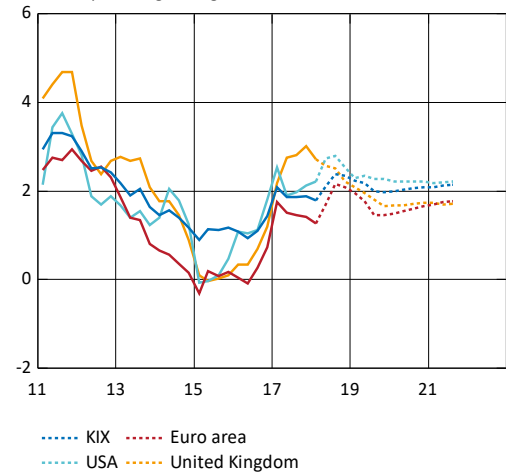
Lower growth going forward but continued strong economic activity

High GDP growth over several years has meant that resource utilisation has risen and that economic activity in Sweden has become ever stronger. The current assessment that resource utilisation is higher than normal is largely due to very low interest rates and a good development on Swedish export markets. Favourable funding terms have also contributed to substantially increased housing construction. When international growth slows down to a rate more in line with the long-term trend and housing construction declines, this will also mean that growth in Sweden slows down somewhat in the coming years. Overall, GDP growth is expected to amount to just over 2.5 per cent this year and then fall to about 2 per cent a year in 2019 and 2020. The growing population means that the growth rate as GDP per capita will be around one percentage point lower per year (see Figure 4:5).

Some slowdown in international demand in the coming years

Although the economic situation in many of Sweden's export countries has strengthened, growth is not especially high from a historical perspective. This is partly due to a broad international

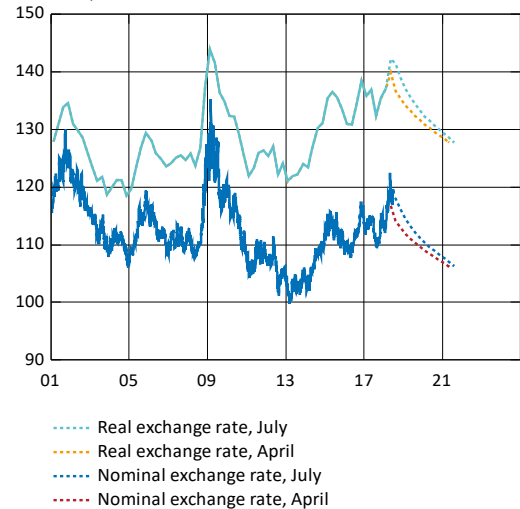
Figure 4:3. Inflation in various countries and regions
Annual percentage change



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

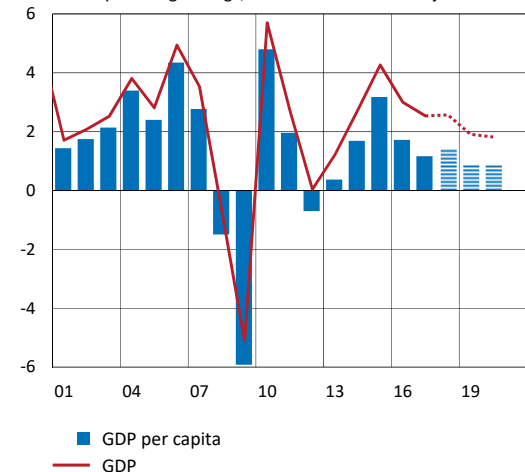
Figure 4:4. Real and nominal exchange rate, KIX
Index, 18 November 1992 = 100



Note. The real exchange rate has been calculated with the CPI for Sweden and the CPI for the rest of the world. Outcomes are daily data for the nominal exchange rate, outcomes for the real exchange rate and forecasts refer to quarterly averages. 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 4:5. GDP and GDP per capita
Annual percentage change, seasonal- and calendar-adjusted data



Sources: Statistics Sweden and the Riksbank

downturn in productivity growth that has made the economies' long-term growth potential decline. Nor is international GDP growth expected to generate demand for Swedish exports to the same extent as in the 1990s and 2000s, when global trade expanded at a rapid pace. Foreign demand for Swedish exports will nevertheless be relatively high this year, but will dampen somewhat in the coming years as GDP growth slows down, especially in the euro area (see Figure 4:6). As the manufacturing industry already has a high level of capacity utilisation to start with, the higher foreign demand for Swedish goods and services also entails an increased need for new investment in Swedish companies. The effects on Swedish imports of the recent weak krona are expected to be moderate, however, partly because the krona depreciation is temporary and because Swedish export goods contain a large portion of imported input goods.

Decline in housing prices weighs down housing investments

After some years of very high growth, the number of housing starts amounted to around 64 000 in 2017, which is very high in an historical perspective. The fact that the supply of housing is growing rapidly is assessed to have contributed to the decline in housing prices that has been going on since autumn 2017, particularly in certain segments of the housing market. The price decline is assessed to contribute to the supply of housing increasing more slowly going forward. Continued growth in employment and low interest rates are expected to keep demand for housing up, however, and the decline in construction will be moderate. All in all, developments in supply and demand indicate a stabilisation of housing prices this year, followed by a weak upturn in the coming years. Reduced new housing construction means that housing investment will slow down to nearly 5 per cent of GDP in 2020 (see Figure 4:7). Housing investment will therefore make a negative contribution to the annual GDP growth with effect from 2019, which can be compared with the positive contribution to GDP growth over the past four years (see Figure 4:8).²⁴

The weaker development in the housing market is assessed to have dampened household confidence somewhat, but is at the same time expected to have moderate significance for their consumption in the coming years. Households have for a long period of time saved an increasingly large share of their incomes (see Figure 4:9). In the coming years, household incomes will increase at a slower pace, as employment growth slows down and mortgage rates rise.²⁵ To be able to maintain increased consumption, households are expected to reduce their saving.

Debts increasing despite weak housing market development

As around 80 per cent of new loans to households are used to purchase housing, there is normally a positive connection between the development in housing prices and household debt.

²⁴ For a more detailed discussion on the development of housing investment, see the article "Reduced housing construction is subduing GDP growth" in the Monetary Policy Report February 2018.

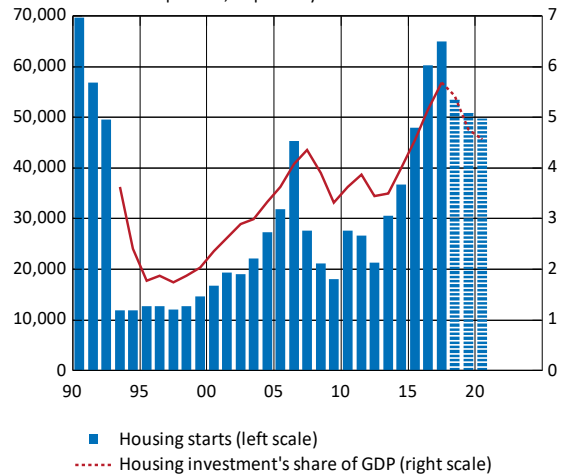
²⁵ Households' disposable incomes include both income and expenditure from interest.

Figure 4:6. Exports and the Swedish export market
Annual percentage change, calendar-adjusted data



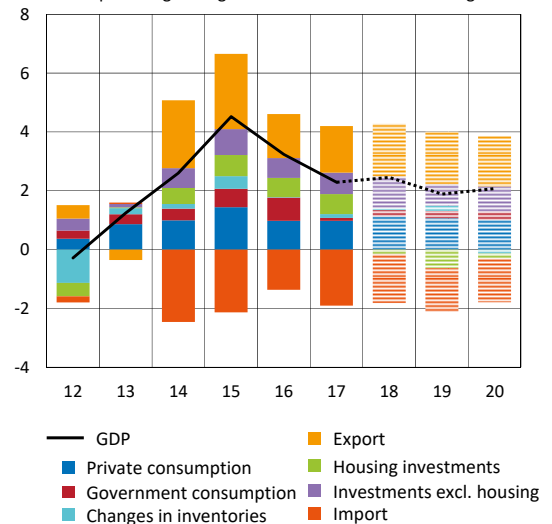
Note. The Swedish export market index aims to measure import demand in the countries to which Sweden exports. This is calculated by aggregating imports in the countries included in KIX and covers around 85 per cent of the total Swedish export market.
Sources: Statistics Sweden and the Riksbank

Figure 4:7. Housing starts and housing investments
Number and per cent, respectively



Note. Housing investment's share of GDP is calculated at current prices.
Sources: The National Institute of Economic Research, Statistics Sweden and the Riksbank

Figure 4:8. Contribution to GDP growth
Annual percentage change and contribution to annual GDP growth



Sources: Statistics Sweden and the Riksbank

Despite the downturn in housing prices, debts are continuing to increase, albeit at a slower pace. This is because a person buying housing today pays on average a much higher price than before. This also means that the loans to finance housing purchases are now larger than the average loans held by the existing home-owners now selling their homes. The turnover of homes will thereby contribute to a rise in total household sector debt. The historically high new construction has also contributed to a relatively rapid increase in the number of home-owners with mortgages.

The now more subdued development on the housing market with regard to prices, turnover and new production is expected to contribute to a lower growth in household debt over the coming years. However, debts are still growing somewhat faster than households' disposable incomes and the debt-to-income ratio will continue to increase in the coming years (see Figure 1:12).

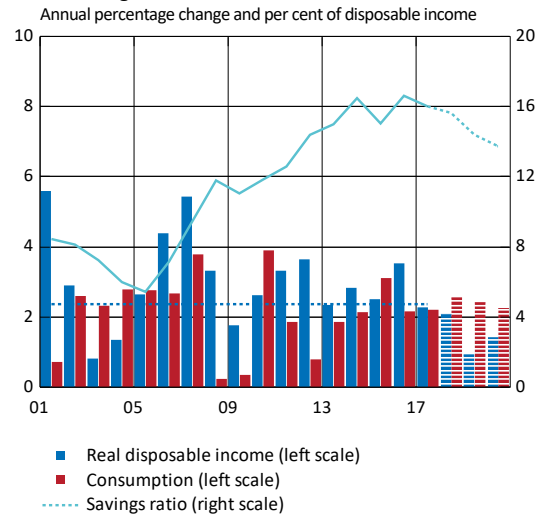
Strong labour market

Developments on the labour market have been strong for several years and both the labour force participation rate and the employment rate have risen to historically high levels (see Figure 4:10). Labour supply has increased rapidly as a result of both high growth in the population and an increased labour force participation rate. According to Statistic Sweden's most recent population forecast in April, the working-age population will continue to increase, albeit at a slower pace than in recent years (see fact box "New population projection affects the forecast"). The new population forecast means that the number of people in the labour force is now expected to increase slightly more rapidly in the coming years.

However, the inflow into the population and the labour force consists largely of people born outside of Europe, which is a group that has historically had a relatively weak attachment to the labour market. However, there are positive signs that new arrivals are establishing themselves on the Swedish labour market more quickly than they have done previously.²⁶ This is probably partly due to the favourable economic climate and the strong economic activity is expected to continue to facilitate entry onto the labour market for new arrivals in the coming years.

Resource utilisation is currently deemed to be higher than normal. High shortages and long recruitment times suggest that it is difficult for companies to find the labour they are looking for, which is expected to restrain employment growth in the years to come. Although unemployment is still relatively high, the composition of the unemployed group at the same time entails a challenge, as it consists to a very large degree of people who have historically found it difficult to get a job, for instance, those who lack upper-secondary school education and those born

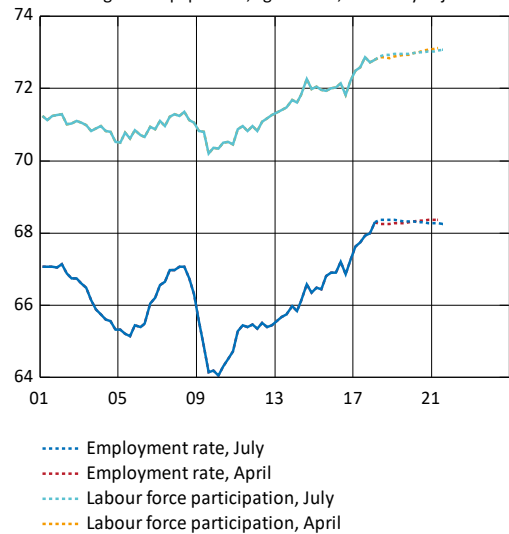
Figure 4:9. Households' real disposable income, consumption and savings ratio



Note. Disposable income has been deflated using the household consumption deflator. Broken line is the average of consumption growth 1994–2017.

Sources: Statistics Sweden and the Riksbank

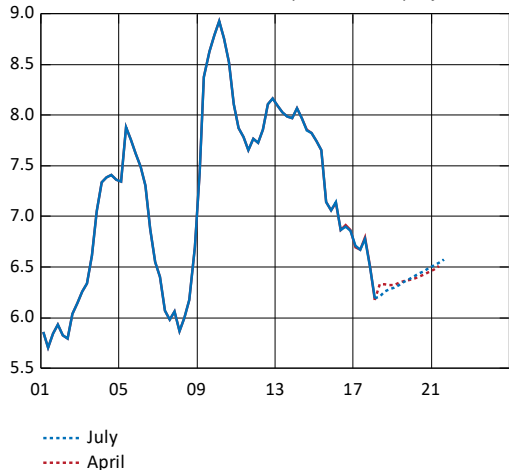
Figure 4:10. Employment rate and labour force participation
Percentage of the population, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 4:11. Unemployment

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



Sources: Statistics Sweden and the Riksbank

²⁶ Register data from Statistics Sweden for 2016 show that refugees received by municipalities, who have been in Sweden for two years or longer, are now finding work at a faster rate than they have done in recent years.

abroad (see Figure 3:11). The Riksbank therefore assesses that unemployment will increase slightly in the years ahead (see Figure 4:11). All in all, however, resource utilisation on the labour market, and in the economy as a whole, is expected to rise further this year and be higher than normal in the years ahead (see Figure 4:12).

Wages rising but at a moderate pace

According to the short-term wage statistics, there are signs that the rate of wage growth has begun to rise at the beginning of 2018 (see Figure 4:13). Throughout the entire forecast period, the labour market will become stronger and this will contribute to wage growth continuing to rise, even if it is expected to remain relatively moderate in relation to resource utilisation. There are several indications that wage growth will rise. Companies' expectations of developments in wage costs and wage drift during the coming twelve months fell somewhat in the Riksbank's most recent Business Survey, which was made in May, but they have shown a rising trend since 2013.²⁷ According to the same survey, companies are still reporting large shortages of labour and specialists and mention difficulties obtaining the right competence.

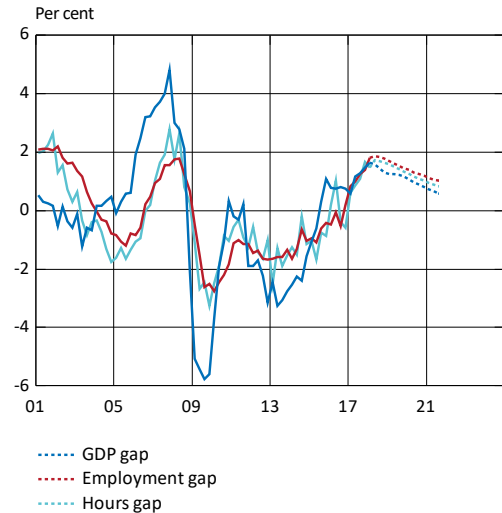
The National Accounts' hourly wages and labour costs, that is, wages plus social security contributions, are expected to rise in line with short-term wages over the forecast period. The temporary reduction in the statutory social security contributions for sole proprietorship firms, which this year is extended to further corporate forms and applies until 2021, is contributing to dampening labour costs, particularly this year. Productivity growth, which has been weak since the financial crisis, is expected to strengthen somewhat, but will be lower than the historical average during the forecast period. All in all, 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 4:14).

Inflation close to 2 per cent in coming years

In May, CPI inflation amounted to 2.1 per cent (see Figure 3:1). It was thus somewhat higher than in the forecast in the April Monetary Policy Report. Rising oil prices and the weak development of the krona have contributed to energy prices increasing faster than expected. However, measures of underlying inflation, which provide an indication of where inflation is heading, suggest that inflationary pressures are still moderate. One such measure, CPI inflation excluding energy, amounted to 1.5 per cent in May. This was marginally lower than in the Riksbank's forecast (see Figure 4:15).

There has been trend increase in inflation since 2014. The rising resource utilisation has made it easier for companies to raise their prices. The fact that inflation has risen is also due to

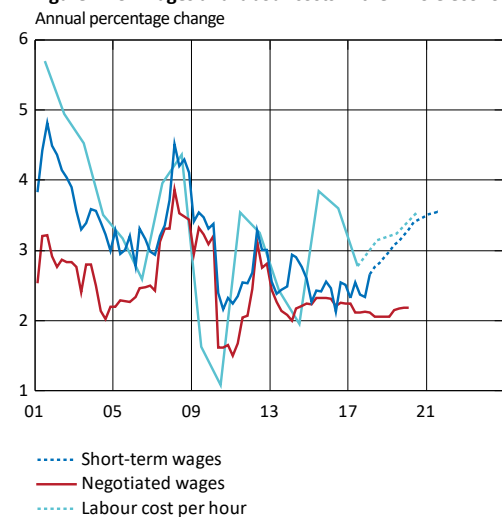
Figure 4:12. GDP gap, employment gap and hours gap



Note. The gaps refer to the deviation in 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. Wages and labour costs in the whole economy



Note. The National Mediation Office's forecast of final outcome 2017Q2–2018Q1.

Source: National Mediation Office, Statistics Sweden and the Riksbank

New population projection affects the forecasts

Normally, the Riksbank uses Statistics Sweden's population projections to make long-term forecasts of various labour market variables. Since the previous population projection was published last year, the Swedish Migration Agency has gradually revised down its forecasts for the number of new residence permits granted. As a result of this, the Riksbank has also made a downward adjustment to its population growth figure in the forecasts. According to Statistics Sweden's new population projection, however, the working age population is expected to increase somewhat faster in the coming years than the Riksbank had assumed (see Statistics Sweden, "The future population of Sweden 2018–2070", Demographic reports 2018:1). This is primarily due to the expectation that labour immigration will be larger. As a result, the supply of labour and demand have been revised up in relation to the Monetary Policy Report in April.

²⁷ "The Riksbank's Business Survey: The economic upswing is continuing", June 2018, Sveriges Riksbank.

the krona having weakened, which has led to the prices of imported goods and services being pushed up.

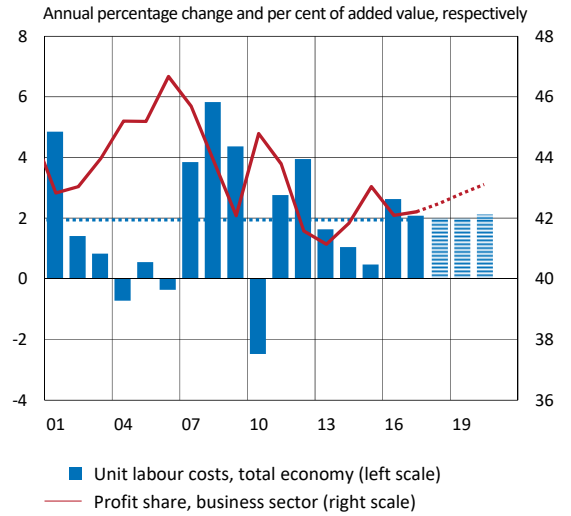
In the coming years, the high resource utilisation in Sweden is expected to continue contributing to inflationary pressures. At the same time, inflation abroad will rise. However, the krona is expected to strengthen gradually, which will slow down the rate of inflation. Overall, it is the Riksbank’s assessment that CPIF inflation will be close to 2 per cent in the coming years (see Figure 4:16). When the repo rate, and thereby also mortgage rates, begins to rise towards the end of 2018, household interest expenditure will increase faster, which means that CPI inflation will rise faster than CPIF inflation.

Inflation forecast revised up in the coming year

The cyclical conditions for inflation are assessed to be largely unchanged since the previous Monetary Policy Report. Resource utilisation is assessed to remain high in the coming years. This contributes to inflationary pressures, which are still assessed to be moderate, rising in line with the earlier assessment. This is also illustrated by the forecast for CPIF inflation adjusted for energy price changes stabilising close to 2 per cent in 2019.

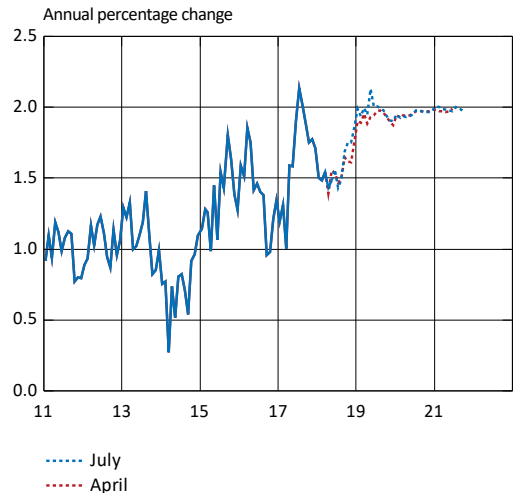
Compared with the forecast in April, the krona is expected to be weaker and energy prices to increase faster. This means that CPIF inflation is expected to increase at a faster pace over the coming year, compared with the forecast in April. In the slightly longer term, however, the forecast is unchanged.

Figure 4:14. Unit labour costs and profit share



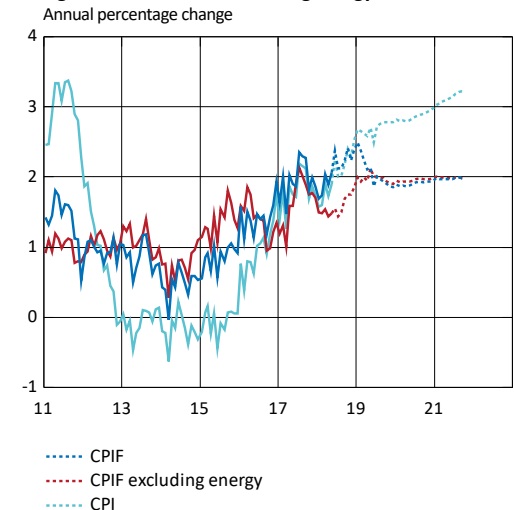
Note. Profits refer to operating surplus as a percentage of total value added in the business sector. The broken line refers to the average rate of increase in unit labour costs (entire economy) since 1994.
Sources: Statistics Sweden, the National Institute of Economic Research and the Riksbank

Figure 4:15. CPIF excluding energy



Sources: Statistics Sweden and the Riksbank

Figure 4:16. CPIF, CPIF excluding energy and CPI



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

	Q2 2018	Q3 2018	Q4 2018	Q3 2019	Q3 2020	Q3 2021
Repo rate	-0.50	-0.50 (-0.50)	-0.43 (-0.43)	0.01 (0.01)	0.57 (0.57)	1.15

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2016	2017	2018	2019	2020
CPIF	1.4	2.0	2.1 (1.9)	2.1 (1.9)	1.9 (2.0)
CPIF excl. energy	1.4	1.7	1.6 (1.6)	2.0 (1.9)	2.0 (2.0)
CPI	1.0	1.8	2.0 (1.8)	2.7 (2.6)	2.9 (2.9)
HICP	1.1	1.9	2.0 (1.8)	2.0 (1.9)	1.8 (1.9)

Note. The CPIF is the CPI with a fixed mortgage rate. 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

	2016	2017	2018	2019	2020
Repo rate	-0.5	-0.5	-0.5 (-0.5)	-0.1 (-0.1)	0.5 (0.5)
10-year rate	0.5	0.7	0.8 (0.9)	1.5 (1.7)	2.2 (2.4)
Exchange rate, KIX, 18 November 1992 = 100	111.7	112.9	116.9 (114.5)	112.8 (110.8)	109.3 (108.1)
General government net lending*	1.2	1.3	0.8 (0.9)	0.9 (0.9)	0.9 (0.8)

* 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	2016	2017	2018	2019	2020
Euro area	0.11	0.48	1.8	2.6	2.1 (2.1)	1.7 (1.9)	1.6 (1.6)
USA	0.15	0.09	1.5	2.3	2.8 (2.8)	2.5 (2.5)	2.0 (2.0)
Japan	0.04	0.02	1.0	1.7	1.0 (1.3)	0.9 (0.8)	0.4 (0.4)
China	0.19	0.09	6.7	6.9	6.6 (6.6)	6.2 (6.2)	6.1 (6.1)
KIX-weighted	0.75	1.00	2.1	2.9	2.7 (2.7)	2.4 (2.5)	2.2 (2.2)
World (PPP-weighted)	1.00	-	3.2	3.7	3.9 (3.9)	3.8 (3.8)	3.7 (3.7)

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	2016	2017	2018	2019	2020
Euro area (HICP)	0.2	1.5	1.8 (1.5)	1.7 (1.5)	1.6 (1.7)
USA	1.3	2.1	2.6 (2.5)	2.3 (2.2)	2.2 (2.2)
Japan	-0.1	0.5	0.9 (1.1)	1.3 (1.4)	1.9 (1.9)
KIX-weighted	1.1	1.9	2.2 (2.0)	2.1 (2.0)	2.0 (2.1)

	2016	2017	2018	2019	2020
Policy rates in the rest of the world, per cent	-0.1	-0.1	0.1 (0.1)	0.2 (0.3)	0.5 (0.7)
Crude oil price, USD/barrel Brent	45.1	54.8	72.9 (67.8)	72.1 (64.1)	68.4 (60.7)
Swedish export market	3.6	5.1	3.8 (4.6)	3.9 (4.1)	3.5 (3.9)

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

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

Table 5. GDP by expenditure

Annual percentage change, unless otherwise stated

	2016	2017	2018	2019	2020
Private consumption	2.2	2.2	2.6 (2.5)	2.4 (2.5)	2.3 (2.5)
Public consumption	3.1	0.4	0.8 (1.2)	1.0 (1.0)	1.1 (1.2)
Gross fixed capital formation	5.6	5.9	3.7 (3.3)	0.4 (0.9)	2.8 (2.8)
Inventory investment*	0.0	0.1	0.1 (0.0)	0.2 (0.2)	-0.1 (-0.1)
Exports	3.3	3.6	4.0 (5.9)	3.9 (4.1)	3.7 (4.1)
Imports	3.4	4.8	4.1 (5.5)	3.6 (4.0)	3.5 (4.2)
GDP	3.2	2.3	2.5 (2.6)	1.9 (2.0)	2.1 (2.1)
GDP, calendar-adjusted	3.0	2.5	2.6 (2.7)	1.9 (2.0)	1.8 (1.9)
Final domestic demand*	3.1	2.5	2.3 (2.2)	1.4 (1.6)	2.0 (2.1)
Net exports*	0.1	-0.3	0.1 (0.4)	0.3 (0.2)	0.2 (0.2)
Current account (NA), per cent of GDP	4.7	4.2	3.9 (4.0)	4.0 (4.0)	4.0 (3.9)

*Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank

Table 6. Production and employment

Annual percentage change, unless otherwise stated

	2016	2017	2018	2019	2020
Population, aged 15–74	0.9	1.1	0.8 (0.8)	0.6 (0.5)	0.5 (0.3)
Potential hours worked	0.9	0.8	0.8 (0.8)	0.8 (0.6)	0.8 (0.5)
Potential GDP	2.2	2.2	2.2 (2.1)	2.2 (2.0)	2.1 (2.0)
GDP, calendar-adjusted	3.0	2.5	2.6 (2.7)	1.9 (2.0)	1.8 (1.9)
Number of hours worked, calendar-adjusted	2.1	1.8	1.4 (1.6)	0.6 (0.5)	0.4 (0.4)
Employed, aged 15–74	1.5	2.3	1.6 (1.4)	0.6 (0.5)	0.5 (0.4)
Labour force, aged 15–74	1.0	2.0	1.1 (1.0)	0.7 (0.6)	0.6 (0.5)
Unemployment, aged 15–74 *	6.9	6.7	6.2 (6.3)	6.3 (6.4)	6.4 (6.4)
GDP gap	0.8	1.1	1.5 (1.5)	1.2 (1.4)	0.9 (1.3)
Hours gap	0.0	1.0	1.6 (1.6)	1.4 (1.4)	1.1 (1.3)

* Per cent of the labour force

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

Sources: Statistics Sweden and the Riksbank

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

Annual percentage change, calendar-adjusted data unless otherwise stated

	2016	2017	2018	2019	2020
Hourly wage, NMO	2.4	2.4	2.7 (2.8)	3.1 (3.1)	3.4 (3.4)
Hourly wage, NA	2.2	2.7	3.0 (2.8)	3.1 (3.1)	3.4 (3.4)
Employers' contribution*	0.7	-0.1	0.1 (0.0)	0.1 (0.1)	0.1 (0.1)
Hourly labour cost, NA	3.0	2.6	3.1 (2.8)	3.2 (3.2)	3.5 (3.5)
Productivity	0.9	0.7	1.2 (1.1)	1.3 (1.5)	1.4 (1.5)
Unit labour cost	2.6	2.1	2.0 (1.7)	2.0 (1.7)	2.1 (2.1)

* 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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