

# Monetary Policy Report

October 2017



Correction 6 November 2017

Incorrect translation in a sentence in chapter 1, page 10. The error has been corrected in this version.

## 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 would be an appropriate monetary policy to conduct.<sup>1</sup> 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 25 October 2017. The report may be downloaded in PDF format from the Riksbank's website [www.riksbank.se](http://www.riksbank.se), where more information about the Riksbank can also be found.

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

# Monetary policy in Sweden

## MONETARY POLICY STRATEGY

- According to the Sveriges Riksbank Act, the objective for monetary policy is to maintain price stability. The Riksbank has defined this as a 2 per cent annual increase in the consumer price index with a fixed interest rate (the CPIF).
- At the same time as monetary policy is aimed at attaining the inflation target, it is also to support the objectives of general economic policy for the purpose of attaining sustainable growth and a high level of employment. This is achieved 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. It thus normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy.
- There is no general answer to the question of how quickly the Riksbank aims to bring the inflation rate back to 2 per cent if it deviates from the target. A rapid return may in some situations have undesirable effects on 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 stretches between 1 and 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, the most important factors, however, are effective regulation and supervision. 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.

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## CHAPTER 1 – Monetary policy considerations

The international recovery is continuing, but global inflationary pressures remain subdued. Even if expectations of monetary policy abroad have moved in a slightly less expansionary direction since the monetary policy meeting in September, the level of interest rates is low. In Sweden, economic activity is strong, resource utilisation is deemed to be higher than normal and CPI inflation is close to 2 per cent. Developments both abroad and in Sweden have been in line with the Riksbank's forecasts.

Inflation is expected to fall back slightly in the period ahead but will remain close to 2 per cent in the next few years. It has taken many years and a great deal of support from monetary policy to bring up inflation and inflation expectations. For inflation to remain close to 2 per cent and inflation expectations to remain firmly anchored, the strong economic activity will have to continue to have an impact on price development. It is also important that the krona does not appreciate too quickly. The inflation forecast thereby requires a continued expansionary monetary policy. The Executive Board has decided to hold the repo rate unchanged at -0.50 per cent and, as in September, the repo rate is expected to remain at this level until mid-2018, after which slow rate rises will be initiated. Purchases of government bonds will continue in line with the decision in April. As the asset purchase programme will run for the remainder of the year, it will provide an opportunity to await further information that could affect a decision in December to possibly extend the purchases. 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.

### Strong economic activity in Sweden and inflation close to target

Global trade is increasing at a good pace and, even if both political and economic uncertainty remain abroad, the mood is good among both households and companies in many countries. The economic upswing is covering more and more countries and regions. The weak economic developments in the euro area in the wake of the debt crisis have long slowed down Swedish exports. However, economic activity in the euro area has improved significantly recently. GDP growth is above historically normal levels, while confidence among households and companies is strong. Unemployment has fallen continuously since 2013, even if there is still some way to go before the levels from before the financial crisis are reached. Confidence is also strong among households and companies in the United States, indicating continued relatively strong growth. Over the coming three years, GDP growth in the United States is expected to be just over 2 per cent per year, meaning that this expansion phase will be the longest of the post-war period.

One way of weighing together GDP development in different countries and regions according to their significance for the Swedish economy is to use the weights in the krona index, KIX. Overall, KIX-weighted GDP growth is expected to be just over 2.5 per cent this year, before gradually slowing down in following years. International growth is thereby expected to be approximately in line with the historical average over the last few years.

Table 1:1.

Important factors for monetary policy
Continuing international economic upturn The monetary policies conducted by the world's central banks are in different phases and the normalisation of monetary policy is proceeding slowly.
Resource utilisation is higher than normal in Sweden and will remain so in the coming years.
Inflation expectations are back close to 2 per cent and inflation will be close to 2 per cent over the entire forecast period.
The krona is expected to appreciate slowly going forward.
Conclusion: Monetary policy needs to remain expansionary for inflation to continue to be close to 2 per cent. The repo rate is being held at -0.50 per cent and purchases of government bonds will continue in accordance with the decision taken in April. As the present asset purchase programme will run for the remainder of the year, it will provide an opportunity to await further information that could affect a decision in December to possibly extend the purchases. The mandate that facilitates a rapid intervention on the foreign exchange market is being extended.

Table 1:2.

Small forecast revisions
Slightly higher growth and inflation abroad this year and next year.
Swedish growth revised down this year due to new outcome, the forecast for next year is revised up in line with strong indicators.
Higher labour force participation and employment rate and slightly lower unemployment going forward.
The forecast for inflation is somewhat lower in the coming year due to a somewhat weaker outcome than expected.
Somewhat weaker exchange rate in the coming year.

**Inflation abroad rising slowly**

Inflation abroad fell at the start of 2017 in the wake of falling energy prices. Since the summer, energy prices have risen again, contributing to higher inflation. But underlying inflation has largely been subdued, both in the United States and in the euro area. This is expected to change in the period ahead. Economic activity is becoming stronger and conditions for rising wage increases are also deemed to exist, for example in Germany. Overall, KIX-weighted inflation is expected to be just under 2 per cent this year and rise to just over 2 per cent over the next few years.

**The major central banks are in different phases**

The major central banks abroad continue to be in different phases. The European central bank (ECB) retains the expansionary direction of its monetary policy and has communicated that asset purchases will continue until they see a sustained improvement in inflation prospects. Most market participants expect the ECB to continue with its asset purchases over the greater part of next year, albeit at a slower pace. The US central bank, the Federal Reserve, is following its previously announced plan to make monetary policy gradually less expansionary. It has announced a slow reduction of the balance sheet, starting in October. The individual board members' assessments of the future policy rate indicate another rise this year and three next year.

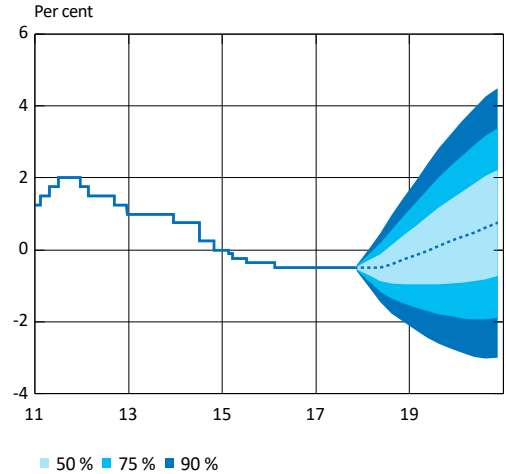
All in all, the normalisation of monetary policy abroad is expected to take time. Even if expectations have moved in a slightly less expansionary direction, monetary policy is expected to continue to be expansionary over the coming years. The KIX-weighted policy rate is expected to rise at a slow pace.

**Swedish economic activity showing strength – but matching problems on the labour market**

During the second quarter, GDP growth in Sweden amounted to 5.2 per cent compared with the immediately preceding quarter and calculated at an annual rate. This implies a certain downward revision against the flash estimate, but growth was nevertheless significantly above the historical average in recent years. Both domestic demand and exports are showing strength. Indicators also point to continued good growth in the coming quarters. For the rest of the forecast period, growth will be largely unchanged compared with the assessment in September, which means that it will slow down from just under 3 per cent this year and next year to about 2 per cent in 2020 (see Figure 1:2). The slowdown towards the end of the forecast period is due to the slowing of growth on Sweden's export markets and a slight decrease in housing investment in Sweden. At the same time, the working-age population is growing at a slower rate, which, together with difficulties in finding suitable staff, is contributing to a decrease in the growth in hours worked.

In recent years, the situation on the labour market has continually improved, with a rising employment rate and falling unemployment. Despite considerable demand for labour, it has become increasingly difficult to match job-seekers with vacancies. This means that unemployment – despite the strong economic situation – is not expected to fall back much more in the years ahead.

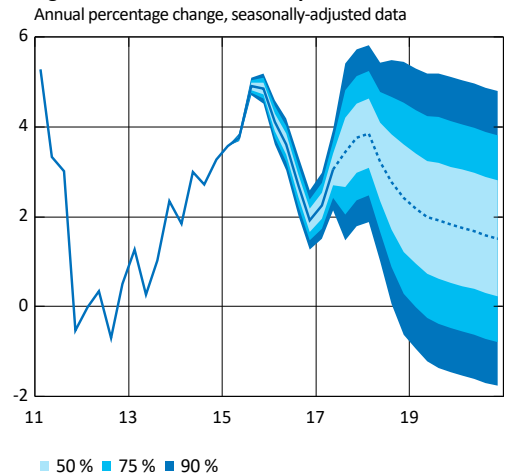
**Figure 1:1. Repo rate with uncertainty bands**



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



### High resource utilisation but normal cost increases

Indicators consistently suggest that resource utilisation is higher than normal in Sweden, and the Riksbank deems that it will continue to be so for the entire forecast period.

The wage bargaining round earlier this year resulted in three-year agreements with relatively moderate agreed wage increases. This year, wages according to short-term wage statistics are expected to rise by 2.7 per cent. The rate of increase will rise to just over 3 per cent in the coming years. One explanation for this is that wages over and above the central agreements are rising as a result of the good economic situation. At the same time, growth in productivity is expected to remain moderate. Although wage increases are subdued, cost pressures, measured as unit labour costs, are thus expected to increase at a more or less normal rate over the forecast period. The view of cost pressures is largely unchanged compared with the assessment in September.

### Inflation close to target

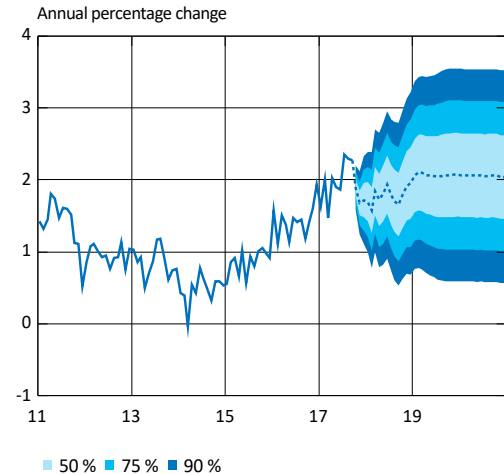
In September, inflation was 2.3 per cent in CPIF terms, and 1.9 per cent in terms of the CPIF excluding energy prices. For some time, it has primarily been prices for services that have been increasing rapidly. Service prices are affected to a larger extent than goods prices by domestic demand. The development can thereby be interpreted as the strong economic activity now making a clearer impact on the rate of price increases.

Part of the rise in inflation over the summer months can be explained by temporary factors such as changed calculation methods for package holiday prices, for example. At the end of 2017 and beginning of 2018, inflation is expected to fall back slightly (see Figure 1:3). This can partly be explained by the rate of increase in prices for package holidays falling back. The contribution to inflation from energy prices will also decrease in the next few months. A third cause is the appreciation of the krona taking place over the year, which is expected to subdue prices for imported goods with a certain time lag. In the period ahead, the krona is forecast to appreciate, albeit slowly (see Figure 1:4). The slight strengthening of the krona in the years ahead will contribute to restraining inflation over the remainder of the forecast period. The expansionary monetary policy and strong economic activity form together a precondition for CPIF inflation to be close to 2 per cent for the whole of the forecast period.

## Current monetary policy

Swedish monetary policy has for some time been conducted in an environment characterised by uncertain economic developments, weak inflationary pressures, low global interest rates and great political uncertainty abroad. The monetary policy conducted by the Riksbank in recent years, with a policy rate below zero and extensive purchases of government bonds, has been exceptional from a historical perspective. The policy is largely a consequence of a global declining trend in interest rates (see Figure 1:5). The aim of the expansionary monetary policy is to stabilise inflation in Sweden around the target of 2 per cent and to keep inflation expectations in line with the target. High confidence in the inflation target creates the conditions for well-functioning price-setting and wage formation, thereby

**Figure 1:3. CPIF with uncertainty bands**



Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. The CPIF is the CPI with a fixed interest rate.

Sources: Statistics Sweden and the Riksbank

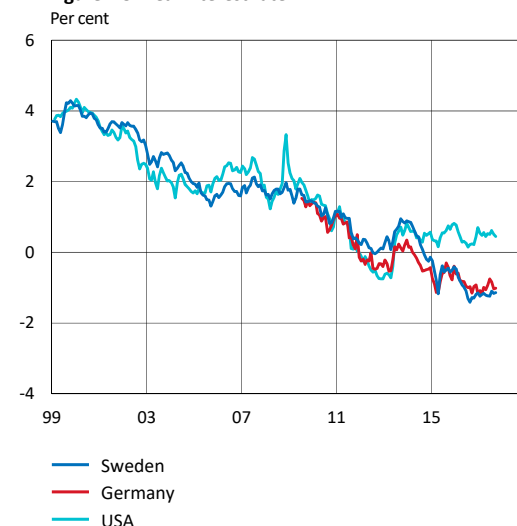
**Figure 1:4. KIX-weighted nominal exchange rate**



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

**Figure 1:5. Real interest rate**



Note. 10-year yield on real government bonds in Sweden, Germany and the United States. Swedish real interest rate is zero coupon yields interpolated from bond prices using the Nelson-Siegel method.

Sources: Bloomberg, Federal Reserve, Thomson Reuters and the Riksbank

contributing to good economic development. Monetary policy has had a significant impact on short- and long-term interest rates and on the krona exchange rate.<sup>2</sup> Since 2014, inflation has risen and is close to target. Inflation expectations in both the short and long terms have also risen and are again close to 2 per cent, measured in terms of both the CPI and CPIF (see box in chapter 3 and Figure 3:5). Economic activity is strong and unemployment has declined. Monetary policy has played a significant role in this development.

### Expansionary monetary policy for CPIF inflation close to the target

Since the Monetary Policy Report was published in September, economic developments, both in Sweden and abroad, have been in line with the Riksbank's forecasts and, all in all, the economic outlook and inflation prospects remain largely unchanged. Global inflationary pressures are still subdued and, even if expectations of monetary policy abroad have moved in a slightly less expansionary direction, interest rates the world over are still low.

In Sweden, both CPIF inflation and different measures of underlying inflation have shown a rising trend since 2014 and are now close to target. Inflation is expected to fall back slightly in the period ahead but will be close to 2 per cent over the entire forecast period. This assessment is largely unchanged since September (see Figures 1:6 and 1:7). A requirement for CPIF inflation to stabilise close to 2 per cent is that monetary policy remains expansionary.

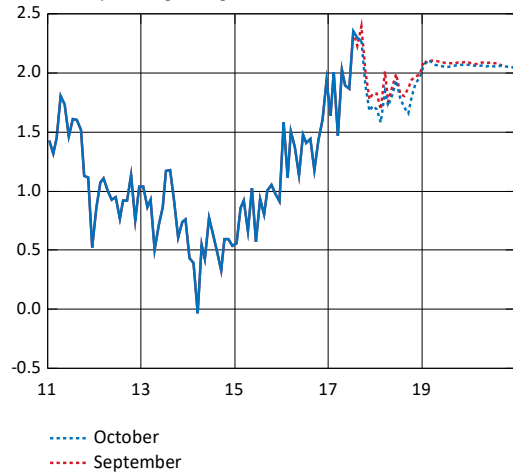
An important factor in the inflation assessment is the extent to which companies increase prices in relation to cost developments. After many years in which price increases have been low in relation to cost increases, the recent strong economic activity seems to have made it easier than previously for companies to raise their prices (see Figure 1:8). The Riksbank's business survey confirms that continued strong economic activity in Sweden is significant for inflation. This shows that consistently rising demand has improved companies' possibilities of increasing their sales prices.<sup>3</sup>

Inflation has been below target for a long time and it has taken a great deal of support from monetary policy to bring up inflation and inflation expectations. As there is a risk that inflation expectations currently are sensitive to negative surprises, inflation outcomes below the inflation target may be more problematic to manage than inflation outcomes above the target. It is therefore important that the strong Swedish economic activity continues to have an impact on price developments so that inflation expectations remain well-anchored around the target.

In light of this, the Executive Board has decided to hold the repo rate unchanged at -0.50 per cent. The repo rate is expected to stay at this level until mid-2018, after which slow increases will be initiated. This is the same assessment as in September (see Figure 1:9). The repo rate will thereby be significantly lower than the long-term normal interest-rate level in the coming years.<sup>4</sup>

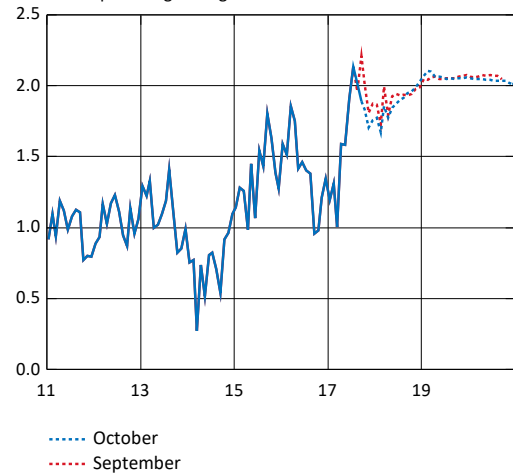
Purchases of government bonds will continue for the rest of 2017, as decided in April, and, at the end of the year, purchases

**Figure 1:6. CPIF**  
Annual percentage change



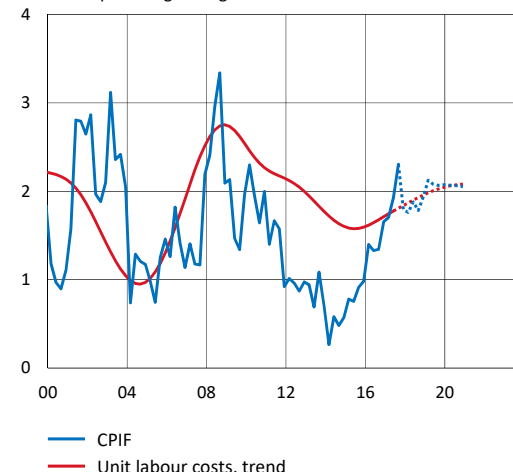
Note. The CPIF is the CPI with a fixed interest rate.  
Sources: Statistics Sweden and the Riksbank

**Figure 1:7. CPIF excluding energy**  
Annual percentage change



Note. The CPIF is the CPI with a fixed interest rate.  
Sources: Statistics Sweden and the Riksbank

**Figure 1:8. Unit labour costs and inflation**  
Annual percentage change



Note. The trend in unit labour costs has been calculated using a so-called HP filter. To calculate the trend, the Riksbank's forecast in October 2017 and an assumption that unit labour costs will increase by 2 per cent beyond the forecast horizon are used.

Sources: Statistics Sweden and the Riksbank

<sup>2</sup> See the article "The effects of monetary policy on financial variables" in the April 2017 Monetary Policy Report.

<sup>3</sup> See the Riksbank's Business Survey in May 2017.

<sup>4</sup> For a discussion, see the article "The long-term repo rate" in the Monetary Policy Report, February 2017.

will amount to SEK 290 billion, excluding reinvestments (see Figure 1:10). As the present asset purchase programme will run for the remainder of the year, it will provide an opportunity to await further information that could affect a decision in December to possibly extend the purchases. Maturities and coupon payments in the government bond portfolio will be reinvested until further notice. The Executive Board has also taken a decision to extend the mandate that facilitates a quick intervention on the foreign exchange market until July 2018. The extension of the mandate is justified by the importance of the krona exchange rate for inflation.

Just as in many other countries in the world, Swedish monetary policy is very 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 1:11).

### Monetary policy considerations

Growth is strong, not least on the labour market where the employment rate has reached historically high levels. Inflation is close to target and, since the beginning of the year, measures of underlying inflation have been above their historical averages (see Figure 3.3). Inflation outcomes have also been higher than expected several months this year, which could indicate that the transmission between strong economic activity and inflation will be greater or quicker than currently predicted in the Riksbank's forecasts.

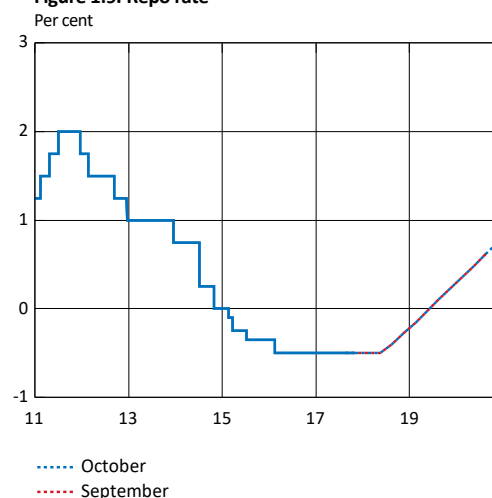
The high level of growth could also create imbalances in the economy, entailing problems further ahead. In addition, since September, there has also been something of a shift in expectations of international monetary policy in a slightly less expansionary direction. Together, these factors could be an argument in favour of a slightly less expansionary monetary policy.

However, the assessment is that there are no signs, as yet, that this high growth will lead to wages and prices rising too rapidly. Factors such as high savings and good competitiveness indicate that there are no major imbalances in the economy in general. But there is a risk that the current high level of housing construction will slow down rapidly, thereby contributing to or strengthening a future downturn (see the article "Is economic activity in Sweden too high?").

The development of the krona exchange rate is important for inflation. The krona is expected to appreciate slowly in the next few years and it is important that the appreciation is actually slow. The US central bank is in a rate hike phase and has announced a gradual tapering of its holdings of assets, starting in October, while the European Central Bank is expected to continue its asset purchases over the greater part of 2018. In this environment, there is uncertainty over how the exchange rate may react. If the Riksbank's monetary policy were to deviate clearly from that of other countries, the appreciation of the krona could occur too quickly or be too strong, which would, in turn, have negative effects on both inflation and growth in the Swedish economy.

All in all, the Executive Board deems that a less expansionary actual or expected monetary policy at present could entail risk as it could lead to inflation falling back and again becoming too low. Confidence in the inflation target could then weaken again. To ensure that inflation remains close to target and that inflation

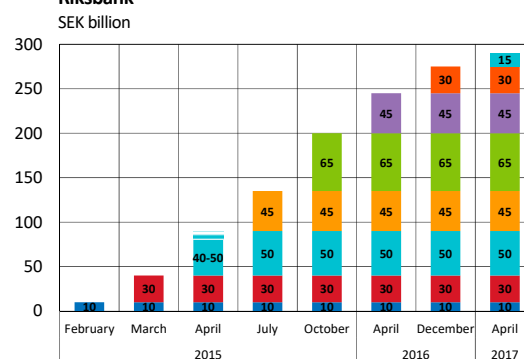
Figure 1:9. Repo rate



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

Source: The Riksbank

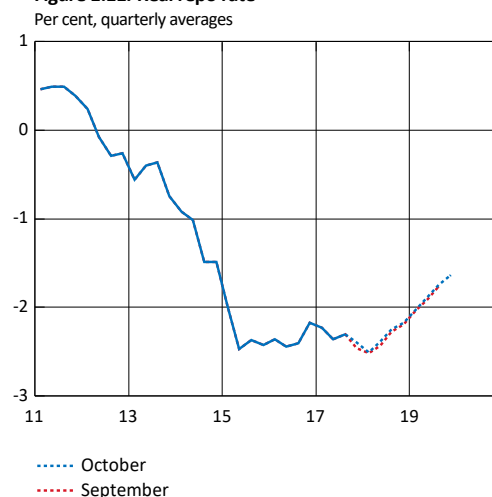
Figure 1:10. Purchases of government bonds decided by the Riksbank



Note. Purchases of government bonds, excluding reinvestments, will continue until the end of 2017.

Source: The Riksbank

Figure 1:11. Real repo rate



Note. The real repo rate is a mean value 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

expectations are firmly anchored, the Executive Board therefore considers it to be too early to make monetary policy less expansionary.

### **Side-effects of monetary policy**

From a historical perspective, the monetary policy being conducted is unusual. This also applies to many other countries. The Riksbank continuously analyses the effects of the negative policy rate and the extensive government bond purchases.

One possible side-effect of low interest rates is that assets become overvalued and risks become incorrectly priced, and that the indebtedness of various agents increases in an unsustainable manner. In Sweden, the increase in household indebtedness has been a source of concern for a long time. Several years of rapidly rising housing prices and heavily increased indebtedness have made households sensitive to falling prices on the housing market, among other things. It is therefore important that further measures are taken to increase the resilience of the household sector and limit the risks inherent in households' high level of indebtedness.

Another possible side effect is that the functioning of the financial markets could be impaired. So far, the financial markets are deemed to have been able to manage the negative interest rate in a relatively frictionless manner and the overall assessment is that the Riksbank's bond purchases have not significantly affected the functioning of the market. The Riksbank is closely monitoring developments by, for example, having regular contacts with the various participants.

Negative interest rates could also lead to a greater demand for cash. But only a small share of deposits are subject to negative rates, and despite the negative interest rate, the demand for cash has continued to decrease.

In addition, the banks' profitability could decrease as a result of negative rates, which could ultimately counteract the intended effect of monetary policy if lending rates were to go higher and credit supply was to diminish. However, Swedish banks' business models have meant that negative interest rates have not prevented high and stable profitability in recent years.

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

## **Uncertainty and risks**

Forecasts of future economic developments are always uncertain, as illustrated by the uncertainty bands in Figures 1:1–1:3. In the Riksbank's forecasts, the risks of both more and less favourable developments are in principle 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, during monetary policy deliberations, one may wish to pay particular attention to certain risks, as the consequences of these may have a severe impact on economic development. But, on other occasions, one may need to await more information before monetary policy is adjusted.

### Uncertainty surrounding the inflation forecast

Even if uncertainty abroad is deemed to have decreased since the start of the year, there remain several economic and political factors that are impairing forecasts of economic development and that could ultimately affect inflation both internationally and in Sweden. One uncertainty factor concerns economic policy in the United States. Questions remain over the shaping of fiscal policy and other matters. The escalated rhetoric in the conflict between the United States and North Korea has also increased geopolitical tension.

There are several uncertainty factors in Europe too. There is still great uncertainty about how the United Kingdom's withdrawal from the EU will affect economic development. A further uncertainty factor concerns the structural problems in the European banking sector. Recently, developments in Catalonia have also increased political uncertainty.

Fluctuations in the krona exchange rate over the past twelve months illustrate the very uncertain nature of exchange rate forecasts. A large and rapid appreciation of the krona would hold back import prices and demand, which would make it more difficult to stabilise inflation around the target. The problems could be particularly serious if confidence in the inflation target was to once again weaken. This risk is significant given that inflation has been low for a long period. A major and rapid appreciation of the krona exchange rate could also have negative consequences for real economic development.

The Riksbank's assessment is that a continued high level of resource utilisation is needed to ensure that inflation remains stable around 2 per cent. Resource utilisation is expected to be higher than normal during the forecast period. One risk to consider in monetary policy is that the high level of resource utilisation could lead to excessively high inflation in the period ahead. The rate of wage increases is certainly expected to be relatively moderate in the years ahead, and lower than what historical correlations with resource utilisation indicate. But the forecast is uncertain. Higher wage growth than expected, in line with the historical correlations with resource utilisation, could lead to inflation that more clearly overshoots the inflation target. There are also signs that prices have increased more rapidly than companies' costs recently. The Riksbank's forecast is that inflation will largely develop in line with cost increases in the period ahead (see Figure 1:8). But the trend of rising mark-ups could, of course, be further fuelled by resource utilisation continuing to be high, potentially leading to inflation also being higher than is presently being forecast.

A number of factors thereby exist that could make inflation either lower or higher than the Riksbank is counting on. The Riksbank is still prepared to make monetary policy more expansionary if inflation should again fall too low and confidence in the inflation target weakened. All of the tools that the Riksbank has described earlier can be used if necessary. If inflation instead is higher than expected, it will need to be taken into account that inflation has been below target for several years. This means that the risk of lower inflation has greater weight in the monetary policy considerations.

### Risks on the housing market need to be managed

The current high growth in Sweden is, to a significant degree, driven by the development of housing investments (see the

### Risks of excessively low inflation

The expansionary monetary policy has a clear focus: Stabilising inflation around the 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 early 1990s. With a shared perception of how prices will develop in the future, it is 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 the 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 below the target over a long period of time, the nominal interest rate will also be lower on average. A lower average nominal interest rate increases the risk that the repo rate will reach its lower bound, in the same way as if the target was lowered. This reduces the Riksbank's leeway for cutting the repo rate in the future if inflation becomes low or economic activity wavers. A too low inflation rate can moreover make it more difficult for real wages to adjust between individuals in the same company and between different industries, as nominal wages usually rise and are rarely lowered. This could entail poorer functioning of the labour market and higher unemployment.

article “Is activity in the Swedish economy too high?”). Housing production has risen very rapidly in recent years. This development can be seen in the light of housing investments, for a long period, not keeping up with demand for housing. This has resulted in housing prices rising sharply for several years, even if the rate of increase has slowed down recently (see Figure 1:12).<sup>5</sup> Household indebtedness has increased in line with housing prices and is currently on a historically high level (see Figure 1:13).

The Riksbank's forecast suggests that housing prices will increase more slowly in the next few years, among other things because there is a greater supply of housing and mortgage rates faced by households are starting to rise. But there are significant risks.

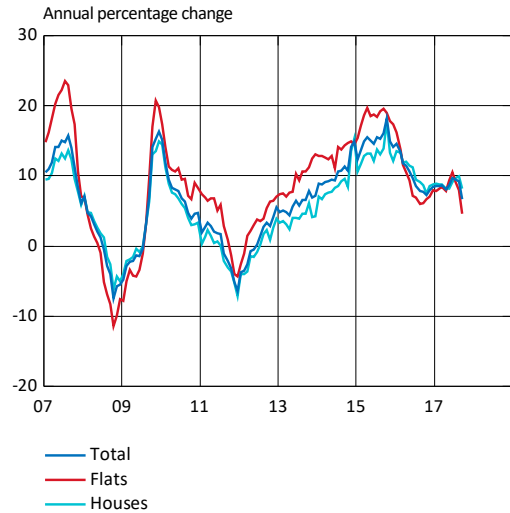
From a structural perspective, it is important to increase the supply of housing. But a continued heavy increase of housing construction in combination with weakened demand could result in a future fall in prices for housing. Households' high indebtedness is making their consumption demand sensitive to falling housing prices but also to rising interest expenditure. In this respect, the current high level of saving among households could be seen as a benefit, even if there are no statistics on the micro level over the allocation of Swedish households' consumption and saving.<sup>6</sup> The banking system is also vulnerable due to its heavy exposure to the housing market. About 70 per cent of the major Swedish banks' lending is with homes and other types of property as collateral. Risks on the housing market could therefore jeopardise both financial and macroeconomic stability. Achieving a better functioning housing and mortgage market will require a holistic approach within housing and tax policies, aimed at creating a better balance between supply and demand for housing. In the longer term, a better functioning housing and mortgage market could reduce the risks associated with household indebtedness.

But measures managing the risks in the near term are also needed. A large increase in the repo rate could slow down the build-up of debts but would also lead to higher unemployment, a much stronger krona and lower inflation. Macroprudential policy measures that are more specifically aimed at reducing the risks associated with household debt have less negative effects on the economy as a whole.

The Riksbank has therefore called for further macroprudential policy measures and welcomes Finansinspektionen's announced proposal on a tighter amortisation requirement, which is proposed to become effective in March 2018. It is important that the Government urgently takes a decision on this matter, so that the tighter amortisation requirement can be put into place as planned.

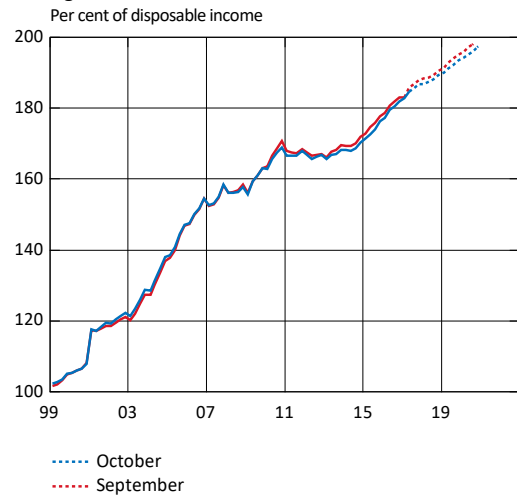
The Riksbank has also stated that it is important that Finansinspektionen's assignment and goals for macroprudential policy, and the process for allocating tools to Finansinspektionen, be clarified and set out in law. Earlier this year, the Government presented proposals for further tools for macroprudential policy, which have now resulted in a proposal referred to the Council on Legislation for consideration and proposed entry into force in February 2018.

**Figure 1:12. Housing prices**



Source: Valueguard

**Figure 1:13. Household debt**



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

Sources: Statistics Sweden and the Riksbank

<sup>5</sup> In September, housing prices fell slightly compared with August, but, compared with September 2016, they rose by 6.7 per cent.

<sup>6</sup> See also the section “Vulnerabilities and risks linked to household indebtedness” in the Financial Stability Report 2017:1, Sveriges Riksbank.

## ARTICLE – Is activity in the Swedish economy too high?

The Riksbank's expansionary monetary policy has contributed to high growth and rising inflation. It is sometimes stated in the debate that activity in the economy is now on such a high level that the expansionary economic policy risks leading to overheating. The Riksbank's assessment is that resource utilisation is higher than normal, but there are nevertheless few signs of wages and prices rising too quickly. Neither do factors such as continued high savings and good competitiveness indicate major imbalances in the economy in general. This does not mean, however, that the risks of high activity in the Swedish economy can be ignored. There is, for example, a risk of housing construction declining rapidly from its current high level, which could contribute to or exacerbate a future recession. The Riksbank has also been emphasising the risks linked to household indebtedness for a long time. There is still reason to closely analyse the housing and the mortgage markets.

### High resource utilisation raises questions

The Riksbank has the task of trying to keep inflation close to the target of 2 per cent while simultaneously striving to stabilise output and employment around long-term sustainable levels. Against the backdrop of factors such as weak developments abroad, this has required a very expansionary monetary policy to stimulate demand and push up inflation and in so doing safeguard credibility for the inflation target.

Inflation is now close to target and the Riksbank assesses resource utilisation to be higher than normal (see Figure 4:12 and 4:14). Continued high activity in the economy is needed for inflation to stabilise around 2 per cent. At the same time, the strong development means that it is natural for various risks associated with high resource utilisation to be highlighted in the debate.

One way of analysing the risks of high resource utilisation is to divide them into two categories: High inflation and misallocations or imbalances in output and demand. Both contribute to greater economic fluctuations, increased uncertainty and poorer conditions for households and companies to, for example, plan their saving and investment.

While there are a number of different measures of prices and cost pressures, it is much harder to identify imbalances in output and demand. It is difficult to measure resource utilisation with any great precision and it is even more difficult to say which level constitutes a problem. Even if there are signs of increased matching problems, such as labour shortages and recruitment times, it is complicated to determine the extent to which the high employment rate is sustainable in the long term or reflects an imbalance. Unemployment in certain groups on the labour market remains high and it is a positive development that more people now have access to the labour market without it leading to rapidly rising wages and prices.

In order to analyse misallocations and imbalances in output and demand, one needs to look at the development behind the Riksbank's normal measures of resource

utilisation. A low and falling level of saving, poorer competitiveness or rapidly growing output within a specific sector can be a sign of imbalances that risk deepening a future recession. In the current economic situation, there is, for example, reason to analyse more closely possible risks associated with the rapid growth in housing investment.

In addition, there are still the financial risks linked to high household indebtedness. Even if this development is not primarily due to high resource utilisation, it leads to greater vulnerability that may exacerbate the problems related to any imbalances in housing construction.

### Risk of high inflation deemed low

Too high inflation is harmful to the economy, partly because inflation is usually volatile when it is high. Uncertainty increases and it becomes more difficult for economic agents to plan. This is why the Riksbank has the task of stabilising inflation close to 2 per cent.

The correlation between resource utilisation and inflation is an important component in the Riksbank's assessment of how inflation will develop. The starting point is the so-called Phillips curve, which, in simple terms, implies that wages and prices tend to increase rapidly when resource utilisation is high.<sup>7</sup>

Inflation in Sweden has in recent years risen from low levels and is currently close to target. However, the Riksbank considers that inflationary pressure is still low and that continued high economic activity is therefore needed for inflation to remain around the target. This is in part due to the fact that international inflation is low and that agreed wages for the next three years are moderate (see Chapter 4). The low risk of wages and prices rising too quickly is also supported by inflation and wage expectations.

### Level of saving does not indicate emerging imbalances

Another risk associated with resource utilisation is that it may exacerbate a future recession. This is in contrast with the Riksbank's aim of stabilising output and employment around

<sup>7</sup> See, for instance, "The correlation between resource utilisation and inflation" in the Monetary Policy Report, October 2016.

long-term sustainable levels. Alongside the direct effects such as higher unemployment in times of recession, greater fluctuations also lead to increased uncertainty, which normally slows down economic development.

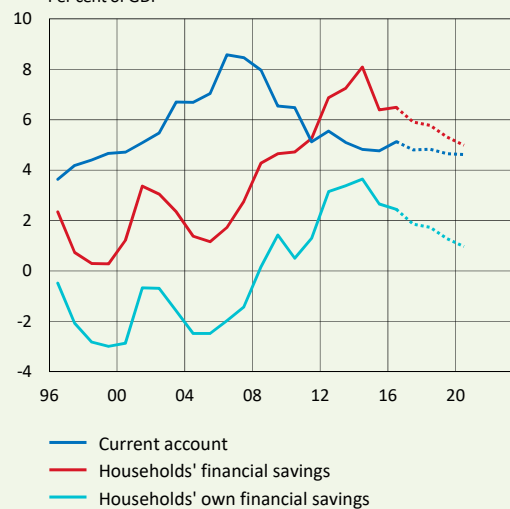
The correlation between high resource utilisation and greater fluctuations in economic activity can in part be related to saving and investment decisions. The Riksbank's assessment is that monetary policy needs to remain expansionary to support demand and stabilise inflation. At the same time, more consumption and investment today mean both less need and less scope in the future. Excessive demand can therefore contribute to deepening a future recession. This can happen, for example, if agents' expectations are significantly influenced by the current situation in the economy. In an economic boom, it can contribute to consumption, saving and investment decisions being based on excessively optimistic expectations of future incomes and vice versa in a recession. A low level of saving also reduces resilience when economic activity deteriorates and can hence increase the risk of a deep recession.

Swedish households have increased their saving significantly over the last ten years (see Figure 1:14). If collective insurance saving is excluded from household financial saving, a figure for own financial saving is obtained. This component reflects households' active saving decisions and the saving that households can adjust if the economy weakens and income growth slows. It is households own financial saving that has driven the upturn in the saving ratio. Even if households now reduce their saving, it will still be high in an historical perspective in the years ahead.

On a national level, a saving deficit implies a dependent on external funding. Under certain circumstances, for example during periods of financial stress, access to external funding can decrease and countries with a current account deficit can then be forced into significant adjustments in consumption and investment. Sweden has had a high current account surplus since the mid-1990s. It has decreased slightly in recent years but is expected to be close to 5 per cent of GDP in the years ahead (see Figure 1:14). There is therefore a significant saving surplus in the Swedish economy. Rising investment is in other words funded to a high degree by higher domestic saving.

As the current account is largely a mirror image of the relationship between exports and imports, the stable surplus is also an indication that the high level of activity in the Swedish economy is not associated with imbalances in the form of weakened competitiveness. This view is also supported by other competition indicators. The relationship between unit labour costs in Sweden and our trading partners has, for example, been stable in recent years and exports have developed approximately in line with import demand on Swedish export markets.

**Figure 1:14. Current account and households' financial savings**  
Per cent of GDP



Sources: Statistics Sweden and the Riksbank

### Historically high levels of housing construction

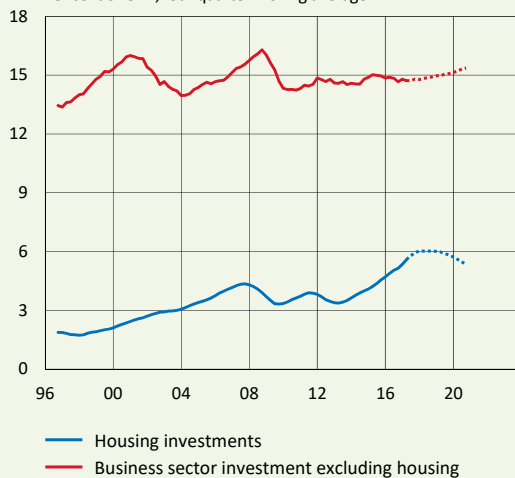
The part of the economy that has increased particularly rapidly in recent years is housing investment (see Figure 1:15). This development is relevant from at least two perspectives. Firstly, there is a risk of a direct effect, in which a slowdown in housing construction contributes to exacerbating a future recession. In addition, there is a connection between housing construction, housing prices and risks associated with household indebtedness.

Put simply, the direct effect can be related to the fact that housing that is constructed today does not need to be constructed tomorrow. The Riksbank's assessment is that there is a structural deficit after many years of low construction but the transition can take place at different rates. Housing investment's share of GDP has increased rapidly in recent years and the current level is almost twice as high as the average in 1993–2013. Rising housing investment has thereby had a significant direct effect on GDP development. Housing investment still makes up only a limited part of the economy, but according to historical patterns, the fluctuations are significantly greater than in GDP. Today's high level of construction therefore poses an increased risk of greater fluctuations in economic activity.



The level of housing construction is also linked to housing prices. The rapid increase in housing prices indicates that there has been a large deficit in housing on the market. The Swedish National Board of Housing, Building and Planning also considers that there is still a demographic need to satisfy after many years of excessively low housing construction. Neither is housing investment as a share of GDP in Sweden particularly high in an international perspective. The Riksbank's forecast shows a gradual reduction in housing construction with limited growth effects and a gradual slowdown in the housing price growth rate.

**Figure 1:15. Business sector investments**  
Per cent of GDP, four quarter moving average



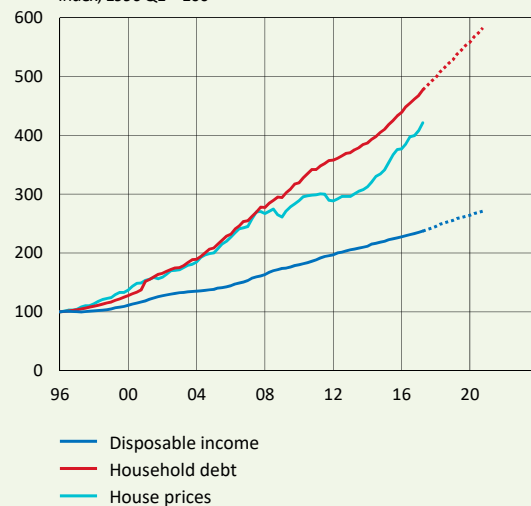
Sources: The National Institute of Economic Research, Statistics Sweden and the Riksbank

Developments on the housing market need to be tracked in the period ahead, not least because there is a link to housing prices and the risks associated with household indebtedness. In addition to the demographic need, the demand for housing is also influenced by factors such as incomes, housing costs and housing prices, both actual and expected. Tax reductions, generous loan conditions and low interest rates have, for example, contributed to higher demand and rising housing prices. The incentive to build housing is in turn influenced by price developments. In Sweden, this is reflected in a high covariation between housing prices and construction volumes. There is a risk of both demand and supply being based on overly optimistic expectations of incomes and prices, which can contribute to too many homes or homes that are too expensive being built in relation to households' long-term income growth. The economic consequences of such a development will be falling housing investment as well as falling housing prices.

Risks and consequences associated with overproduction and a fall in housing prices are also closely linked to credit growth and indebtedness. For example, a high loan-to-value ratio implies greater vulnerability in the event of a fall in housing prices as it increases the risk of the value of the home being less than the loan. A high loan-to-value ratio and

high indebtedness also undermine households' scope for consumption and reduce their resilience in the event of an economic downturn, thereby heightening the risk of major economic fluctuations. Experience indicates that recessions preceded by rapidly increasing credit growth and house prices tend to be both deeper and longer than other economic downturns.<sup>8</sup>

**Figure 1:16. Disposable income, house prices and household debt**  
Index, 1996 Q1 = 100



Note. Disposable income refers to four quarter moving average.

Sources: Statistics Sweden and the Riksbank

However, the development of loan-to-value ratios and household debt is not primarily a result of the business cycle. Both house prices and debt have grown more rapidly than household income for a long period irrespective of the economic situation (see Figure 1:16). It is also relevant to distinguish between increased indebtedness as a result of a growing housing stock and more people owning their own home and an increase driven by rising house prices and rising loan-to-value ratios.

<sup>8</sup> See, for example, Jordá, O. Schularick, M. and Taylor, A. "The Great Mortgaging: Housing Finance, Crises, and Business Cycles", NBER Working Paper No. 20501, September 2014 and Drehmann, M. Borio, C. and Tsatsaronis, K. "Characterising the

financial cycle: don't lose sight of the medium term!", BIS Working Papers No 380, June 2012.

## CHAPTER 2 – Financial conditions

Since the Monetary Policy Report in September, stock indices and government bond yields have risen both abroad and in Sweden. The main reason for the movements on the financial markets is market expectations of good growth in the period ahead. This has also led to rising expectations of interest rate increases in some countries. In Sweden, households and companies are continuing to pay low interest rates while access to credit is good. The krona is somewhat weaker compared with the Riksbank's forecast in September. Overall, monetary policy is deemed to have had a favourable impact on the economy, and the financial conditions are expected to be favourable for growth in the immediate future.

### International developments

#### Slightly higher growth expectations

Movements on the financial markets since the Monetary Policy Report in September have mostly been characterised by expectations of good growth in the period ahead. Statistics published after the Monetary Policy Report in September have largely been better than market expectations, contributing to market participants' growth expectations being revised upwards slightly. Even though expectations of rate increases have increased in some countries, such as the United States and the United Kingdom, global monetary policy is expected to remain expansionary for a long time to come.

#### Continued expansionary monetary policy abroad

The picture of central banks abroad being in different phases has remained unchanged since the monetary policy meeting in September. Some central banks have adopted, or communicated plans for, a less expansionary monetary policy, while others have stressed the continued need for unchanged stimulus.

In connection with its monetary policy meeting in September, the ECB announced that the expansionary direction of its monetary policy is being maintained. The ECB is continuing its net asset purchases until the end of the year or longer if necessary, depending on inflation prospects. More information on future asset purchases is expected at the ECB's monetary meeting in October. Most market participants expect the ECB to continue with net asset purchases for most of next year, but that the volume of the monthly purchases will be smaller than it is now.

The US central bank the Federal Reserve continues to gradually make monetary policy less expansionary and announced at its monetary policy meeting in September a

Table 2.1.

Developments on financial markets since the Monetary Policy Report in September
Government bond yields abroad have risen. In Sweden, government bond yields with longer maturities have risen.
The krona has weakened slightly in competitiveness-weighted terms.
The stock market indices have risen in Sweden and abroad.
Lending rates for households and companies are still low.
Growth in credit to households and non-financial corporations remains high.

#### 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 long-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 the banks' funding costs. This ultimately affects the lending rates for households and companies.



gradual tapering of its balance sheet, starting in October. Communication in connection with and after the September meeting on the policy rate development going forward has caused the market's interest rate expectations to rise, in accordance with market pricing.

The Bank of England's monetary policy minutes from its meeting in September make it clear that the board members consider that a certain reduction in monetary policy stimulation may be needed in the coming months, which surprised market participants.

All in all, the market's expectations regarding future policy rates have risen in the United States and the United Kingdom (see Figure 2.1). Even if a few of the major central banks are moving monetary policy in a less expansionary direction, normalisation is progressing slowly and monetary policy in a global perspective will continue to be expansionary. Market participants also expect the central banks' collective assets to be reduced at a slow rate.

**Stronger pound and dollar**

Movements on currency markets since the Monetary Policy Report in September are largely due to changes in monetary policy expectations. Both the British pound and the US dollar have strengthened after indications of less expansionary monetary policy in the period ahead. Expectations of tax cuts in the United States have also helped the dollar appreciate recently.

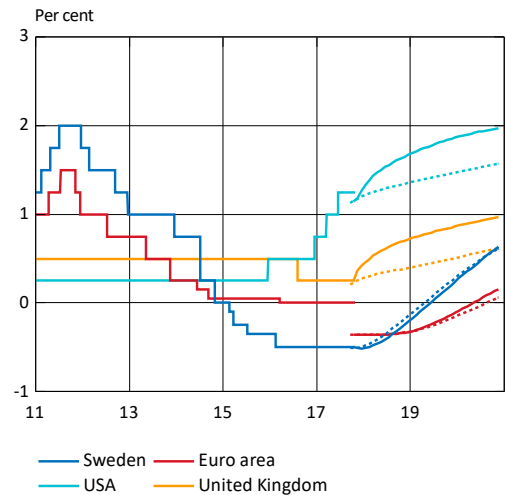
Compared with the start of the year, on the other hand, the dollar has weakened (see Figure 2.2). Much of the depreciation occurred during the spring and summer as expectations about fiscal policy stimulation measures and further policy rate rises were postponed. The dollar has also weakened against several currencies in countries where the macroeconomic development has been better than expected. One example is the euro, which has strengthened by just over 6 per cent in trade-weighted terms since the turn of the year, but has weakened slightly since the Monetary Policy Report in September. Another example is the Canadian dollar. In September, the Bank of Canada chose to take monetary policy in a slightly less expansionary direction by raising the policy rate for the second time in a short space of time. The Canadian dollar has in trade weighted terms strengthened by about seven per cent since the beginning of June.

The yields on government bonds abroad have risen since the Monetary Policy Report in September. The upturn is largely explained by various macroeconomic outcomes that have reinforced market participants' positive expectations. In countries such as the United States and the United Kingdom, where monetary policy expectations have risen the most, bond yields have increased more than in other countries (see Figures 2:3 and 2:4).

**Continued low volatility**

Expectations of good growth in the period ahead and continued globally expansionary monetary policies have helped push up share prices both in Sweden and abroad since the Monetary Policy Report in September. The upswing has been strong on emerging markets that have also benefited from the dollar depreciation during the year (see Figure 2:5). This is mainly due to countries heavily indebted in dollars facing lower borrowing and refunding costs when the dollar weakens. Many emerging

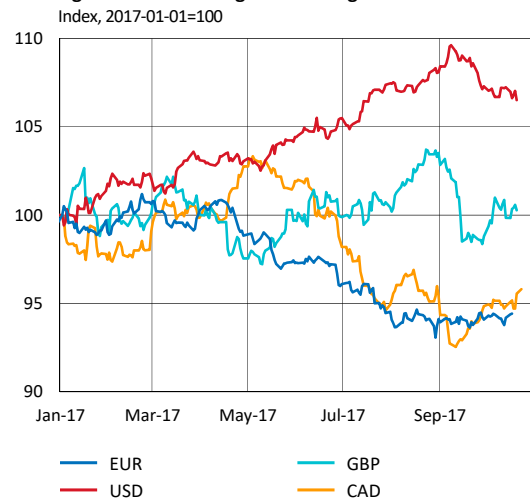
**Figure 2.1. Policy rates and rate expectations according to forward rates**



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). There is no published overnight rate in Sweden, but it normally follows the repo rate closely. Unbroken lines are estimated on 23 October 2017, broken lines are estimated on 6 September 2017.

Sources: The national central banks, Thomson Reuters and the Riksbank

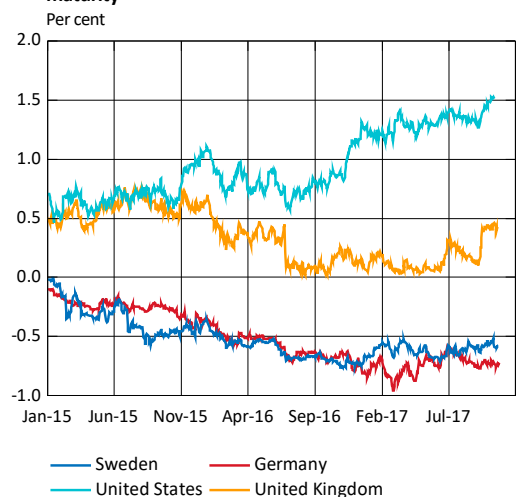
**Figure 2.2. Trade-weighted exchange rates**



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

Sources: Macrobond and the Riksbank

**Figure 2.3. Government bond yields with 2 years left to maturity**



Note. Implied zero-coupon yields from government bonds.

Sources: The national central banks and the Riksbank

market economies export commodities and have therefore also benefited from rising commodity prices. Volatility on various asset markets is still low even though it has risen temporarily during periods of increased geopolitical unease. Central banks' expansionary monetary policies and favourable macro-economic developments have probably contributed to keeping volatility low. On the credit markets, yields on debt securities issued by companies and banks, have followed approximately the same trend as government bond yields.

## Financial conditions in Sweden

### Slightly higher Swedish government bond yields

Pricing on the financial markets indicates that expectations about the future repo rate remain largely unchanged since the monetary policy meeting in September (see Figure 2:1). Forward rates are in line with the Riksbank's repo-rate path. According to surveys, market participants' expectations are slightly higher than the repo- rate path, above all one to two years ahead (see Figure 2:6). Seen from a historical perspective, the differences are minor.

Since the monetary policy meeting in September, Swedish government bond yields with longer maturities have risen (see Figures 2:4). Positive macroeconomic statistics and continued good growth expectations have contributed to this development. On the credit markets, yields on covered bonds and corporate bonds have followed the development of government bond yields.

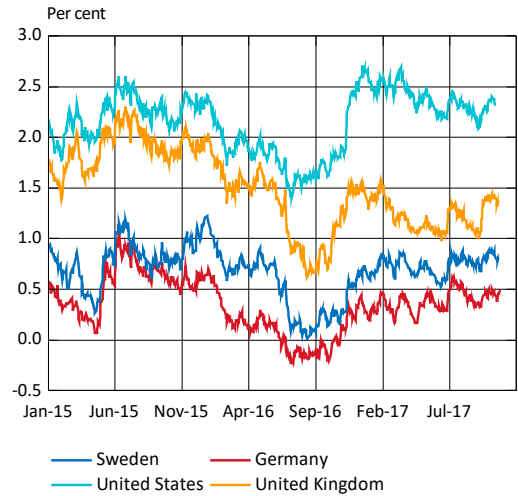
Yields with shorter maturities remain largely unchanged since September and the yield on treasury bills with a short maturity is still significantly below the policy rate (see Figure 2:7). One contributory factor to this is the Riksbank's purchases of government bonds.<sup>9</sup> Of the outstanding stock of government bonds in Swedish kronor, the Riksbank holds about 20 per cent of the inflation-indexed bonds and around 40 per cent of the nominal bonds. This means that a relatively large proportion of the government bonds is not available for trade on the market, which could influence the functioning of the market. The Swedish National Debt Office's repo facility also affects the supply of government bonds on the market. The facility means that the Swedish National Debt Office's primary dealers can always turn to the Swedish National Debt Office to obtain a bond. This has been utilised to a high degree recently.

The market is functioning and investors and primary dealers can fulfil their task. This picture is also supported by the fact that turnover on the market has not fallen to any appreciable extent since the Riksbank's purchases began. Monetary policy can therefore continue to be conducted through government bond purchases at the same time as the government still has plenty of opportunities to fund its borrowing requirement. Its overall assessment is that the Riksbank's bond purchases have not significantly affected the functioning of the market.

### Slightly weaker krona

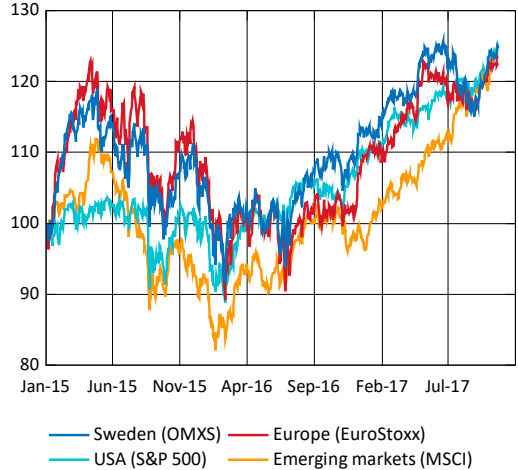
According to the competitiveness-weighted index, KIX, the krona has weakened slightly since the Monetary Policy Report in

**Figure 2:4. Government bond yields with 10 years left to maturity**



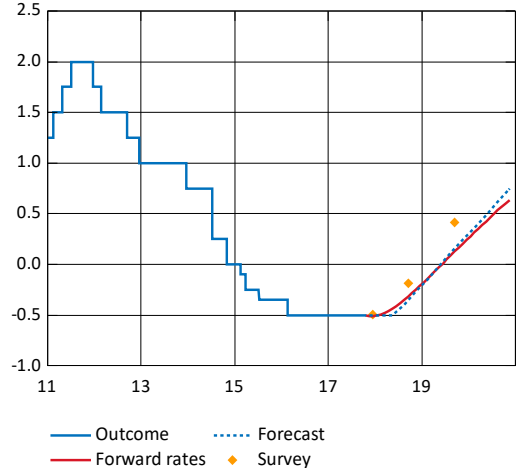
Note. Implied zero-coupon yields from government bonds.  
Sources: The national central banks and the Riksbank

**Figure 2:5. Stock market movements in local currency**  
Index, 2 January 2015 = 100



Sources: Macrobond and Thomson Reuters

**Figure 2:6. Repo rate and market expectations**  
Per cent, average



Note. The forward rates are estimated as of 23 October 2017 and measure the expected repo rate. The survey responses show the average for money market participants on 11 October 2017.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

<sup>9</sup> For more information, see "Government bond purchases push down long and short-term rates" in the Monetary Policy Report of October 2016.

September. This has mainly been a consequence of market participants' expectations of slightly less expansionary monetary policy in a number of other countries. For example, the krona has weakened against the US dollar and the British pound. Comparing the development with the forecast in September, the krona is slightly weaker than expected (see Figure 1:4). Compared with the start of the year, however, it has strengthened by roughly two per cent. Much of this strengthening occurred during the summer when some published macroeconomic statistics were better than expected at the same time as the US dollar depreciated.

**Continued high credit growth for households and companies**

The expansionary monetary policy in Sweden and abroad has contributed towards the banks' funding terms continuing to be very favourable and towards lending rates for households and companies remaining on historically low levels. The average mortgage rate for new agreements was 1.6 per cent in August, while the average interest rate for new bank loans for non-financial corporations fell slightly to 1.1 per cent (see Figure 2:8).

Since the repo rate entered negative territory for the first time in February 2015, lending rates to households have fallen slightly less than the repo rate, while lending rates to companies have fallen slightly more. Average deposit rates for households and companies have remained largely unchanged since the middle of 2015 and are close to zero.<sup>10</sup> Overall, the impact of the repo rate on deposit and lending rates has been in line with the Riksbank's expectations.

The annual growth rate for lending to households has decreased slightly since mid-2016. It is still high, however, and in August amounted to 7.1 per cent. Since June 2016, the annual growth rate for consumption loans has, on the other hand, risen increasingly rapidly and is now at 8 per cent. However, consumption loans currently make up only about 5 per cent of total household debt. The rate of increase in lending to companies has decreased slightly in recent months to 4.1 per cent in August (see Figure 2:9). At the same time, the growth rate in corporate borrowing through issues of securities has risen significantly and now constitutes about a third of total corporate borrowing. It is mainly real estate companies that have increased their issues of securities in recent years. Surveys indicate continued good funding terms for companies.

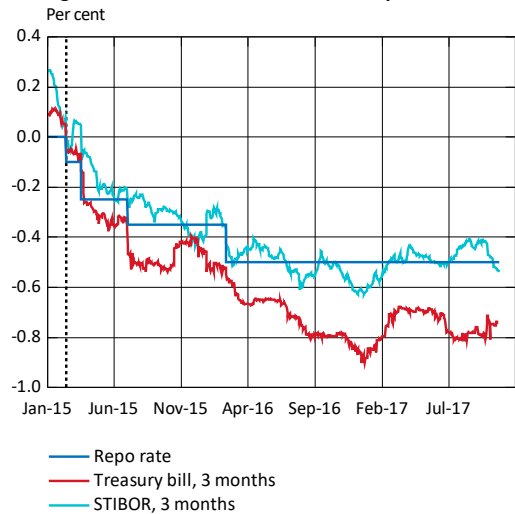
The rate of increase in housing prices has slowed in recent times. Compared with August, housing prices fell in September by about one per cent, adjusted for seasonal effects. But, compared with one year ago, housing prices are 6.7 per cent higher (see Figure 1.12). Surveys show that the general public's and especially estate agents' expectations of rising housing prices continue to dampen slightly in September compared with August.

**Financial conditions in Sweden are still expansionary**

To sum up, developments since the Monetary Policy Report in September suggest that the financial conditions in Sweden are

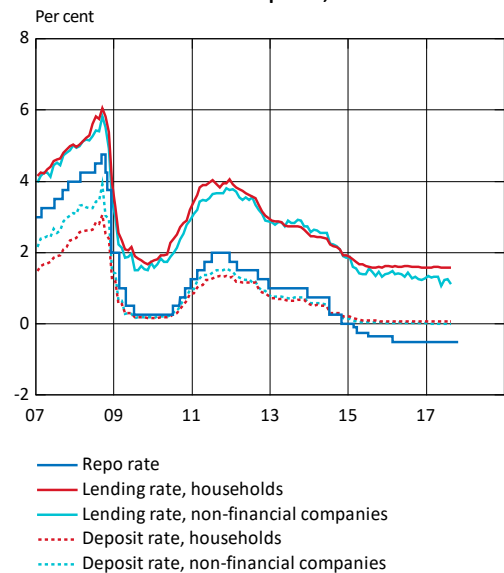
<sup>10</sup> Most financial undertaking corporations and some non-financial corporations and municipalities are experiencing negative deposit rates. For technical reasons, however, the negative deposit rate is usually reported as a charge and is therefore not always visible in the figures from Statistics 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.

**Figure 2:7. Short market rates and the repo rate**



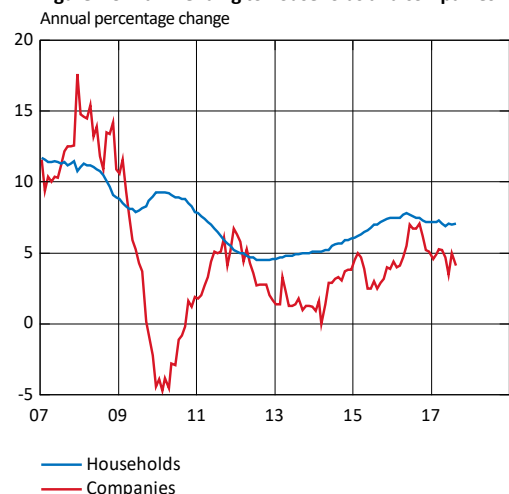
Note. The broken line refer to the start of the bond purchases.  
Sources: Macrobond and the Riksbank

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



Note. MFIs' average deposit and lending rates for households and companies.  
Sources: Statistics Sweden and the Riksbank

**Figure 2:9. Bank lending to households and companies**



Note. MFIs' lending to households and non-financial companies according to financial market statistics adjusted for reclassifications and traded loans since 2006.  
Source: Statistics Sweden

still expansionary. Continued low interest rates, in the form of both low market rates and low rates to households and companies, are contributing to these developments. This is true despite bond yields with longer maturities having risen since September. The krona has depreciated slightly, affecting financial conditions in an expansionary way. In addition, share prices have increased and the housing market has seen strong development in the past 12 months despite developments being subdued in recent times. At the same time, lending to both households and companies is increasing as funding conditions are still favourable. The overall picture is hence that the financial conditions in Sweden will contribute to good growth prospects in the period ahead.

## CHAPTER 3 – The current economic situation

Economic activity is strong in Sweden and inflation remains close to the inflation target. In September, inflation was 2.3 per cent in CPIF terms, and 1.9 per cent in terms of the CPIF excluding energy prices. GDP growth in the second quarter has been revised down slightly, but growth still remains good. Indicators point to the strong developments continuing through the second half of the year. The slightly lower inflation outcome for September can primarily be explained by the weaker than expected development of prices for goods. Prices for services also fell slightly but are continuing to develop strongly. Inflation is expected to be somewhat lower over the remainder of the year than was forecast in September.

### Inflation

#### Inflation close to target

In September, inflation was 2.3 per cent in CPIF terms (see Figure 3:1) and 1.9 per cent in terms of the CPIF excluding energy prices, which is slightly lower than the forecast in the Monetary Policy Report from September.

Above all, the development of prices for goods was slightly weaker than expected (see Figure 3:2). Lower rates of price increase for clothes and shoes contributed to this trend. Historically, these prices have increased clearly in September but, particularly over the last two years, development in September has been more subdued. The development of prices for other goods was also weaker than expected.

Prices for services are continuing to increase rapidly (see Figure 3:2). If prices for services are studied in a little more detail, it becomes clear that prices for foreign travel have fallen relatively heavily in recent months. This applies, above all, to package holidays, which have a new seasonal pattern this year due to a new method of measurement. However, the rate of increase in prices for other services has continued to climb. Prices in the service sector are primarily affected by domestic conditions and should be seen in light of the strong development of the real economy in Sweden.

Energy prices have increased faster than expected since the Monetary Policy Report was published in September. Electricity prices have been unusually high for the time of year, among other reasons because output from nuclear power stations has been relatively low due to extended closures for maintenance. Fuel prices rose, in turn, due to Hurricane Harvey in the United States, which closed down a large part of the United States' oil refineries. The price of oil on the world markets subsequently rose, which has also contributed to this development.

Both CPIF inflation and different measures of underlying inflation have shown a rising trend since 2014 (see Figure 3:3). After many years in which price increases have been low in relation to cost increases, the recent strong economic activity seems to have made it easier than before for companies to raise their prices. The fact that inflation has risen is also a consequence of the earlier krona weakening, which affects prices of food and

Table 3:1.

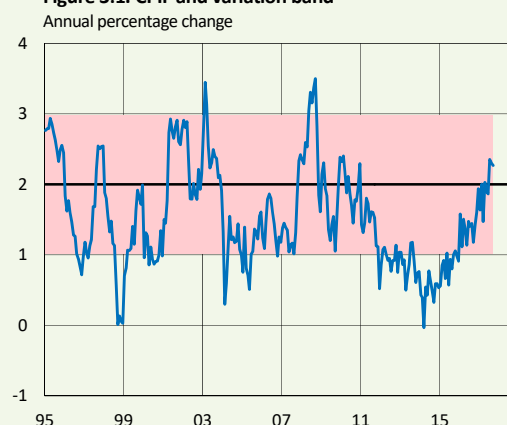
Expected development in MPR September	Actual development
CPIF inflation 2.4 per cent in September.	Somewhat lower than expected. CPIF inflation was 2.3 per cent.
GDP growth 7.1 per cent in second quarter.	GDP growth was revised down to 5.2 per cent.
Unemployment was 6.7 per cent in the third quarter.	Slightly higher than expected. Unemployment was 6.8 per cent.
GDP growth in the euro area was 2.5 per cent in the second quarter.	GDP growth was revised to 2.6 per cent.
GDP growth in the United States was 3.0 per cent in the second quarter.	GDP growth was revised to 3.1 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, seasonally adjusted.

#### Inflation 2.3 per cent in September

In September, CPIF inflation amounted to 2.3 per cent. This outcome was therefore somewhat higher than the inflation target of 2.0 per cent. However, it is not possible to steer inflation with any great precision and the CPIF will not be exactly 2 per cent in each individual month. Historically, around three quarters of the outcomes have been between 1 and 3 per cent, that is within the so-called variation band. The variation band is a means of showing whether the deviation from the inflation target is unusually large or more normal. From a historical perspective, the deviation from 2 per cent in September was not remarkable (see Figure 3:1).

Figure 3:1. CPIF and variation band



Note. The pink field shows the Riksbank's variation band which captures around three-quarters of the outcomes in 1995:01 – 2017:9. The CPIF is the CPI with a fixed interest rate.

Sources: Statistics Sweden and the Riksbank

goods, for instance. However, the krona has strengthened since the summer and is therefore expected to contribute even less to inflation going forward.

**Inflation to fall slightly**

Inflation is expected to fall slightly in the next few months. One important reason for this is that prices for foreign travel are expected to increase more slowly. Another contributing factor is recent months' appreciation of the krona, which affects prices after a certain delay. For example, the appreciation of the krona has already had a certain impact on import prices for consumer goods, where the rate of increase has slowed down in recent months. The rate of increase in prices for consumer goods produced in Sweden has fallen slightly in recent months, according to the home market price index. However, the rate of price increase remains high from a historical perspective.

The Riksbank's short-term models for inflation, which summarise the information in a large number of indicators, imply that CPIF inflation excluding energy will remain just below 2 per cent through the rest of the year (see Figure 3:4). The Riksbank's forecast for this period is somewhat lower than the model forecasts. This is linked to the rate of increase in prices of package holidays and international air travel being expected to fall over the rest of the year, primarily due to a new calculation method, which the models cannot capture. Inflation will thus fall back somewhat in the coming period. In the short term, the forecast for CPIF inflation excluding energy has been revised downwards compared to the Monetary Policy Report from September. The forecast for CPIF inflation has been revised downwards slightly less, as energy prices are expected to rise slightly faster than has been previously assumed. The development in household interest expenditure is still holding back CPI inflation compared with the CPIF.

**Inflation expectations rising marginally**

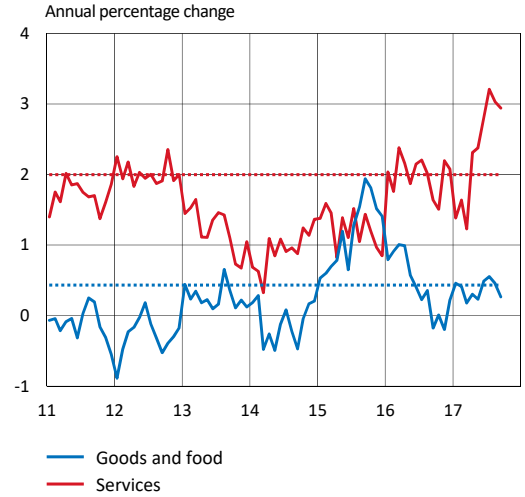
Inflation expectations have risen in recent years, after noting very low levels at the beginning of 2015 (see Figure 3:5). Long-term inflation expectations have been close to 2 per cent over the last year and, at the same rate as inflation has risen, inflation expectations over the shorter term have also again risen to close to 2 per cent. According to TNS Sifo Prospera's survey for October, five-year inflation expectations of all money market participants were 2.1 per cent. Inflation expectations one and two years ahead were 2.0 and 2.1 per cent, respectively. Long-term inflation expectations as priced via financial instruments have also risen in recent years.

**Global and Swedish economic activity**

**Strong global economic activity**

Economic activity abroad is continuing to strengthen. One indication of this is that global trade in goods is continuing to increase at a good rate. GDP growth in the euro area and United States was high during the second quarter. The latest statistics indicate slightly lower growth in the third quarter, but more forward-looking confidence indicators for households and companies nevertheless indicate continued strong growth in the second half of 2017.

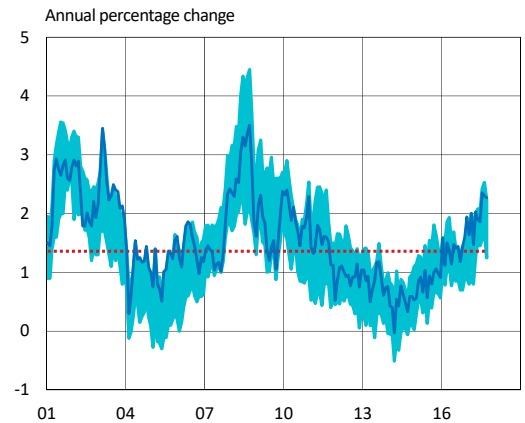
**Figure 3:2. Prices of goods and services in the CPI**



Note. Goods and 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. The broken lines represents the mean value since January 1995.

Sources: Statistics Sweden and the Riksbank

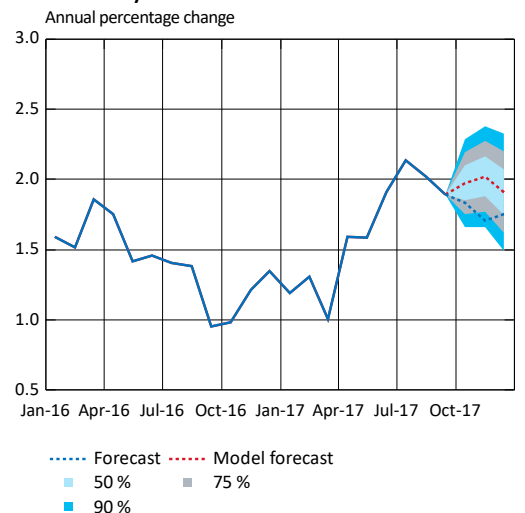
**Figure 3:3. The CPIF and different measures of underlying inflation**



Note. The field shows the highest and lowest outcomes among different measures of underlying inflation. The measures included are the CPIF excluding energy, the CPIF with constant tax, UND24, Trim85, HICP excluding energy and unprocessed food, persistence-weighted inflation, factors from principal component analysis and weighted mean inflation. The broken line represents the mean value since January 2000 for all different measures of underlying inflation.

Sources: Statistics Sweden and the Riksbank

**Figure 3:4. CPIF excluding energy, model forecast with uncertainty bands**



Note. The uncertainty bands are based on the models' historical forecast errors.

Sources: Statistics Sweden and the Riksbank



In the euro area, GDP rose by 2.6 per cent in the second quarter, compared with the first quarter, at an annual rate. The outcome reflects strong domestic demand in the form of increased household consumption and increased investments. Monthly indicators give a mixed view of the developments in the second half of the year. Retail sales fell in both July and August (see Figure 3:6), while industrial output rose over the same period. All in all, this indicates that growth slowed down slightly in the third quarter. At the same time, optimism among companies and households remains high, indicating that growth will continue to be good over the rest of the year. Unemployment has fallen clearly over the year, but remains high. Combined with low wage growth, this indicates that there is still spare capacity in the labour market.

In the second quarter, GDP growth in the United States was 3.1 per cent calculated as an annual rate. Growth was robust in primarily household consumption. Confidence in the service sector and among manufacturing companies is at high levels. Combined with high confidence among households, this suggests relatively high growth in the second half of 2017. However, Hurricane Harvey led to a clear slowdown in industrial output in August and only a partial recovery in September, contributing to the growth rate being expected to fall in the third quarter. The resumption of output, combined with reconstruction after the hurricane, is expected to lead to a rebound in growth in the fourth quarter. At the same time, the labour market has continued to strengthen. Unemployment in September was down to 4.2 per cent, which is slightly below the Federal Reserve's assessment of its long-term level.

#### Low inflationary pressures abroad

As a decreasing contribution is made by energy prices, international inflation has slowed down in 2017. However, in recent months, inflation has again risen slightly in both the euro area and the United States. In the United States, above all higher petrol prices made a contribution to the upturn, a consequence, among other things, of the closure of several refineries in conjunction with Hurricane Harvey. The slightly higher inflation in the euro area can also be explained by faster energy price increases.

HICP inflation in the euro area was 1.5 per cent in September. Underlying inflation, which is the rate of increase in the HICP excluding energy and non-refined foods, has risen over the year, but was unchanged at 1.3 per cent in September (see Figure 3:7). The underlying rate of price increases in the euro area is expected to slow down slightly at the end of the year due to the exchange rate appreciation that took place this year (see Figure 2:2).

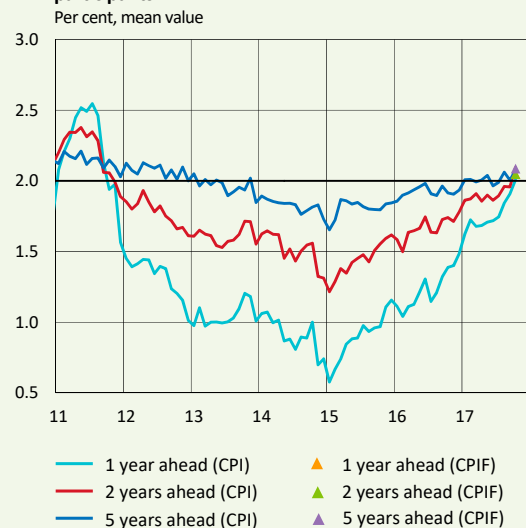
In the United States, CPI inflation in September was 2.2 per cent. At the same time, measures of underlying inflation fell over the first six months, among other reasons due to a restrained rate of price increase for housing, but also to other temporary factors (see Figure 3:7). The fact that the oil price has risen will contribute to CPI inflation becoming slightly higher in the period ahead. On the whole, the international inflation forecast has been revised slightly upwards in the short term, compared with September, and KIX-weighted inflation is expected to average slightly less than 2 per cent this year.

#### Inflation expectations according to Prospera

Every quarter since 1995, TNS Sifo Prospera has, on behalf of the Riksbank, asked about 220 organisations and companies about their expectations for CPI inflation one, two and five years ahead. Those asked have been divided into different categories – labour market partners, purchasing managers and money market participants. Since 2009, money market participants have also answered these questions every month. As of October 2017, the respondents have also been asked about their expectations for inflation measured as the CPI with a fixed interest rate (the CPIF).

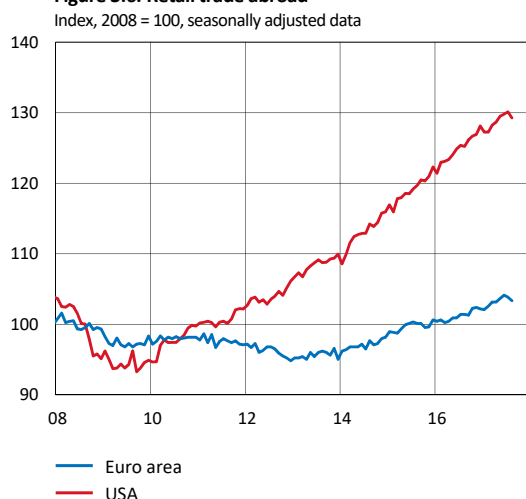
In October, the first monthly measurement with inflation expectations for the CPIF from money market participants was published. Figure 3:5 shows both that inflation expectations measured in terms of the CPI increased slightly over all horizons in October and that differences between expectations measured in terms of the CPIF and CPI are very small. Expectations for both CPI and CPIF inflation are close to 2 per cent over all time horizons. According to the Riksbank's forecast, CPI inflation will rise faster than CPIF inflation as the repo rate, and thus mortgage rates, rise. Respondents to Prospera's survey also expect the repo rate to rise but, even so, the difference in expectations for both measures of inflation is small.

**Figure 3:5. Inflation expectations among money market participants**



Source: TNS Sifo Prospera

**Figure 3:6. Retail trade abroad**



Sources: Eurostat and U.S. Bureau of Economic Analysis (BEA)

**Strong Swedish growth**

Even if the National Accounts' ordinary outcome for the second quarter implies a certain downward adjustment of GDP growth, growth amounted to 5.2 per cent against the immediately preceding quarter, calculated at an annual rate. Both domestic demand and exports have developed favourably. The high rate of investment was largely due to housing investments continuing to grow rapidly.

Indicators for the third quarter suggest continued strong growth (see Figure 3:8). The Economic Tendency Survey rose slightly further in September and shows that companies continue to be very optimistic, the construction and manufacturing industry in particular. The Purchasing Managers' Index rose heavily in September, following a temporary downturn in August, and indicates that confidence is on a historically high level. Among other market indicators, the continued good development of household consumption has been noted in July and August.

The Riksbank's short-term model forecasts, which summarise information from a large number of indicators, suggest continued high growth in the third quarter (see Figure 3:9). GDP is expected to grow in line with the model forecasts, corresponding to an average of around 3.5 per cent in the third and fourth quarters of 2017, compared with the immediately preceding quarter and calculated as an annual rate.

**Low unemployment among those born in Sweden and high demand for labour**

The number of people in employment continued to increase in the third quarter. However, the labour force increased slightly even more, meaning that unemployment rose slightly against the first six months of the year (see Figure 3:10).

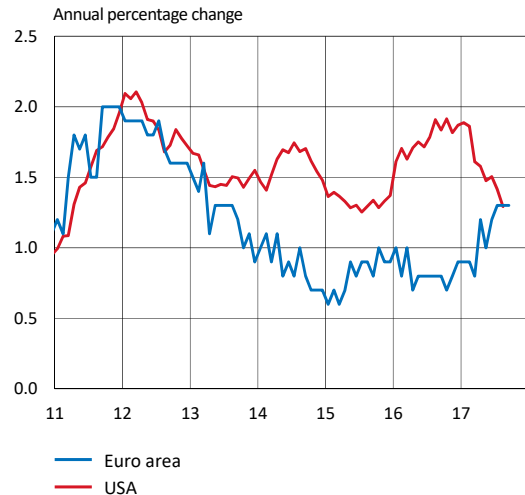
The decrease in unemployment in recent years has, above all, been due to unemployment falling among those born in Sweden. This is now at a low level and has remained relatively unchanged in recent quarters. Unemployment among those born abroad has not decreased to the same extent and is significantly higher, even though employment in this group has simultaneously increased. Unemployment has not decreased more among those born abroad because a large part of the inflow into the labour force comes from this group. As unemployment among those born in Sweden is already very low, unemployment among those born abroad needs to come down so that unemployment as a whole can decrease more substantially from the current level.

Short-term indicators of demand for labour point to developments in the labour market continuing to be beneficial during the remainder of the year. For example, according to the Economic Tendency Survey, recruitment plans in the business sector are on a very high level and there are also many vacant jobs (see Figure 3:11). Both the number of people in employment and the number in the labour force are therefore expected to continue to increase at a relatively rapid pace over the fourth quarter, while unemployment is expected to decrease slightly (see Figure 3:10).

**Resource utilisation in the economy higher than normal**

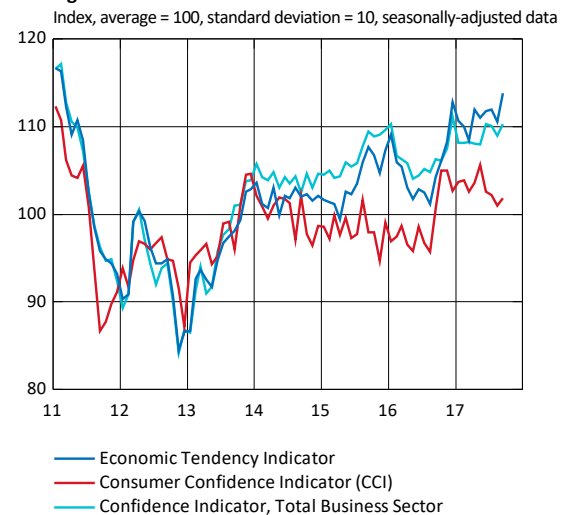
The amount of spare capacity in the economy is affecting GDP growth, as well as the development of wages and prices, albeit with a certain time lag. Resource utilisation in the economy is not

**Figure 3:7. Underlying inflation abroad**



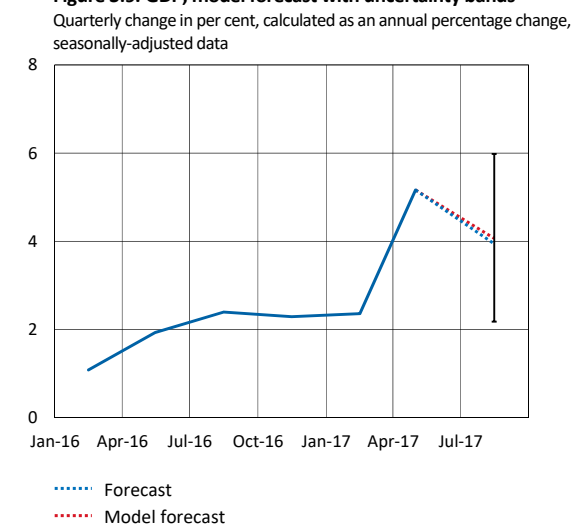
Note. HICP excluding energy and unprocessed food is shown for the euro area. PCE excluding energy and food is shown for the United States. Sources: Bureau of Economic Analysis and Eurostat

**Figure 3:8. Confidence indicators**



Source: National Institute of Economic Research

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



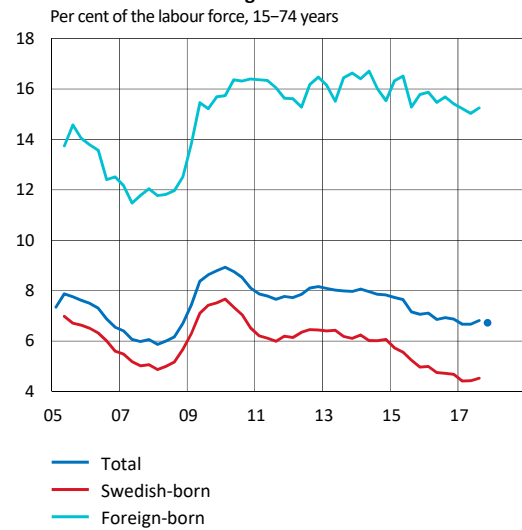
Note. The model forecast is an average of forecasts from different statistical models. The vertical line refers to a 50 per cent uncertainty band. The uncertainty band is based on the models' historical forecast errors. One explanation for the wide uncertainty interval is the large variation in growth outcomes between different quarters. Sources: Statistics Sweden and the Riksbank

observable, however. The Riksbank therefore uses a number of different indicators to assess current resource utilisation.

As the employment rate has risen and unemployment has decreased, the proportion of companies reporting labour shortages has also increased to a very high level. Other signs that spare capacity on the labour market is tight are that the vacancy rate in the business sector is on a high level, at the same time as the average recruitment time in the business sector is long.<sup>11</sup> All in all, this indicates that at present it is more difficult than normal for companies to get hold of the labour they are seeking. Capacity utilisation in the industrial sector has also risen and is on a higher level than its historical average.

The Riksbank's RU indicator, which is an overall measure of the amount of spare capacity in the economy, is on a historically high level (see Figure 3:12). The Riksbank's overall assessment is that resource utilisation in the economy is higher than normal. Despite the high level of resource utilisation and difficulties in finding staff, wage development has been relatively restrained, even if wages have recently displayed a tendency to rise at a slightly faster rate. However, resource utilisation affects wages and inflation after a certain delay and the Riksbank deems that wage development will increase slightly faster in the quarters ahead. In relation to resource utilisation, however, wage development is nevertheless expected to be restrained.<sup>12</sup>

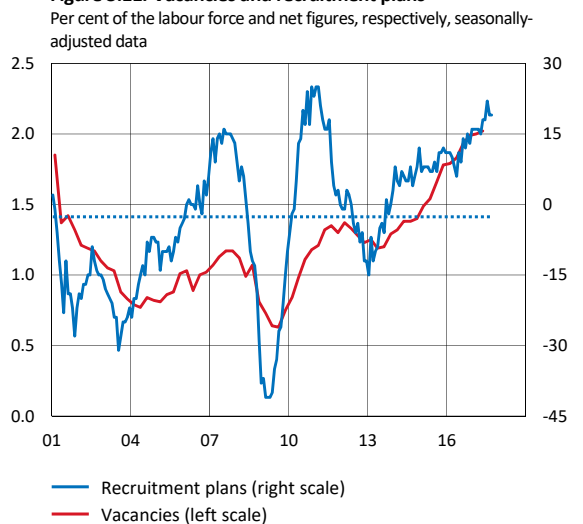
**Figure 3:10. Total unemployment, and unemployment among Swedish-born and foreign-born**



Note. The dot refers to the forecast for unemployment.

Sources: Statistics Sweden and the Riksbank

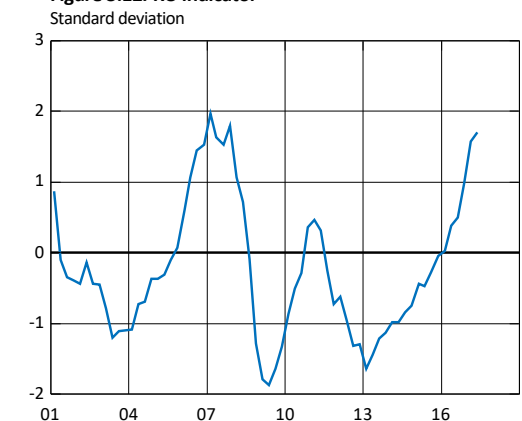
**Figure 3:11. Vacancies and recruitment plans**



Note. Recruitment plans refer to expectations of the number of employed in the business sector three months ahead. The broken line represents the mean value since 2001.

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

**Figure 3:12. RU indicator**



Note. 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.

Source: The Riksbank

<sup>11</sup> The vacancy rate measures the percentage of unstaffed vacant positions that need to be filled immediately, in relation to the number of employees.

<sup>12</sup> See the article "Strong economic activity but subdued wage increases" in the Monetary Policy Report, July 2017.

## CHAPTER 4 – The economic outlook and inflation prospects

The international recovery has strengthened and has become increasingly broad in terms of both sectors and regions. Growth in developed economies is expected to fall back slightly in the period ahead but will remain strong enough for unemployment to continue to fall and inflation to gradually rise. The Swedish economy is developing strongly and economic activity is expected to improve further in the years ahead. However, the growth rate will slow down when housing construction slows. Matching problems on the labour market and slower population growth are contributing to employment growth slowing down. The growing labour shortages are expected to contribute to wage growth successively rising. Inflation, which is currently above 2 per cent, is expected to fall slightly in the immediate future and then stay close to 2 per cent for the rest of the forecast period.

### International developments

#### Stronger international economic activity

International economic activity has strengthened during 2017 and the recovery comprises an increasing number of countries and regions. After developing weakly over most of 2016, world trade has increased clearly this year, at the same time as industrial output has picked up.

Even if the economic upswing is continuing in the KIX countries, i.e. the most important countries for the Swedish economy, the assessment is that growth will peak this year and that GDP will increase slightly more slowly in the next few years (see Figure 4:1). GDP growth in the KIX countries is expected to rise from just over 2 per cent in 2016 to 2.7 per cent in 2017 before gradually slowing down in the next few years. The forecast has been revised slightly upwards against the assessment made in September, which is primarily due to stronger growth in the euro area. While growth in the developed economies will slow down in the period ahead, it is expected to continue to rise in emerging market economies. All in all, this means that global GDP will increase at an even rate over the entire forecast period, or just over 3.5 per cent per year, which is close to the historical average over the last 30 years.

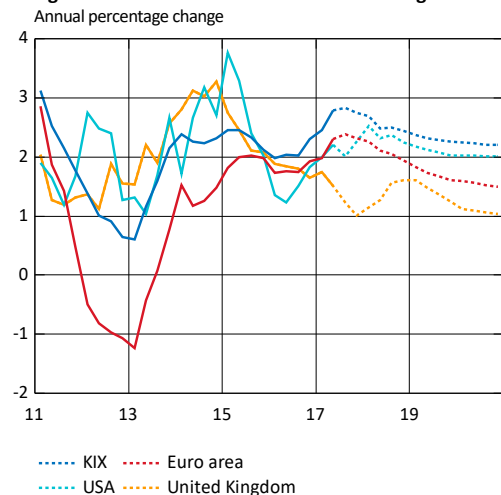
#### Continued modest economic upturn in the United States

Growth in the US economy is expected to be just over 2 per cent this year, after which it will rise to just under 2.5 per cent in 2018. In subsequent years, GDP is expected to increase by about 2 per cent per year. If the economic upswing continues in line with the forecast, this expansionary phase will be the longest since the post-war period. At the same time, growth has been moderate from a historical perspective, without any rapidly rising inflationary pressures, and development has been relatively balanced, for example as regards private sector indebtedness.

Table 4:1.

The forecast in brief
International economic activity is continuing to strengthen and the global economy is growing in line with its historical average.
International inflationary pressures are rising slowly as resource utilisation increases.
Economic activity in Sweden is strengthening further but growth will slow down in the years ahead as housing construction turns down and growth on export markets slows.
The strength of the labour market will persist but matching problems and slower population growth will contribute towards employment growth slowing down.
Inflation to stabilise around 2 per cent. Higher resource utilisation tends to increase inflation, while an appreciation of the krona contributes towards restraining price growth.

Figure 4:1. Growth in various countries and regions



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

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

Even if the force of the cyclical recovery on the economy has weakened, as can be seen, for example, in slowing car sales, there is reason to expect a continued modest increase. Confidence among households and companies is on high levels. Consumption is being supported by rising wealth values and a continued, although weakening, increase in employment, while investment is benefiting from the previous depreciation of the dollar and the upturn in the energy sector. The proposed tax reform presented by the Trump administration could possibly provide some growth stimulus but the final form of the proposal remains highly uncertain so far. Financial conditions continue to be favourable, even if they are being tightened as the Federal Reserve continues to raise its interest rate and shrink its balance sheet. The labour market is tight but the labour force participation rate can probably increase slightly more and, in addition, a certain recovery is expected in productivity growth.

**Clear recovery in the euro area**

Confidence among households and companies in the euro area has increased markedly over the last year and is now at historically high levels (see Figure 4:2). Employment has continued to increase and political uncertainty has decreased over the year, among other things after the elections in France. There are also some signs that the situation in the banking sector is improving. In addition, the economic upturn has spread to more and more countries.

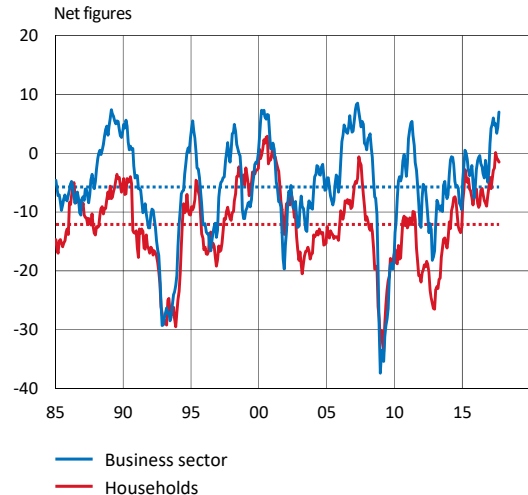
In the years ahead, GDP is expected to continue to grow more rapidly than normal. Unemployment is therefore expected to fall further. The assessment is that there still exists a suppressed consumption and investment requirement but that this will gradually subside over the forecast period. At the same time, more and more spare capacity is being utilised. This will contribute towards GDP growth gradually slowing from just over 2 per cent this year and next year to just over 1.5 per cent in subsequent years. This year's appreciation of the euro is also expected to have a certain negative effect on growth, above all in 2018.

**Stronger growth in emerging market economies**

Growth in emerging market economies increased in 2017. Several commodity-dependent economies, such as Brazil and Russia, are moving from recession to slightly positive growth. The depreciation of the US dollar has also benefited several economies with high indebtedness in this currency, and stock market development has largely been positive. Growth in China has also been stronger this year than last year. The main reason for this is a more expansionary fiscal policy with major infrastructure investments but also an improved development of exports. At the same time, measures have been implemented aimed at dampening credit growth, which are deemed to mean, in the shorter term, that the Chinese economy will grow at a slightly slower pace. The forecast is that GDP growth in China will slow down from almost 7 per cent this year to just over 6 per cent by the end of the forecast period.

At the same time as growth in China will slow down in the period ahead, it is expected to increase in many other emerging market economies, such as India, for example, where growth this year is temporarily held back by a currency reform. The recovery

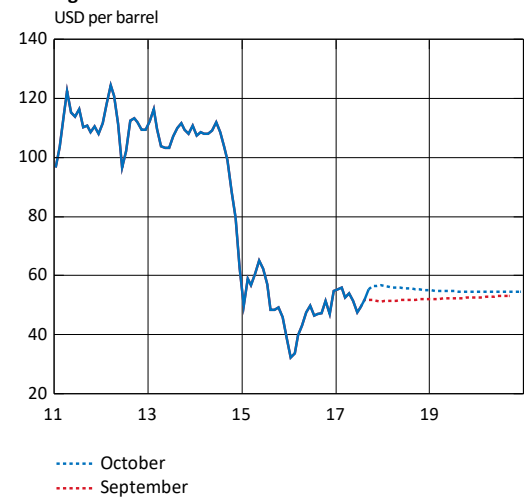
**Figure 4:2. Confidence indicators in the euro area**



Note. Business sector refers to industrial companies. Broken lines refers to average between January 1985 and September 2017.

Source: European commission

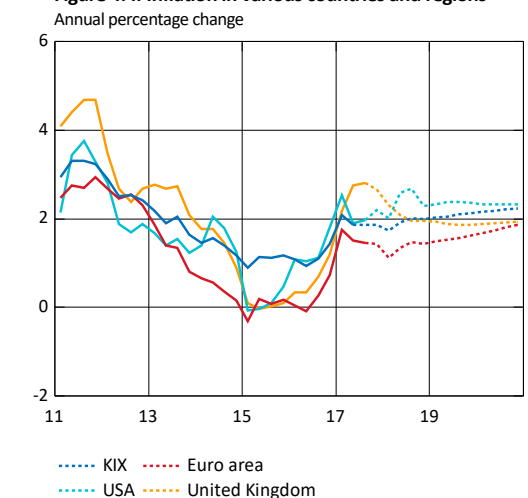
**Figure 4:3. Price of crude oil**



Note. Brent oil, forward rates are calculated as a 15-day average. The outcome refers to monthly averages of spot prices.

Sources: Macrobond and the Riksbank

**Figure 4:4. Inflation in various countries and regions**



Note. KIX is an aggregate of the countries that are important to Sweden's international transactions. When calculating KIX-weighted inflation, the HICP is used for the euro area and the CPI for other countries. Inflation for the euro area shown is measured using the HICP and for the United States and the United Kingdom measured using the CPI.

Sources: The Bureau of Labor Statistics, Eurostat, national sources, Office for National Statistics and the Riksbank

is also continuing in many commodity-exporting countries and growth is gradually becoming higher.

### Slowly rising inflationary pressures abroad

Inflation abroad fell in the first six months of 2017 as the positive contributions made by energy prices decreased. However, energy prices have again increased somewhat since the summer and the forward price curve for oil has shifted upwards (see Figure 4:3). This has led to a certain rise in inflation in recent months. Towards the end of the year and during the beginning of next year, energy prices will again contribute less to inflation.

In the United States, wage growth has shown a rising trend but is still modest in relation to the low level of unemployment. At the same time, the rising trend in core inflation has been dampened recently. However, the weaker development of inflation can at least partly be linked to temporary factors and the assessment is that core inflation will rise as unemployment continues to fall and resource utilisation becomes more strained.

In the euro area, wage growth is still very subdued and has been stable at 1.5 per cent in recent years. Productivity growth has certainly also been relatively weak but, as a whole, unit labour costs have increased more slowly than they did prior to the financial crisis. In Germany, where resource utilisation is significantly more strained than elsewhere in the euro area, wage growth has certainly been higher but nevertheless moderate in relation to economic activity. However, in relation to productivity growth, wage increases in Germany have not been low, as reflected by a falling profit share.

Yet several factors suggest that wage increases will be higher in Germany next year. While 2017 was a 'year off' for central agreements, several major agreements, including an important one in the engineering sector that expires at year-end, will be renegotiated in 2018. Since the last agreement in the engineering sector was concluded in spring 2018, industrial activity has improved substantially. At the same time, inflation has risen from close to zero to just below 2 per cent, which probably has contributed to higher inflation expectations. On the other hand, this relatively weak productivity growth comprises a restraining factor for wage increases in Germany. Wage increases are expected to develop more sluggishly in many other parts of the euro area. In addition, the appreciation of the euro is contributing towards holding import prices down and core inflation is not expected to rise until the end of 2018.

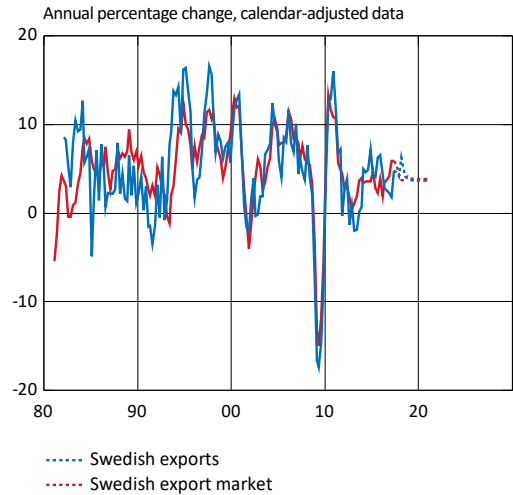
All in all, inflation abroad is expected to rise from just over 1 per cent in 2016 to just under 2 per cent in 2017 and just over 2 per cent in 2019 (see Figure 4:4).

## Sweden

### The Swedish economy remains strong

GDP has developed strongly in recent years, among other things as a result of the very low interest rates and the recovery of Sweden's export markets. Resource utilisation is now expected to be higher than normal and is expected to rise further over the forecast period. Both the domestic economy and foreign trade will contribute to strong demand in the years ahead, even if growth is expected to slow down in 2019 and 2020. The explanation for this is that growth in Sweden's export markets is

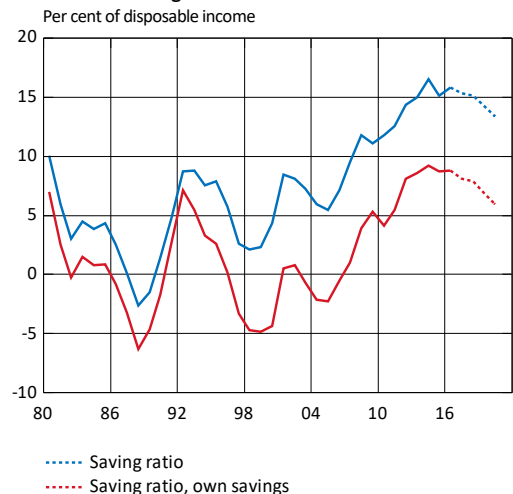
**Figure 4:5. Exports and the Swedish export market**



Note. The Swedish export market index aims to measure import demand in the countries to which Sweden exports. This is calculated by aggregating 32 countries and covers around 85 per cent of the total Swedish export market.

Sources: Statistics Sweden and the Riksbank

**Figure 4:6. Household savings with and without collective insurance savings**



Note. Total household savings include collective insurance savings. The former definition, which was also termed 'total household saving', excluded collective insurance savings and the savings are the difference between income and consumer expenditure.

Sources: Statistics Sweden and the Riksbank

expected to increase at a slightly slower rate, at the same time as housing construction will fall back from a high level. In addition, the working-age population is growing at a slower rate, which, together with difficulties in finding suitable staff, is contributing to a decrease in the growth in hours worked.

Moreover, growth abroad has been weak for several years. Consequently, now that it is increasing on important export markets, it is from low levels and, even if Swedish exports are increasing at a faster rate, growth is relatively modest from a historical perspective (see Figure 4:5). The improved international level of economic activity and high level of capacity utilisation are expected to contribute towards investments in the business sector, outside of the housing sector, increasing at a relatively fast pace. At the same time, housing investment is expected to make a decreasing contribution to growth in the period ahead. The number of housing starts will certainly continue to increase at a rapid rate this year, which is expected to entail an increase in investment volumes of almost 20 per cent, but new construction is expected to level off and then decrease slightly over 2018. All in all, this means that investment growth in the business sector will slow down in the years ahead.

In recent years, household wealth has risen relatively rapidly, at the same time as households have saved an increasingly large proportion of their incomes. Households' disposable incomes will grow faster in 2018 than this year, among other factors as a consequence of increased transfer payments and lower taxes, which are expected to lead to rising consumption growth. Following this, a weaker employment trend and gradually rising mortgage rates are expected to contribute towards households' incomes increasing at a slower rate. However, households are not expected to fully adjust their consumption to the weaker development of incomes, but are expected to cut back on the current high levels of saving. The saving ratio, which is to say savings as a proportion of income, will thus decrease in 2019 and 2020 (see Figure 4:6).

All in all, Sweden's GDP is expected to grow by just under 3 per cent this year and in 2018, and then by an average of about 2 per cent in 2019 and 2020 (see Figure 4:7).

#### Housing prices are rising at a slower rate

Demand for housing is expected to grow at a slightly slower rate in the next few years. Among other reasons, this is because mortgage rates will start to rise and household incomes will not develop as strongly as previously during 2019 and 2020. At the same time, the supply of housing will increase and, in combination, these factors are expected to subdue price development. The slowdown on the housing market will also make household debt grow slightly more slowly. The rate of increase for debt will nevertheless remain higher than households' disposable incomes and the so-called debt-to-income ratio will continue to rise to almost 200 per cent by 2020 (see Figure 1:13).

#### Strong labour market

The situation on the labour market has improved continually for several years and the employment rate has reached a historically high level (see Figure 4:8). The strong economic situation means

#### The 2018 Budget Bill

On 20 September, the Government presented its Budget Bill for 2018. The Bill announced reforms for close to SEK 44 billion and revenue-raising measures amounting to just over SEK 3 billion. This means that the Government, as announced previously in August, plans to carry out unfinanced reforms for about SEK 40 billion. The measures are broadly based and consist of investments in healthcare, security, defence and other areas. Stimulation measures aimed directly at households were also presented in the form of increased child benefit and lower taxes for pensioners.

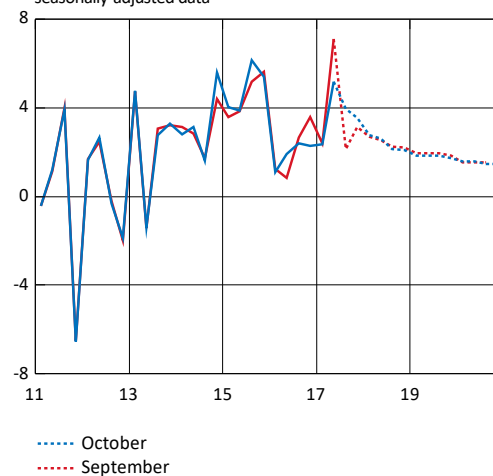
As the extent of the Government's measures was known in September, the Riksbank's September forecast already covered unfinanced reforms for 2018 corresponding to SEK 40 billion. The effects on the forecast of fiscal policy have therefore not been significantly adjusted since the Monetary Policy Report in September. On the other hand, the composition of the measures differed slightly from what had been assumed in the September forecast. The focus is now more on stimulation measures for households and slightly less on public consumption. All in all, fiscal policy was deemed to have a positive effect on GDP of 0.3 per cent in 2018.

The Budget Bill also included a number of reforms that could affect the labour market in the long term, including further investments in education. The long-term effects of education are difficult to assess and depend on how much this education affects an individual's chances of finding work after completing his or her studies. The long-term effects on the labour market of other reforms in the Budget Bill are expected to be minor.

Economic activity is strong at present and tax revenues are expected to increase next year too. This means that the public finances are also expected to show a surplus in 2018. At the same time, public sector saving is slightly lower than it had historically been in correspondingly strong economic situations.

**Figure 4:7. GDP in Sweden**

Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

that demand for labour remains high and employment is expected to increase by just over 2 per cent this year.

The supply of labour has also increased rapidly. This is a result both of high population growth and of an increase in the labour force participation rate. The high labour force participation rate is deemed to be due both to previous reforms affecting the labour market and to a rising demand for labour. In the next few years, both the labour force and the number of people in employment are expected to grow at a slower rate as the increase in the working-age population slows down (see Figure 4:9). In addition, population increases in the period ahead will consist, to a large degree, of asylum and family member immigrants, who have historically had a relatively weak connection to the labour market. However, the strong economic situation is expected to make it easier for these individuals to enter the labour market, which will contribute towards the employment rate and labour force participation rate rising slightly further in 2018 and then remaining on historically high levels.

**Imbalances on the labour market**

At the same time as the development of the labour market has been favourable, there are signs that it has become more difficult to match job-seekers with vacant jobs. High shortages and long recruitment times suggest that it has become increasingly difficult for companies to find the staff they are looking for. A common way of illustrating how well matching on the labour market is functioning is the so-called Beveridge curve that shows the relationship between unemployed persons and vacancies. A normal cyclical relationship is that unemployment falls when the vacancy rate rises, and vice versa. A rise in the vacancy rate without a decline in the unemployment indicates that matching on the labour market has worsened, which can be illustrated by the Beveridge curve shifting outwards<sup>13</sup>. After the financial crisis, the unemployment has been higher at a certain level of the vacancy rate (see Figure 4:10). Matching measured this way has therefore not returned to the relationship that applied before the financial crisis. During 2017, the vacancy rate has risen further to a historically high level, while unemployment has only decreased marginally.

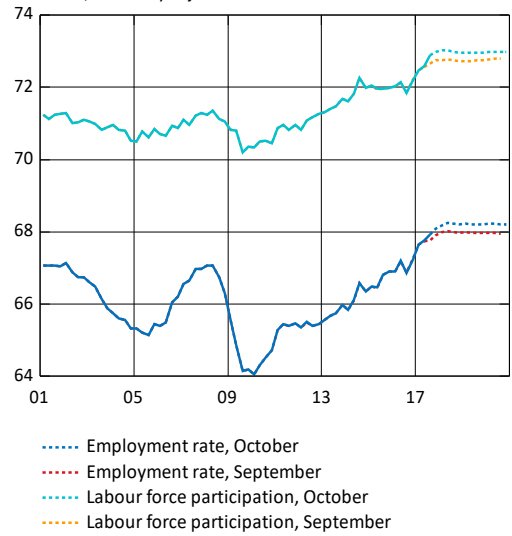
This development can probably to a large degree be explained by the fact that unemployed people, to a great extent, lack the skills that are in demand, rather than this being any lingering effect of the financial crisis. In the Budget Bill for 2018, the Government aims to invest in training for the unemployed to address these imbalances. In the short term, this means that some of the unemployed people currently lacking the skills that are in demand will leave the labour force to study instead<sup>14</sup>. This will contribute towards unemployment becoming slightly lower relative to the assessment in the Monetary Policy Report from September (see Figure 4:11).

The imbalances on the labour market and the slower growth of the labour force will contribute towards employment growth being lower in the years ahead. But the development of the

<sup>13</sup> The development of the Beveridge curve is also affected by the degree of separation, which is to say the proportion leaving a job during the time period and growth in the labour force.

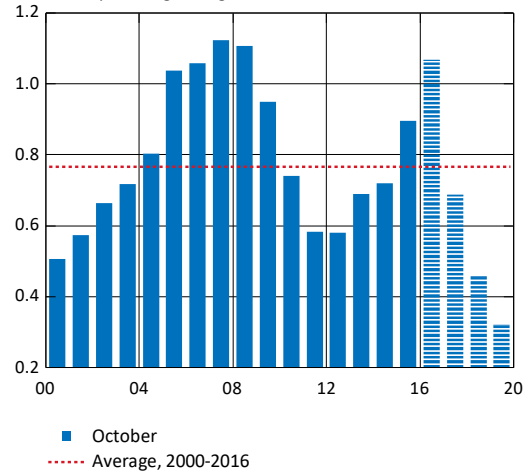
<sup>14</sup> The long-term effects of education are difficult to assess and depend on how much this education affects an individual's chances of finding work after training is completed. The long-term effects on the labour market of other reforms in the Budget Bill are expected to be minor.

**Figure 4:8. Employment rate and labour force participation**  
Employment and labour force as percentage of the population, aged 15–74, seasonally-adjusted data



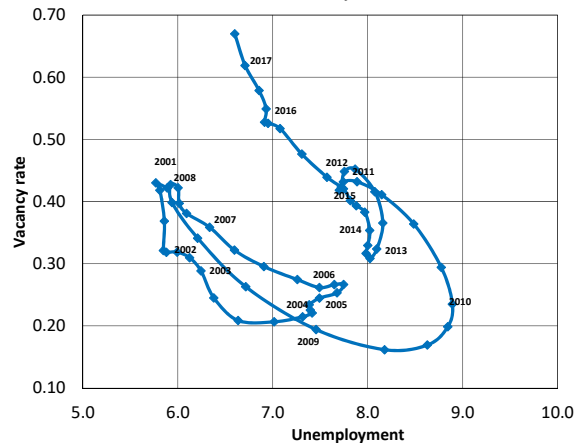
Sources: Statistics Sweden and the Riksbank

**Figure 4:9. Population growth, 15–74 years**  
Annual percentage change



Sources: Statistics Sweden and the Riksbank

**Figure 4:10. Beveridge curve**  
Per cent of the labour force, trend-adjusted values



Note. Data labels mark the first quarter of the respective year.

Sources: Employment Service, Statistics Sweden and the Riksbank



labour market will still be strong enough for resource utilisation to rise further and remain high (see Figure 4:12).

**Tighter labour market leads to increasing wage growth**

The main part of this year’s wage bargaining round has now been completed and new agreements have been signed for most contractual areas. A review of outcomes shows that there has been a great degree of correspondence with the industrial sector’s standard-setting agreement.

Preliminary wage outcomes in the NMO wage statistics have been published for the year’s first seven months. According to these statistics, wage growth throughout the economy this year is set to be about 2.7 per cent as an annual percentage change. The Riksbank deems that wage growth will remain modest in relation to economic prospects and the labour market situation, but that it will increase as the labour market gets tighter over the forecast period.

Both the outcome of the National Accounts for hourly wages and labour costs per hour, which is to say the sum of wages and statutory employers’ contributions, have increased faster than wages according to short-term wage statistics so far this year. The National Accounts’ measurement of wages, which is based on data from the Swedish Tax Agency on payroll expenses and data from labour force surveys on hours worked, is a broader measure of wage costs than short-term wages and includes, for example, some variable components that have some correspondence with economic activity. Differences in the periodisation of wage payments and differences in the concept of wages also contribute towards the difference between the two measures (in short-term wage statistics, hourly wages are used for blue-collar workers and monthly salaries for white collar workers). These differences also mean that hourly wages according to the National Accounts are significantly more volatile than short-term wages and that individual quarterly outcomes can often therefore be difficult to interpret. However, seen over longer time periods, the correspondence between both wage measures is relatively good.

Over the forecast period, hourly wages and labour costs per hour according to the National Accounts are expected to rise in line with their development according to short-term wage statistics. Productivity is expected to grow by 1.7 per cent this year as an annual percentage change and then increase at a somewhat slower rate for the rest of the forecast period. Unit labour costs are expected to increase by about 2 per cent as an annual percentage change per year over the forecast period (see Figure 4:13).

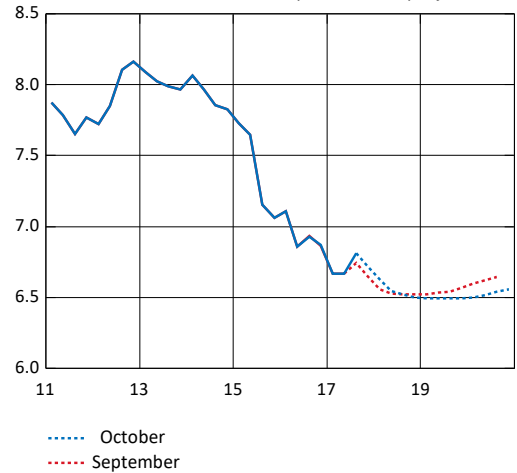
**Inflation to fall back**

Inflation has shown a rising trend since 2014. Over the spring and summer, a number of temporary factors helped contribute to the upturn accelerating but, in recent months, the rate of inflation has levelled off and, in September, CPIF inflation amounted to 2.3 per cent. Over the last year, rising energy prices have contributed to the upturn. CPIF inflation excluding energy has therefore been lower and amounted to 1.9 per cent in September.

At the end of 2017 and beginning of 2018, inflation is expected to fall back. For example, substantial price increases for foreign travel, deemed to be temporary, contributed to the

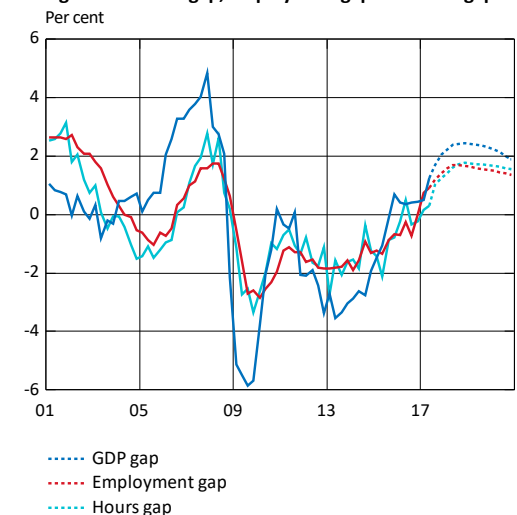
**Figure 4:11. Unemployment**

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



Sources: Statistics Sweden and the Riksbank

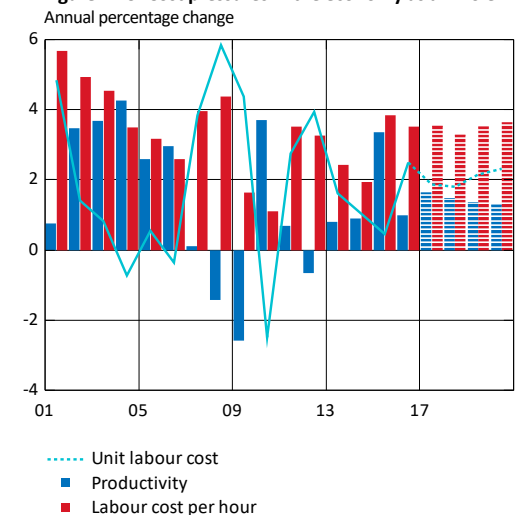
**Figure 4:12. GDP gap, employment gap and hours gap**



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

Sources: Statistics Sweden and the Riksbank

**Figure 4:13. Cost pressures in the economy as a whole**



Sources: Statistics Sweden and the Riksbank

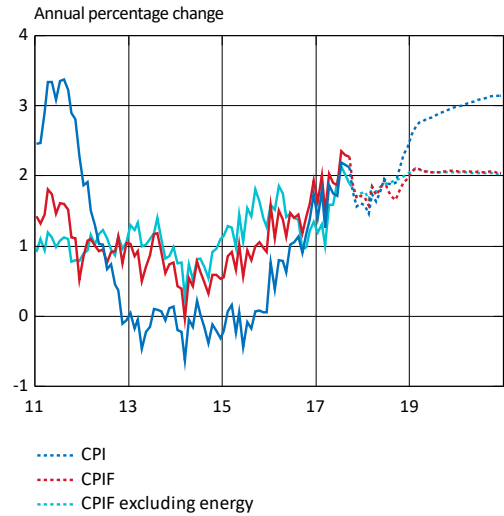
upturn in inflation in the summer months. Another factor contributing towards restraining inflation in the period ahead is the krona exchange rate. The krona has appreciated this year and the good level of economic activity is expected to contribute towards it strengthening further over the forecast period. This is contributing to holding prices for imported products down. In addition, energy prices' contribution to inflation is expected to be slightly smaller in the period ahead.

The most important factor behind the upturn in inflation is a relatively broad rise in service prices and the Riksbank deems that conditions are in place for inflation to remain close to 2 per cent in the period ahead. Above all, this view is motivated by the fact that resource utilisation, supported by an expansionary monetary policy, has risen and is expected to be above normal during the forecast period. This will lead to a gradual rise in wage growth, even if this rise is expected to be relatively modest considering the level of economic activity. Despite the subdued wage increases, cost pressures are expected to be approximately normal as productivity growth is simultaneously expected to be relatively subdued. At the same time, the stronger economic activity has made it easier for companies to increase their profit margins, which is reflected, among other things, by a higher profit share in the business sector. In addition, international prices are also expected to rise as economic activity abroad also strengthens.

#### Stable inflation close to 2 per cent over the forecast period

The inflation forecast is almost unchanged compared with the assessment in the Monetary Policy Report in September. In line with the previous forecast, CPIF inflation is expected to decrease slightly in the immediate future before stabilising around 2 per cent over the forecast period (see Figure 4:14). CPIF inflation is expected to be higher than inflation according to the EU-harmonised measure HICP. This is because the value of households' properties is expected to increase more rapidly than other prices, which affects the CPIF but not HICP (see Figure 4:15). On the other hand, the CPIF will increase more slowly than the CPI over the forecast period. When the repo rate, and thereby also mortgage rates, starts to rise in 2018, household mortgage costs will also rise more rapidly, which will contribute to raising CPI inflation but not inflation according to the CPIF.

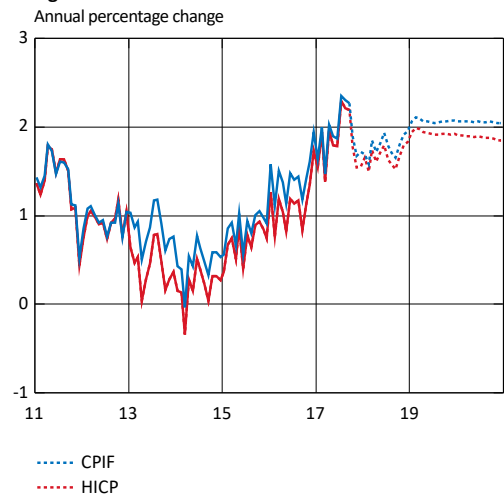
**Figure 4:14. CPI, CPIF and CPIF excluding energy**



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

Sources: Statistics Sweden and the Riksbank

**Figure 4:15. CPIF and HICP**



Sources: Statistics Sweden and the Riksbank

## Tables

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

**Table 1. Repo rate forecast**

Per cent, quarterly averages

	Q3 2017	Q4 2017	Q1 2018	Q4 2018	Q4 2019	Q4 2020
Repo rate	-0.5	-0.5 (-0.5)	-0.5 (-0.5)	-0.3 (-0.3)	0.2 (0.2)	0.8

Source: The Riksbank

**Table 2. Inflation**

Annual percentage change, annual average

	2016	2017	2018	2019	2020
CPIF	1.4	1.9 (2.0)	1.8 (1.9)	2.1 (2.1)	2.1
CPIF excl. energy	1.4	1.7 (1.7)	1.9 (1.9)	2.1 (2.1)	2.0
CPI	1.0	1.8 (1.8)	1.9 (2.1)	2.8 (2.9)	3.1
HICP	1.1	1.8 (1.9)	1.7 (1.8)	1.9 (2.0)	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)	-0.4 (-0.4)	0.0 (0.0)	0.6
10-year rate	0.5	0.8 (0.8)	1.3 (1.5)	2.0 (2.2)	2.6
Exchange rate, KIX, 18 November 1992 = 100	111.7	112.3 (111.9)	110.2 (109.2)	108.7 (108.7)	107.0
General government net lending*	1.1	1.2 (0.9)	0.9 (0.7)	1.0 (0.8)	0.9

\* 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	0.14	0.47	1.8	2.2 (2.1)	2.1 (1.8)	1.7 (1.6)	1.5
USA	0.16	0.08	1.5	2.1 (2.1)	2.4 (2.5)	2.1 (2.1)	2.0
Japan	0.05	0.02	1.0	1.6 (1.9)	1.1 (1.1)	0.8 (0.8)	0.4
China	0.15	0.08	6.7	6.8 (6.8)	6.2 (6.3)	6.1 (6.1)	6.1
KIX-weighted	0.75	1.00	2.1	2.7 (2.6)	2.5 (2.4)	2.3 (2.3)	2.2
World (PPP-weighted)	1.00	—	3.2	3.6 (3.6)	3.7 (3.7)	3.7 (3.7)	3.7

Note. Calendar-adjusted growth rates. The PPP-weights refer to the global purchasing-power adjusted GDP-weights, according to the IMF. The Riksbank updates the weights for the KIX krona index at the start of every year with a time lag of three years. The figures in the table are based on the new KIX weights for 2014 that are used for 2017, and on an assumption that the weights will develop according to the trend of the past five years in the coming forecast years.

CPI	2016	2017	2018	2019	2020
Euro area (HICP)	0.2	1.5 (1.4)	1.3 (1.2)	1.6 (1.7)	1.8
USA	1.3	2.2 (1.9)	2.4 (2.1)	2.4 (2.5)	2.3
Japan	-0.1	0.5 (0.6)	1.0 (1.1)	1.5 (1.5)	1.9
KIX-weighted	1.1	1.9 (1.8)	1.9 (1.9)	2.1 (2.2)	2.2

	2016	2017	2018	2019	2020
Policy rates in the rest of the world, per cent	-0.1	-0.1 (-0.1)	0.0 (0.0)	0.3 (0.2)	0.6
Crude oil price, USD/barrel Brent	45.1	53.6 (52.0)	55.7 (51.7)	54.8 (52.3)	54.6
Swedish export market	3.3	5.4 (5.0)	3.9 (3.9)	3.9 (3.8)	3.8

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	2.5 (2.3)	3.0 (2.6)	2.6 (2.4)	2.2
Public consumption	3.4	0.4 (0.4)	1.5 (2.1)	0.9 (1.3)	1.1
Gross fixed capital formation	5.6	7.8 (7.6)	4.1 (4.3)	2.2 (2.1)	1.6
Inventory investment*	0.0	0.0 (0.0)	0.0 (-0.1)	0.0 (0.0)	0.0
Exports	3.3	3.4 (2.7)	4.6 (4.4)	3.6 (3.6)	4.1
Imports	3.4	4.4 (2.5)	4.5 (4.7)	4.0 (3.9)	4.1
GDP	3.3	2.9 (3.2)	2.9 (2.7)	2.0 (2.0)	1.9
GDP, calendar-adjusted	3.1	3.1 (3.4)	3.1 (2.8)	2.0 (2.1)	1.6
Final figure for domestic demand*	3.2	3.1 (3.0)	2.7 (2.7)	1.9 (2.0)	1.7
Net exports*	0.1	-0.2 (0.2)	0.2 (0.1)	0.0 (0.1)	0.2
Current account (NA), per cent of GDP	5.1	4.8 (5.2)	4.8 (5.1)	4.7 (5.0)	4.6

\*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 (1.1)	0.7 (0.7)	0.5 (0.5)	0.3
Potential hours worked	0.8	0.7 (0.7)	0.6 (0.6)	0.5 (0.5)	0.4
GDP, calendar-adjusted	3.1	3.1 (3.4)	3.1 (2.8)	2.0 (2.1)	1.6
Number of hours worked, calendar-adjusted	2.1	1.5 (1.4)	1.6 (1.6)	0.6 (0.5)	0.3
Employed, aged 15–74	1.5	2.3 (2.1)	1.2 (1.0)	0.5 (0.4)	0.3
Labour force, aged 15–74	1.0	2.0 (1.8)	1.0 (0.9)	0.4 (0.4)	0.4
Unemployment, aged 15–74 *	6.9	6.7 (6.7)	6.5 (6.5)	6.5 (6.5)	6.5

\* 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	2.7 (2.7)	3.1 (3.1)	3.3 (3.3)	3.4
Hourly wage, NA	2.2	3.2 (-)	3.2 (-)	3.4 (-)	3.5
Employers' contribution*	0.7	0.2 (0.2)	0.0 (0.1)	0.1 (0.1)	0.1
Hourly labour cost, NA	2.9	3.4 (-)	3.3 (-)	3.5 (-)	3.6
Productivity	0.9	1.6 (2.0)	1.5 (1.2)	1.4 (1.6)	1.3
Unit labour cost	2.5	1.9 (1.6)	1.8 (2.2)	2.1 (2.0)	2.3

\* 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. As of this report, hourly wage and labour cost per hour according to the National Accounts are based on the number of hours worked for employees. There is no previous forecast according to the new definition. 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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