

# Monetary Policy Report

September 2017





## 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 6 September 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

Since the July Monetary Policy Report, the international economic upswing has continued, but global inflation is subdued, in line with the Riksbank's forecasts. Compared with the forecast in July, there are now expectations of a somewhat more expansionary monetary policy abroad. Sweden's economy is continuing to develop strongly, with unexpectedly high outcomes for GDP growth and inflation. Resource utilisation is higher than normal and will continue to be high in the coming years.

The view of strong economic activity and rising inflation thus still stands. But it has taken time and a great deal of support from monetary policy to bring up inflation. For inflation to stabilise close to 2 per cent, it is important that economic activity continues to be strong and has an impact on price development. It is also important that the krona exchange rate does not appreciate too quickly. The Executive Board has therefore decided to hold the repo rate unchanged at -0.50 per cent. The purchases of government bonds will continue during the second half of 2017, as decided in April. The first rate increase is expected to occur in mid-2018, which is the same assessment as in July. The expansionary monetary policy underlines the Riksbank's aim to safeguard the role of the inflation target as anchor for price-setting and wage formation.

### Continuing economic upturn abroad and strong economy in Sweden

International economic activity has continued to strengthen and the recovery is reaching an increasing number of countries and sectors. Indicators point to a positive mood among households and companies, at the same time as world trade is growing and the labour market is improving in many countries. The upturn in the global economy is thus becoming increasingly apparent. Despite the economic upturn, however, global growth rates are relatively modest, as they are being held back by ageing populations and weak underlying productivity growth, among other factors.

All in all, global growth is expected to be just over 3.5 per cent in 2018 and 2019, which is in line with the historical average. GDP growth in the countries with greatest significance for the Swedish economy (KIX-weighted GDP) is expected to be about 2.5 per cent this year, after which it will slow down in the coming years. The forecast is largely unchanged compared with the assessment in July.

#### Despite the economic upturn, inflation is subdued abroad

Rising energy prices contributed towards international inflation rising at the end of 2016 and start of 2017. The positive contribution from energy prices has decreased over the year and inflation has fallen back in many countries. In the period ahead, inflation is increasingly expected to be driven by rising resource utilisation. Even though wages have not increased particularly rapidly so far, despite the favourable development of the labour market in many countries, the continued strong labour market is

Table 1:1.

Important factors for monetary policy
The international economic upturn is continuing, but global inflation remains subdued.
Central banks around the world are in different phases. The Federal Reserve is expected to increase its policy rate further while the ECB is expected to continue with its asset purchase programme. In general, the normalisation of monetary policy abroad is proceeding slowly.
Strong economic activity in Sweden. Resource utilisation will be higher than normal in the years ahead.
Long-term inflation expectations are back close to 2 per cent. Inflation is close to 2 per cent during the forecast period.
The krona is expected to appreciate slowly going forward.
Monetary policy needs to continue to be expansionary for inflation to stabilise close to 2 per cent. The repo rate is being held at -0.50 per cent and purchases of government bonds will continue over the second half of 2017, in accordance with the decision taken in April.

Table 1:2.

Important forecast revisions
The forecast for GDP growth in Sweden has been revised upwards as a result of the unexpectedly strong outcome. Productivity is higher and unit labour costs lower in 2017.
Inflation in Sweden has been higher than expected in recent months and the forecast has been revised upwards.
The krona exchange rate has developed more strongly than expected and the forecast for the krona is stronger in the years ahead in comparison with earlier assessments.
International monetary policy is expected to be somewhat more expansionary during the forecast period.

expected to gradually lead to higher wage growth and rising underlying inflation. All in all, inflation abroad (KIX-weighted) is expected to rise from 1.1 per cent in 2016 to 1.9 per cent in 2017 and 2018 and to 2.2 per cent in 2019, which is an unchanged assessment compared to July.

### Slow normalisation of monetary policy abroad

The monetary policies being conducted by the major central banks around the world are in different phases due to differences in the economic situation and development of inflation. The European Central Bank (ECB) held its monetary policy unchanged at its July meeting and has communicated that the net purchases of assets will continue until they see a lasting improvement in inflation prospects. The market's expectations of the ECB's future policy rate have fallen slightly, at the same time as there are expectations of an extension of the bond purchases in 2018, albeit at a slower pace.

In the United States, which is further ahead of the euro area in the economic cycle, the Federal Reserve has started to raise its policy rate. However, at the monetary policy meeting in July, the rate was held unchanged. The Federal Reserve has also communicated the intention to start gradually reducing its balance sheet relatively soon, assuming that the economy develops as expected. Market prices reflecting the expected future level of the policy rate have fallen also in the United States, as uncertainty has increased over previously promised fiscal policy stimulation measures and inflation has been somewhat lower than expected. In general, the normalisation of monetary policy abroad is proceeding slowly.

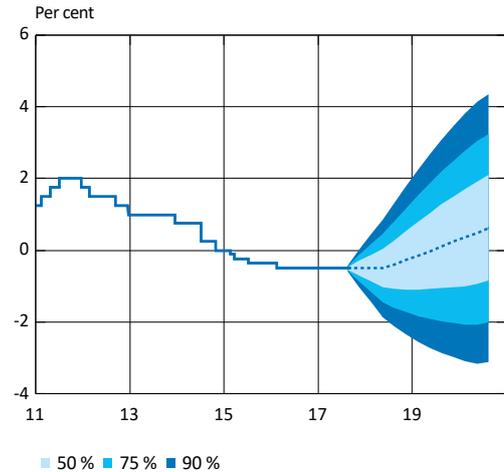
### Swedish economic activity still strong

According to the preliminary figures for the National Accounts, GDP increased by 7.1 per cent in the second quarter, compared with the preceding quarter and calculated at an annual rate. Although the outcome is based on a more limited data set than usual, and therefore must be interpreted with a degree of caution, it indicates a stronger than expected development of the Swedish economy. Confidence indicators suggest that the positive trend will continue through the second half of the year. The continued strong development of domestic demand and of Sweden's export markets are expected to lead to the strong economic situation persisting in the coming years.

The unexpectedly rapid increase in GDP in the second quarter means that the forecast for growth in 2017 is now significantly higher than in the assessment made in July. Overall, Sweden's GDP is expected to grow by just over 3 per cent this year and then to increase by an average of 2.5 per cent in 2018–2019 (see Figure 1:2).

Since the start of 2013, the situation on the labour market has continually improved, with a rising employment rate and falling unemployment. The strong economic situation means that demand for labour continues to be high and it has become increasingly difficult for companies to recruit qualified personnel.

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

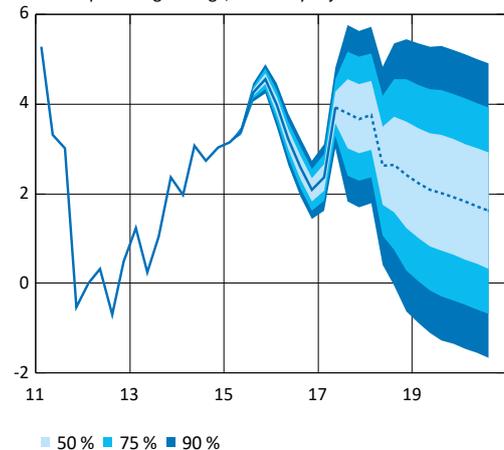


Note. The uncertainty bands for the repo rate are based on the Riksbank's historical forecasting errors and the ability of risk-premium adjusted forward rates to forecast the future repo rate for the period 1999 up to the point when the Riksbank started to publish forecasts for the repo rate during 2007. 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**

Annual percentage change, seasonally-adjusted data



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

Sources: Statistics Sweden and the Riksbank

This is expected to affect local wage formation and bring about rising wage increases over and above the levels in the central agreements.

### Inflation to stay close to the target in the years ahead

Inflation was higher than expected in both June and July. In July, CPIF inflation amounted to 2.4 per cent (see Figure 1:3). When adjusted for energy prices, CPIF inflation amounted to 2.1 per cent. Above all, the rate of increase in prices for services was unexpectedly high. This can partly be explained by temporary factors and changes in the methods of measurement, which gave rise to an unusually strong rate of increase in prices of foreign travel. However, even disregarding this, the new outcomes indicate that inflation developed more strongly than was forecasted in July.

The development of inflation in the period ahead depends partly on the exchange rate. Recently, the krona has appreciated to an unexpected degree (see Figure 1:4). One explanation for this is that the dollar has weakened against most currencies. But the krona has also strengthened after both GDP growth and inflation increased surprisingly quickly during the summer. The Riksbank's assessment is that the krona exchange rate will strengthen slightly further over the forecast period and will have a restraining effect on inflation in the years ahead. Consequently, economic activity needs to continue to be strong and to have an impact on prices if inflation is to remain close to the target.

Resource utilisation in the Swedish economy has risen and is expected to be higher than normal over the entire forecast period. This usually leads to costs for companies increasing more rapidly. The rate of wage increase is expected to rise during the forecast period, but moderately.

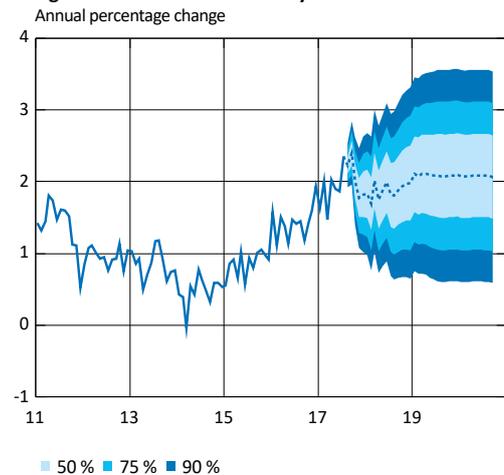
At the same time, productivity growth has been stronger than expected recently, contributing to cost pressures in the economy being restrained in the near future. Unit labour costs will increase more slowly in 2017 than was expected in July, but are subsequently expected to increase in line with the historical average of around 2 per cent.

The Riksbank deems that the strong economic activity makes it easier for companies to raise prices. Higher domestic resource utilisation, which affects inflation subject to a certain delay, together with stronger international price pressures, thereby means that there are good conditions for inflation being higher going forward than it has been in recent years. Supported by the expansionary monetary policy, CPIF inflation is expected to be close to the inflation target over the entire forecast period (see Figure 1:3).

## Current monetary policy

Swedish monetary policy has for a long time been conducted in an environment characterised by uncertain economic developments, low global interest rates and weak inflationary pressures. The aim of the expansionary monetary policy is to

**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

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 efficient price-setting and wage formation, thereby contributing to good economic development. Given these circumstances, the Riksbank has gradually cut the repo rate to -0.50 per cent and carried out extensive purchases of government bonds. Monetary policy has had a significant impact on short- and long-term interest rates and on the krona exchange rate. Inflation has been rising since the beginning of 2014, and, like inflation expectations, is once again close to 2 per cent (see Figures 1:3 and 1:5). Economic activity in Sweden is strong and unemployment has declined. The expansionary monetary policy has contributed to this development.

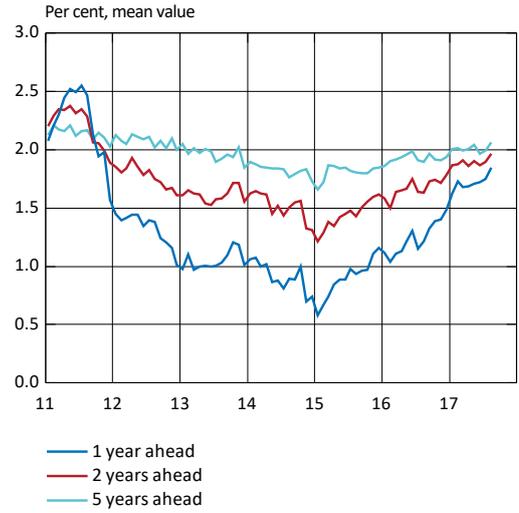
**Continued expansionary monetary policy for CPIF inflation close to the target**

The recovery of the global economy has continued over the course of 2017, in line with the Riksbank’s previous forecasts. World trade has clearly risen, while growth has broadened and has reached increasing numbers of countries and sectors. But even if the economic signals abroad continue to be good, global inflation is subdued and, compared with July, the expectations are that monetary policy in the years ahead will be slightly more expansionary in countries that are important to Sweden.

Economic activity has also continued to strengthen in Sweden. According to preliminary outcomes, GDP grew very rapidly in the second quarter. Even if the statistics are uncertain and the outcome, to some extent, is deemed to be temporary, it indicates a stronger development of the Swedish economy than expected and the Riksbank has revised its growth forecast upwards. The Swedish labour market is also developing strongly, with employment and the labour force participation rate being at historically high levels. Unemployment is expected to be slightly lower in the years ahead and resource utilisation in the economy is deemed to be higher than normal.

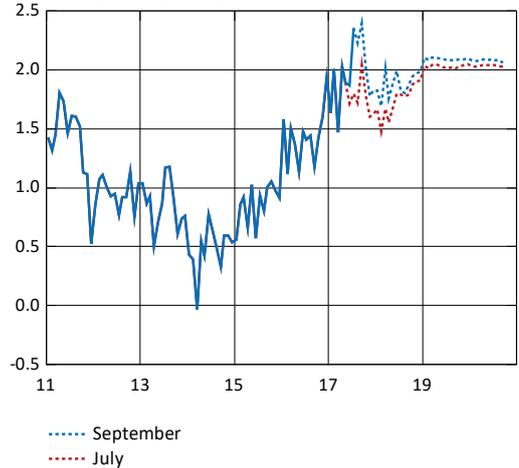
After a long period with inflation below 2 per cent, CPIF inflation, supported by monetary policy, has risen and now amounts to 2.4 per cent according to the outcome for July. Both CPIF inflation and different measures of underlying inflation have shown a rising trend since 2014 and are now close to target. In recent months, inflation has risen faster than expected. The main cause of this surprising development is the unexpectedly rapid upturn in prices for services, which is primarily due to temporarily high price increases for foreign travel. The upturn in services prices, which belong to the group of prices largely dependent on developments in domestic economic activity and domestic costs, is not due solely to temporary prices, however. Even if inflation is expected to fall back slightly in the period ahead, the forecast for the development of inflation has been revised upwards (see Figures 1:6 and 1:7). Supported by the expansionary monetary policy, CPIF inflation is expected to be close to 2 per cent over the entire forecast period.

**Figure 1:5. Inflation expectations among money market participants**



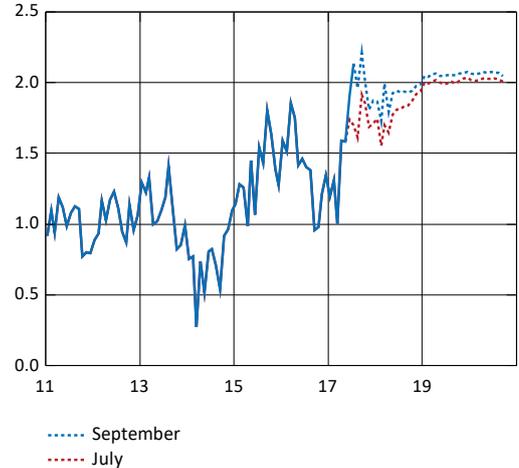
Source: TNS Sifo Prospera

**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

It has taken time and a great deal of support from monetary policy to bring up inflation and inflation expectations. Considering that inflation has long been below target, the Riksbank has also made clear that inflation that is temporarily above the inflation target does not mean that monetary policy will have to be made less expansionary in the near future. It is important that economic activity in Sweden continues to be strong and has an impact on price development.

The Executive Board has therefore 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 July (see Figure 1:8). The repo rate will thereby be significantly lower than the long-term normal interest rate level in the coming years.<sup>2</sup> If it were required to ensure inflation stabilises close to the inflation target, the Riksbank is able to implement further monetary policy easing. The development of the krona exchange rate continues to be important in this context.

Purchases of government bonds will continue in the second half of 2017, as decided in April, and, at the end of the year, total purchases of government bonds will amount to SEK 290 billion, excluding reinvestments (see Figure 1:9). Until further notice, maturities and coupon payments will be reinvested in the government bond portfolio. During 2017, these maturities and coupon payments will amount to around SEK 30 billion, mainly in nominal government bonds, and reinvestments are distributed throughout the year.

Just as in many other countries in the world, Swedish monetary policy is very expansionary and will remain so in the coming years. The real repo rate is expected to be negative throughout the forecast period (see Figure 1:10).

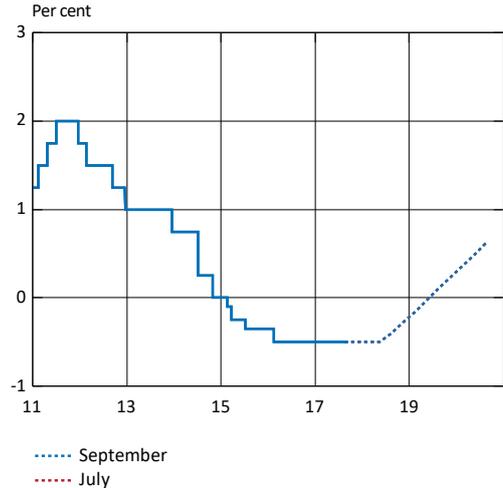
**Monetary policy considerations**

The strong economic situation with surprisingly high growth and inflation could suggest a somewhat less expansionary monetary policy. This is because high GDP growth and high resource utilisation normally lead to inflation rising, with some time lag. A high growth rate could also create imbalances and thereby problems further ahead. However, there are now no clear signs that the Swedish economy is growing too fast. For instance, wage increases are moderate and saving in the economy is high.

Although growth was unexpectedly fast in the second quarter, the increase in production has largely been the result of high productivity growth. High productivity holds back cost increases for companies and thereby also inflation. Wage growth is also subdued and the krona has appreciated faster than forecast in July. Cost pressures have thus developed weakly and, even if there has been a broader increase in prices for services recently, economic activity needs to continue to make an impact on price development.

<sup>2</sup> For a discussion of the repo rate's long-term level, see the article in the February 2017 Monetary Policy Report.

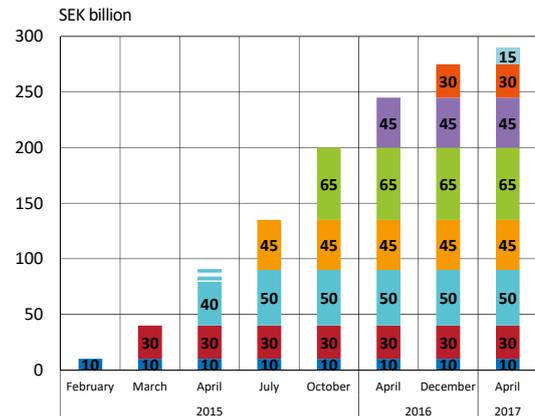
**Figure 1:8. Repo rate**



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

Source: The Riksbank

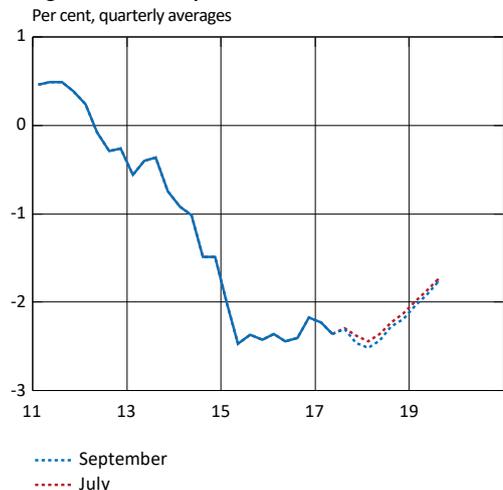
**Figure 1:9. Purchases of government bonds decided by the Riksbank**



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

Source: The Riksbank

**Figure 1:10. 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

The development of the krona has considerable significance for inflation prospects. The krona is expected to strengthen slightly in the years ahead and it is important that this appreciation is neither too strong nor too rapid. This could not just entail negative effects on inflation, but also impede growth in the Swedish economy. For example, an excessively rapid appreciation of the krona could occur if the Riksbank's monetary policy deviates too far from that of other countries. Monetary policy abroad will thereby also form an important condition for Swedish monetary policy.

For inflation to stabilise around the inflation target, it is also important that inflation expectations are firmly anchored. The fact that inflation has long been below the inflation target means that there is a risk of inflation expectations being more sensitive than usual to downside surprises.

In light of this, a less expansionary actual or expected monetary policy at present could lead to inflation falling back and again becoming too low. Confidence in the inflation target could then be weakened. The Executive Board therefore considers that monetary policy needs to stay very expansionary going forward.

#### Side-effects of monetary policy

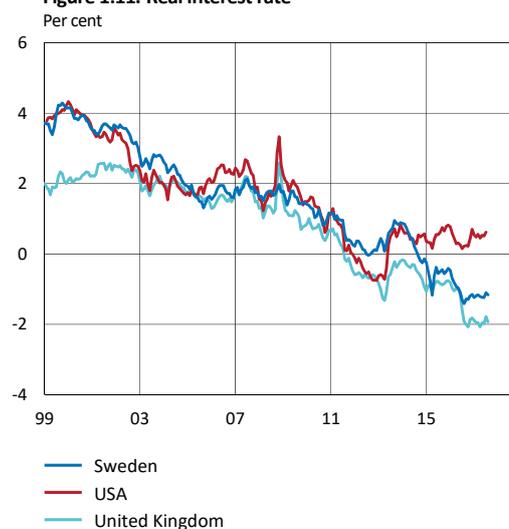
The monetary policy conducted by the Riksbank in recent years, with a policy rate below zero and extensive asset purchases, has been exceptional from a historical perspective. The policy is largely a consequence of a global declining trend in nominal and real interest rates (see Figure 1:11).

One possible side-effect of low interest rates is that they can lead to excessive risk-taking in the economy. In Sweden, it is above all developments on the housing market that are of concern, as housing prices, and consequently household indebtedness, have been rising sharply for a long time. It is therefore important that further measures are taken to limit the risks inherent in households' high level of indebtedness.

Negative interest rates and purchases of government bonds can also have a negative effect on the functioning of the financial markets. The financial markets have so far been able to manage the negative interest rate relatively smoothly. With regard to the government bond market, the Riksbank's overall assessment is that the bond purchases have not had any tangible negative effect on market functioning. The Riksbank is closely monitoring development by, for example, having close contacts with the various participants.

There is also a risk that negative interest rates may lead to an increased 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 in Sweden has continued to decrease. Negative rates could also reduce banks' profitability to a certain extent, 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.

**Figure 1:11. Real interest rate**



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

Sources: Bank of England, Federal Reserve, Thomson Reuters and the Riksbank

#### Risks of low inflation

The expansionary monetary policy has a clear focus: that inflation shall stabilise 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. Too low an inflation rate can moreover make it more difficult to adapt real wages 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.

The Riksbank continuously analyses the effects of monetary policy and so far deems the negative side-effects of the expansionary policy to be 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 development shall in principle be balanced. It is difficult, however, to assess the likelihood of future events and the consequences they might have should they occur.

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

### **Uncertainty surrounding the inflation forecast**

Although the Swedish economy is currently in good shape, negative surprises could occur in the future that make it necessary to adapt monetary policy further in an expansionary direction. The Riksbank therefore is still prepared to make monetary policy more expansionary if inflation were to fall too low once again and confidence in the inflation target were to weaken. All of the tools that the Riksbank has described earlier, most recently in the September 2016 Monetary Policy Report, can be used if necessary.

For some time, uncertainty around the world has contributed to making it more difficult to predict economic developments. There are several examples of economic and political uncertainty factors abroad that may ultimately subdue inflation both internationally and in Sweden. One uncertainty factor concerns economic policy in the United States. A number of questions remain concerning the design of fiscal policy and other matters. The geopolitical tension between the United States and North Korea has increased and contributed to falling stock prices over the summer. A further uncertainty factor is Italy, which has had severe problems in its banking sector, high public debt and weak economic developments over a long period of time.

The krona exchange rate has played a particularly important role for inflation in recent years, with low demand-driven inflation. Fluctuations in the krona exchange rate over the past year illustrate that exchange rate forecasts are fraught with uncertainty. 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

significantly negative consequences for real economic development. The significance of an unexpectedly rapid and large appreciation of the krona would, however, depend on the reasons for the appreciation. If the krona appreciates as a result of unexpectedly strong economic development in Sweden, as has partly been the case recently, the overall effects on inflation could be lesser. A stronger currency that is not combined with stronger economic activity and higher inflationary pressures, on the other hand, would be more worrying.

Resource utilisation is expected to be higher than normal during the forecast period. According to historical comovements, wages should therefore increase at a faster pace and inflation should become higher going forward. The normative wage agreements concluded earlier this year indicate, however, that wage increases will be relatively moderate in the years ahead. This may suggest that factors other than the domestic economic situation have become more important when it comes to explaining wage development. One such factor is the economic development of the euro area, which is our largest export market and where the recovery has been weak in recent years. This may have contributed to lower wages in Sweden too, as the manufacturing sector, which is exposed to international competition, has a normative role in wage formation.

The rate of wage increases is expected to be relatively moderate in the years ahead, and lower than what historical comovements with resource utilisation indicate. The forecast is uncertain, however. A higher wage growth than in the forecast, in line with the historical comovements with resource utilisation, could lead to higher inflation. If wage development is weaker than expected, on the other hand, it is likely that company costs will also be lower, which will push down inflation. But the comovements between resource utilisation and wages and prices depend, as with the exchange rate, on which factors affect the development.

Economic developments could of course also be stronger than forecast. Recently, the real economy has strengthened both abroad and in Sweden. If this development were to continue, resource utilisation and thus inflation may be pushed up fairly quickly. If growth were to be too rapid, there would also be a greater risk that certain sectors of the economy expand in a way that is not sustainable in the long run, which can exacerbate a future economic down-swing.

The effects on inflation of faster growth than expected are not clear-cut, however. Strong GDP growth driven by increased productivity most often leads to subdued cost pressures via lower unit labour costs. In the Riksbank's forecast, cost pressures are expected to rise. But unusually high growth driven by productivity growth could thus counteract this.

One important factor in the assessment of the risks for inflation is that inflation has been below target for a long period. If the development of inflation were to be weaker than expected and confidence in the inflation target were to decline, monetary policy could need to be made more expansionary. If, however,

inflation were to temporarily exceed the target, this would not necessarily mean that monetary policy would have to be made less expansionary in the near future.

### High indebtedness creates vulnerabilities – measures are essential

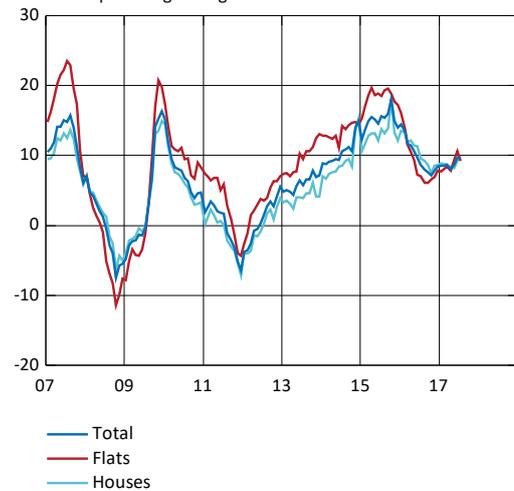
Housing prices have risen sharply for several years, and household indebtedness has increased in line with housing prices (see Figures 1:12 and 1:13). This makes households vulnerable to disruptions. Households' high indebtedness and the highly-elevated housing prices also make the banking system vulnerable. A large percentage of Swedish banks' lending is with homes and other types of property as collateral. At present, these loans amount to about 70 per cent of total lending. The high and increasing indebtedness could therefore jeopardise financial and macroeconomic stability. A combination of measures in different policy areas is needed to attain a long-run sustainable development for the Swedish economy with stable economic activity and inflation. This is particularly important as interest rates are expected to remain low for a long time. Macroeconomic imbalances are expected to increase unless further measures are taken. This may ultimately be very costly for Sweden's economy.

It is not likely that small increases in the repo rate would have any tangible effects on household indebtedness. A large increase in the repo rate could certainly slow down the build-up of debts but would also lead to higher unemployment, a much stronger krona and lower inflation. Other measures more specifically aimed at reducing the risks associated with household debt have less negative effects on the economy as a whole.

It is therefore important that the Government takes targeted measures within housing policy and tax policy to mitigate the risks associated with household indebtedness. Politicians need to take a holistic approach and review both taxation of capital gains from housing property sales and property tax and tax relief on interest expenses. The Riksbank has called for further macroprudential policy measures and therefore welcomes Finansinspektionen's proposal on tighter amortisation requirements, which are proposed to enter into force in January 2018. The Riksbank emphasises how important it is that households' resilience increases and the risks with household indebtedness are reduced, and points out that further measures may be needed if this does not happen.

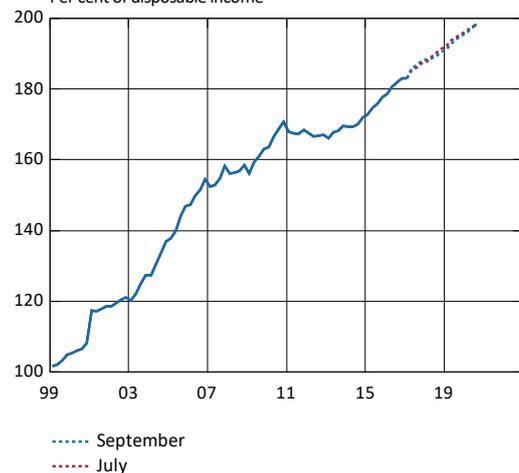
The Riksbank has also stated that it is important that Finansinspektionen's assignment and goals for macroprudential policy, and the process for allocating tools to Finansinspektionen, should be clarified and set out in more detail in law. Earlier this year, the Government presented proposals for further tools for macroprudential policy, which have now resulted in a proposal referred to the Council on Legislation for consideration. This is a step in the right direction.

**Figure 1:12. Housing prices**  
Annual percentage change



Source: Valueguard

**Figure 1:13. Household debt**  
Per cent of disposable income



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

Sources: Statistics Sweden and the Riksbank

## ARTICLE – CPIF as target variable for monetary policy

The Riksbank has decided that the target for monetary policy is for the annual change in the consumer price index with a fixed interest rate (CPIF) to be 2 per cent. In practice, the CPIF has been more important for the formulation of monetary policy in recent years than the CPI. This is now being clarified by also formally defining the inflation target as a 2 per cent annual change in the CPIF. To illustrate the fact that monetary policy has little opportunity to govern inflation in detail and that inflation varies around the inflation target over the short term, the Riksbank will also start to use a variation band. The variation band ranges between 1 and 3 per cent and captures approximately three-quarters of outcomes for CPIF inflation since mid-1995. The Riksbank will continue to strive for 2 per cent inflation, regardless of whether it is currently inside or outside the variation band. The variation band is thus not a target range.

### The CPIF as target variable for monetary policy

Since the inflation target was introduced in 1993, it has been defined in terms of the consumer price index (CPI). The selection of this measure when inflation targeting was introduced was largely due to it being a well-known and well-established measure. But the CPI has characteristics that make it problematic to use as guidance for monetary policy. The main reason is that changes to the Riksbank's policy rate have direct short-term effects on inflation that are not connected to underlying inflationary pressures. For example, when the Riksbank cuts the repo rate with the aim of raising the rate of inflation, mortgage rates fall. These are included in the owner-occupied housing expenses item in the CPI and the rate cut will therefore exert a downward pressure. This direct effect thus goes in the 'wrong direction'. In other words, the policy rate cut leads to a drop in near-term CPI-inflation.

Due to the CPI's characteristics, the Riksbank has long allowed the development of other price indices to influence interest rate decisions. In recent years, the CPIF (the CPI with a fixed interest rate) has, in practice, acted as guidance for monetary policy decisions. The assumption has been that CPI inflation and CPIF inflation will coincide in the long term, when rate rises and rate decreases cancel each other out. However, in recent years, deviations between the CPI and CPIF have been large, both upwards and downwards, which has led to problems in communication.

Large and protracted differences between CPI and CPIF inflation can cause a number of problems. Possibly the most serious of these is that participants are starting to question whether the Riksbank is really stabilising CPI inflation by stabilising CPIF inflation at around 2 per cent, thereby weakening confidence in the inflation target. Another

problem is that evaluations of monetary policy are made more difficult if there are major differences between the progression of the variable that guides the Riksbank in practice and the formal target variable. The change in the definition of the target has been made to further clarify how the Riksbank interprets its task of maintaining price stability.

### Variation band put into use

Regardless of the target variable, it is not possible for the Riksbank to govern inflation precisely and attain the target of 2 per cent inflation every single month. To illustrate this, and to serve as a reminder that inflation over the short term fluctuates for many different reasons, the Riksbank has therefore decided to start to use a variation band. The variation band ranges between 1 and 3 per cent and captures approximately three-quarters of CPIF outcomes since 1995.<sup>3</sup> The variation band is an easy way to illustrate the fact that inflation normally fluctuates. In other words, the variation band is not a so-called target range.<sup>4</sup> The Riksbank will continue to strive for 2 per cent inflation, regardless of whether it is currently inside or outside the variation band.

### No change to monetary policy conducted

The changes now being introduced have been agreed upon by the Riksbank after considering the views of a wide range of referral bodies.<sup>5</sup> The CPIF as target variable and the use of a variation band do not involve any change to the monetary policy being conducted. It is important to safeguard the task of the inflation target as nominal anchor for price-setting and wage-formation. The aim of monetary policy will continue to be the stabilisation of inflation at 2 per cent. These changes entered into effect in conjunction with the monetary policy meeting of 6 September 2017.

<sup>3</sup> The inflation target was introduced in 1993 but did not start to apply until the start of 1995. Statistics Sweden began publishing the CPIF in July 2008, at the request of the Riksbank.

<sup>4</sup> For a discussion of the terms target range and tolerance band, see "The Riksbank's inflation target – target variable and interval", Riksbank Studies, September 2016.

<sup>5</sup> For a list of the 50 organisations and authorities among which the proposal was circulated, see Consultation response on memorandum "Change of target variable and introduction of variation band".

## CHAPTER 2 – Financial Conditions

Since the Monetary Policy Report from July, the market's expectations of the future level of the US policy rate have fallen and the dollar has weakened against most currencies. At the same time, Swedish macro statistics have been better than expected and, in competition-weighted terms, the krona is stronger than in the forecast from July. While government bond yields have fallen in the United States and in the euro area, they are more or less unchanged in Sweden. In Europe, stock market indices have generally fallen, while it is unchanged in the United States. In Sweden, households and companies are continuing to pay low interest rates at the same time as credit growth remains high. All in all, the financial conditions in Sweden are expected to remain favourable in the short term.

### International developments

#### Lower expectations that Fed will raise rate further this year

The Federal Reserve held the policy rate unchanged at its monetary policy meeting in July, which was in line with market participants' expectations. The central bank has communicated that it expects to be able to start reducing its balance sheet relatively soon, assuming that the economy develops as expected. The Federal Reserve has previously said that this reduction will take place gradually and will be announced in good time before being initiated. Analyses by various market participants indicate a general expectation that the starting point for the reduction will be announced at the monetary policy meeting in September.

The market's expectations of the future level of the US policy rate increased after the presidential election in the autumn, following the signalling of increased fiscal policy stimulation which led inflation expectations in the United States to rise, among other effects. A lack of reforms and the arrival, in the spring, of macroeconomic statistics that were slightly weaker than expected by market participants have led the participants to adjust their view of the economic development of the United States. Long-term inflation expectations fell back over the spring (see Figure 2.1). At the same time, inflationary outcomes in the United States have also been slightly lower than expected. In line with this, the market measures reflecting expectations of the future level of the policy rate in the United States have fallen. The

Table 2:1.

Developments on financial markets since the July Monetary Policy Report
Slightly lower government bond yields internationally, while Swedish bond yields are more or less unchanged.
The krona is stronger in competition-weighted terms than in the forecast in July.
Stock market indices have fallen in Sweden and in the euro area, but remain unchanged in the United States.
Continued low interest rates for households and companies.
Continued high growth in lending to households and non-financial corporations.

#### 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.



market prices now suggest slightly higher than a 50 per cent probability of a further rate rise this year (see Figure 2:2).

At the ECB’s monetary policy meeting in July, monetary policy in the euro area was left unchanged. The deposit rate, which is currently the rate that controls the overnight rate in the euro area, was left at –0.40 per cent. According to the ECB, net asset purchases are to continue until the end of December 2017, or longer if necessary. Purchases will continue until the ECB sees a sustainable improvement in the outlook for inflation. Like previously, the ECB also reported that it is ready, if necessary, to extend asset purchases in terms of size or duration. It also pointed out that its policy rates will remain at unchanged levels for a long period of time and much longer than the conclusion of net asset purchases. The ECB has communicated that the future plans for the asset purchase programme will be discussed more over the autumn. Market prices indicate slightly lower expectations of the future level of the ECB’s deposit rate since July. An initial rate rise is not expected until the start of 2019 (see Figure 2:2). According to market newsletters, most market participants expect an extension of the ECB’s bond purchases in 2018, but that the purchases will continue at a slower pace.

The Bank of England held its policy rate unchanged at 0.25 per cent in August. Since July, the market’s expectations for the future level of the British policy rate have fallen, which can primarily be ascribed to macro statistics that have shown weaker overall economic development than expected. The Bank of Japan also held its monetary policy unchanged at its monetary policy meeting in July.

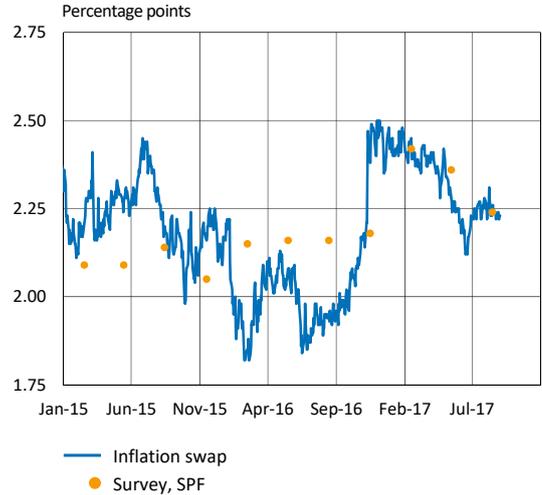
For many central banks, the normalisation of monetary policy is thus taking longer than the market participants had initially expected, even if some central banks like the Bank of Canada and the Czech National Bank raised their policy rates over the summer.

**The dollar has weakened against most currencies**

The dollar appreciated against most currencies following the presidential election in November. As the promised stimulation has failed to materialise and the market has priced a slower rate of increase of the US policy rate over the spring, the dollar has weakened and US long-term interest rates have retreated slightly. Since the Monetary Policy Report in July, the US dollar has depreciated against most other currencies (see Figure 2:3). At the same time, the euro has appreciated, among other reasons due to the view given by economic indicators being better than expected.

In the days before the Riksbank’s decision in July, long-term government bond yields rose internationally following communication from the President of the European Central Bank that led the market to expect the ECB’s monetary policy intentions to be slightly less expansionary than previously. Yields then fell again over the summer (see Figure 2:4). Yields on government bonds with shorter maturities have fallen slightly in the United Kingdom, United States and Germany over the

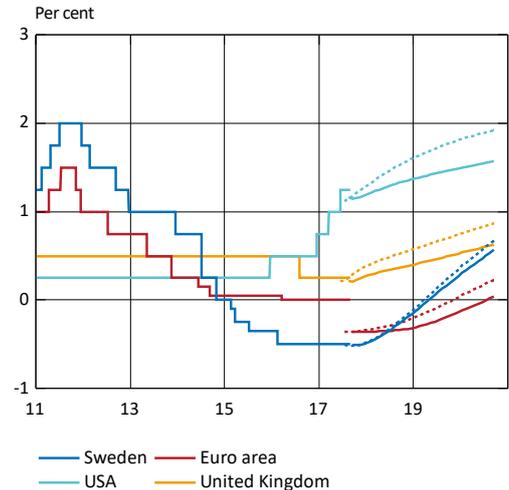
**Figure 2:1. Long-term inflation expectations in the US, according to market measures and surveys**



Note. The lines reflect different measures of inflation expectations 5 to 10 years ahead. Inflation compensation is the difference between the yield on a nominal and a real government bond. An inflation swap is a financial instrument that is linked to an inflation index. SPF is here an average of expectations of inflation 5 and 10 years ahead according to a survey.

Sources: Bloomberg, Federal Reserve Bank of Philadelphia and the Riksbank

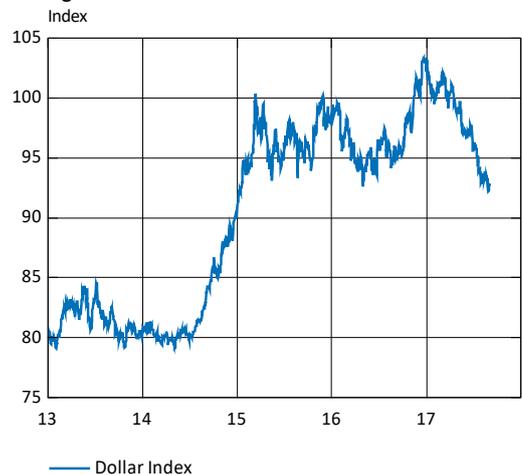
**Figure 2:2. Policy rates and rate expectations according to forward rates**



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 31 august 2017, broken lines are estimated on 3 July 2017.

Sources: Macrobond and the Riksbank

**Figure 2:3. Index for the US dollar**



Note. The dollar index is a measure of the value of the dollar in relation to six foreign currencies - those in the Euro area, Japan, Canada, the United Kingdom, Sweden and Switzerland. A higher value in the index entails a stronger dollar.

Source: Macrobond

summer, among other reasons due to lower expectations of the level of the policy rates.

### Lower stock prices in Europe

In the euro area, stock prices have fallen slightly in recent months and are back on the levels seen in April. The euro's appreciation against the dollar, which could eventually have a negative impact on corporate profits, has been one reason for this. The increased geopolitical tensions between North Korea and the United States have also led to falling international stock prices over the summer (see Figure 2:5). This increased unease also caused measures of volatility on the stock markets to rise in both the United States and Europe. However, seen over a longer perspective, measures of stock market volatility remain at low levels.

In the United States, stock prices remain on historically high levels. On the other hand, the cost of insuring oneself against major stock exchange falls via the options market remains on a heightened level. Among other things, this is noticeable in that the so-called SKEW index, which rises when put options become more expensive in relation to call options, remains on a relatively high level (see Figure 2:6). This means that the market, despite low volatility, is pricing an elevated risk for a major stock exchange fall.

The economic recovery that is under way in many emerging market economies is reflected by rising stock prices and the overall index for emerging market economies has risen by around 20 per cent since the start of the year (see Figure 2:5).

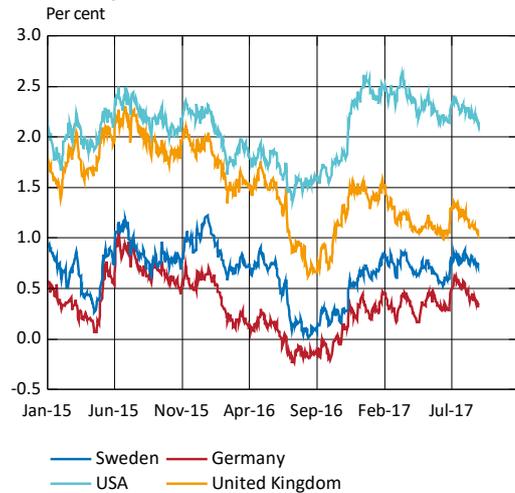
## Financial conditions in Sweden

### Slightly higher Swedish government bond yields

Pricing on the financial markets indicates that expectations about the future repo rate remain relatively unchanged since the monetary policy meeting in July (see Figure 2:2). Forward rates are slightly higher than the Riksbank's repo-rate path for the coming years. At the same time, surveys of market participants' expectations are also higher than the repo rate path, above all one to two years ahead (see Figure 2:7). However, seen from a historical perspective, the differences are minor.

Swedish government bond yields with longer maturities rose slightly at the end of June, in line with international developments (see Figure 2:4). Since the decision in July, yields in Sweden have remained basically unchanged, while international yields are slightly lower. Positive Swedish macroeconomic statistics have been a contributing factor. The yield differential with Germany has thereby increased for all maturities since July, after having decreased over most of the spring. Yields for other types of bond with longer maturities, such as covered bonds and corporate bonds, have followed government bond yields so that the yield differentials between different types of bond have remained unchanged.

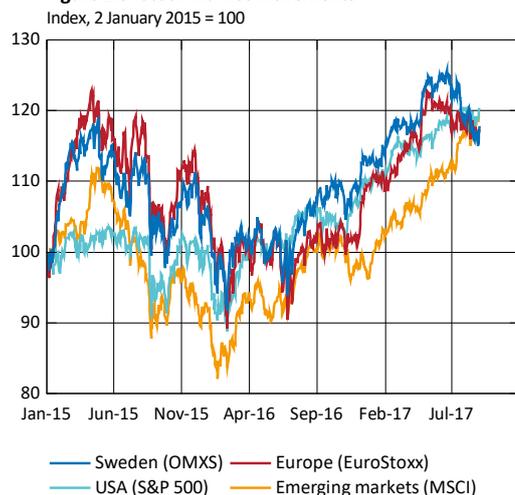
**Figure 2:4. Government bond rates with 10 years left to maturity**



Note. Zero-coupon rates interpolated from bond prices using the Nelson-Siegel method.

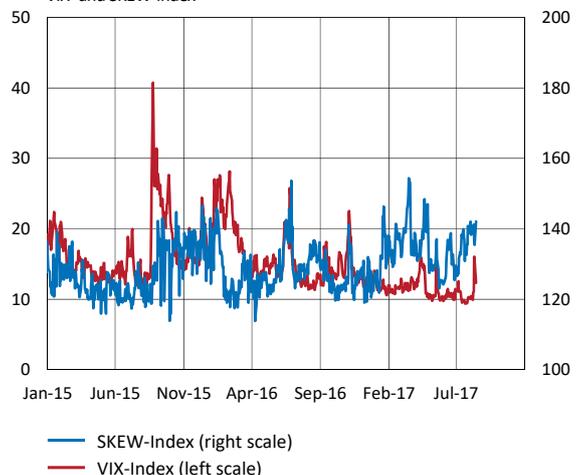
Sources: Macrobond and the Riksbank

**Figure 2:5. Stock market movements**



Sources: Macrobond and Thomson Reuters

**Figure 2:6. Volatility and risk of large falls on the stock market**  
VIX- and SKEW-index



Note. Both VIX and SKEW are calculated on the basis of options on the S&P 500 share index. The VIX-index measures the expected volatility of the stock market, while the SKEW-index shows how expensive it is to purchase protection against large stock exchange falls.

Source: Thomson Reuters

Yields with shorter maturities remain relatively unchanged since July and the yield on a treasury bill with a short maturity is still significantly below the policy rate (see Figure 2:8). One contributory factor to this is the Riksbank's purchases of government bonds.<sup>6</sup> Of the outstanding stock of government bonds in Swedish kronor, the Riksbank now holds slightly less than 20 per cent of the inflation-indexed bonds and just under 40 per cent of the nominal bonds. This means that a relatively large share of the government bonds is not available for trade on the market, which could influence the functioning of the market. However, liquidity on the market is being supported by the Swedish National Debt Office's repo facility. 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 increasingly utilised recently.

The Riksbank regularly monitors and analyses the development of the government bond market and its functionality. The overall assessment is that the Riksbank's bond purchases have not had a significant negative effect on the functioning of the market.

**Stronger krona since July**

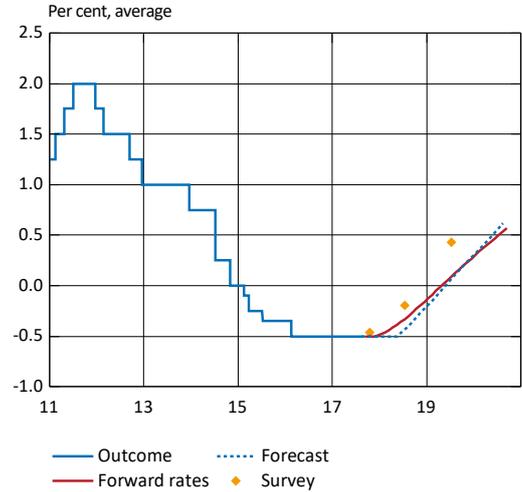
In competition-weighted terms, according to the KIX krona index, the krona has appreciated over the summer and is now on the same level as one year ago. This is a stronger development than the Riksbank had forecast in July. The broad depreciation of the dollar and a sequence of positive Swedish macro statistics have contributed towards this appreciation. For example, the krona appreciated noticeably against most currencies in conjunction with the surprisingly strong GDP outcome at the end of July and the unexpectedly high outcome for inflation in August. Since the Monetary Policy Report in July, the krona has appreciated against most other currencies (see Figure 2:9).

The Swedish stock market has fallen over the summer (see Figure 2:5). Contributory factors have been quarterly reports for the second quarter, which did not really live up to the market's expectations, and the krona's appreciation, which entailed lower expected profits for some companies. The increased geopolitical unease between North Korea and the United States has also burdened the Swedish stock exchange. Despite this, the development of profits for Swedish companies continues to be strong in general and the Swedish stock exchange remains on historically high levels.

**Credit growth among households and companies still high**

The expansionary monetary policy 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 lending rate for new agreements remained at 1.6 per cent in July, while the average

**Figure 2:7. Repo rate and market expectations**



Note. The forward rates are estimated as of 31 August 2017 and measure the expected repo rate. The survey responses show the average for money market participants on 2 August 2017.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

**Figure 2:8. Short market rates and the repo rate**

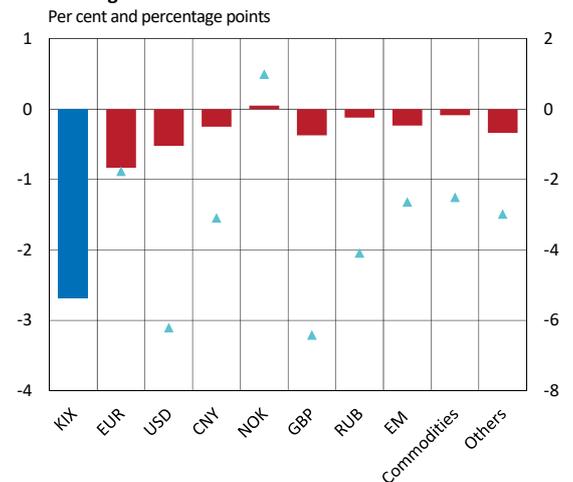


— Repo rate  
— Treasury bill, 3 months  
— STIBOR, 3 months

Note. The broken line refer to the start of the bond purchases.

Sources: Macrobond and the Riksbank

**Figure 2:9. Contributions and changes to the KIX-weighted exchange rate**



■ Percentage change in the KIX (left scale)  
■ Contribution to change in the KIX in percentage points (left scale)  
▲ Currencies' percentage change (right scale)

Note. The figure shows change in KIX and contributions from different currencies between 4 July 2017 and 1 September 2017. EM refers to Brazil, Hungary, India, Mexico, Poland and Turkey. Commodities refer to Australia, Canada and New Zealand. Other refers to Czech Republic, Denmark, Iceland, Japan, South Korea and Switzerland.

Source: Thomson Reuters and the Riksbank

<sup>6</sup> For more information, see "Government bond purchases push down long and short-term rates" in the Monetary Policy Report of October 2016.

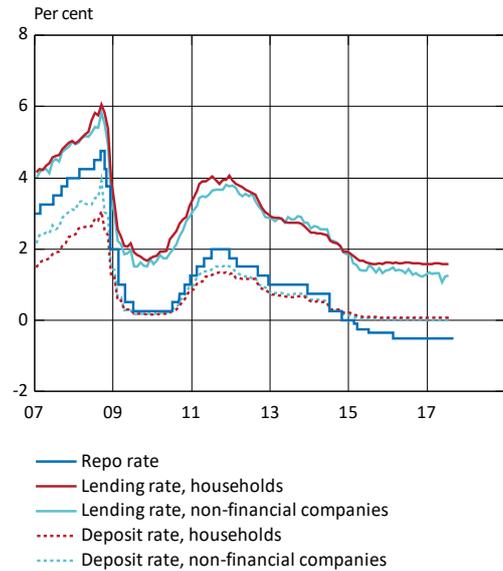
interest rate for new bank loans to non-financial corporations amounted to 1.3 per cent (see Figure 2:10).

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>7</sup> Overall, the impact of the repo rate on deposit and lending rates has been in line with the Riksbank's expectations.

Credit growth among households and companies continues to be high, even if it has slowed down slightly since mid-2016. In July, the annual growth rate in bank loans to households was 7 per cent. Lending to households in the form of pure consumer loans without collateral has increased at an ever-higher pace and, in July, the annual rate of growth amounted to 8 per cent. However, these loans form a relatively small proportion of total lending, around 5 per cent, which is contributing to total lending, despite everything, slowing down. The rate of increase in lending to non-financial companies has decreased slightly in recent months but rose again in July and amounted to 5 per cent (see Figure 2:11). The rate of increase in all corporate borrowing through issues of securities has increased three months in a row and amounted to 18 per cent in July. This part of corporate funding has become increasingly important and now forms about one-third of total corporate borrowing. This form of borrowing is primarily chosen by non-financial corporations and has increased in significance in recent years for real estate companies in particular. Surveys indicate continued good funding terms for companies.

The rate of increase of housing prices has gradually risen throughout 2017. In July, housing prices rose by an annual rate of 9.6 per cent. Surveys show that the general public and estate agents continue to expect rising housing prices in the period ahead.

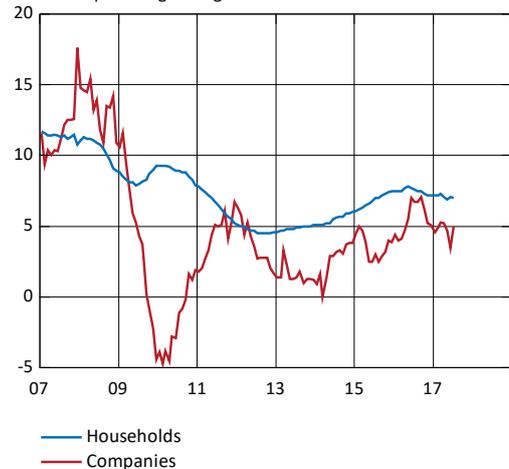
**Figure 2:10. Repo rate together with the deposit and lending rate to households and companies, new contracts**



Note. MFIs' average deposit and lending rates for households and non-financial companies.

Sources: Statistics Sweden and the Riksbank

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



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

<sup>7</sup> Most financial corporations and some large 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 the Monetary Policy Report, July 2016.

## CHAPTER 3 – The current economic situation

The Swedish economy is strong. The upturn in inflation has continued and been faster than expected. In July, inflation was 2.4 per cent in CPIF terms, and 2.1 per cent in terms of the CPIF excluding energy prices. GDP growth was unexpectedly high in the second quarter. Monthly indicators point to the strong developments continuing through the second half of the year. Although the inflation outcome for July is primarily explained mainly by temporarily higher prices for foreign travel, the underlying development appears stronger than expected. Inflation is therefore expected to be somewhat higher during the remainder of the year than was forecast in July.

### Inflation

#### Inflation has risen faster than expected.

The upturn in inflation has continued and inflation rose faster than anticipated in both June and July. In July, inflation was 2.4 per cent in CPIF terms, and 2.1 per cent in terms of the CPIF excluding energy prices.

It was primarily services prices that increased faster than expected in July (see Figure 3:2). This was despite the fact that rents, which make up about a quarter of prices for services, are still increasing slowly. A large part of the upturn in July can be explained by temporary factors, such as an unusually strong rate of increase in prices of foreign travel. Some of the price increase is due to package holidays being measured by a different method that gives a new seasonal pattern for this component, but also do prices of foreign air travel being higher than normal during the summer. However, even disregarding this, service prices have been stronger than was forecast in July. Inflation is therefore expected to remain somewhat higher than was forecast in July during the autumn.

Both CPIF inflation and different measures of underlying inflation have shown a rising trend since 2014 (see Figure 3:3). The inflation upturn reflects among other things the increasingly strong economic activity, as the rising resource utilisation and high demand are expected to make it easier for companies to raise their prices. The fact that inflation is rising is also to some extent a consequence of the earlier krona weakening, which affects prices of food and goods, for instance. However, the krona has strengthened since the July Monetary Policy Report and is therefore expected to contribute less to inflation going forward.

#### Inflation close to 2 per cent remainder of year

Several indicators point to inflation being close to 2 per cent over the coming months. Demand can be expected to remain high and prices of consumer goods in the producer sector are increasing relatively quickly. The earlier krona depreciation has contributed

Table 3:1.

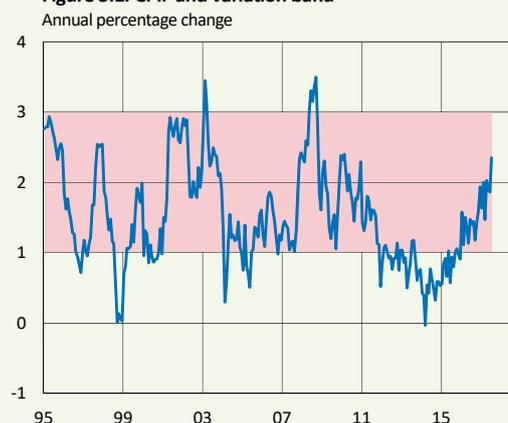
Expected development in July MPR	Actual development
CPIF inflation 1.8 per cent in July.	Much higher than expected. CPIF inflation was 2.4 per cent.
GDP growth 2.9 per cent in second quarter.	Much stronger than expected. GDP growth was 7.1 per cent.
Unemployment 6.7 per cent in second quarter.	In line with the forecast. Unemployment was 6.7 per cent.
GDP growth in the euro area was 2.2 per cent in the second quarter.	In line with the forecast. GDP growth was 2.5 per cent.
GDP growth in the United States was 2.9 per cent in the second quarter.	In line with the forecast. GDP growth was 3.0 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 2.4 per cent in July

In July, CPIF inflation amounted to 2.4 per cent. This outcome was somewhat higher than the inflation target of 2.0 per cent. 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 (see the article "CPIF target variable for monetary policy"). The variation band is a means of showing if the deviation from the inflation target is unusually large or more normal. In an historical perspective, the deviation from 2 per cent was not remarkable in July (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 01:1995 – 07:2017. The CPIF is the CPI with a fixed interest rate.

Sources: Statistics Sweden and the Riksbank

to a rise in the import prices of consumer goods. But the rate of price increase for consumer goods produced in Sweden has also increased gradually in recent years, according to the home market price index.

The Riksbank’s short-term models for inflation, which summarise the information in a number of indicators, imply that CPIF inflation excluding energy will remain more or less unchanged in the coming months and then rise further (see Figure 3:4). However, the Riksbank’s forecast for this period is somewhat lower than the model forecast. This is linked to prices of package holidays and international air travel being expected to fall from the high levels they attained in July, which the models are not considered to be able to fully capture. Inflation will thus fall back somewhat in the coming period, but is expected to nevertheless remain relatively close to 2 per cent for the remainder of the year. Compared with the forecast in the July Monetary Policy Report, the forecast for CPIF inflation excluding energy has been revised up slightly in the near term. Energy prices are also expected to rise faster and CPIF inflation has also been revised upwards in relation to the forecast in July. 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 being at 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 past year. According to Prospera’s survey for August, five-year inflation expectations of money market participants were 2.1 per cent. Inflation expectations one and two years ahead were 1.8 and 2.0 per cent, respectively. Long-term inflation expectations as measured by financial instruments have also risen in recent years.<sup>8</sup>

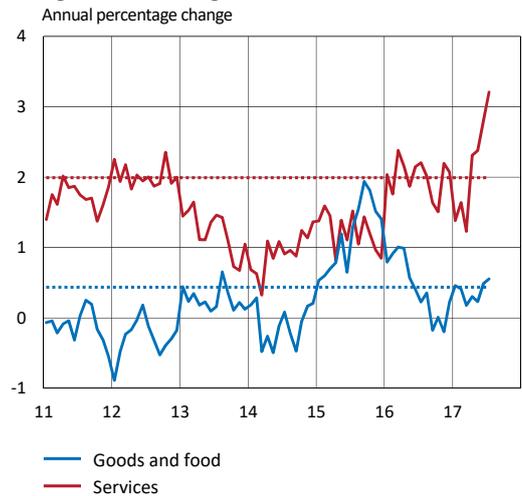
**Global and Swedish economic activity**

**Global economic activity continuing to improve**

GDP growth in the euro area, the United States and China was higher than normal during the second quarter, but in line with the forecast in the July Monetary Policy Report. Monthly indicators imply strong growth during the second half of the year, too, and the indicators published over the summer point to optimism in the household and corporate sectors. Global trade in goods has continued to strengthen and the labour market has improved in many countries and regions.

In the euro area, GDP rose by 2.5 per cent during the second quarter, compared with the first quarter and calculated as an annual average. This is a somewhat higher GDP growth than in the first quarter and higher than the average growth rate of just

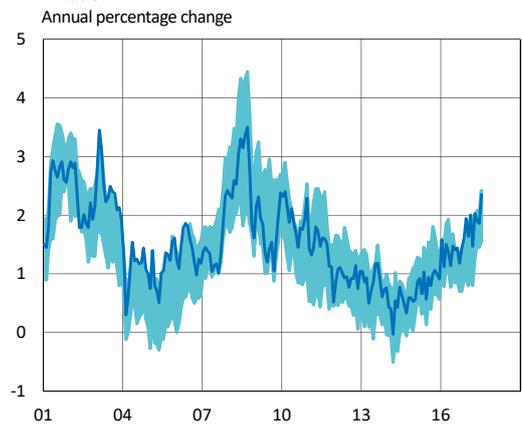
**Figure 3:2. Prices of goods and services in the CPI**



Note. Goods and food is a combination of the aggregate goods and food in the CPI. Together, these account for 43 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

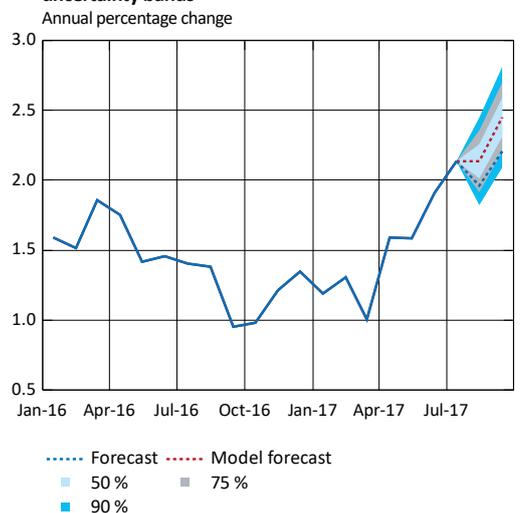
**Figure 3:3. The CPIF and different measures of underlying inflation**



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, factor from principal component analysis and weighted mean 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

<sup>8</sup> The calculations are based on the difference between a nominal and a real government bond yield with the same maturity, where the real bond is linked to the future development of the CPI.

over 1.5 per cent in recent years. Confidence indicators are still strong and point to higher than normal growth in recent quarters. The earlier difference between the outcomes in the confidence indicators and outcomes for production has declined somewhat as industrial output and sales in the retail trade have risen (see Figure 3:6). Unemployment is continuing to fall, but is still high.

In the United States, GDP growth rose significantly during the second quarter, to 3.0 per cent when calculated as an annual rate. Household consumption contributed most to GDP growth, but investment was also relatively strong. The labour market has continued to strengthen with an unemployment rate of a good 4 per cent, strong growth in employment and a rising employment rate. Confidence in the services sector has declined somewhat, but is still high, as in the manufacturing industry.

**Continued low international inflation**

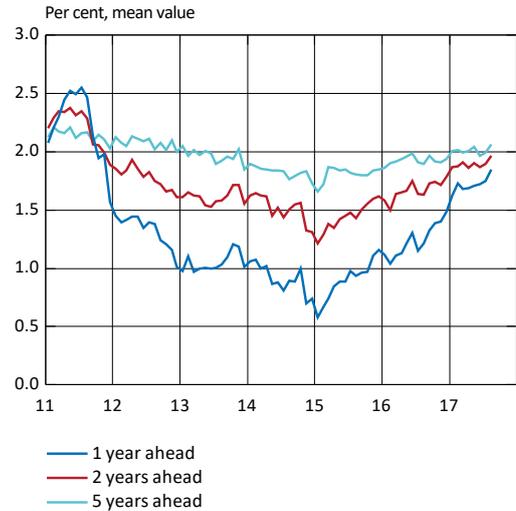
Underlying inflation has risen in most euro area countries. However, it has fallen in the United States and Norway. In the euro area, inflation was unchanged at 1.3 per cent in July, while underlying inflation, the CPI excluding energy and food, rose by a tenth of a percentage point to 1.2 per cent. In the United States, underlying inflation was unchanged at 1.7 per cent, while CPI inflation rose from 1.6 to 1.7 per cent (see Figure 3:7). US inflation is held back by temporary factors affecting air travel and hotel prices, among other factors. Partly as a result of the appreciation in the Norwegian krona, inflation in Norway has fallen. In July, CPI inflation fell from 1.9 to 1.5 per cent. The underlying inflation rate also fell by fourth tenths and was 1.2 per cent in July.

The strong development on the labour market abroad has not so far resulted in any rapid increase in wages, which is partly due to weak prices and low productivity. The oil price and other commodity prices have risen more than was expected in July, which will contribute to pushing up CPI inflation somewhat. On the whole, the international inflation forecast remains unchanged in relation to the July forecast, and KIX-weighted CPI inflation is expected to be just under 2 per cent this year.

**Strong Swedish growth**

According to the early compilation of the National Accounts, Swedish GDP increased very rapidly in the second quarter. GDP growth was, calculated as an annual rate, 7.1 per cent compared with the previous quarter. It is likely that the high growth rate was partly due to temporary factors and difficulties in completely capturing the variation in the number of working days between the first and the second quarter. The outcome may also be revised when Statistics Sweden has more comprehensive data. But the outcomes for the second quarter imply that developments in the Swedish economy have been stronger than expected, in line with the optimism that companies have shown so far over the year. The early compilation pointed to productivity being particularly high in the second quarter.

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



Source: TNS Sifo Prospera

**Figure 3:6. Industrial Confidence Indicator and production in the euro area**

Net figures and annual percentage change, respectively. Seasonally-adjusted data.



Sources: European Commission (DG ECFIN) and Eurostat

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

Annual percentage change



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

Domestic demand, and especially housing investments, also developed strongly during the second quarter. However, in this early calculation the development of the individual components of demand is more uncertain than normal.

Confidence indicators imply that the good development over the past year will persist during the second half of 2017. The Economic Tendency Survey shows considerable optimism in the business sector, while household confidence indicators are in line with the historical average (see Figure 3:8). Monthly indicators of demand in the third quarter do not show the same robust picture. Although the retail trade increased at a fast pace in July, exports of goods fell.

The Riksbank's short-term model forecasts, which summarise information from a large number of indicators, imply that GDP has been growing faster than its historical average during the third quarter. The Riksbank's forecast is somewhat lower than the model forecast (see Figure 3:9), however. This is partly because some of the temporary factors that raised GDP growth during the second quarter will disappear. For instance, companies are expected to increase their stocks at a somewhat slower pace than at the beginning of 2017, which is expected to slow down GDP growth during the second half of the year. GDP is expected to grow by an average of 2.6 per cent in the third and fourth quarters, compared with the immediately preceding quarter and calculated as an annual rate.

**Strong productivity growth this year**

After a very strong productivity growth in 2015, productivity increased more slowly last year.<sup>9</sup> The unexpectedly high GDP growth during the second quarter and the weak development in the number of hours worked meant that productivity rose strongly again. All in all, productivity is rising faster this year than the historical average development. The strong productivity growth during the second quarter contributed to unit labour costs showing weaker development than expected and declining by 0.7 per cent in relation to the corresponding quarter in the previous year.<sup>10</sup> All in all, this means that the development in unit labour costs is relatively subdued this year. The weaker cost pressures will contribute to some extent to holding back inflation going forward.

**Recruitment plans in the business sector at high levels**

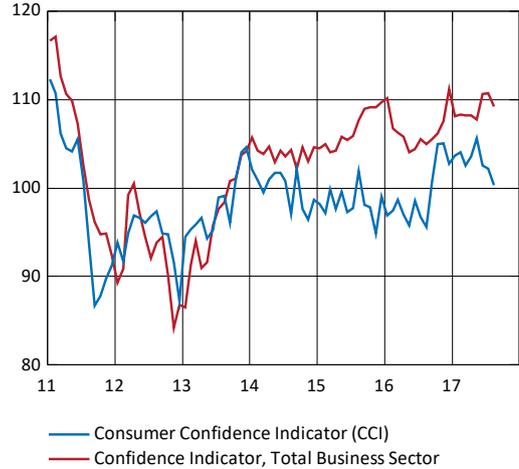
There have been large variations in labour market statistics over the summer. In June, the number of employed rose relatively quickly and unemployment fell. In July, on the other hand, the

<sup>9</sup> Since the July Monetary Policy Report, an error in the statistical base for the number of hours worked according to the National Accounts has been detected. The National Accounts did not take this into account in connection with the early compilation of the second quarter of this year, but is expected to do so in connection with the ordinary publication in September. This will mean, for instance, that the number of hours worked in 2016 will be revised up and that productivity will be revised down, if no other changes are made at the same time.

<sup>10</sup> Since the National Accounts published the first compilation for the second quarter, the Swedish Tax Agency and Statistics Sweden have published new data for payroll expenses in June. The new information indicates a greater increase in labour costs and unit labour costs than has so far been reported for the second quarter.

**Figure 3:8. Confidence indicators**

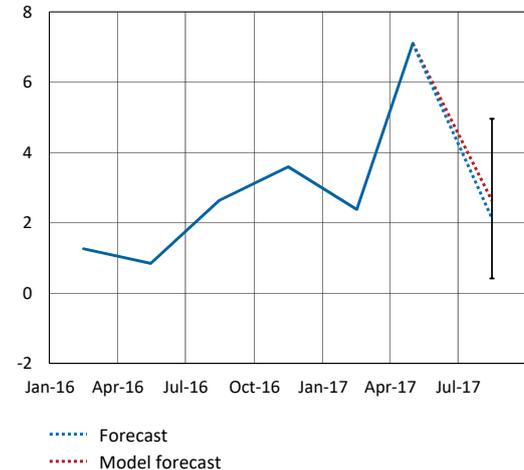
Index, average = 100, standard deviation = 10, seasonally-adjusted data



Source: National Institute of Economic Research

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

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

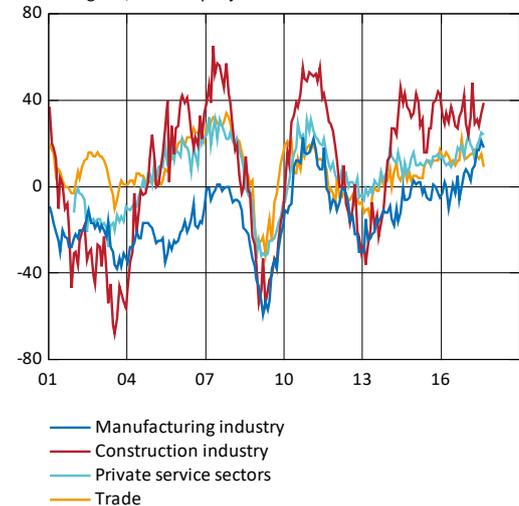


Note. The model forecast is an average of forecasts from different statistical models. The vertical line refers to a 50 per cent uncertainty band. The uncertainty band is based on the models' historical forecast errors. One explanation for the wide uncertainty interval is the large variation in growth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

Sources: Statistics Sweden and the Riksbank

**Figure 3:10. Number of employees, expectations**

Net figures, seasonally-adjusted data



Source: The National Institute of Economic Research

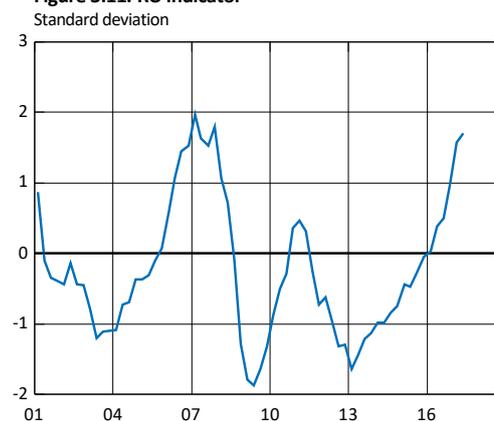
number of employed fell and unemployment rose. Statistics on the development of the labour market in the summer can be volatile and shall be interpreted with caution, partly due to the non-response frequency in the labour force surveys being higher than average then. Short term indicators of demand for labour point to developments in the labour market being beneficial during the remainder of the year. For instance, recruitment plans in the business sector are at a high level in all branches according to the Economic Tendency Survey. In relation to historical correlations, the level is particularly high in the manufacturing industry (see Figure 3:10). Both the number of people in the labour force and the number of employed are expected to increase during the autumn. All in all, this development means that the employment rate will continue to rise (see Figure 4:8). As a result of the July outcome, unemployment is expected to be relatively unchanged in the third quarter and then to decline somewhat in the fourth quarter.

#### 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. As employment has risen and unemployment has fallen, the indicators for resource utilisation in the economy have also increased. The percentage of companies reporting labour shortages rose further during the second quarter and is now at a very high level. The vacancy rate, which measures the percentage of unstaffed positions that need to be filled immediately, is also at a high level at the same time as the average recruitment time in the business sector is long. 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. According to Statistics Sweden, capacity utilisation in the manufacturing industry is higher than its historical average and companies' recruitment plans indicate that they need to increase their workforce to be able to meet demand.

The Riksbank's RU indicator, which is an overall measure of the spare capacity in the economy, rose further during the second quarter and is at an historically-high average (see Figure 3:11). The Riksbank's overall assessment is that resource utilisation in the economy is higher than normal.

**Figure 3:11. 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

## CHAPTER 4 – The economic outlook and inflation prospects

The recovery of the global economy is proceeding and embracing more and more countries. International inflationary pressures are still moderate, but are expected to rise gradually as resource utilisation becomes more strained. The Swedish economy is developing strongly and economic activity will improve further in the years ahead. There is still substantial demand for labour, but it is becoming increasingly difficult for employers to recruit personnel with the right competence. Growth in employment will therefore be subdued going forward, at the same time as wage increases rise gradually. The unexpectedly large rise in inflation in recent months has partly been driven by temporary factors and, in the period ahead, inflation is expected to fall back slightly. However, inflation is expected to remain close to 2 per cent over the rest of the forecast period.

### International developments

#### Stronger global economic activity

The recovery of the global economy picked up speed over 2017. Growth has also broadened in terms of both countries and sectors. Previously, it was household consumption and the production of services that were the primary contributors to growth, but investments and industrial production have gradually come to play a greater part. In addition, world trade has increased significantly following a slowdown in 2016.

Despite the cyclical recovery, global growth is expected to be relatively restrained. Global GDP is expected to increase by just over 3.5 per cent a year in 2018 and 2019, which is largely in line with the historical average. Ageing populations, weak underlying productivity growth and continued high indebtedness are contributing towards holding back GDP growth. In the KIX countries, which is to say the countries playing the greatest role for the Swedish economy, GDP growth is expected to rise from an average of about 2 per cent in 2016 to 2.5 per cent this year before slowing down slightly in the next few years (see Figure 4.1). The forecast is largely unchanged compared with the assessment in July.

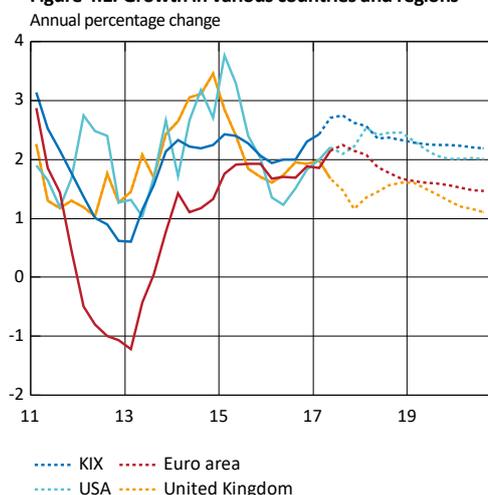
#### Continued slow economic upturn in the United States

Growth in the US economy increased in the second quarter after a slowdown at the start of the year. The continuing strong development of the labour market and good conditions for investments, among other reasons due to rising profits, suggest a continued recovery. Relatively high levels for various confidence indicators point in the same direction, even if optimism in the service sector has recently weakened. Some signs of restraint concerning household consumption can also be noted, for example regarding sales of cars. At the same time, household optimism is on a high level and ongoing increases in employment and modest wage rises are strengthening household incomes and consumption. Strong household wealth

Table 4.1.

The forecast in brief
The cyclical upswing in the global economy is continuing. Growth will remain relatively modest, however.
International inflationary pressures are low, but increasingly strained resource utilisation will lead inflation to rise gradually.
The strong economic situation in Sweden is expected to persist, but growth will slow down in the years ahead.
Demand for labour continues to be high, but increased matching problems and slower population growth mean that employment growth is slowing down.
The strong economic activity in Sweden has contributed to the krona appreciating above expectation. Some further appreciation is expected in the period ahead.
Inflation will dampen in the short term but will be close to 2 per cent over the entire forecast period.

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

and a decreased risk of unemployment also suggest that households may make further slight reductions in saving in the period ahead. GDP growth is expected to rise from 1.5 per cent in 2016 to 2 per cent in 2017 and 2.5 per cent in 2018. After this, growth is expected to fall back slightly as the stimulation provided by monetary policy declines and scope for increasing recruitment shrinks as unemployment falls further.

#### **Better growth prospects in the euro area**

Conditions for economic growth in the euro area have improved over the last year and the economic upturn has reached more and more countries. The political uncertainty has declined, after the French presidential elections, for instance. Unemployment in the euro area is continuing to fall and employment growth has risen somewhat further recently, which in turn strengthens households' optimism. Companies have also become significantly more optimistic in 2017, even if some indicators have fallen back recently. However, the strong indicators have not been fully matched by a similarly large increase in actual outcomes for output, even if the gap has closed slightly recently. GDP growth is expected to rise from 1.7 per cent last year to 2.1 per cent this year.

Over the next few years, growth is expected to slow down slightly, among other reasons due to decreasing stimulation from previous depreciations of the euro and it becoming more difficult to recruit personnel with the right competence, particularly in Germany. However, growth is expected to be strong enough for resource utilisation to continue to rise and unemployment to fall. Despite the bright short term prospects for the euro area, many problems remain, such as the fragile banking sector and high indebtedness. This risks restraining growth in the slightly longer term.

#### **Weak growth in the United Kingdom**

Growth was weak in the United Kingdom during the first six months of the year. Investment was held back by the uncertain situation surrounding the United Kingdom's approaching withdrawal from the EU, while households' real incomes were put under pressure by high inflation in the wake of the depreciation of sterling and weakening wage increases. Nevertheless, consumption held up reasonably well, primarily because the labour market is strong and households have cut back on saving. However, there is limited scope for reducing saving further now that it is at a historically low level. Unemployment has also fallen to low levels, meaning that it is becoming more difficult to increase employment at the same rate as previously. Neither is the upswing in exports expected to be strong enough to compensate for the weaker growth of domestic demand.

In their negotiations with the EU member states on leaving the EU, the British now seem to be striving to maintain a customs union even after the time limit in the negotiations has expired. If this succeeds, then it is possible that an exit can be

made without major negative effects on the economy, compared with what might otherwise be the case.

### Stronger in emerging market economies

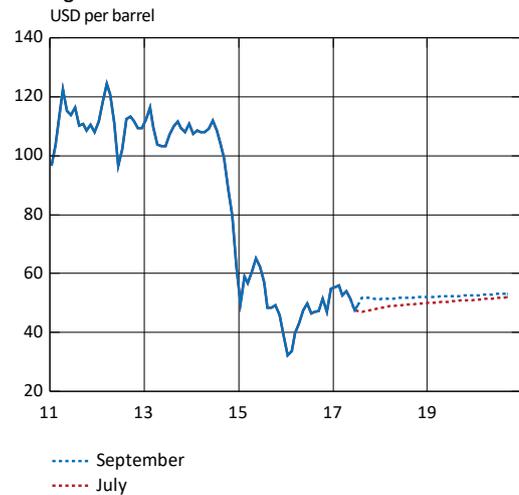
Growth in emerging market economies is expected to increase this year. The primary reason for this is that countries such as Brazil and Russia are moving from recession to weak positive growth, among other reasons due to the recovery in commodity prices. In China, GDP growth increased in the year's first six months, partly due to an expansionary fiscal policy, major investments in infrastructure, and stronger international demand. However, growth is expected to slow down in the period ahead, among other reasons due to measures implemented by the authorities to dampen credit growth. All in all, the Chinese economy is expected to grow slightly faster than the government's goal of 6.5 per cent this year, before gradually slowing down to just over 6 per cent in 2019. Companies' high indebtedness still comprises a threat to the balanced development of the Chinese economy. However, communications from the political leadership, combined with regulation of the property and financial sections in particular, suggest a growing understanding of this problem. Credit growth has also been restrained recently and is expected to slow down further in the period ahead.

### Low but rising inflationary pressures abroad

International inflation rose markedly at the end of 2016 and start of 2017, primarily due to rising energy prices. However, the positive contribution from energy prices decreased in 2017 and the rate of inflation has fallen back. According to forward pricing, the price of oil will be relatively stable in the period ahead (see Figure 4:2). It is primarily prices that are more closely linked to resource utilisation that will increase faster going forward.

In the United States, where the economic cycle is far ahead, both wage increases and underlying inflation have risen. However, the rise in wage growth has been relatively moderate and underlying inflation has fallen back slightly recently. Nevertheless, the assessment is that the upward trend in inflation will pick up again in the period ahead as unemployment falls and resource utilisation becomes more strained. There is more free capacity in the euro area and no clear rise in underlying inflation is expected until next year. In addition, the appreciation of the euro means that this upturn may be slightly delayed. Overall, inflation abroad is expected to rise from 1.1 per cent in 2016 to 1.8 per cent in 2017 and to 2.2 per cent in 2019 (see Figure 4.3).

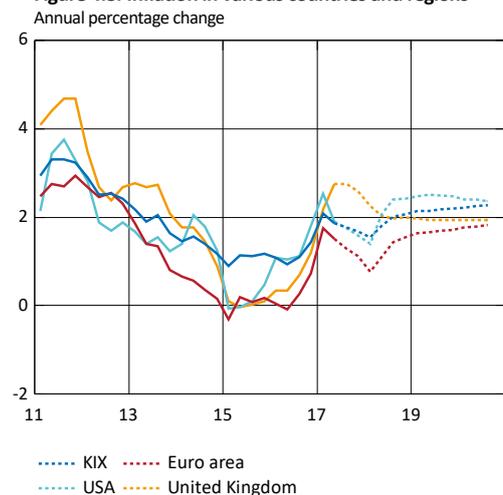
**Figure 4:2. Price of crude oil**



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 4:3. 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

## Sweden

### Swedish economic activity still strong

The Swedish economy continues to strengthen and resource utilisation is assessed to be higher than normal. The favourable economic situation is expected to persist due to both the continuing positive development of domestic demand and the improvement of Swedish export markets. Even if economic activity continues to be strong, growth will slow down slightly in 2018 and 2019 as demand on the export markets grows a little more slowly and the rate of increase in housing construction slows down. The slowdown can also be explained by the slower growth of the working-age population and the falling rate of increase in the number of hours worked.

The continued stable development of domestic demand and strong productivity growth from an international perspective are expected to lay the foundations for growth close to the historical average in the years ahead. The positive economic developments have led to households' assets increasing in value in recent years. Households have also saved a large part of their income growth. In the period ahead, slowing growth in employment and gradually rising mortgage rates will contribute towards the more subdued development of households' disposable income. Despite this, households are expected to increase their consumption approximately in line with recent years' developments by cutting back on their high level of saving (see Figure 4.4).

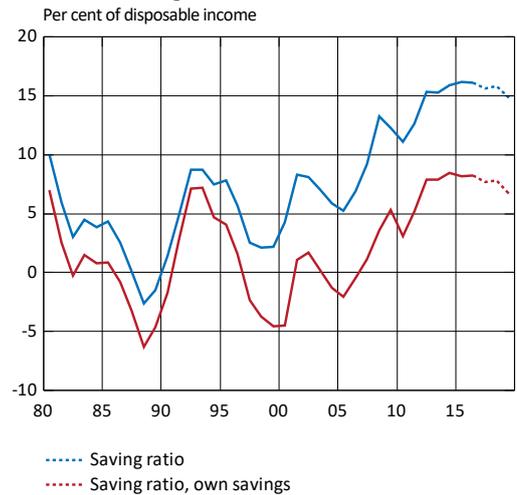
The corporate sector's need for new investment is expected to increase in the wake of the rise in international economic activity and continued high capacity utilisation. The part of investment that has increased the most in recent years has been housing construction. Housing investments now form a historically high proportion of GDP and, according to Boverket (the national board of housing, building and planning), an average of just over 70,000 homes will be built this year and next year. Capacity limitations in construction companies are expected to make it difficult to increase housing construction much more. In addition, demand for housing is expected to increase at a slower rate, contributing to an expected slight reduction of housing investments in 2019.

The improved industrial activity abroad means that international demand for Swedish goods and services is rising, but the increase is expected to be modest compared with previous upturn phases as growth on Sweden's export markets remains relatively low from a historical perspective (see Figure 4.5).

Overall, Sweden's GDP is expected to grow by just over 3 per cent this year and then by an average of 2.5 per cent a year in 2018–2019 (see Figure 4.6). Compared with the assessment made in July, this entails an upward revision of the GDP forecast for 2017.

The public sector financial balance has strengthened in recent years and is expected to show a surplus corresponding

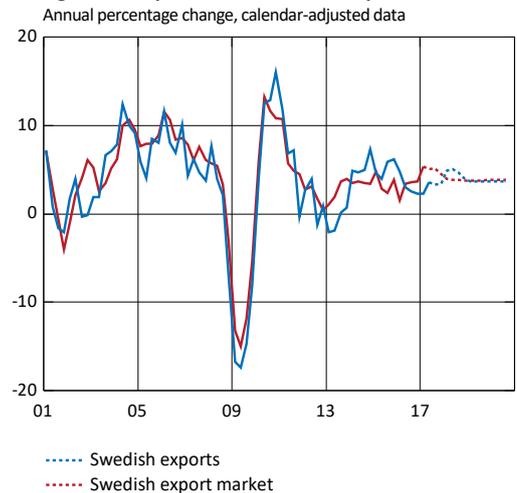
**Figure 4.4. Household savings with and without collective insurance savings**



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

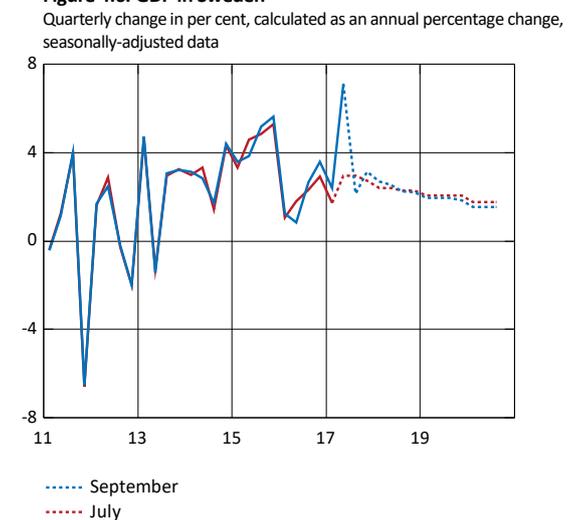
**Figure 4.5. Exports and the Swedish export market**



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. GDP in Sweden**



Sources: Statistics Sweden and the Riksbank

to almost one per cent of GDP over the forecast period. In 2018, reforms equivalent to SEK 40 billion are expected to be implemented in line with the Government’s announcement. It is deemed that the new surplus target of 1/3 per cent of GDP that is expected to apply as of 2019 will be fulfilled.

**Housing prices and debts are growing faster than household incomes**

With a slower rate of increase for household incomes and rising mortgage rates, demand for housing is expected to grow more slowly in the years ahead. At the same time, construction of a large number of new homes will be completed, which is also expected to contribute towards housing prices increasing at a slower rate. However, all in all, both housing prices and debts are rising faster than household incomes. Household debt as a percentage of disposable income, the so-called debt-to-income ratio, is thereby expected to rise further in the years ahead to close to 200 per cent in 2020 (see Figure 4.7).

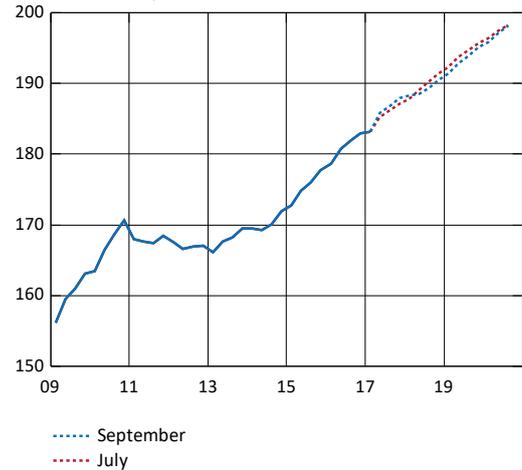
**High employment rate**

The situation on the labour market has continually improved since the start of 2013, with a rising employment rate and falling unemployment (see Figure 4.8). The strong economic situation means that demand for labour is still strong. Companies’ recruitment plans are on high levels and employment growth is just over 2 per cent. As a consequence of falling immigration and the ageing of the Swedish-born population, the working-age population will increase more slowly in the years ahead.<sup>11</sup> Demand for labour will also decline slightly, contributing to slower growth in both the labour force and employment. However, the employment rate and the labour force participation rate are expected to remain at historically-high levels, at the same time as unemployment falls a little further.

**Labour shortages rising further**

At the same time as the situation on the labour market has improved, it has become increasingly difficult for employers to recruit the personnel they demand. The proportion of companies reporting labour shortages increased further in the second quarter according to the Economic Tendency Survey. Shortages are now on historically high levels, particularly within the manufacturing industry and construction industry. Another sign of difficulties in finding labour is that recruitment, to a great extent, is now taking place among those who are already in employment (see Figure 4.9). This is expected to affect local wage formation and bring about rising wage increases over and above the levels in the central agreements.

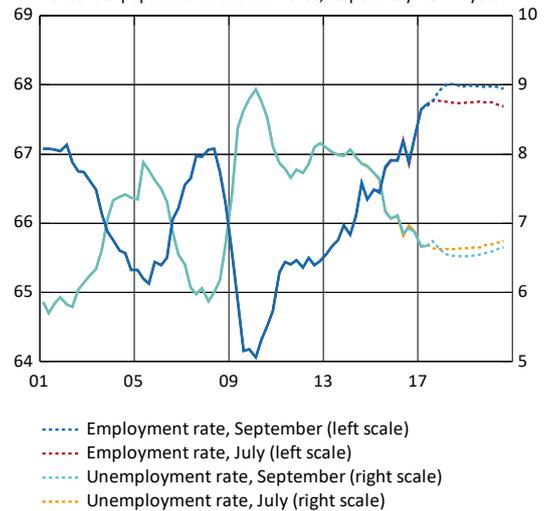
**Figure 4.7. Household debt**  
Per cent of disposable income



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

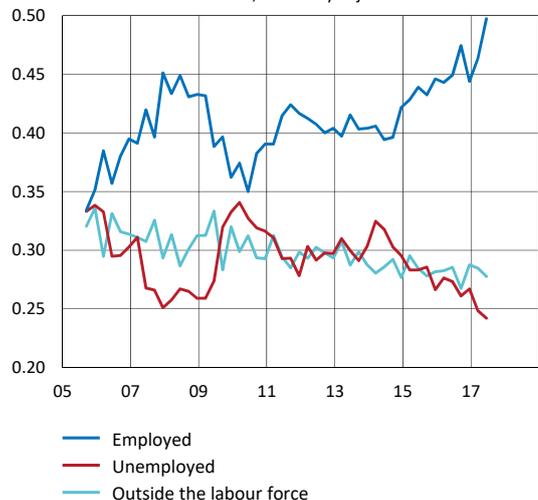
Sources: Statistics Sweden and the Riksbank

**Figure 4.8. Employment and unemployment rate**  
Per cent of population and labour force, respectively, 15–74 years



Sources: Statistics Sweden and the Riksbank

**Figure 4.9. Recruitment according to previous labour status**  
Share of total recruitments, seasonally-adjusted data



Note. Recruitment refers only to recruitment outside of the company/organisation.

Sources: Statistics Sweden and the Riksbank

<sup>11</sup> Since the Monetary Policy Report in July, the Swedish Migration Agency has revised down its estimate of the number of residence permits to be approved in the next few years. The Riksbank has taken this revision into account and adjusted its forecast for population growth downwards. The Riksbank’s estimate of the trend development of the labour supply has also been adjusted downwards.

The Riksbank deems that resource utilisation in the Swedish economy is presently higher than normal. Even though growth will slow down next year, it is nevertheless expected to be strong enough for resource utilisation in the economy to increase slightly further (see Figure 4.10).

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

At the end of March, the parties in the industrial sector signed new collective wage agreements with a cost framework of 6.5 per cent over three years. By the start of July, almost 300 collective wage agreements had been signed and reported to the National Mediation Office, meaning that three of four employees to get new agreements this year have now received them. The agreements concluded so far have also been in line with the normative wage agreements in the industrial sector.

Preliminary outcomes according to short-term wage statistics have been published for the first six months of this year. According to these statistics, wage growth is expected to amount to about 2.7 per cent as an annual percentage change this year, meaning that wage increases over and above central wage agreements have risen slightly compared with last year. The relatively low agreements and weak wage increases abroad are expected to contribute to wage growth remaining relatively modest, but even so, it will rise as the labour market becomes increasingly tight. In addition, strong productivity growth and a recovery in corporate profits argue for rising wage growth.

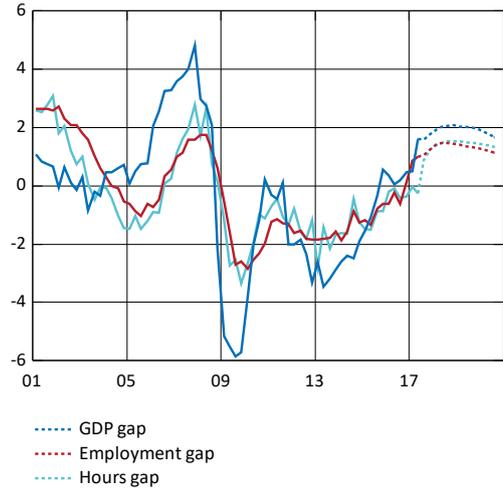
Over the first six months, the outcome of the National Accounts for total labour costs, which is to say the sum of wages and social security contributions for employers, has been in line with the assessment made in the previous forecast in July. However, outcomes are expected to be higher in the second six months. This is because many workers receiving new wage agreements over the period April to the end of June will not see their new wages paid until the second six months.

Over the forecast period, hourly wages and labour costs according to the National Accounts are expected to rise in line with forecasts for wages according to NMO statistics. Productivity is expected to grow by 2 per cent this year and then increase at a somewhat slower rate. Due to the relatively strong productivity growth, growth in unit labour costs is expected to decrease slightly this year before rising to a growth rate of around 2 per cent per year (see Figure 4.11).

**Some further appreciation of the krona in the period ahead**

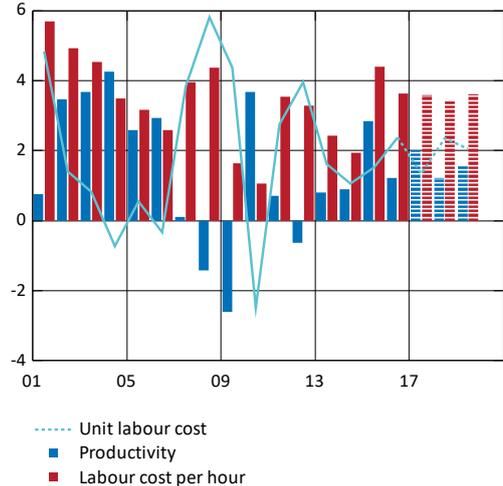
The krona has appreciated recently and is stronger in comparison with the forecast in July. The macro statistics published since the previous forecast have generally been better than expected, which is deemed to be an important reason for the krona’s appreciation. One further contributory factor is the general depreciation of the dollar over the same period. Compared with the forecast in July, the krona is expected to become stronger until the end of 2019 and then to return to the same level as in the July forecast (see Figure 4.12).

**Figure 4.10. GDP gap, employment gap and hours gap**  
Per cent



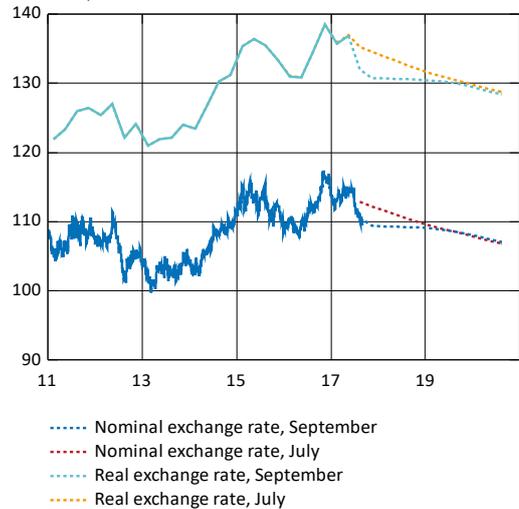
Note. The gaps refer to the deviation in GDP, the number of hours worked and the number of those employed from the Riksbank’s assessed trends.  
Sources: Statistics Sweden and the Riksbank

**Figure 4.11. Cost pressures in the economy as a whole**  
Annual percentage change



Sources: Statistics Sweden and the Riksbank

**Figure 4.12. Real and nominal exchange rate, KIX**  
Index, 18 November 1992 = 100



Note. The real exchange rate has been deflated with the CPI for Sweden and the CPI for the rest of the world. The CPI is the CPI with a fixed mortgage rate. Outcomes are daily data for the nominal exchange rate, outcomes for the real exchange rate and forecasts refer to quarterly averages. The KIX is an aggregate of countries that are important for Sweden’s international transactions.  
Sources: National sources, Statistics Sweden and the Riksbank

### Inflation retreating in the short term

CPIF inflation has shown a rising trend since 2014 and amounted to 2.4 per cent in July. Over the past twelve months, rising energy prices have contributed to the upturn. CPIF inflation excluding energy is therefore lower and amounted to 2.1 per cent in July.

The recent rise in inflation is partly due to temporary factors, mainly heavy price increases for foreign travel, and a decrease in inflation is therefore expected over the rest of 2017. But there has been 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 justifiable because resource utilisation in the economy has risen and is expected to continue to be above normal during the forecast period. Stronger economic activity, both in Sweden and abroad, normally leads to companies' costs increasing more rapidly and to it becoming easier for companies to raise their prices. At the same time, productivity growth has been higher than expected recently, contributing to cost pressures in the economy being restrained.

Another factor contributing towards inflation being restrained in the period ahead is the krona exchange rate. The krona has appreciated recently and is expected to strengthen further somewhat over the forecast period. In addition, the contribution from energy prices to inflation is expected to be slightly smaller in the period ahead. All in all, it is primarily the higher level of resource utilisation, supported by a continued expansionary monetary policy and higher international price pressures that is holding inflation close to 2 per cent.

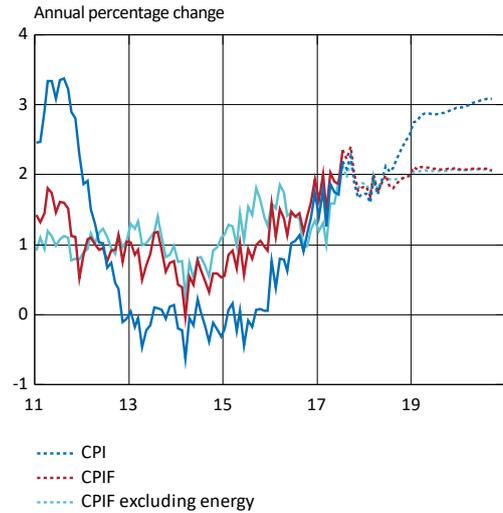
### Inflation close to 2 per cent in years ahead

Compared with the forecast published in July, the inflation forecast has been revised upwards. Even if CPIF inflation is expected to fall back slightly in the immediate future, it is still expected to remain close to 2 per cent over the rest of the forecast period (see Figure 4:13). Similar to the previous forecast, energy prices are expected to increase faster than other prices this year and contribute to CPIF inflation becoming somewhat higher than the CPIF excluding energy. In the longer term, they are expected to increase at approximately the same pace.

CPIF inflation is expected to be higher than inflation according to the EU-harmonised measure HICP in the next few years (see Figure 4:14). The value of households' housing stock is expected to increase faster than other prices in the years ahead, which will affect the CPIF but not the HICP.

The CPI will increase more rapidly than the CPIF over the forecast period (see Figure 4:13). When the repo rate, and thereby also mortgage rates, starts to rise in 2018, household mortgage costs will also rise increasingly rapidly, which will affect the CPI but not the CPIF.

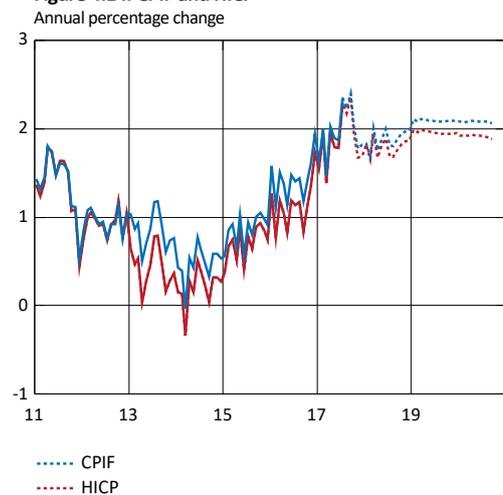
Figure 4:13. CPI, CPIF and CPIF excluding energy



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

Sources: Statistics Sweden and the Riksbank

Figure 4:14. CPIF and HICP



Sources: Statistics Sweden and the Riksbank

## Tables

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

**Table 1. Repo rate forecast**

Per cent, quarterly averages

	Q2 2017	Q3 2017	Q4 2017	Q3 2018	Q3 2019	Q3 2020
Repo rate	-0.5	-0.5 (-0.5)	-0.5 (-0.5)	-0.4 (-0.4)	0.1 (0.1)	0.6

Source: The Riksbank

**Table 2. Inflation**

Annual percentage change, annual average

	2015	2016	2017	2018	2019
CPIF	0.9	1.4	2.0 (1.8)	1.9 (1.7)	2.1 (2.0)
CPIF excl. energy	1.4	1.4	1.7 (1.6)	1.9 (1.8)	2.1 (2.0)
CPI	0.0	1.0	1.8 (1.6)	2.1 (2.0)	2.9 (2.9)
HICP	0.7	1.1	1.9 (1.7)	1.8 (1.6)	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

	2015	2016	2017	2018	2019
Repo rate	-0.3	-0.5	-0.5 (-0.5)	-0.4 (-0.4)	0.0 (0.0)
10-year rate	0.8	0.5	0.8 (0.8)	1.5 (1.5)	2.2 (2.1)
Exchange rate, KIX, 18 November 1992 = 100	112.6	111.7	111.9 (113.2)	109.2 (110.7)	108.7 (108.8)
General government net lending*	0.3	0.9	0.9 (0.8)	0.7 (0.8)	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	2015	2016	2017	2018	2019
Euro area	0.12	0.47	1.9	1.7	2.1 (2.0)	1.8 (1.7)	1.6 (1.6)
USA	0.15	0.08	2.9	1.5	2.1 (2.2)	2.5 (2.4)	2.1 (2.1)
Japan	0.04	0.02	1.1	1.0	1.9 (1.2)	1.1 (0.9)	0.8 (0.8)
China	0.18	0.08	6.9	6.7	6.8 (6.6)	6.3 (6.2)	6.1 (6.0)
KIX-weighted	0.75	1.00	2.3	2.1	2.6 (2.5)	2.4 (2.3)	2.3 (2.3)
World (PPP-weighted)	1.00	-	3.4	3.2	3.6 (3.5)	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	2015	2016	2017	2018	2019
Euro area (HICP)	0.0	0.2	1.4 (1.4)	1.2 (1.3)	1.7 (1.7)
USA	0.1	1.3	1.9 (1.9)	2.1 (2.1)	2.5 (2.5)
Japan	0.8	-0.1	0.6 (0.6)	1.1 (1.2)	1.5 (1.6)
KIX-weighted	1.1	1.1	1.8 (1.9)	1.9 (1.9)	2.2 (2.2)

	2015	2016	2017	2018	2019
Policy rates in the rest of the world, per cent	0.1	-0.1	-0.1 (-0.1)	0.0 (0.1)	0.2 (0.3)
Crude oil price, USD/barrel Brent	53.5	45.1	52.0 (50.2)	51.7 (49.3)	52.3 (50.6)
Swedish export market	3.5	3.0	5.0 (4.9)	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

	2015	2016	2017	2018	2019
Private consumption	2.7	2.4	2.3 (1.8)	2.6 (2.3)	2.4 (2.4)
Public consumption	2.5	2.9	0.4 (0.5)	2.1 (1.6)	1.3 (1.3)
Gross fixed capital formation	7.0	5.3	7.6 (5.3)	4.3 (3.8)	2.1 (2.4)
Inventory investment*	0.3	0.1	0.0 (-0.2)	-0.1 (0.0)	0.0 (0.0)
Exports	5.6	3.5	2.7 (3.4)	4.4 (4.1)	3.6 (3.6)
Imports	5.5	3.8	2.5 (3.4)	4.7 (4.4)	3.9 (3.8)
GDP	4.1	3.2	3.2 (2.2)	2.7 (2.4)	2.0 (2.1)
GDP, calendar-adjusted	3.8	2.9	3.4 (2.5)	2.8 (2.5)	2.1 (2.2)
Final figure for domestic demand*	3.5	3.1	3.0 (2.2)	2.7 (2.4)	2.0 (2.0)
Net exports*	0.3	0.0	0.2 (0.2)	0.1 (0.1)	0.1 (0.1)
Current account (NA), per cent of GDP	4.7	5.1	5.2 (4.9)	5.1 (4.8)	5.0 (4.7)

\*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

	2015	2016	2017	2018	2019
Population, aged 15–74	0.7	0.9	1.1 (1.1)	0.7 (0.7)	0.5 (0.5)
Potential hours worked	0.9	0.8	0.7 (0.7)	0.6 (0.6)	0.5 (0.6)
GDP, calendar-adjusted	3.8	2.9	3.4 (2.5)	2.8 (2.5)	2.1 (2.2)
Number of hours worked, calendar-adjusted	1.0	1.7	1.4 (1.6)	1.6 (1.1)	0.5 (0.6)
Employed, aged 15–74	1.4	1.5	2.1 (2.1)	1.0 (0.8)	0.4 (0.5)
Labour force, aged 15–74	0.8	1.0	1.8 (1.8)	0.9 (0.7)	0.4 (0.5)
Unemployment, aged 15–74 *	7.4	6.9	6.7 (6.7)	6.5 (6.6)	6.5 (6.7)

\* 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

	2015	2016	2017	2018	2019
Hourly wage, NMO	2.4	2.4	2.7 (2.7)	3.1 (3.0)	3.3 (3.2)
Hourly wage, NA	3.5	3.2	3.4 (3.2)	3.4 (3.2)	3.5 (3.4)
Employers' contribution*	0.9	0.5	0.2 (0.2)	0.1 (0.1)	0.1 (0.1)
Hourly labour cost, NA	4.4	3.6	3.6 (3.4)	3.4 (3.3)	3.6 (3.5)
Productivity	2.8	1.2	2.0 (0.8)	1.2 (1.4)	1.6 (1.5)
Unit labour cost	1.5	2.4	1.6 (2.5)	2.2 (1.9)	2.0 (1.9)

\* Contribution to the increase in labour costs, percentage points

Note. NMO is the National Mediation Office's short-term wage statistics and NA is the National Accounts. Labour cost per hour is defined as the sum of actual wages, social-security charges and wage taxes divided by the seasonally adjusted total number of hours worked. Unit labour cost is defined as labour cost divided by seasonally-adjusted value added at constant prices.

Sources: National Mediation Office, Statistics Sweden and the Riksbank



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