Monetary Policy Report

February 2016

SVERIGES RIKSBANK

Correction 12 February 2016

Incorrect figure numbering in chapter 1, page 7. The error has been corrected in this version.

Monetary Policy Report

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

The purpose of the Monetary Policy Report is to summarise the background material for monetary policy decisions, and 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)). In the spring this takes the form of a report entitled "Account of Monetary Policy". In the autumn it takes the form of the Monetary Policy Report.

The Executive Board took a decision on the Monetary Policy Report on 10 February 2016. The report in PDF-format and more information about the Riksbank are available on the Riksbank's website, www.riksbank.se.

[1] A detailed description of the monetary policy strategy is given in the document Monetary Policy in Sweden. This document is available as a PDF file on the Riksbank's website www.riksbank.se.

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 specified this as a target for inflation, according to which the annual change in the consumer price index (CPI) is to be 2 per cent.
- 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.
- 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 reporate 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. In connection with these meetings, a Monetary Policy Report is published. 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 members voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

Contents

CHAPTER 1 – Monetary policy considerations

The economy is continuing to strengthen and resource utilisation is now considered to be close to normal. But unexpectedly low inflation outcomes, together with lower energy prices and low rent increases, mean that inflation is expected to be lower in 2016 compared to the forecast in December. Even if inflation is expected to stabilise around the inflation target during 2017, the downward revision in 2016 means that the period of low inflation will be even longer. This increases the risk of weakening confidence in the inflation target and hence of inflation not rising towards the target as expected. In addition, uncertainty regarding global developments is still high, with low inflation and several central banks pursuing more expansionary monetary policy. To provide support for inflation so that it rises and stabilises around 2 per cent in 2017, monetary policy needs to be even more expansionary and the Executive Board has therefore decided to cut the repo rate to –0.50 per cent. Purchases of government bonds will continue according to the plan adopted in October and the Executive Board has also decided to reinvest the maturity payments and coupons from its government bond portfolio until further notice. There is still a high level of preparedness to make monetary policy even more expansionary, even between ordinary monetary policy meetings, if this is needed to safeguard confidence in the inflation target.

Stronger economy but longer period of low inflation

Since the turn of the year, uncertainty on the financial markets has increased. Global stock markets have fallen since mid-December. The decline started on the Chinese stock market, which was mainly linked to the markets' renewed concern over developments in the Chinese economy. The uncertainty has spread to other markets and recently increased as a result of concern for the global economy. Even if global economic prospects have weakened slightly compared with the forecast in December, the recovery is expected to continue in the more developed economies, which are important for Swedish trade. Expressed in terms of KIX-weighted GDP, which includes the most important countries for the Swedish economy, growth abroad is expected to rise from about 2 per cent in 2015 and 2016 to 2.5 per cent in the following two years.

Inflation abroad is still low. The renewed fall in the oil price, as well as in other commodities, is preventing inflation in many of Sweden's most important trading partners from rising as anticipated and it is expected to stay at its current level in the next few quarters.

Very expansionary monetary policy abroad

Monetary policy abroad remains very expansionary. In the United States, the Federal Reserve did raise its policy rate in December but also signalled that future increases are expected to happen slowly. The ECB has communicated that it may take further monetary policy measures at its interest

Table 1:1.

Important factors for monetary policy
The upturn in inflation is uneven and inflation has been unexpectedly weak in recent months. CPIF inflation will stabilise around 2 per cent in 2017.
Uncertainty on the financial markets has increased with falling oil prices and stock markets. The recovery abroad continues but inflation is low. Monetary policy is very expansionary.
The competitiveness-weighted exchange rate, KIX, is more or less in line with the Riksbank's December forecast. A slow appreciation is expected in the period ahead.
Continued broad strengthening of the Swedish economy. GDP is expected to grow by just over 3 per cent on average during the forecast period.
Inflation expectations have picked up and stabilised but the period of low inflation will be longer, which increases the risk of weakening confidence in the inflation target.
Conclusion: more expansionary monetary policy to provide support so that inflation stabilises around 2 per cent in 2017.

Table 1:2.

Important revisions in the forecast
The inflation forecast has been revised downwards during 2016 as a result of lower outcomes, lower expected rent increases and energy prices.
The oil price has fallen significantly and compared to the forecast in December it is expected to be lower even in the longer term, in line with forward pricing. The fall is considered to be mostly supply-driven and leads to positive GDP effects and negative inflation effects – both internationally and for Sweden.
Growth and inflation abroad have been revised downwards. Monetary policy abroad is expected to be slightly more expansionary.

rate meeting in March and the Bank of Japan has introduced negative rates. The slightly weaker growth, in combination with poorer inflation prospects, means that monetary policy abroad is now expected to become slightly more expansionary compared to the assessment in December. All in all, however, the conditions for a continued recovery in the global economy are still good. Global growth and inflation are expected to rise in the coming years.

Strong development of the Swedish economy

In Sweden, the stock market has seen weak growth but low interest rates are helping to keep financial conditions expansionary. Interest rates for households and companies are low and credit growth is high. In competitiveness-weighted terms, the Swedish krona has developed more or less in line with the Riksbank's forecast in December.

Growth in the Swedish economy is still strong, supported by a very expansionary monetary policy (see Figure 1:1 and 1:2). Demand is broad and indicators point to it continuing to be strong. The strong domestic demand and continued recovery abroad will lead to Swedish GDP growing faster than the historical average over the years ahead.

As in December, refugee immigration is expected to help boost demand in Sweden. The number of new asylum seekers has decreased dramatically since the introduction of new rules, however, and there is still considerable uncertainty as to what effects the increased refugee immigration will have on the Swedish economy.

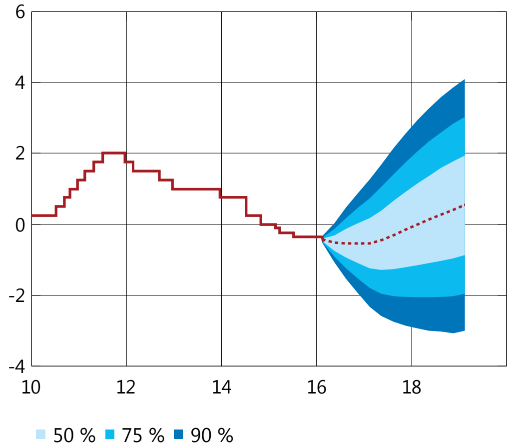
Resource utilisation is deemed to be close to normal and is expected to be higher than normal during the entire forecast period even if growth eventually starts to slow. The situation on the labour market is improving rapidly, unemployment is falling and employment is rising. Indicators show that the demand for labour remains high. As in December, however, unemployment is expected to rise towards the end of the forecast once more new arrivals enter the labour market.[2]

Inflation to stabilise around 2 per cent in 2017

CPI inflation has been held back by falling interest expenses and is still low (see Figure 1:3). CPIF on the other hand has shown a rising trend since the beginning of 2014 (see Figure 1:4). But despite the strong growth and near-normal resource utilisation, inflation has been lower than expected in recent months. The inflation forecast for most of 2016 is

[2] For a discussion about the importance of and uncertainty regarding key assumptions about the establishment of new arrivals on the labour market, see the article "Uncertain effects of increased immigration on the labour market" in the December 2015 Monetary Policy Report.

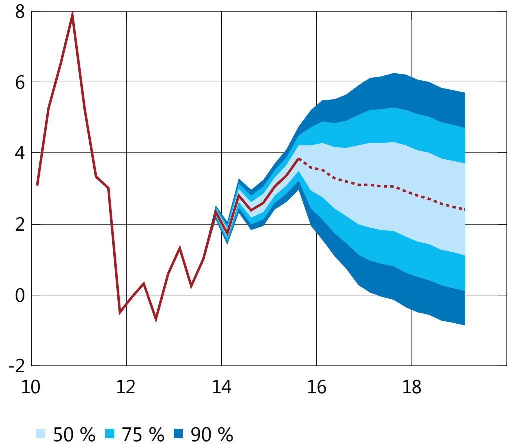
Figure 1:1. Repo rate with uncertainty bands
Per cent



Note. The uncertainty bands for the repo rate are based on the Riksbank's historical forecasting errors and the ability of risk-premium adjusted forward rates to forecast the future repo rate for the period 1999 up to the point when the Riksbank started to publish forecasts for the repo rate during 2007. The uncertainty bands do not take into account the fact that there may be a lower bound for the repo rate. Outcomes are daily rates and forecasts refer to quarterly averages.

Source: The Riksbank

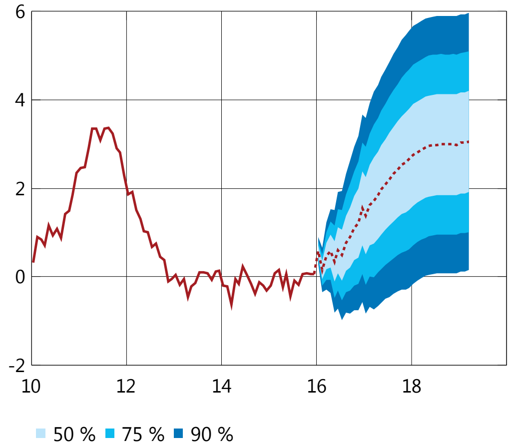
Figure 1:2. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



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

Sources: Statistics Sweden and the Riksbank

Figure 1:3. CPI with uncertainty bands
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

revised downwards, due to lower rent increases and energy prices than expected (see Figure 1:5–1:7). Towards the end of 2016, CPI and CPIF inflation are expected to rise relatively quickly. This is due, in part, to previously falling energy prices and interest expenses no longer subduing the rate of inflation to the same extent. Even if inflation has been revised downwards in the coming year, the conditions for rising inflation are considered to remain. The Swedish economy is growing quickly and resource utilisation is rising. With better growth abroad and higher pressure in the Swedish economy, wages are expected to increase more rapidly and it will be easier for companies to raise their prices. Inflation is expected to be close to 2 per cent in 2017, but it is still uncertain how quickly inflation will rise.

The earlier depreciation of the Swedish krona is an important explanation for why inflation has been rising since the start of 2014. Since December, the krona has been more or less in line with the Riksbank's forecast. In the period ahead, it is expected to remain around its current level for a time before strengthening slowly (see Figure 1:8).

Current monetary policy

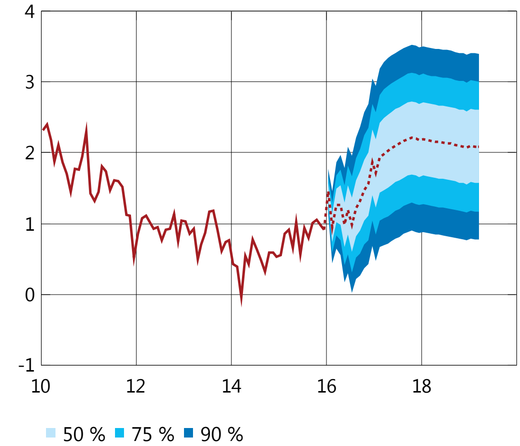
In order to safeguard the role of the inflation target as nominal anchor for price-setting and wage formation, monetary policy has become gradually more expansionary. During 2015, the Riksbank cut the repo rate from 0.0 per cent to –0.35 per cent, adjusted the repo-rate path downwards, made extensive purchases of government bonds and announced additional bond purchases during the first half of 2016.

The aim of this monetary policy is to push up inflation and stabilise it around the target of 2 per cent and help bring inflation expectations in line with the inflation target. Continued high confidence in the inflation target creates the conditions for orderly price-setting and wage formation, as well as good economic development in Sweden.

Important to safeguard confidence in the inflation target

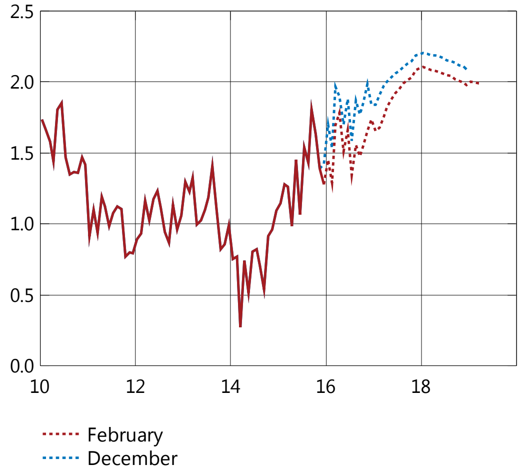
The Riksbank's very expansionary monetary policy has helped to strengthen the economy and reduce unemployment, and has contributed to the upturn and stabilisation of inflation expectations (see Figure 1:9). In addition, underlying inflation has been rising since the beginning of 2014. Since the monetary policy meeting in December, the Swedish economy has grown more or less as expected. But the upturn in inflation is still not on a firm footing, as is illustrated by the weak outcomes in recent

Figure 1:4. CPIF with uncertainty bands
Annual percentage change



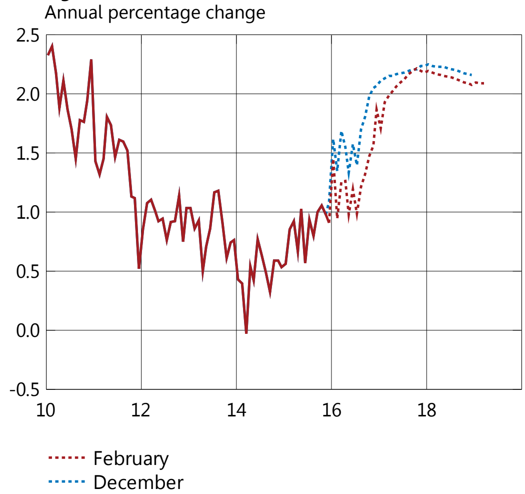
Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Figure 1:5. CPIF excluding energy
Annual percentage change



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

Figure 1:6. CPIF
Annual percentage change



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

months. Compared with in December, inflation is expected to be significantly lower in 2016. As in the previous forecast, inflation will stabilise around 2 per cent in 2017. But the downward revision in 2016 means that the period of low inflation will be longer, which increases the risk of weakening confidence in the inflation target, and thereby of inflation not rising towards the target as expected. To support the upturn in inflation, monetary policy therefore now needs to be more expansionary.

Given lower inflation and its inherent risks, the Executive Board has decided to cut the repo rate by 0.15 percentage points to –0.50 per cent. At the same time, the repo rate path is being adjusted downwards (see Figure 1:10). An initial increase in the repo rate is not expected until mid-2017. Purchases of government bonds will continue according to the plan adopted in October. Total purchases will thereby amount to just over SEK 200 billion at the end of June 2016 (see Figure 1:11).[3] They will then correspond to about 6 per cent of GDP and about 33 per cent of the current outstanding stock of Swedish nominal government bonds.[4] The Executive Board has also decided to reinvest the maturity and coupon payments from the government bond portfolio until further notice in order to keep monetary policy expansionary.

All in all, monetary policy is very expansionary and will remain so in the coming years. The real repo rate will, for example, remain negative throughout the whole of the forecast period (see Figure 1:12).

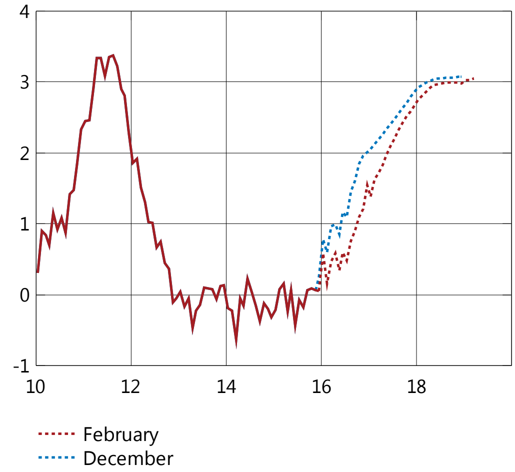
Different monetary policy alternatives

There are arguments both for maintaining the monetary policy adopted in December and for making it more expansionary.

The Swedish economy is currently characterised by high growth and an ever-stronger labour market. Resource utilisation is deemed to be close to normal and is expected to be higher than normal during the forecast period. This indicates that inflation should rise. Much of the downward revision of the inflation forecast is also due to factors that have little to do with the underlying demand-driven inflation in the Swedish economy. All in all, this would justify an unchanged monetary policy compared with December.

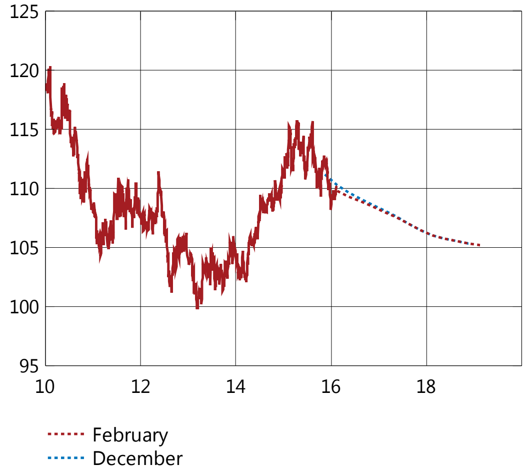
The fact that inflation has been rising since the beginning of 2014 largely depends on the weak krona, which has contributed to a rise in the prices of mostly imported

Figure 1:7. CPI
Annual percentage change



Sources: Statistics Sweden and the Riksbank

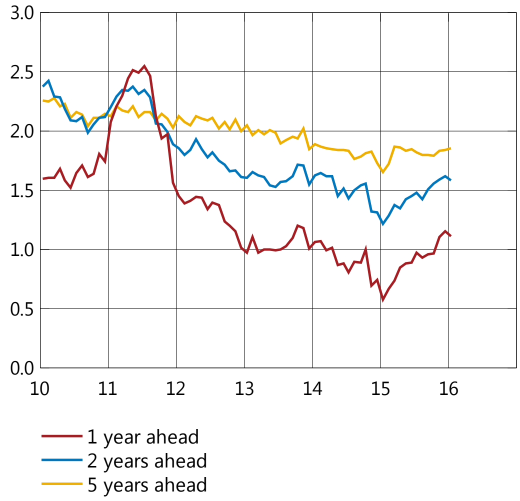
Figure 1:8. KIX-weighted nominal exchange rate
Index, 1992-11-18 = 100



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

Sources: National sources and the Riksbank

Figure 1:9. Inflation expectations among money market participants
Per cent, mean value



Source: TNS Sifo Prospera

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[3] As the Riksbank intends to reinvest coupon payments on the holdings of nominal government bonds, the nominal amount will not be exactly SEK 200 billion.

[4] As the market value of the bonds currently exceeds their nominal amount, the total purchases of a nominal amount of SEK 200 billion correspond to an actual purchase price of about SEK 240 billion. It is this actual purchase price that is used in the calculations.

goods and services. The increase in the prices of mostly domestically produced goods and services has on the other hand been relatively small. The contribution to inflation made by the earlier depreciation of the krona is expected to decrease in 2016. The economy therefore still needs to be strengthened so that cost pressures increase and it will be easier for companies to increase their prices.

The fact that inflation is not rising as expected is worrying. The upturn in inflation is uneven and, compared with in December, is expected to be much lower in the coming year. This will prolong the period of low inflation and thereby increase the risk of confidence in the inflation target being undermined. This calls for a more expansionary monetary policy.

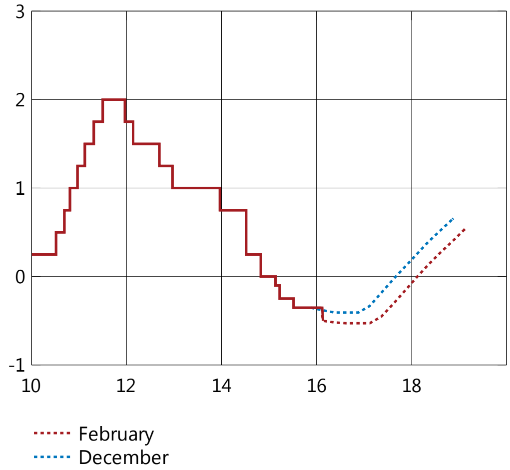
In addition, there is still major uncertainty surrounding the international economy. Globally speaking, inflation is low, the oil price has fallen and many central banks are pursuing a very expansionary monetary policy aimed at pushing up inflation towards their respective targets. For example, the ECB has communicated that it may take additional monetary policy measures at its interest rate meeting in March. International interest rates are therefore expected to remain very low in the period ahead. A more expansionary monetary policy abroad could have an impact on the krona. If the krona appreciates significantly more rapidly than forecast, this may lead to the prices of imported goods and services increasing more slowly and to lower demand for Swedish exports. Such a development would make it more difficult for the Riksbank to push up inflation and stabilise it around 2 per cent (see the scenario "Risks inherent in a rapid appreciation of the krona in a low inflation environment"). This also suggests that monetary policy needs to be more expansionary.

There are hence arguments both for keeping to the monetary policy adopted in December and for making it more expansionary. It is the Executive Board's assessment that the risks inherent in an unchanged policy are greater and that monetary policy therefore needs to be more expansionary.

Ready to do more

The Executive Board remains highly prepared to make monetary policy even more expansionary, even between ordinary monetary policy meetings, if it is needed to safeguard confidence in the inflation target. Inflation is expected to rise during the forecast period. But the upturn is expected to continue to be fitful and there may be surprises along the way. Whether, and if so how, monetary policy will then react depends on the causes of such surprises and how

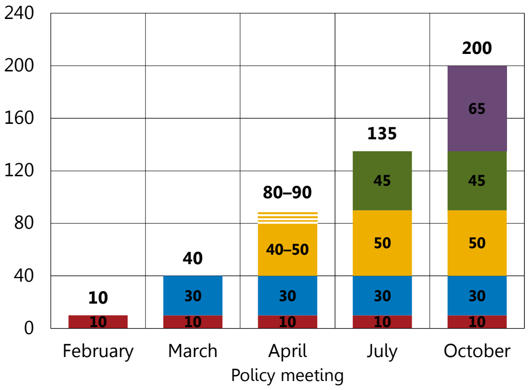
Figure 1:10. Repo rate
Per cent



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

Source: The Riksbank

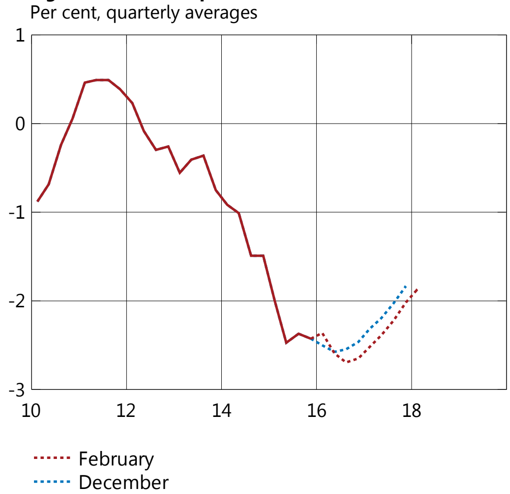
Figure 1:11. Purchases of government bonds decided by the Riksbank
SEK billion



Note: The purchase of government bonds will continue until the end of June 2016. As the Riksbank intends to reinvest coupon payments on the holdings of nominal government bonds, the nominal amount will not be exactly SEK 200 billion.

Source: The Riksbank

Figure 1:12. Real repo rate
Per cent, quarterly averages



Note. The real repo rate is a mean value of the Riksbank's repo rate forecast four quarters ahead minus the inflation forecast (CPIF) for the corresponding period.

Sources: Statistics Sweden and the Riksbank

they are deemed to influence the outlook for inflation. The important thing for monetary policy is for the trend in inflation to come closer to the target for confidence in the inflation target not to be weakened.

A continued high level of preparedness to make monetary policy even more expansionary means that the Executive Board is ready to act even between the ordinary monetary policy meetings. There is still scope to lower the repo rate further, which is reflected in the repo-rate path. The Riksbank is also analysing whether it is possible within the operational monetary policy framework to implement other measures to underpin repo rate cuts. In addition, security purchases can be extended, for example by buying nominal and real government bonds. The Riksbank is also prepared to intervene on the foreign exchange market if the krona appreciates so quickly as to threaten the upturn in inflation. Furthermore, there is scope to launch a lending programme to companies via the banks, even if the good funding opportunities of companies indicate that this is currently unnecessary.

Uncertainty and risks

Forecasts of future economic developments are always uncertain. This is illustrated in a general way by the uncertainty bands around the forecasts in Figure 1:1–1:4. The Riksbank's forecasts are formulated so that the risks of a worsened outcome are, in principle, as large as the risks of a more favourable outcome. However, it is difficult to put a number on uncertainty and risks. Consequently, the monetary policy deliberations may need to pay particular attention to certain risks, the consequences of which may have a severe impact on economic development.

Uncertainty about the inflation forecast

The downward revision in the inflation forecast illustrated that there is still uncertainty regarding how quickly inflation will rise to 2 per cent. Since cost and price trends depend on several overseas and domestic factors, there are many sources of uncertainty in the forecast. Global stock markets have recently seen large falls. Much of this development is linked to concern for a hard landing in the Chinese economy, but may also be a sign of a more severe weakening of the global economy. Major stock market falls lead to reduced wealth and weakened confidence among households and companies, which can ultimately have negative effects on the real economy. If there were to be a sharp slowdown in the Chinese economy or if the recovery abroad is weaker than expected, this would also have an

Foreign exchange intervention as a complementary monetary policy measure

The Riksbank has no target for the krona’s exchange rate, but too early and too rapid an appreciation can threaten the upturn in inflation in a situation where inflation has been low for a longer time. This could weaken confidence in the inflation target which is a concern as it creates instability and uncertainty in the economy.

On 4 January, the Executive Board took a delegation decision so as to be able to immediately intervene on the foreign exchange market as a complementary monetary policy measure. The time period for delegation was extended as an extraordinary monetary policy meeting on 19 January and at the ordinary monetary policy meeting in February. The delegated mandate expires at the ordinary monetary policy meeting in July and will be exercised only if there is no time to wait for a decision by the entire Executive Board.

In practice, a foreign exchange intervention would involve the Riksbank selling Swedish kronor in exchange for the most important foreign currencies. Any foreign assets purchased in this way would then be deposited in the foreign currency reserve. The purchases would be funded by the Riksbank creating new money, similar to when it buys government bonds. This therefore provides the Riksbank with basically unlimited scope to intervene in order to ward off serious threats to the upturn in inflation. This is in contrast with interventions made in order to subdue inflation, when the currency reserve is used to buy kronor. In this case, the size of the currency reserve sets an upper limit for the interventions.

impact on Swedish growth. In a scenario in which the rest of the world experiences significantly slower than expected growth, demand for Swedish exports may be dampened considerably, and confidence among Swedish companies and households may deteriorate. There is then a risk that unemployment may rise and that inflation in Sweden may be even lower.

The krona's development is also uncertain. A more rapid appreciation of the krona than forecast would dampen inflation and make it more difficult to stabilise it around the target (see the article "Risks inherent in a rapid appreciation of the krona in a low inflation environment").

If the inflation prospects were to deteriorate significantly and confidence in the inflation target were threatened, monetary policy may need to be even more expansionary. Preparedness to act is high should such a scenario materialise. Given the generally good economic growth, there are also factors that could lead to inflation rising more quickly than expected. But inflation has been below target for a long time and if it were temporarily to exceed the target by more than in the Riksbank's forecast, it would not necessarily involve monetary policy being made less expansionary.

Risks of low inflation

Long periods where inflation deviates from the target risk having a negative effect on long-term inflation expectations, making it more difficult for monetary policy to stabilise inflation around the target. Too low an inflation rate and falling inflation expectations risk creating instability and uncertainty in the economy. Without a common benchmark for price-setting and wage formation, it will be more difficult for households and companies to make financial decisions. For example, it will be more difficult for individual companies to judge how their own costs and revenues will develop, which can have a negative impact on investment and recruitment. In the long term, this will subdue economic activity across the whole economy.

Low inflation also makes it more difficult to adjust real wages, which can lead to higher unemployment. A long period of low inflation also means that the nominal rate will also be low for a longer period than would otherwise have been the case. This increases the risks associated with low interest rates and highlights the need to push up inflation.

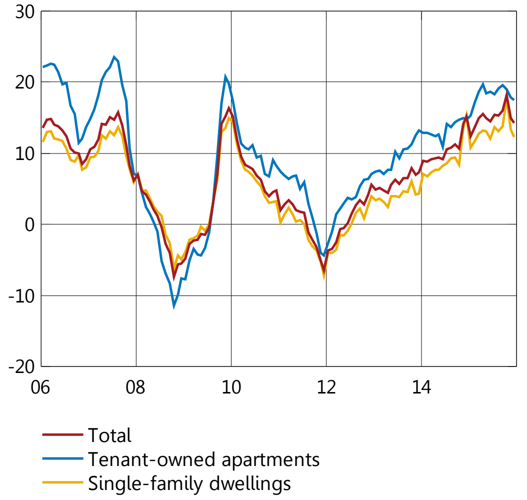
The risks of low interest rates

The expansionary monetary policy in Sweden and other countries is necessary in order to stimulate economic growth and counteract the risks of low inflation. The low interest rate level could however also create greater vulnerability in the financial system if it leads to assets becoming overvalued or different types of risk not being priced in full.[5] According to the Riksbank's analysis, the valuations on several asset markets are high from a historical perspective. That is especially true on the housing market.

The fact that the repo rate is now in negative territory and that certain market rates have turned negative may, in itself, cause problems on certain financial markets and for certain financial institutions.[6] However, it is the Riksbank's assessment that the negative interest rates have not yet led to any impaired functionality in the financial system.

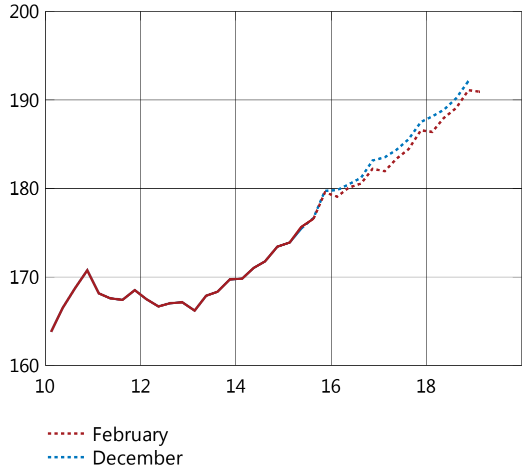
The low interest rates have also contributed to the continuing rise in housing prices and in household debt (see Figure 1:13 and 4:12). As in the previous forecast, household debts as a share of disposable income are expected to increase to just over 190 per cent at the end of the forecast period (see Figure 1:14). If negative surprises were to occur or if rates were to increase in a way that households were not expecting, heavily indebted households may choose to rapidly increase their saving and hence reduce their consumption. In such a scenario, an economic slowdown could be heavily exacerbated, particularly if housing prices also start to fall.

Figure 1:13. Housing prices
Annual percentage change



Source: Valueguard

Figure 1:14. Household debt ratio
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

The risks associated with household indebtedness remain

Fundamental reforms to the housing market are needed to create a better balance between supply and demand and thereby reduce the risks associated with household indebtedness. Such reforms would slow down the increase in house prices and hence reduce debt. However, reforms that make households less willing to take on debt are also important, such as a gradual reduction in the tax relief on interest payments. The responsibility for such reforms lies with the Riksdag and the Government.

It is also of the utmost importance that the Government and the Riksdag bring clarification to Finansinspektionen's mandate for macroprudential policy. Finansinspektionen should be able to decide independently on macroprudential issues, since this is a prerequisite for pursuing an effective macroprudential policy. Regarding the need for macroprudential policy measures, the Riksbank considers an amortisation requirement to be a step in the

[5] See the Financial Stability Report 2015:2, Sveriges Riksbank.
[6] For example, bonds with variable coupons. When the reference rate is negative, the coupon can also be negative. The investor must then pay the coupon to the issuer, instead of receiving the coupon rate as normal. So far, exceptions have been made for negative rates.

right direction, but more measures are necessary, including a debt-to-income limit.

If no measures are taken, this, in combination with the low interest rate level, will further increase the risks, which may potentially lead to economic imbalances and in the long term be very costly for the national economy.

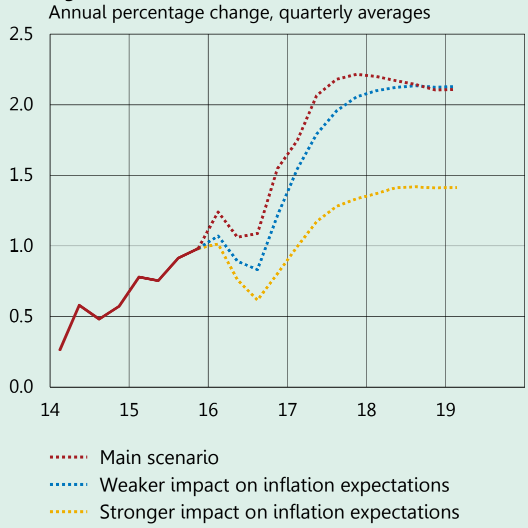
Scenario: Risks inherent in a rapid appreciation of the krona in a low inflation environment

Growth in Sweden's economy is high and the Riksbank expects the krona eventually to appreciate. But a rapid appreciation of the krona in near future could lead to even lower inflation in the period ahead. The fact that inflation has been low for a long time also means that a rapid strengthening of the krona could have a greater impact on inflation than normal, by way of lower inflation expectations. The economy would then risk being in a situation in which confidence in the inflation target more or less evaporates and the low level of inflation becomes entrenched.

The Swedish economy is growing strongly and various measures indicate that resource utilisation is now almost normal. Despite this, inflation is not rising as expected. So far, a large part of the increase in inflation has been due to the earlier depreciation of the krona. In the period ahead, the krona is expected to appreciate. But inflation may remain low for even longer if the exchange rate appreciates quickly. The risk will then arise of a greater than normal impact on inflation and wage expectations if companies and labour market parties start to attach greater importance to the earlier low inflationary outcomes when setting wages and prices.[7] This will lead to the strengthening exchange rate having a greater effect on inflation than usual. It is therefore important that inflation continues to show an upward trend to safeguard confidence in the inflation target as a nominal anchor in the Swedish economy.

Two scenarios are presented here to illustrate the risks that may arise if monetary policy failed to react to a rapid appreciation of the exchange rate in a prolonged low inflation situation. In the main scenario, the krona is expected to appreciate slowly, from about 110 at present to about 105 at the start of 2019, according to KIX, the competitiveness-weighted index. The scenarios assume that this entire appreciation will instead take place in the first quarter of 2016. This would mean that prices of imported goods and demand for Swedish exports would be significantly lower this year than in the main scenario. As the domestically-generated inflation is still low, this would risk leading to very low CPIF inflation. In the first scenario, the strengthening of the krona is assumed to have a limited impact on inflation expectations, according to normal patterns. The prices of imported goods and the demand for Swedish exports become lower than in the main scenario. Consequently, CPIF inflation also becomes lower in the near future and does not reach 2 per cent until the end of 2017 (see the blue line in Figure 1:15). In the second scenario, we instead assume that the long period of low inflation leads to households and companies starting to believe that inflation will continue to be low in the future. The inflation target becomes less and less effective as a benchmark in the economy, and inflation remains low over the entire forecast period (see the yellow line in Figure 1:15). This risks leading to a spiral of lower and lower inflation expectations and threats the confidence in the inflation target.

Figure 1:15. CPIF
Annual percentage change, quarterly averages



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

To sum up, the scenario illustrates that a rapid strengthening of the exchange rate implies an increased risk as inflation has been low for a long time. If monetary policy did not react, it would lead to confidence in the inflation target being much lower or, in the worst case, evaporating altogether. In this case, it may be very difficult to bring inflation up again and the period of very low nominal interest rates risks being prolonged considerably. This means that not only will the risks linked to low nominal interest rates in the financial system increase, but it will also limit the scope for monetary policy to act in the event of a significant deterioration in the state of the economy. Weak confidence in the inflation target is a concern as it creates instability and uncertainty in the economy. For example, it will be more difficult for individual companies to judge how their own costs and revenues will develop, which can have a negative impact on investment and recruitment.[8] There are therefore strong reasons for the Riksbank to defend the credibility of the inflation target.

[7] See, for example, Ehrmann, Michael (2014), "Targeting inflation from below – how do inflation expectations behave?", Working Paper 2014-52, Bank of Canada. See also the article "Rapid appreciation of the krona" in the April 2015 Monetary Policy Report, Sveriges Riksbank.

[8] See the article "Why is it important that inflation rises towards the target?" in the July 2015 Monatary Policy Report, Sveriges Riksbank.

Article: What do inflation expectations tell us?

Expectations of future inflation are very significant for the Riksbank's monetary policy. A well-anchored inflation target makes it easier for various participants to make well-founded financial decisions and lays the foundation for efficient price-setting and wage formation. Inflation has been low in recent years and various measures of inflation expectations have also fallen. The Riksbank is pursuing a very expansionary monetary policy to get inflation to rise and to counteract falling inflation expectations. This is judged to have contributed to a rise in inflation since the beginning of 2014 and to an upturn in inflation expectations since the beginning of 2015.

Various participants' expectations of future inflation are very important for monetary policy with an inflation target. A well-anchored inflation target makes it easier for households and companies to make well-founded financial decisions, thereby helping to increase stability in the economy.[9] If the general public expects the Riksbank to bring inflation towards the target within a few years' time, this will also affect price-setting and wage formation, making the inflation target easier to achieve.[10] Inflation expectations in the longer run can thus be regarded as a measure of confidence in the Riksbank's inflation target.

Inflation has been low in recent years and various measures of inflation expectations show a decline. Expectations in the longer term are also lower. The risk of these falling even further and making it difficult to get actual inflation to rise has therefore been one of the reasons for the Riksbank's expansionary monetary policy in recent years.

Inflation measured in terms of the CPIF has risen since the beginning of 2014, and since the beginning of 2015 inflation expectations have also turned upwards. It is primarily short-term expectations that are higher, but long-term expectations have also risen slightly (see Figure 1:12).

Different measures of inflation expectations

Inflation expectations cannot be observed directly, but one must rely on various types of measures and assessments, such as surveys, the pricing of financial instruments and the inflation forecasts of analysts. All measures have shortcomings, and individual ones must therefore be interpreted with caution. The Riksbank therefore analyses several different measures and indicators to form an opinion on how inflation expectations are developing.

A common measure of inflation expectations is from surveys. Survey company TNS Sifo Prospera has been commissioned by the Riksbank to ask various participants what they believe CPI inflation will be one, two and five years' ahead.[11] One advantage of such surveys is that the question covers directly what one is trying to measure. However, it is uncertain what the responses actually reflect, as the question is put to a broad group of participants with different backgrounds and knowledge of inflation developments.[12]

Inflation expectations can also be measured via financial instruments, for instance as the spread 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 (see Figure 1:16).[13] The advantage of this method is that the various participants on these markets adopt positions depending on what they think about inflation in the future. One problem with the method is, however, that bond prices are also affected by investment preferences and various types of risk premium, which are difficult to measure and can vary over time.[14]

Inflation expectations covary with actual inflation

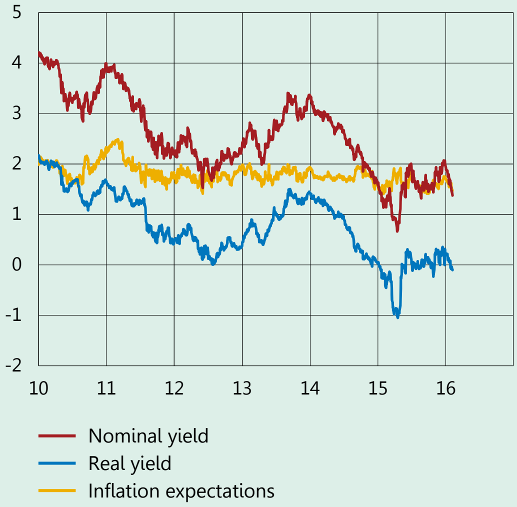
Inflation expectations are an important factor in price-setting and wage formation, and in this way affect how actual inflation develops going forward. At the same time, however, actual inflation also affects inflation expectations, particularly in the short term. Figure 1:17 shows, for instance, that the correlation between expected inflation two years ahead according to Prospera's survey and the most recent CPI outcome is relatively high. But the figure also shows that inflation expectations are not so closely correlated with future inflation.[15]

[9] See the article "Why is it important that inflation rises towards the target?", July 2015 Monetary Policy Report.
[10] See the article "The interplay between wage formation, monetary policy and inflation", July 2014 Monetary Policy Report.

[11] The groups asked are money market participants, employee organisations, employer organisations and purchasing managers in manufacturing and trade. The National Institute of Economic Research also reports households' and companies' inflation expectations in its Business Tendency Survey, however these are only measured at one year ahead.
[12] For instance, Jonsson and Österholm (2009) argue that Prospera's survey does not fully capture true inflation expectations, see "The Properties of Survey-Based Inflation Expectations in Sweden", Working paper No. 114, National Institute of Economic Research.
[13] For further information, see for instance "Handbook on government securities" (2007), Swedish National Debt Office, p. 10.
[14] For example, those who hold a nominal bond may demand compensation for the inflation risk. The markets for real and nominal bonds also have different levels of liquidity. This means that inflation expectations estimated on the basis of financial instruments can also contain risk and liquidity premiums. This is deemed to be a greater problem in Sweden than in, for instance, the United States and the euro area, where the markets are larger.
[15] Jonsson and Österholm (2009) show that both professional forecasters and more simple autoregressive models make better forecasts of inflation than survey-based inflation measures, "The Properties of Survey-Based Inflation Expectations in Sweden", Working paper No. 114, National Institute of Economic Research.

Inflation expectations five years ahead fluctuate much less than short-term expectations and are closer to the Riksbank's target of 2 per cent. But these measures also covary to a certain extent with actual inflation. Longer-term expectations should also reflect the extent to which participants think that monetary policy can bring inflation towards the target. They can thus be regarded as a measure of confidence in the Riksbank's inflation target.

Figure 1:16. Long-term inflation expectations according to the bond market
Per cent



Note. Inflation expectations are measured as 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. The difference reflects thereby both the market's inflation expectations and a risk premium.

Sources: Thomson Reuters and the Riksbank

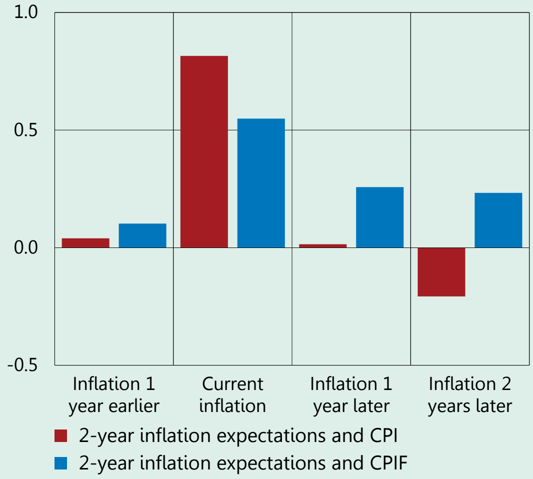
Fewer participants believe in high inflation outcomes going forward

The Prospera survey also provides a picture of the uncertainty surrounding long-term inflation expectations. Figure 1:18 shows inflation expectations five years ahead according to money market participants, together with an upper and a lower limit where the respondents are asked to estimate the interval for the annual percentage change in the CPI, with a 75 per cent probability. The figure highlights that it is primarily the probability of high inflation outcomes that has declined in recent years, while the probability of low inflation has been relatively stable. This indicates that fewer participants believe that inflation will exceed the Riksbank's 2-per cent target in the long run, which can probably be linked to the low inflation in recent years.

Important for inflation expectations to rise

Despite the shortcomings in the various measures, inflation expectations are significant for monetary policy. If fewer and fewer participants say that they believe inflation will reach the target of 2 per cent, it is a sign that the credibility of the inflation target has weakened. Low inflation expectations increase the risk of actual inflation establishing itself on a lower level, and making it more difficult for the Riksbank to bring inflation back to the target. This again highlights the importance of inflation rising.

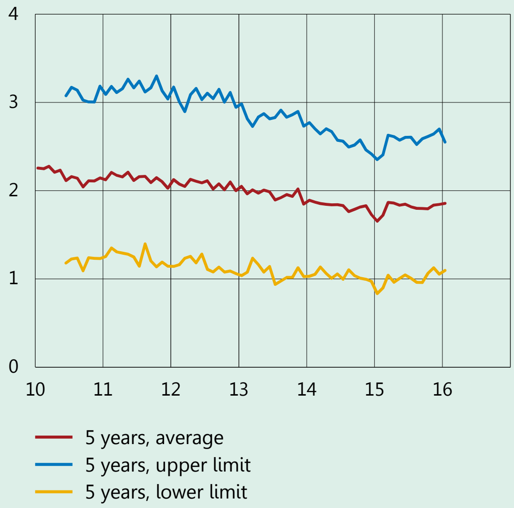
Figure 1:17. Correlation between 2 year inflation expectations and actual inflation
Correlations



Note: The correlation is calculated between the inflation expectations of all participants two years ahead and the latest available inflation outcome. There is normally a difference of two months between the month in which the survey is published and the latest available inflation outcome. The correlation gives the relationship between two variables, where 1 shows the maximum positive relationship and –1 the maximum negative relationship. The data refers to the first quarter of 2000 and the last quarter of 2015.

Sources: TNS Sifo Prospera, Statistics Sweden and the Riksbank

Figure 1:18. Inflation expectations 5 years ahead and uncertainty band
Per cent



Note. The figure refers to mean values. In the survey, the respondents are asked to estimate the band within which they think the annual percentage change in the consumer price index, the CPI, will fall with a 75-percent probability.

Source: TNS Sifo Prospera

CHAPTER 2 – Financial conditions

Since December, the uncertainty on the financial markets has increased and stock markets around the world have fallen, at the same time as government bond yields are lower. The development can mainly be explained by renewed concern regarding the development of the Chinese economy and its effects on global growth. The continued fall in the oil price is also deemed to have contributed to the increased uncertainty. In Sweden, the stock market has seen weak growth but low interest rates are helping to keep financial conditions expansionary. Interest rates for households and companies are low and credit growth is high. In competitiveness-weighted terms, the Swedish krona has developed more or less in line with the Riksbank's forecast in December.

Monetary policy and government bond yields

Expectations of a more expansionary monetary policy

Since the December Monetary Policy Report, movements on the financial markets have been largely characterised by a falling oil price and a downturn on global stock markets. Developments on the stock markets can probably be linked to renewed concern over the development in the Chinese economy and unease over poorer growth prospects globally. The increased uncertainty has led the markets to expect a more expansionary monetary policy (see Figure 2:1).

In Sweden, the Riksbank's announcement in December not to change the repo rate and repo-rate path was expected by the financial markets. Forward prices have fallen since the announcement, however. The expectations of further monetary policy stimuli have thereby increased. One reason for this is the lower-than-expected inflation outcome for December.

In the United States, the Federal Reserve held its policy rate unchanged in January, after raising it in December for the first time since the financial crisis. This decision was largely expected by the financial markets and forward pricing had declined gradually prior to the meeting.

Table 2:1.

Developments on financial markets since the December Monetary Policy Report	
Government bond yields	Lower government bond yields in Sweden and abroad. The yield differential in relation to Germany remains largely unchanged.
Foreign exchange market	In competitiveness-weighted terms, the krona is broadly in line the Riksbank's forecast.
Equity market	Global stock market falls with relatively large declines on the Stockholm Stock Exchange.
Interest rates for households and companies	Financial market statistics show that interest rates for households and companies remain at very low levels.
Credit growth	Continuing high credit growth among households. Corporate lending also increasing, but at a slower pace than household lending.

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 affected 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 interest rates offered to households and companies.

After the decision, forward prices fell slightly further and now indicate little likelihood of an interest rate increase in 2016.

In the euro area, the ECB chose to hold interest rates unchanged in January. However, the bank announced that it was still prepared to take action if inflation prospects deteriorate and that it might announce further measures at the monetary policy meeting in March. The decision was largely expected, but forward pricing fell somewhat after the announcement, which can be interpreted to mean that the market is expecting a future easing in monetary policy.

The Japanese central bank, on the other hand, surprised the market in January by taking its deposit rate into negative territory for the first time. Thus, there are now several central banks conducting monetary policy with some form of negative interest rate.[16]

Lower government bond yields in Sweden and abroad

Since the Monetary Policy Report in December, government bond yields have fallen both in Sweden and abroad (see Figure 2:2). The downturn is mainly linked to the increased uncertainty on the financial markets, which is deemed to have led to a shift in demand from riskier to safer assets. Some of the decline in nominal rates can also be explained by the low oil price that has contributed to a fall in inflation expectations.

All in all, government bond yields with 10-year maturities have fallen by around 0.4 percentage points in Sweden, Germany and the United States. The yield differential between Sweden and Germany remains basically unchanged since the previous Monetary Policy Report, although at times there have been substantial fluctuations in yields that have affected the differential (see Figure 2:3).

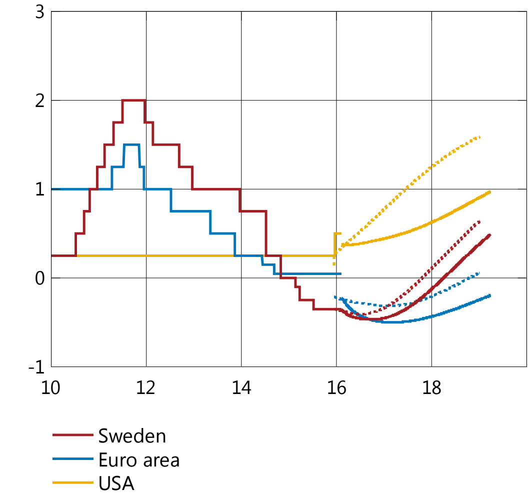
Global asset prices

Global stock market decline

The prices on global stock markets have fallen since mid-December. The Swedish stock market has also seen weak growth (see Figure 2:4). The downturn began on the Chinese stock exchange, which was mainly linked to the markets' renewed concern over developments in the Chinese economy. The stock market interventions by the authorities, in the form of, for example, trading restrictions and government purchases of equities, have also contributed to

[16] Like the central banks in Switzerland and Denmark, the Bank of Japan applies a system with multiple tiers for interest rates, where part of the banking system's liquidity surplus is invested at what is now a negative interest rate. In Sweden, the repo rate is negative while in the euro area it is the deposit rate that is negative. For a more detailed description of the ECB's policy interest rates, see the box "Which is the ECB's most important policy rate?" in Chapter 2, Monetary Policy Report December 2015.

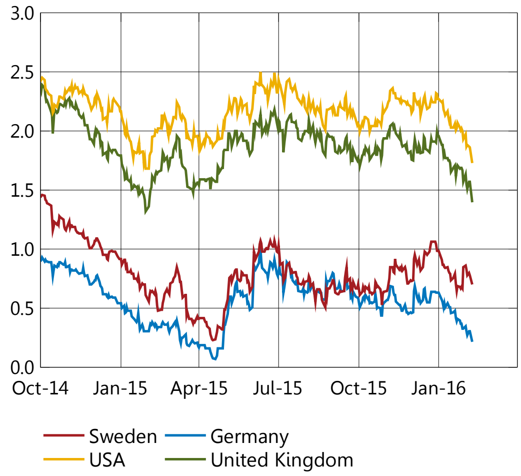
Figure 2:1. Policy rates and rate expectations according to forward rates
Per cent



Note. Forward rates describe the expected overnight rate, which does not always correspond to the policy rate (refi rate for the euro area). Unbroken lines are estimated on 8 Feb 2016, broken lines on 14 Dec 2015.

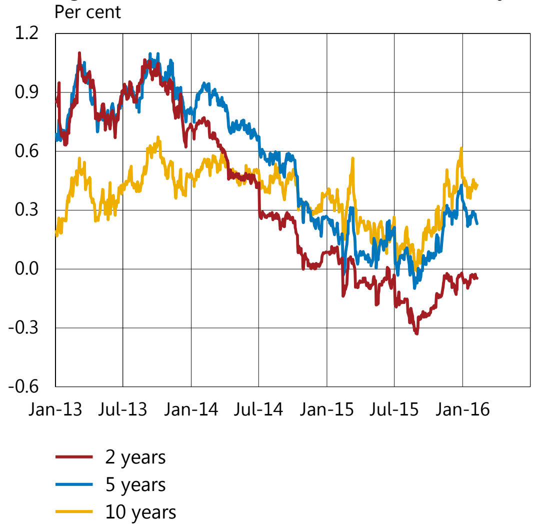
Sources: Macrobond and the Riksbank

Figure 2:2. Government bond rates with 10 years left to maturity
Per cent



Source: Macrobond

Figure 2:3. Yield differential in relation to Germany
Per cent



Note. The yield curve is zero coupon yields interpolated from bond prices in accordance with the Nelson-Siegel method.

Sources: Macrobond, Thomson Reuters and the Riksbank greater uncertainty and accentuated the movements.[17] The uncertainty has spread to other markets and recently increased as a result of concern for the global economy.

Commodity prices have fallen and the oil price in particular has continued to decline (see Figure 4:19). This decline is assessed to be mainly due to an increase in the supply of oil. Production in the United States and the OPEC countries remains high, while Iran is once again being allowed to export oil after sanctions against the country were lifted. The price fall is also deemed to be due to some extent to a decline in demand from China (see the article "Why have commodity prices fallen and what will the consequences be?").

On the credit markets in the euro area and the United States, the interest rate spread between higher risk assets and safer assets has continued to grow. The development is mainly linked to the reduced demand for high-risk assets. In addition, the decline in the oil price is continuing to put pressure on companies in the oil industry, which has caused yields on corporate bonds in the energy sector to rise significantly over the last twelve months.

The foreign exchange market

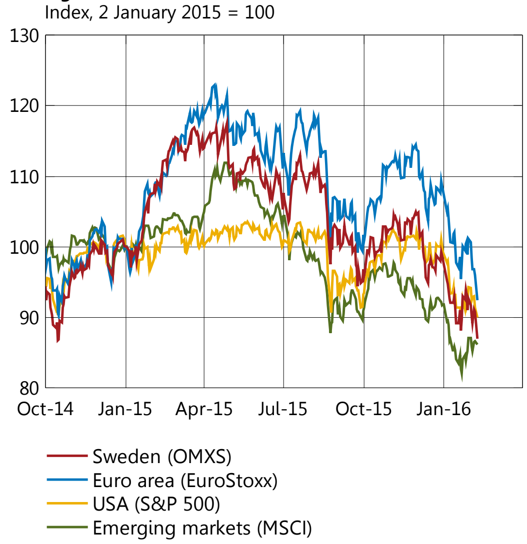
Krona broadly in line with forecast

At the end of December, the krona strengthened against the euro and the dollar. One reason for this was that economic statistics indicated unexpectedly strong developments in Sweden. The krona appreciation contributed to the Riksbank publishing, on 4 January, a delegation decision regarding potential foreign exchange interventions to allow swift action to be taken if an overly rapid appreciation of the krona were to risk stopping the rise in inflation. Since the decision, the krona has depreciated against the euro but unchanged against the dollar (see Figure 2:5).

In competitiveness-weighted terms, the krona has developed more or less in line with the Riksbank's forecast in December. The krona has appreciated against the British pound and the currencies of most commodity-producing countries but has depreciated against the euro (see Figure 2:6).

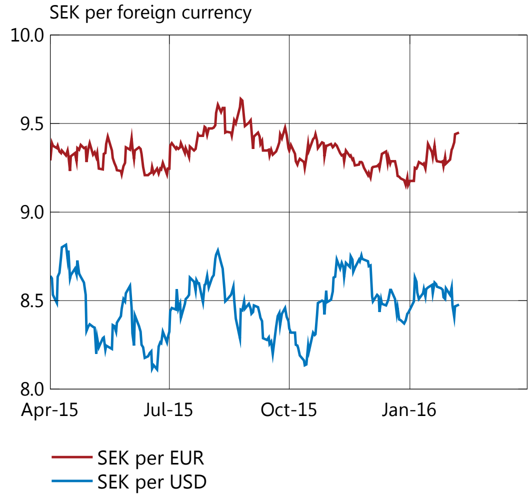
[17] For a more detailed description of the Chinese stock market and the restrictions introduced earlier, see the box "What is happening on China's financial markets?" in chapter 2 in the Monetary Policy Report published in September 2015.

Figure 2:4. Stock market movements
Index, 2 January 2015 = 100



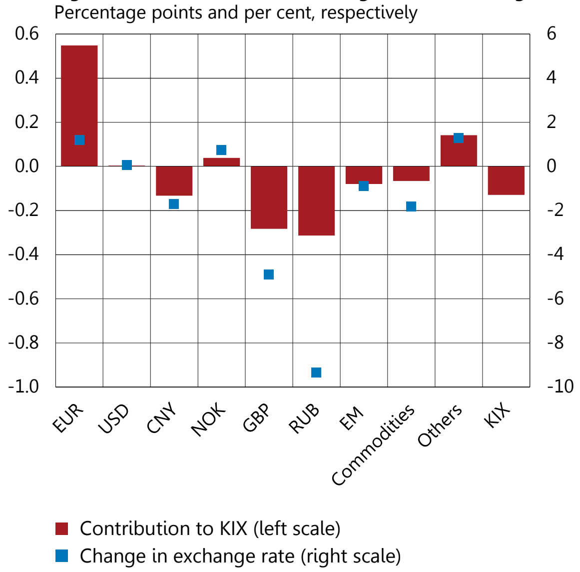
Sources: Macrobond and Thomson Reuters

Figure 2:5. Development of the krona against the euro and the dollar
SEK per foreign currency



Source: Macrobond

Figure 2:6. Contributions and changes to KIX exchange rate
Percentage points and per cent, respectively



Note. The figure shows change in KIX and contributions from different currencies between 2 September 2015 and 23 October 2015. EM refers to Brazil, Hungary, India, Mexico, Poland and Turkey. Commodities refer to Australia, Canada and New Zealand. Others refer to Czech Republic, Denmark, Iceland, Japan, South Korea and Switzerland.

Sources: Thomson Reuters and the Riksbank

The financial situation for companies and households

Favourable funding conditions

The conditions for bank lending are still good despite recent unease on the financial markets. Borrowing costs are low and the banks are finding it easy to obtain funding. Mortgage bond yields have fallen since the Monetary Policy Report in December and the yield differential between mortgage bonds and government bonds is more or less unchanged.

The funding situation for companies is also deemed to be still favourable. Interest rates on new bank loans to non-financial corporations are still at low levels, although they increased slightly in December (see Figure 2:7). Yields on issued corporate bonds increased in 2015, but have since December remained at relatively low levels. The annual rate of growth in borrowing from banks was largely unchanged from November to December, while issuance of corporate bonds declined somewhat when measured as an annual percentage change. The development of both these sources of funding is positive, however, seen in a slightly longer time perspective (see Figure 2:8).

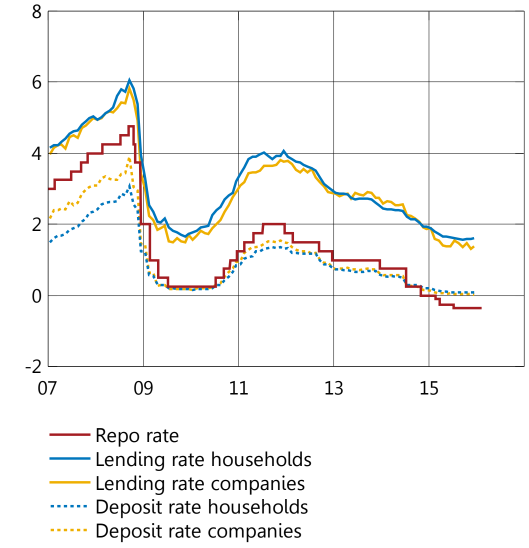
The National Institute of Economic Research's Economic Tendency Survey shows that companies generally have good opportunities to obtain bank loans, despite the financing terms for small companies deteriorating somewhat in January. However, an overwhelming majority, 85 per cent, considers that financing terms are more or less as usual.

Households continuing to borrow more

Households continue to borrow at very low interest rates. Since December the average mortgage rate for new loan agreements has been more or less unchanged at 1.6 per cent (see Figure 2:7). At the same time, households' bank loans continue to increase. The annual growth rate in December was 7.5 per cent. Mortgages still account for the relatively high growth rate. Loans with tenant-owned apartments as collateral increased by 13.9 per cent, expressed as an annual growth rate, in December (see Figure 2:9).

This development is mainly due to housing prices continuing to rise. In December, housing prices, expressed as an annual percentage change, increased by 14 per cent. The price increases for tenant-owned apartments and detached houses respectively were 18 and 12 per cent. According to SEB's housing price indicator, a large majority of households believe that housing prices will continue to

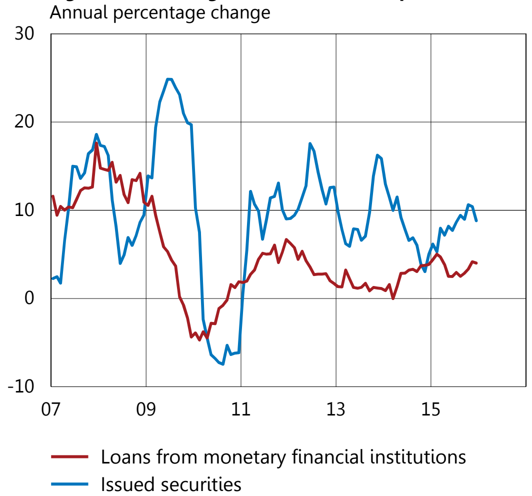
Figure 2:7. Repo rate together with the deposit and lending rate to households and companies, new contracts
Per cent



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

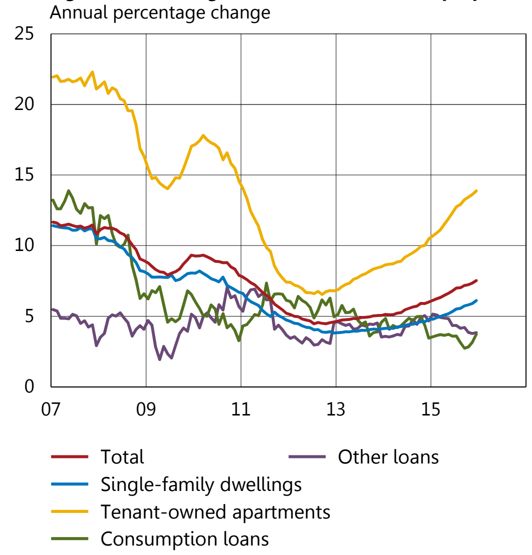
Soures: Statistics Sweden and the Riksbank

Figure 2:8. Lending to non-financial corporations
Annual percentage change



Source: Statistics Sweden

Figure 2:9. Lending to households, different purposes
Annual percentage change



Note. The figure shows the annual growth rate for household loans as well as the growth rate for loans divided up into different types of collateral.

Source: Statistics Sweden

increase even if the percentage has decreased slightly in recent months.

CHAPTER 3 – The current economic situation

The assessment of the current economic situation and of developments in the near future forms the basis for forecasts for the slightly longer term. In January, uncertainty about economic developments in China have increased and contributed to major falls on the world's equity markets, while commodity prices have continued to decline. All in all, the recovery is deemed nevertheless to continue in many of the world's developed countries. Swedish resource utilisation is considered to be close to normal and GDP growth is expected to have remained high towards the end of 2015 and at the beginning of 2016. Underlying measures of inflation are expected to develop unevenly, but are expected to be on about the same level in the first quarter of 2016 as they were in the fourth quarter of 2015. Weak growth in energy prices continues to dampen CPI and CPIF inflation.

Inflation

Low inflation for some time to come

Different measures of underlying inflation, such as the CPIF excluding energy, have been showing a rising trend since early 2014, even if the trend has been uneven (see Figure 3:1). The upturn is primarily due to larger price increases for food and goods as a result of the depreciation of the krona in recent years.

Inflation was nevertheless lower than expected in December. The annual rate of increase in the CPIF excluding energy was 1.3 per cent, while the rate of price increase according to the CPIF and CPI amounted to 0.9 and 0.1 per cent respectively (see Figure 3:2). Prices rose more weakly than expected, particularly for food but also for goods and energy. Prices for services, however, rose slightly more than expected.

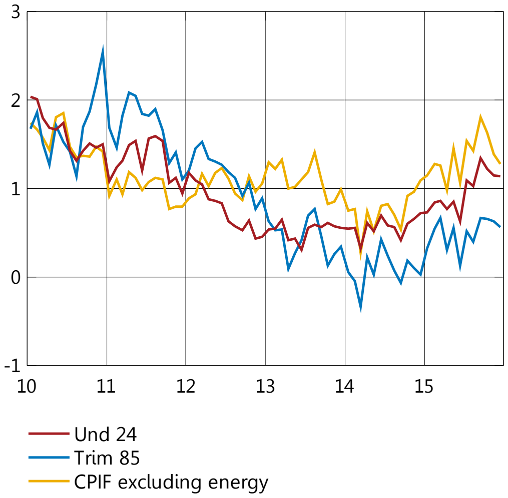
Compared with the fourth quarter of 2015, inflation in the first quarter of 2016, measured as the CPIF excluding energy, is expected to be more or less unchanged, which is to say 1.5 per cent. Indicators point to prices in general continuing to rise in the period ahead. According to the Business Tendency Survey, indicators of companies' price expectations are higher than normal. In addition, higher electricity grid prices, tax increases in January in the form of lower tax deductions for ROT services (repairs, conversions and extensions in private homes) and amended indexing of energy taxes will contribute to higher inflation in 2016. The rents set so far in this year's rent negotiations indicate very low rent increases in 2016 (see Figure 3:3). Since rents are the single largest item in the CPI, with a weight of about 11 per cent, this has an obvious dampening effect on inflation. Food prices are also expected to increase more slowly, due, in part, to recent weak growth in international commodity prices.

Table 3:1.

Expected development in MPR December	Actual development
CPIF inflation 1.1 per cent in December.	Weaker than expected, CPIF inflation 0.9 per cent in December.
GDP growth 3.6 per cent in fourth quarter.	Indicators in line with the forecast.
Unemployment 7.0 per cent in fourth quarter.	Slightly higher labour supply than expected in fourth quarter, unemployment 7.1 per cent.
GDP growth in the euro area 1.8 per cent, fourth quarter.	Indicators slightly weaker than expected.
GDP growth in the United States 2.0 per cent, fourth quarter.	Indicators weaker than expected.

Note: Monetary Policy Report (MPR). The CPIF is the CPI with a fixed mortgage rate. CPIF inflation is measured as an annual percentage change. GDP growth refers to the quarterly change as a percentage, calculated as an annual rate.

Figure 3:1. Measures of underlying inflation
Annual percentage change



Note. Und 24 and Trim 85 are statistical measures calculated on the basis of the CPI divided into approximately 70 subgroups. Und 24 is weighted and adjusted for the historical standard deviation. In Trim 85 the 7.5 per cent of the highest and of the 7.5 lowest yearly price changes have been excluded.

Sources: Statistics Sweden and the Riksbank

Models can be used to summarise the information from different indicators. Figure 3:4 shows such a model forecast for the CPIF excluding energy.[18] Taking the recent development in consumer and producer prices and the exchange rate into account, the model predicts that average inflation will be roughly unchanged in the coming months. The fact that the model forecast for the CPIF excluding energy is slightly higher than the forecast can be explained by the fact that the model does not sufficiently account for the low rent increases for 2016.

The recent fall in oil prices, in combination with lower electricity prices, dampens CPI and CPIF inflation further. Inflation is affected both directly in the form of lower prices for oil-related products such as fuel and heating oil, and indirectly through lower production costs for companies that produce consumer goods. CPI inflation is also dampened by household mortgage costs that continue to be low.

Rising inflation expectations

Similar to the actual level of inflation, short-term inflation expectations have been low in recent years, but increased significantly in 2015 (see the article "What do inflation expectations tell us?"). Longer-term inflation expectations increased slightly during 2015 after having decreased in the preceding years. According to Prospera's monthly survey for January, inflation expectations have decreased marginally in the short term and increased marginally in the long term. Five-year expectations have gone up to 1.9 per cent (see Figure 3:9).

Global and Swedish economic activity

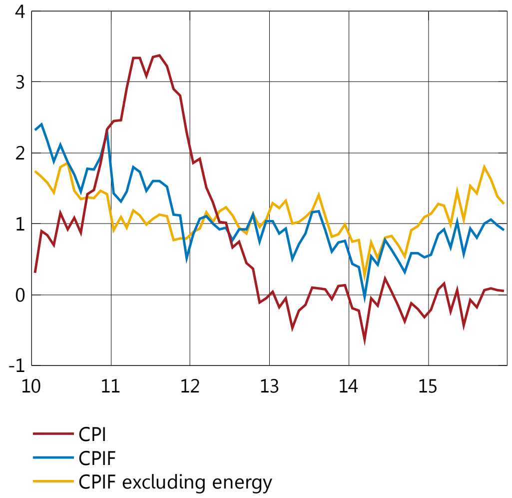
Continued recovery in developed countries, but lower inflation

Uncertainty regarding the outlook for Chinese growth and unease over possible spillover effects to the global economy have contributed to rapidly falling prices on global stock markets. The development is deemed to have a limited effect on growth in developed countries, however, and indicators suggest that the recovery continues (see Figure 3:5).

The oil price has also fallen sharply in December and January. This price fall is deemed largely to depend on supply factors, as a result of OPEC electing not to reduce production at the same time as the lifting of sanctions

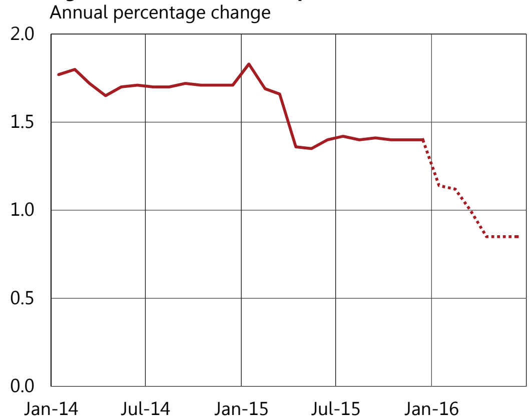
[18] The model uses time series with monthly data for producer prices, the exchange rate and commodity prices to generate forecasts for the CPIF excluding energy. In contrast to the model forecast in the December Monetary Policy Report, this one incorporates the expected tax effects included in the Riksbank's forecast for the CPIF excluding energy.

Figure 3:2. CPI, CPIF and CPIF excluding energy
Annual percentage change



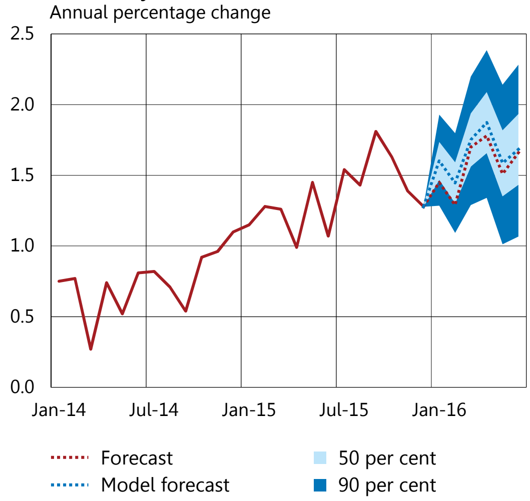
Note. The CPIF is the CPI with a fixed mortgage rate.
Source: Statistics Sweden

Figure 3:3. Rents in rented apartments
Annual percentage change



Sources: Statistics Sweden and the Riksbank

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



Note. The uncertainty bands are based on the models' historical forecasting errors. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

against Iran can be expected to lead to further increases in production in the period ahead. Weak demand in emerging market economies is considered to have contributed to the price fall to a lesser extent. Even if there is negative growth in most commodity-producing countries, lower commodity prices are generally deemed to be contributing to higher growth in developed countries.

The manufacturing sector in the United States shows weak growth in the fourth quarter and at the start of 2016, which will contribute to lower growth in the US economy in the near future. The downturn is expected to be temporary, however, and developments on the labour market and on the housing market continue to be positive. Even if the falling oil prices are hitting oil-producing segments of the US economy hard, households' real incomes are rising and the low oil price is expected to contribute positively to growth overall.

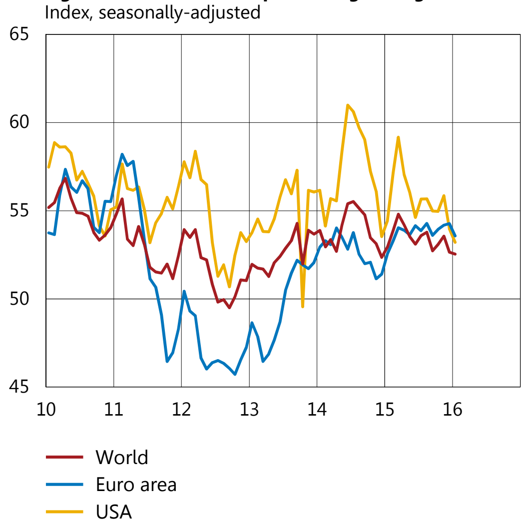
In the euro area, indicators suggest the economy has weakened slightly against earlier assessments. Confidence among companies and households is deemed to be in line with growth that is slightly higher than the historical average, but industrial output has developed unexpectedly weaker in recent months and investment stagnated during the third quarter of 2015. This is expected to dampen growth in the euro area somewhat even though the positive effects from the oil price are helping to counteract this effect.

Inflation in developed countries is still low even if a certain upswing has taken place in recent months, especially in the United States (see Figure 3:6). At the same time, the recent fall in the oil price contributes to expectations that inflation in developed countries will rise at a slower rate in the next few quarters compared with the previous forecast. In the euro area, inflation has also been unexpectedly low and underlying inflationary pressures are weaker than in previous assessments, factors that further weaken the outlook for inflation.

Subdued demand in many emerging market economies

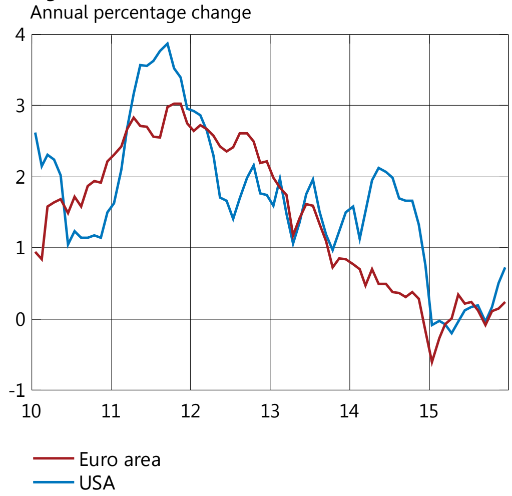
The ongoing rebalancing of China's economy, and the effects it is having on neighbouring economies, continue to subdue demand from emerging market economies. Furthermore, the prospects for Brazil and Russia are still very weak and growth in these countries is expected to be negative for the whole of 2016. The price fall in commodities further reinforces the trend and has caused growth prospects to deteriorate. In addition, the Russian rouble has depreciated concurrently with the oil price fall in December and January, which points to continued high

Figure 3:5. International purchasing managers index
Index, seasonally-adjusted



Source: Markit

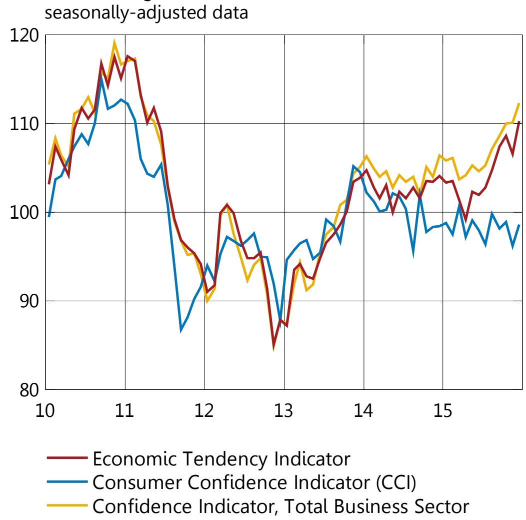
Figure 3:6. Inflation abroad
Annual percentage change



Note. The HICP is shown for the euro area and the CPI for the United States.

Sources: Bureau of Labor Statistics and Eurostat

Figure 3:7. Confidence indicators
Index, average = 100, standard deviation = 10, seasonally-adjusted data



Source: National Institute of Economic Research inflation in 2016. Tighter fiscal and monetary policy as a result of high inflation in both countries will further subdue growth going forward.

Strong Swedish growth

Swedish GDP has increased rapidly in the past twelve months and the strong growth is judged to have continued at the end of 2015 and into 2016.

Confidence in the economy is high among companies according to both the Business Tendency Survey and the purchasing managers' index, while households are less optimistic (see Figure 3:7). The fact that the indicator for confidence among households is below its historical average reflects pessimism regarding the development of the Swedish economy as a whole rather than their own financial situation. Even though retail sales were weak in December, the indicators for household consumption are generally deemed to be at levels in line with a historically normal growth rate in consumption in the fourth quarter.

The indicators further show that world trade has stabilised (see Figure 3:8) and new export orders, according to the Business Tendency Survey and purchasing managers' index, indicate an overall growth rate in exports that is above the historical average (see Figure 3:9).

Not all the effects of the recent large-scale refugee immigration are deemed to be captured by the available indicators. The Riksbank assumes that public consumption is increasing significantly more rapidly than normal and that it did so during the fourth quarter of 2015 in particular.

The Riksbank uses different statistical models to summarise the information in a large number of short-term GDP growth indicators. The final forecast is based on both model-based forecasts and assessments of factors not included in the models. For the fourth quarter overall, the model forecasts indicate slightly lower growth than the forecast (see Figure 3:10). The deviation can be mostly explained by the fact that the growth indicators included in the models do not fully reflect the positive effects on demand of increased refugee immigration.

Swedish GDP is expected to grow at an annualized rate of 3.5 and 3.2 per cent in the final quarter of 2015 and the first quarter of this year respectively, compared with the previous quarter.

Continued strong development on the labour market

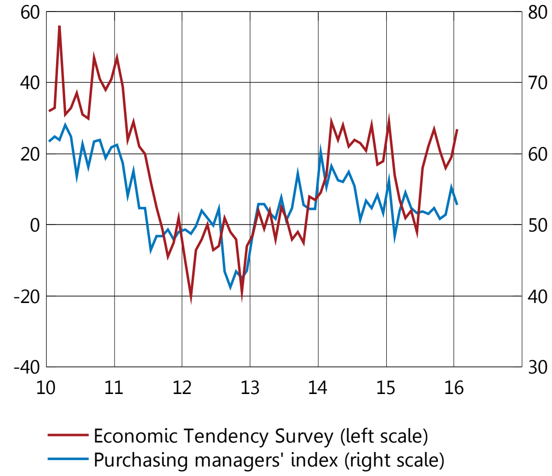
The labour market has continued to develop strongly and, in the fourth quarter, unemployment fell to 7.1 per cent (see Figure 3:11). Overall, the indicators for labour market development point to both continued high demand for

Figure 3:8. World trade volume
Index, 2011 = 100

Note. Refers to trade in goods.

Source: CPB Netherlands Bureau for Economic Policy Analysis

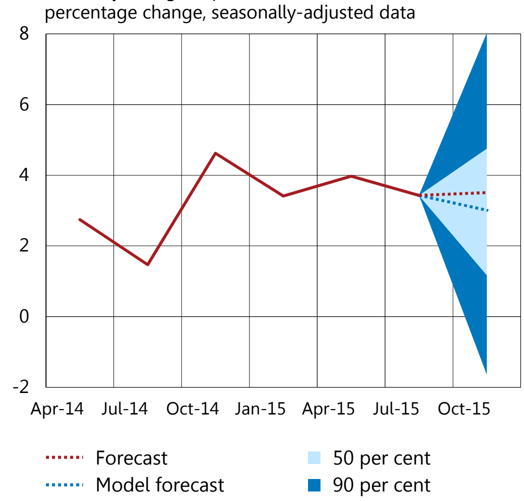
Figure 3:9. New export orders in the manufacturing industry
Net figures and diffusion index respectively, seasonally-adjusted monthly values



Note. Diffusion index above 50 indicates growth.

Sources: National Institute of Economic Research and Swedbank/Silf

Figure 3:10. Model forecast of GDP with uncertainty bands
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



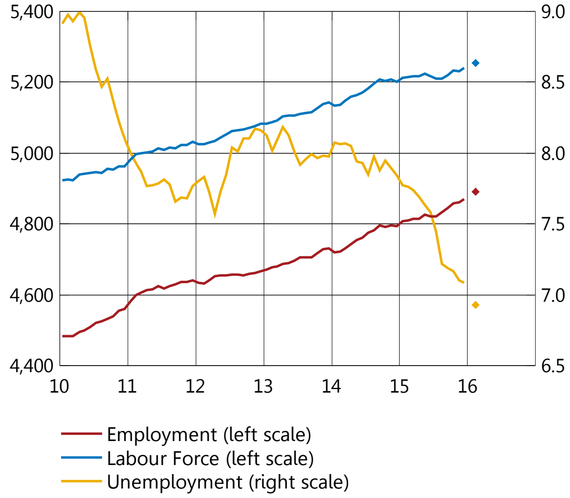
Note: The model forecast is a mean of forecasts performed using different statistical models that take into account monthly statistics for demand and production and survey data in the Business Tendency Survey and Purchasing managers' index. The uncertainty bands are based on the models' historical forecasting errors.

Sources: Statistics Sweden and the Riksbank

labour and increasing employment in the period ahead. According to the Business Tendency Survey, expected hiring rates are still positive and Statistics Sweden's measure of the number of job vacancies is on a high level, while the number of redundancies fell to a very low level in December (see Figure 3:12). Greater public and private consumption as a result of increased refugee immigration is expected to contribute to both a relatively rapid rise in the number of people in employment in the near future and a further fall in unemployment.

The Riksbank deems that resource utilisation in the Swedish economy is close to normal and will continue to rise as GDP and the number of hours worked are increasing at a slightly faster rate than is historically normal, at the same time as the employment rate is rising and unemployment is falling. The Riksbank's RU indicator, which is a generic measure of a number of indicators of resource utilisation, rose further in 2015, and is now close to a historical average (see Figure 3:13). Labour shortages have increased in both the private and public sectors and it is taking companies longer to recruit.

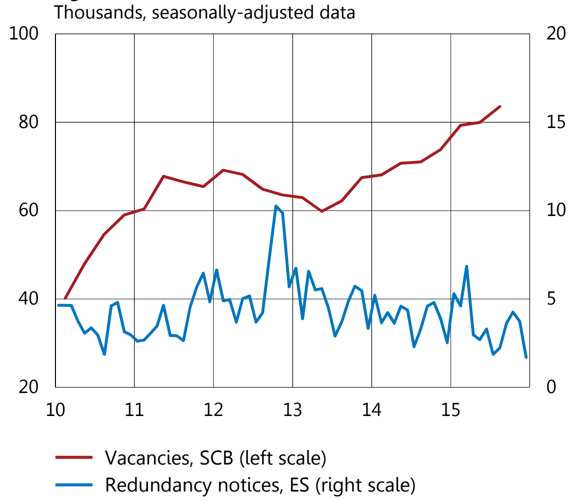
Figure 3:11. Employment, labour force and unemployment
Thousands of people and percentage of labour force, 15–74 years, seasonally-adjusted data



Note. Three-month moving average. The dots represent the forecast for the first quarter 2016.

Sources: Statistics Sweden and the Riksbank

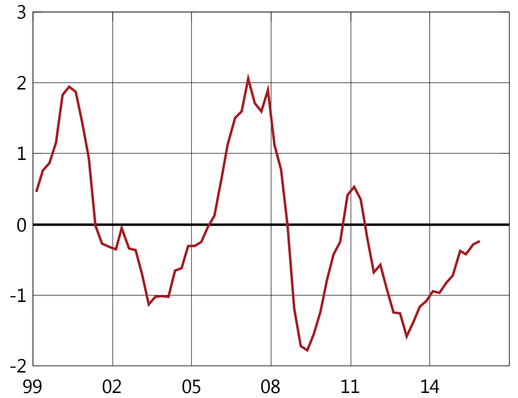
Figure 3:12. Labour market indicators
Thousands, seasonally-adjusted data



Note. Vacancies on quarterly frequency and redundancy notices on monthly.

Sources: Employment Service, Statistics Sweden and the Riksbank

Figure 3:13. RU indicator
Standard deviation



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 in the global economy continues but uncertainty remains regarding its underlying strength. Inflation abroad is rising but the upturn has been delayed by the renewed fall in oil prices. The economic upswing in Sweden is broad and the expansionary monetary policy is contributing to GDP growth remaining high in the coming years. The situation on the labour market continues to improve and unemployment is falling. The upward trend in inflation is being held back in the short term by falling energy prices and the waning effects of earlier depreciation of the Swedish krona. Inflation will rise again towards the end of 2016 as the effects of earlier falls in energy prices fade away. In addition, increasing resource utilisation will contribute towards rising inflation.

International developments

Moderate recovery in the global economy

After a clear downswing at the beginning of 2015, global trade strengthened during the second half of last year. Overall, 2015 was a weak year for both trade and industrial production. Global GDP growth was at its slowest since 2009 and clearly under the historical average. The slowdown in emerging market economies continued to be a burden but the recovery in developed economies continued thanks to good domestic demand, especially from households. Growth in developed countries is being hampered, however, by weak underlying productivity growth and unfavourable demographic developments which are causing the labour force to grow more slowly than previously.

There are still several factors indicating that the global economy will grow somewhat more rapidly in the years ahead. In the developed economies, the confidence indicators for companies and households are on levels that are compatible with relatively good growth. In addition, the low oil price is providing a stimulus, as is the continued expansionary monetary policy. Furthermore, a few of the emerging market economies that are currently in deep recession are expected to gradually stabilise.

The sharp fall in the price of crude oil that took place since the last forecast (see Figure 4:1) has led to a relatively major downward revision of the forecast for inflation abroad in 2016. At the same time, the lower oil prices are making a positive contribution towards global GDP growth (see the article "Why have commodity prices fallen and what will the consequences be?").

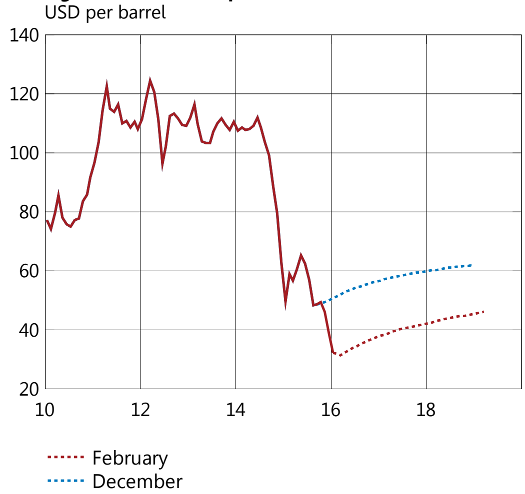
The downturn that has taken place on the world's stock markets since the last Monetary Policy Report constitutes an uncertainty factor in the forecast. There is a risk that confidence among companies and households may weaken,

Table 4:1.

The forecast in brief
The recovery of the global economy continues, but uncertainty remains over the emerging market economies.
The fall in oil prices is leading to lower inflation abroad and certain positive effects on GDP growth.
The Swedish economy is growing broadly and GDP continues to increase faster than the historical trend. The strong population increase is contributing to the high GDP growth.
The labour market continues to improve and unemployment falls further. An increase in unemployment is predicted towards the end of the forecast horizon as more new arrivals are expected to enter the labour force.
Higher resource utilisation in the Swedish economy is contributing to rising inflation. However, the inflation forecast for 2016 has been revised downwards, with falling energy prices and lower rent increases contributing to low inflation for a while longer before it picks up again.

Note. Note: Monetary Policy Report (MPR). The CPIF is the CPI with a fixed mortgage rate. CPIF inflation is measured as an annual percentage change. GDP growth refers to the quarterly change as a percentage, calculated as an annual rate.

Figure 4:1. Crude oil price
USD per barrel



Note. Brent oil, futures are calculated as a 15-day average. Outcomes represent monthly averages of spot prices.

Sources: Macrobond and the Riksbank

which could ultimately have negative effects on the real economy.

Many emerging market economies developing weakly

Uncertainty about the global economy is still considerable, especially regarding the emerging market economies. Indebtedness is high in many areas and commodity-producing countries have been hit by the falling prices of oil and other commodities. In Russia and Brazil, the negative effects from low commodity prices have also been reinforced by domestic problems. These two countries together are deemed to account for a third of the slowdown in import growth from the emerging market economies in 2015 (see Figure 4:2). High inflation and weak public finances also mean that the scope for fiscal and monetary policy is extremely limited. Substantial currency depreciations will, however, provide some support to exports in the period ahead and an expected stabilisation of commodity prices will help these economies to gradually start to grow again.

Gradual Chinese slowdown

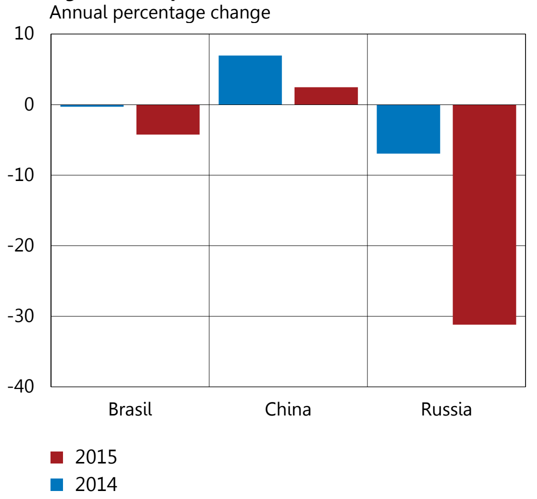
Weaker import growth from China has also contributed to a slower rate of increase in import demand from the emerging market economies. The lower import growth is mainly due to the ongoing rebalancing of the Chinese economy away from exports and investment, which have a high import content, to consumer demand, which is more based on domestic production.

There is still considerable uncertainty as to where the Chinese economy is heading, which has manifested itself in substantial fluctuations on the Chinese stock market. The spillover effects to the financial markets abroad also underline the significance of developments in China. Historically, however, the Chinese stock market has been weakly correlated with macroeconomic developments in the country and recent economic statistics do not indicate that the risks of a hard landing in China have increased. Growth in industrial output has indeed slowed but the service sector continues to develop relatively strongly (see Figure 4:3). Therefore, the assessment is still that China is continuing to slow down gradually and in an orderly fashion and that the Chinese authorities are successfully counteracting excessively large deviations in growth from officially communicated objectives.

Recovery in developed countries is continuing

The recovery in developed economies has continued despite the slowdown in the emerging market economies, mainly

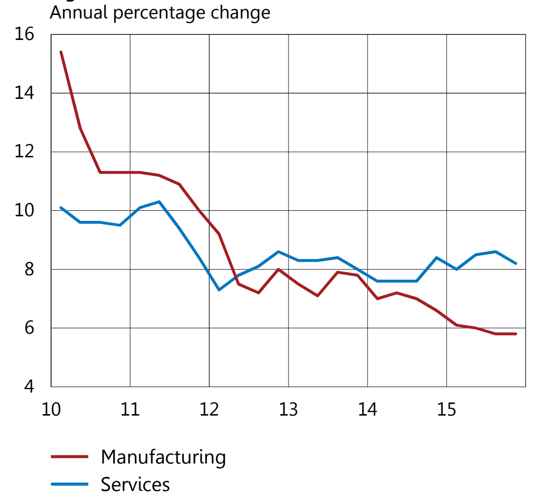
Figure 4:2. Import volume
Annual percentage change



Note. Based on estimates from IMF World Economic Outlook October 2015.

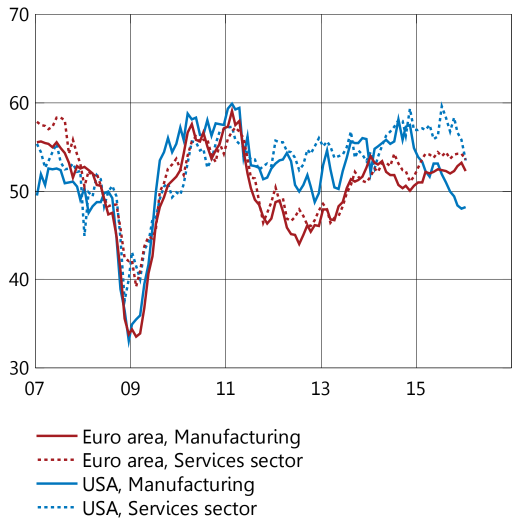
Source: IMF

Figure 4:3. Value added in China
Annual percentage change



Source: National Bureau of Statistics of China

Figure 4:4. Purchasing Managers Index
Index



Sources: Institue for Supply Management (ISM) och Markit thanks to good growth in household consumption. The conditions for consumption in the period ahead also seem favourable. The situation in the labour market continues to improve, the low oil prices are strengthening real incomes and monetary policy continues to provide support.

Divided US economy

In the United States, it is mainly the service sector that is driving growth while growth in the industrial sector has been weaker, burdened by subdued demand from emerging market economies. For the US industrial sector, the ever-stronger dollar and negative knock-on effects from the energy sector have had a negative impact. Various confidence indicators for industry, such as the purchasing managers' index, are now at their lowest levels for several years. The corresponding indicator for the service sector, which makes up a much larger share of the economy than industry, is, however, at a significantly higher level, despite a decline in recent months (see Figure 4:4). In addition, the strong development in employment points to continued reasonable growth and unemployment is now down to a level that can be considered to be in line with a normal level of resource utilisation on the labour market. As resource utilisation continues to rise in the period ahead, monetary policy will also normalise and GDP growth in the United States will fall back from about 2.5 per cent in 2016 and 2017 to about 2 per cent in 2018.

Delayed increase in investment in the euro area

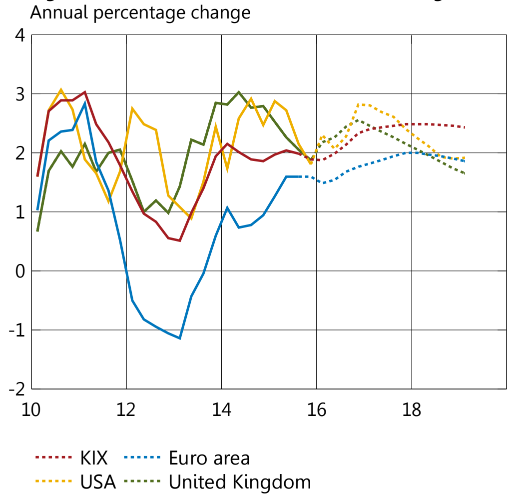
In the euro area, the division between industry and the service sector has not been as clear-cut as in the United States. Industry has benefitted from a weaker currency and less exposure to the oil industry than the US industry, which has also been reflected in higher levels of various confidence indicators for the industrial sector. Despite this, industrial production in the euro area has slowed somewhat towards the end of 2015 and the contribution to growth from foreign trade has also decreased as the effect of previous euro depreciations has waned.

So far, investment has developed weakly compared with earlier recovery phases and has virtually stagnated in recent months (see Figure 4:5). It is of key importance that investment picks up in the euro area both for robustness of the economic upswing and for productivity growth in the economy. Recent developments are therefore somewhat ominous. It can simultaneously be observed, however, that many of the conditions for a more durable investment upswing are in place. Financing conditions are favourable and lending to companies is increasing, albeit at a slow rate.

Figure 4:5. Gross fixed capital formation
Index, 2008 Q1 = 100

Source: Eurostat

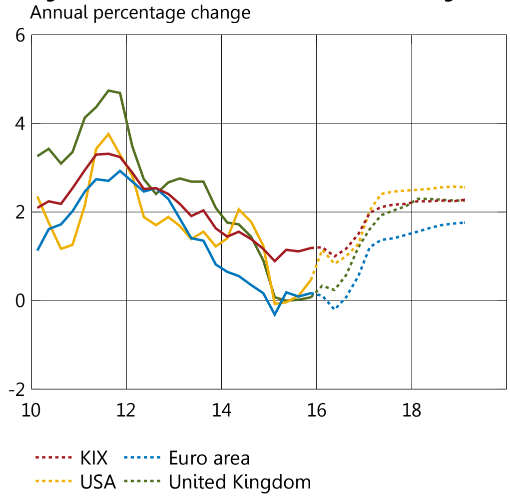
Figure 4:6. Growth in various countries and regions
Annual percentage change



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

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

Figure 4:7. Inflation in various countries and regions
Annual percentage change



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

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

The assessment of a gradual recovery in investment therefore still holds true, but the upturn is expected to be weaker than in the previous forecast. In combination with continued good consumption growth, it means that GDP growth in the euro area is expected to rise slowly from 1.5 per cent in 2015 to 2 per cent in 2018.

Expressed in terms of KIX-weighted GDP, which includes the most important countries for the Swedish economy, growth abroad is expected to rise from about 2 per cent in 2015 and 2016 to about 2.5 per cent in the following two years (see Figure 4:6). This implies a minor downward revision compared with the assessment made in December. Above all, the forecast has been revised downwards for a number of commodity-producing countries such as Brazil, Russia and Norway, but also growth in the euro area is expected to be slightly weaker than in the previous forecast.

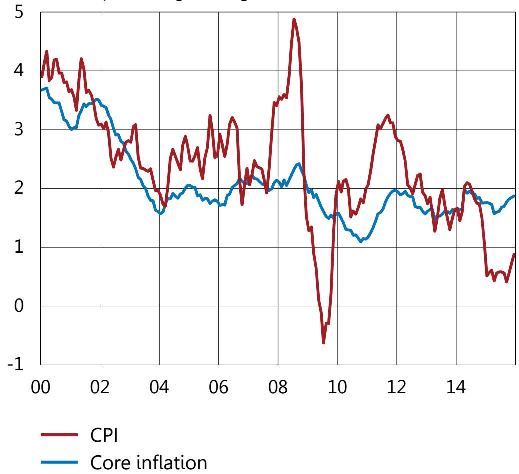
New oil price fall delaying the upturn in inflation

Inflation abroad is still low (see Figure 4:7). The new fall in prices, particularly of oil but also other commodities, contributes to the expectation that inflation abroad will more or less stay at its current low level in the next few quarters. The effect of previous falls in the oil price will subside towards the end of 2016. In addition, a gradual increase in the oil price is expected during the forecast period.

Underlying inflation, measured in terms of consumer prices excluding energy and food, has been relatively stable despite the substantial fluctuations in energy prices in recent years and has remained at just under 2 per cent across the whole of the OECD area (see Figure 4:8). During the forecast period, underlying inflationary pressures are expected to increase gradually as more and more spare capacity is utilised.

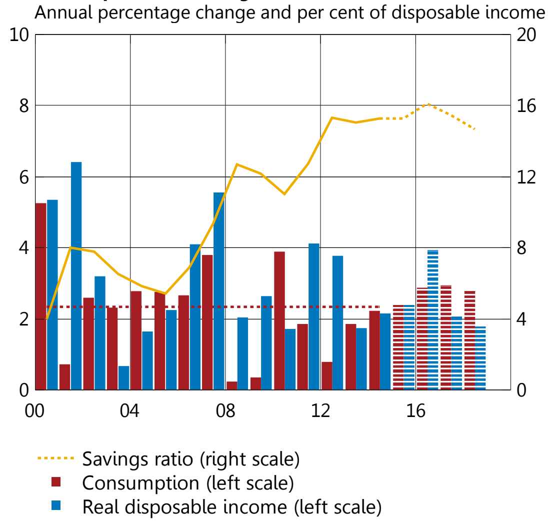
All in all, inflation abroad is expected to increase marginally from 1.1 per cent in 2015 to 1.2 per cent in 2016 and then rise to just over 2 per cent in 2017 and 2018. Compared with the previous forecast in December, this is a clear downward adjustment, especially for 2016. The main reason is lower oil prices. In addition, underlying inflation in the euro area has been revised downwards as a result of unexpectedly low outcomes and weak wage growth.

Figure 4:8. Inflation in OECD
Annual percentage change



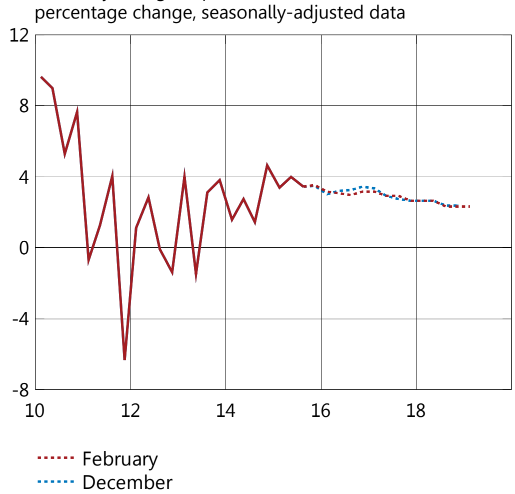
Note. Core inflation is CPI excluding food and energy.
Source: OECD

Figure 4:9. Households' real disposable incomes, consumption and savings ratio
Annual percentage change and per cent of disposable income



Note. The savings ratio includes collective insurance schemes. Disposable income has been deflated using the household consumption deflator. Broken line is the average of consumption between 1994 and 2014.
Sources: Statistics Sweden and the Riksbank

Figure 4:10. GDP in Sweden
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Sweden

High Swedish growth and a rapidly growing population
Growth in Sweden increased in 2015. A strong household sector and rapidly growing housing construction continued to be important driving forces. Compared with the immediately preceding years, growth was broader in 2015 and was characterised by all components of demand contributing to the increase of GDP.

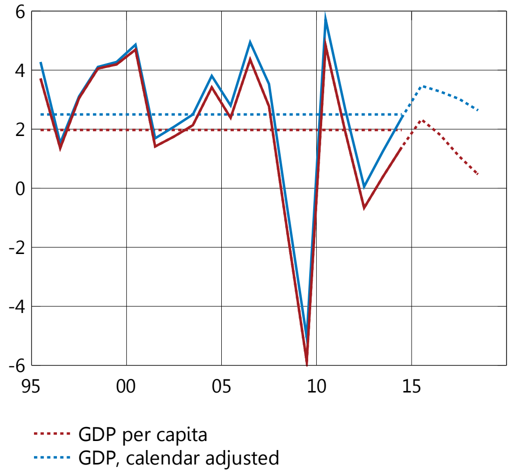
Domestic growth will continue to develop strongly in the coming years. Household consumption, which makes up about half of Swedish GDP, is central to this development and is considered to be rising fast in a historical perspective.

Despite falling prices on the world's stock markets at the beginning of 2016, stock market movements, together with the upswing in housing prices, have helped to strengthen household wealth in recent years. Strong development on the labour market and continuing low interest rates will contribute to high growth in households incomes in 2016. Incomes will then rise significantly more slowly once economic policy becomes less expansionary. Household saving is, however, historically high to start with, which allows for a consumption growth that is slightly higher than income growth (see Figure 4:9). Increased refugee immigration also contributes to higher domestic demand mainly as a result of greater public consumption expenditure.

The gradual recovery abroad will contribute towards rising growth of Swedish export markets in the period ahead. In 2015, Swedish exports increased significantly faster than growth of the export markets, despite relatively weak investment activity. The weakening of the krona has probably been an important explanation for the increased market share of Swedish exporters. Exports of services have, in particular, grown strongly. Swedish exports are also expected to grow slightly faster than their markets in 2016. As the effects of earlier krona depreciations subside and the krona appreciates slightly, Swedish exports are subsequently expected to increase more in line with the growth of Swedish export markets. This will imply a growth in exports that is slightly lower than a historical average.

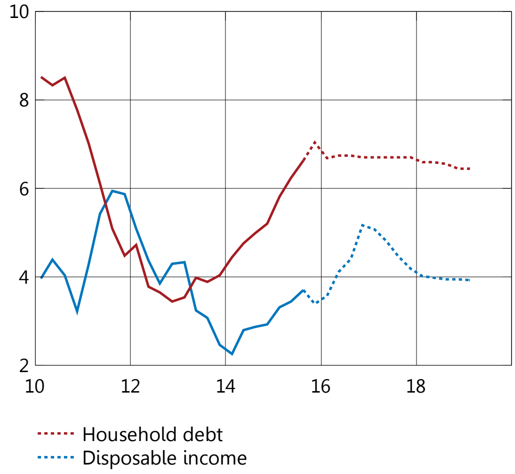
Rising resource utilisation in Sweden and abroad is also increasing the need for new investment in the business sector. In 2016, however, it will be mostly housing investment that increases sharply while it contributes less to growth after that and remains on a high level historically speaking. A significant import content in Swedish exports and the strong growth in consumption will also lead to a relatively rapid growth in imports.

Figure 4:11. GDP and GDP per capita
Annual percentage change



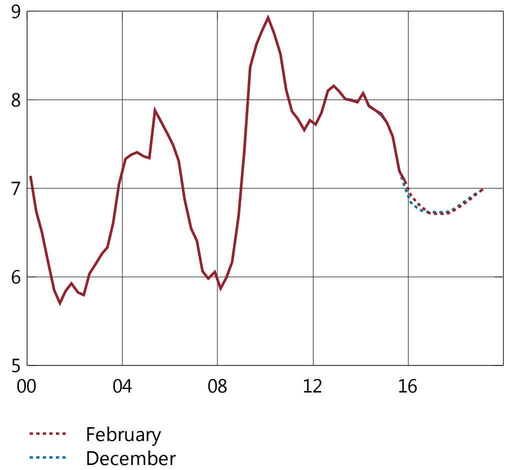
Note. Broken lines refer to averages between 1995 and 2014.
Sources: Statistics Sweden and the Riksbank

Figure 4:12. Household debts and disposable incomes
Annual percentage change



Sources: Statistics Sweden and the Riksbank

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



Sources: Statistics Sweden and the Riksbank

A very rapidly growing population is a key explanation for the high Swedish growth in the coming years and overall, GDP will grow by an average of close to 3 per cent per year in 2016–2018 (see Figure 4:10). The significance of the population growth becomes clear if we compare this development with the Riksbank's forecast for growth in GDP per capita, which amounts to an average of just over 1 per cent per year during the same period (see Figure 4:11).

Household debt increasing despite slower development of housing prices

Low interest rates and favourable income growth have contributed to a high demand for housing. In combination with low supply, the high demand has given rise to rapidly rising housing prices in recent years. Last year, housing prices rose by almost 15 per cent (see Figure 1:13 in Chapter 1). Since households finance most housing purchases through loans, the upswing in housing prices has also led to an increase in household debt.

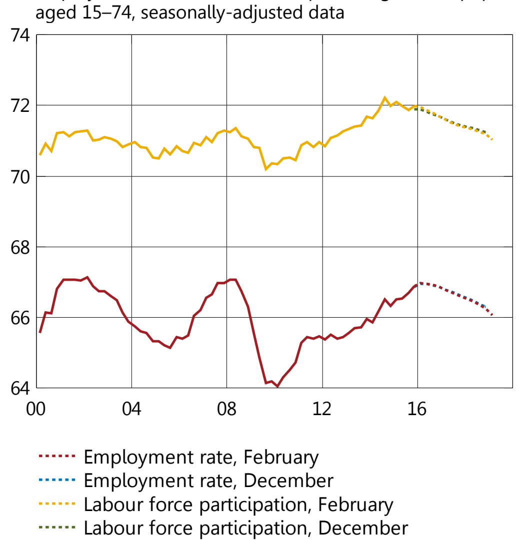
Even though housing construction has increased significantly in recent times, the housing shortage is expected to persist in many regions. At the same time, slightly lower income growth and a gradual increase in mortgage rates in the period ahead are expected to help dampen the increase in housing prices. Despite this, household debt will continue to increase faster than incomes in the coming years (see Figure 4:12) and the so-called debt-to-income ratio is expected to be just over 190 per cent by the end of the forecast period.

The labour market situation is improving

Unemployment fell rapidly in 2015 and indicators point to continued favourable development on the labour market in the period ahead. In the public sector, employment is expected to increase strongly in the years ahead due to the changed demographic composition, with increasing numbers of older and younger people. The increased number of refugees that have come to Sweden is also contributing towards greater demand for personnel in the public sector. All in all, the rising employment is expected to lead to unemployment continuing to fall and the employment rate increasing slightly. During the latter stages of the forecast period, increased immigration will cause the labour force to expand more rapidly than employment. Unemployment will subsequently level out and then rise weakly during 2018 (see Figure 4:13). The labour force participation rate and employment rate are expected to fall slightly in a few years' time (see Figure 4:14), partly as a result of the demographic developments, and partly

Figure 4:14. Employment rate and labour force participation

Employment and labour force as percentage of the population, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Continued major uncertainty regarding the effects of refugee immigration

The forecasts published in the MPR in December 2015 included effects from the sharp increase in refugee immigration, based on the forecasts from the Swedish Migration Agency and Statistics Sweden at the end of 2015.

Since then, the Swedish Government has carried out a number of measures to reduce the number of people seeking asylum in Sweden. These measures have had an effect; the number of asylum seekers has decreased from at most over 8 000 people on average per week in the autumn to about 700 people per week at the end of January.

On 4 February, the Swedish Migration Board published a new forecast, taking the slowdown into account. In the main scenario, the number of people seeking refuge in Sweden in 2016–2018 is expected to be about 55 000 fewer. The expenditure forecasts have been revised down by SEK 6 billion for 2017–2018. But 2016 are unchanged, however, since costs and expenditures are mostly related to the over 180 000 people who have already been registered at asylum reception centers. The processing times, from application to decision will continue to increase in 2016, even though the number of asylum seekers is falling. The effects of the reduced forecast in the number of asylum seekers will materialise later.

In the current forecast, the Riksbank has not revised the macroeconomic effects of refugee immigration. The Riksbank assumes that slightly lower public expenditure in the latter part of the forecast period will primarily lead to the Government refraining from making the cuts that the Riksbank assumed in its December forecast would be necessary.

The international refugee crisis continues; the motivation for people to flee from their homelands has not diminished. The level of uncertainty in the forecasts therefore remains high.

because the labour force participation rate and employment rate among new arrivals are assumed to be lower than among the existing population.

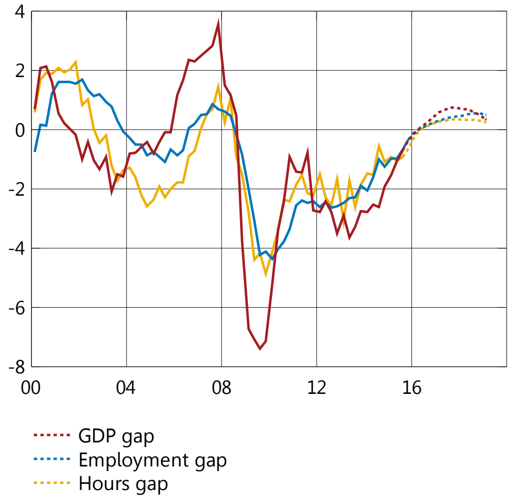
Uncertainty in the latter stages of the forecast period is considerable, not least as a result of refugee immigration. The number of refugees coming to Sweden has recently decreased considerably, causing the Swedish Migration Board to revise down its forecast for the number of asylum seekers in the years ahead. Processing times are long, however, and it takes time before the new arrivals who have received a residence permit can start establishing themselves on the labour market. Relatively few new arrivals are expected to enter the labour force and find employment in the coming years.

Unit labour costs rising more rapidly during the forecast period

The collective agreements for around 3 million employees expire this year, a large number of them at the end of March. Negotiations in the industrial sector are in full swing and sector-specific demands were submitted in December, in which industrial unions called for a 2.8 per cent pay increase. Employers are arguing for a clear slowdown in the rate of wage increases, especially due to the fact that Swedish labour costs are increasing more rapidly than in competitor countries. Since the Swedish Trade Union Confederation did not manage to agree on joint demands, it is uncertain how strong the industrial sector's normative role in wage formation will be in the current collective bargaining round. The alliance of six trade unions (Swedish Building Workers' Union, Swedish Electricians' Union, Swedish Building Maintenance Workers' Union, Swedish Painters' Union and Swedish Union for Service and Communications Employees), the Union of Commercial Employees and the Swedish Municipal Workers' Union have all presented demands of just over 3 per cent.

According to the Tendency Survey of the National Institute of Economic Research, labour shortages have increased in most business sector industries and there is a considerable lack of staff in parts of the public sector. Resource utilisation is now deemed to be close to normal and the assessment is that the situation on the labour market will further improve over the next few years with rising employment and falling unemployment. Growth will gradually slow down but resource utilisation is expected to be higher than normal during the entire forecast period (see Figure 4:15). This is expected to lead to the total rate of pay increases, i.e. the sum of the increases in collectively agreed wages and increases over and above these, rising during the

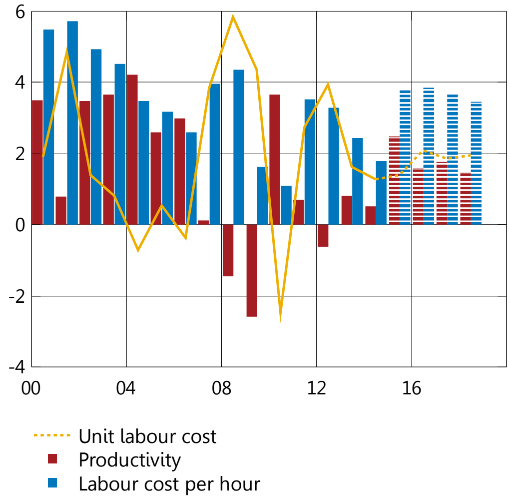
Figure 4:15. GDP gap, employment gap and hours gap
Per cent



Note. The GDP gap refers to the GDP deviation from trend, calculated using a production function. The hours gap and the employment gap refer to the deviation of the number of hours worked and the number of those employed from the Riksbank's estimated trends.

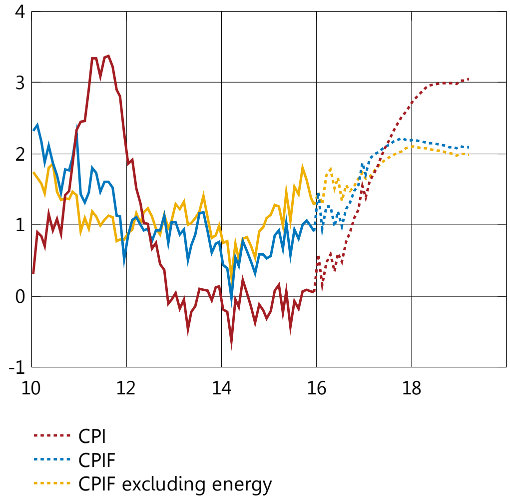
Sources: Statistics Sweden and the Riksbank

Figure 4:16. Cost pressures in the economy as a whole
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 4:17. CPI, CPIF and CPIF excluding energy
Annual percentage change



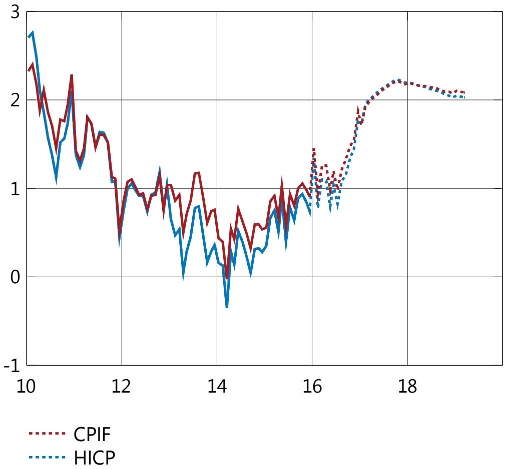
Note. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

forecast period. The nominal hourly wage according to the short-term wage statistics is expected to rise by 3.4 per cent in 2018 compared with 2.5 per cent in 2015.

In addition to pay, labour costs also include statutory and collectively agreed employers' social security contributions. The second phase of social security contribution increases for people under the age of 26 was implemented in June last year, which will cause labour costs to rise slightly faster than wage in the coming year. Labour costs are then expected to develop in line with wage. The development of labour costs and productivity means that cost pressures, measured in terms of unit labour costs, are set to grow by nearly 2 per cent on average in 2016–2018 (see Figure 4:16). This is in principle a historically normal rate.

Figure 4:18. CPIF and HICP
Annual percentage change



Note. CPIF is CPI with fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Inflation to stabilise around 2 per cent in 2017

Inflation has shown a rising trend from a low level since the beginning of 2014 (see Figure 4:17). The upturn has, however, been relatively uneven, even for underlying measures such as the CPIF excluding energy. In recent months, inflation has fallen and been slightly weaker than expected. One important explanation for the rising inflation is the weakening of the krona in recent years, which has led to prices for many imported foodstuffs and goods rising more rapidly. During 2016, however, the effects of earlier depreciations are expected to wane as the krona grows gradually strengthens. At the same time, underlying cost pressures will increase when resource utilisation rises in the Swedish economy. A gradually stronger economy abroad also means that international prices will rise at a faster rate. Underlying inflation measured as the CPIF excluding energy will rise from 1.4 per cent in 2015 to 1.6 per cent in 2016 before stabilising around 2 per cent in 2017 and 2018.

Inflation forecast revised down

Compared to the Monetary Policy Report in December, the forecast for the CPIF excluding energy has been revised downwards by 0.2 percentage points in both 2016 and 2017. This downward revision is partly due to a lower inflation outcome in December, which, to a certain extent, is also expected to influence the inflation rate in the period immediately ahead. Above all, the outcomes for food prices have been lower than expected. In addition, concluded rent negotiations indicate much lower rent increases than expected. Some tenancy agreements run for longer than one year and these have also been concluded on low levels, which suggests that rent increases in 2017 will also be slightly lower than in previous assessments.

CPI, CPIF and HICP

The most common measure of inflation in Sweden is the Consumer Price Index, CPI. The CPI is the target variable for monetary policy, but the aim of the measure is also to calculate the impact of price fluctuations on households' living costs and it is used, among other things, to calculate the price base amount. The CPI includes households' mortgage costs, which are directly affected by the Riksbank's repo rate. Therefore, it is sometimes appropriate to use the CPIF, in which mortgage rates are held constant. A repo rate cut does not have any direct impact on inflation through lower mortgage rates in the CPIF, which it does in the CPI. The EU-harmonised inflation measure HICP is not directly affected by changes in mortgage rates either, as households' housing costs are largely excluded. In contrast to the CPI, the HICP is not intended to be a cost of living index but is instead intended to be a measure that is good for monetary policy purposes. The HICP is therefore often referred to as an inflation index and forms a target variable for monetary policy in the euro area, United Kingdom and elsewhere. The different purposes for the CPI and HICP mean that they are calculated in different ways, with a number of goods and services being excluded from the different measures. Despite the differences in construction, inflation measured in terms of the HICP and the CPIF is similar, while CPI inflation varies more.

In the previous forecast, a clear upturn in CPI and CPIF inflation was expected at the beginning of 2016, as early falls in energy prices were no longer expected to affect inflation. The sharp fall in oil prices since then means, however, that energy prices are continuing to decline. The decline in the oil price affects inflation primarily as a result of lower fuel and electricity prices, but also indirectly in the form of, for example, lower transport costs. The negative influence of energy prices on inflation in 2016 will be slightly less than last year, however, and in 2017, they are expected to make a positive contribution. The conclusion is therefore that a time shift has taken place in the expected upturn in CPI and CPIF inflation.

CPIF inflation is expected to be 1.3 per cent in 2016, which can be compared with the expected 1.7 per cent in the December forecast. The forecast for CPIF inflation in 2017 and 2018 has been revised marginally downwards and is expected to be 2.1 per cent in both years. Inflation measured using the EU-harmonised measure HICP largely follows the development of CPIF inflation (see Figure 4:18).

CPI inflation includes households' mortgage costs, which, in turn, are affected by the Riksbank's repo rate. The lowering of the repo rate from −0.35 per cent to −0.50 per cent will have a negative effect on CPI inflation, which means that CPI inflation has been revised downward slightly more than CPIF inflation. Inflation measured as the CPI is expected to be 0.7 per cent in 2016, before rising successively to 2.9 per cent in 2018.

Article: Why have commodity prices fallen and what will the consequences be?

Prices of crude oil and base metals have fallen over a long time. The Riksbank assesses that the price fall is partly the result of an increase in supply, due in part to earlier investments in increased production capacity, and in part to demand for commodities having declined, where the ongoing rebalancing of the Chinese economy plays an important role. The price fall is judged to be largely the effect of an increase in supply, which is positive for GDP growth in Sweden and globally. However, growth will be lower in countries that are net exporters of commodities. Inflation will be lower in most countries, as lower commodity prices entail lower fuel prices and input costs for companies.

Both supply and demand effects behind the price fall

Prices of crude oil and base metals – which include iron ore, copper, aluminium and nickel – have followed one another fairly closely since the early 2000s. Rising demand pushed up prices at that time, which stimulated investment in order to increase production capacity. However, the picture changed in 2011. Base metal prices, with a few exceptions, have followed a steady downward trend. China consumes around half of the global production of base metals and the ongoing rebalancing away from commodity-heavy sectors has contributed to the lower prices. Extraction costs have also fallen thanks to low energy prices and this, together with lower demand from China, contributes to the expectation that metal prices will remain low for some time to come. This is reflected in the forward pricing of these metals (see Figure 4:19).

The oil price was relatively stable at around USD 110 per barrel until summer 2014, as the price was being held up supply shocks, caused by, among other things, geopolitical unease, and production quotas for the OPEC countries, which were intended to maintain the price level. Since then the oil price has fallen by 75 per cent and the spot price is now around USD 30 per barrel, the lowest listed price in more than ten years. The heavy price fall is partly due to weaker demand from China, and partly to supply-related factors, including a large increase in production of shale oil in the United States, which reduced the country's need to import. A new strategy from the OPEC countries, defending market shares and pushing out producers with higher production costs rather than maintaining prices, has also contributed to the decline. In addition, the recent lifting of sanctions against Iran opens the door to increased production which contributes further to supply. Russia, too, has increased its production to slow down the decline in income (see Figure 4:20). The low oil price and expectations of an increase in supply also mean that expectations of future oil prices have fallen gradually (see Figure 4.1).

Effects on GDP growth and inflation

The effects on GDP growth are due to a number of different factors, for instance, whether a country is a net exporter or net importer of commodities, whether the price fall is supply-driven or demand-driven and how economic policy reacts. For a commodity-exporting country, lower commodity prices mean lower growth as export income declines. Growth can also be held back by the country feeling obliged to either cut public expenditure or raise taxes to compensate for the lower export income. For a commodity-importing country, lower commodity prices are positive for growth if the price fall is largely supply-driven and if economic policy reacts in a normal way.

Crude oil is an important input product in several industries, such as petrochemicals, paper production and the manufacturing industry. The transport sector is also a large oil consumer. A lower oil price thus entails lower input costs for companies. This is positive for corporate profits and ultimately for corporate investment. Households also benefit through lower petrol prices and heating costs, which give greater scope for other consumption. A lower oil price also ultimately affects the price of other, competing types of energy, which puts pressure on energy prices in general.

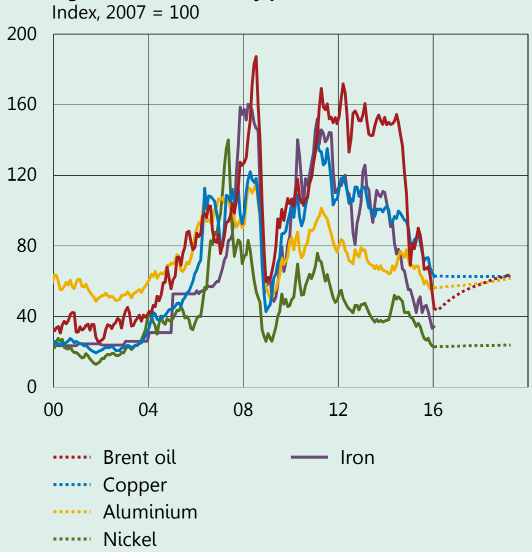
Base metals, like oil, are important input goods in various sections of industry, and changes in prices thus affect companies' costs.

Inventories of oil-related products have risen sharply in the past twelve months (see Figure 4:21). The Riksbank assumes, in line with the IMF, OECD and World Bank, that the lower oil price and rising inventories are largely an effect of an increased supply. KIX-weighted GDP is thereby affected positively since most of Sweden's most important trading partners are commodity importers. Overall, GDP growth in these countries is deemed to be somewhat weaker compared with the Monetary Policy Report in December. This is due to weaker growth prospects otherwise; the recovery in investment in the euro area is, for example, deemed to be weaker than in the previous forecast.

The decline in the oil price in recent months is also deemed to be positive for growth in Sweden. The GDP level has therefore been revised up a couple of tenths of a per cent, compared with the assessment in December, because of the oil price fall. It is mainly the current year in which growth is expected to be somewhat higher. This is counteracted by other factors, however, including unease on the financial markets and weaker international demand, which mean that GDP growth overall remains in principal unchanged.

The low oil price has an immediate impact on the consumer price index in Sweden and also in most other countries. For some commodity-exporting countries, however, a weaker exchange rate means that inflation will instead be higher or that the decline will at least be significantly subdued. Of the downward revision in this year´s forecast for CPIF inflation in Sweden, 0.2 percentage points is due to lower energy prices. The low energy prices are also assumed to dampen prices of other goods and services with some time lag. These indirect effects of the fall in the oil price have meant that the CPIF inflation has been revised down by another 0.1 percentage points or so per year for 2017–2018.

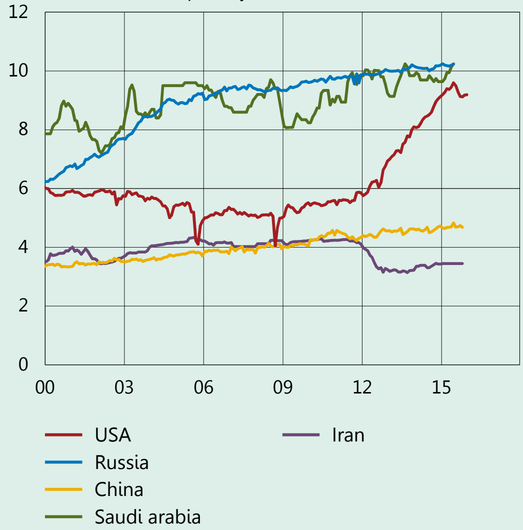
Figure 4:19. Commodity prices, outcomes and futures
Index, 2007 = 100



Note. Futures are calculated as a 15-day average. Outcomes represent monthly averages of spot prices.

Sources: London Metal Exchange, Macrobond, The World Bank and the Riksbank

Figure 4:20. Oil production
Million of barrels per day



Note. Refers to crude oil production in Russia, Saudi Arabia and USA and total oil production in China and Iran.

Source: Energy Information Agency (EIA)

Figure 4:21. Global stocks of oil products
Billion of barrels

Note. Refers to Crude oil, condensate and products obtained from the processing of crude oil and natural gas.

Source: Energy information Agency (EIA)

Tables

The forecast in the previous Monetary Policy Report is shown in brackets unless otherwise stated.
Outcome for 2015 is marked with * in the tables.

Table 1. Repo rate forecast
Per cent, quarterly averages

	Q1 2015	Q1 2016	Q2 2016	Q1 2017	Q1 2018	Q1 2019
Repo rate	−0.4	−0.4 (−0.4)	−0.5 (−0.4)	−0.5 (−0.3)	0.0 (0.3)	0.5

Source: The Riksbank

Table 2. Inflation
Annual percentage change, annual average

	2014	2015	2016	2017	2018
CPI	−0.2	0.0* (0.0)	0.7 (1.3)	2.1 (2.5)	2.9 (3.0)
CPIF	0.5	0.9* (0.9)	1.3 (1.7)	2.1 (2.2)	2.1 (2.2)
CPIF excl. energy	0.7	1.4* (1.4)	1.6 (1.8)	1.9 (2.1)	2.0 (2.2)
HICP	0.2	0.7* (0.7)	1.1 (1.6)	2.1 (2.1)	2.1 (2.1)

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

	2014	2015	2016	2017	2018
Repo rate	0.5	−0.3* (−0.3)	−0.5 (−0.4)	−0.4 (−0.1)	0.2 (0.5)
10-year rate	1.8	0.8* (0.8)	1.0 (1.4)	2.0 (2.3)	2.9 (3.1)
Exchange rate, KIX, 18 November 1992 = 100	106.7	112.6* (112.6)	109.1 (109.4)	107.3 (107.3)	105.7 (105.7)
General government net lending**	−1.7	−0.9 (−1.0)	−0.8 (−0.9)	−0.7 (−0.7)	−0.6 (−0.6)

** 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	2014	2015	2016	2017	2018
Euro area	0.13	0.47	0.9	1.5 (1.5)	1.6 (1.8)	1.9 (2.0)	2.0 (2.1)
USA	0.16	0.08	2.4	2.4* (2.5)	2.4 (2.6)	2.6 (2.5)	2.1 (2.1)
Japan	0.05	0.02	−0.1	0.7 (0.8)	1.1 (1.1)	0.4 (0.4)	0.7 (0.7)
China	0.16	0.08	7.4	6.8* (6.8)	6.4 (6.4)	6.1 (6.1)	6.1 (6.0)
KIX-weighted	0.75	1.00	2.0	2.0 (2.0)	2.1 (2.3)	2.4 (2.5)	2.5 (2.6)
World (PPP-weighted)	1.00	—	3.4	3.1 (3.1)	3.4 (3.6)	3.8 (3.8)	3.8 (3.9)

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 2013 that are used for 2016, and on an assumption that the weights will develop according to the trend of the past five years in the coming forecast years.

CPI	2014	2015	2016	2017	2018
Euro area (HICP)	0.4	0.0* (0.1)	0.1 (0.8)	1.4 (1.5)	1.7 (1.8)
USA	1.6	0.1* (0.2)	1.1 (1.8)	2.4 (2.5)	2.5 (2.6)
Japan	2.7	0.8* (0.8)	1.1 (1.4)	2.1 (2.1)	2.1 (2.1)
KIX-weighted	1.4	1.1* (1.1)	1.2 (1.8)	2.1 (2.3)	2.2 (2.3)

	2014	2015	2016	2017	2018
Policy rates in the rest of the world, per cent	0.2	0.1* (0.1)	−0.1 (0.0)	0.0 (0.2)	0.3 (0.5)
Crude oil price, USD/barrel Brent	99.6	53.5* (54.0)	34.3 (47.5)	40.3 (53.5)	44.0 (57.1)
Swedish export market	3.1	2.2 (1.9)	3.7 (4.0)	4.9 (5.1)	4.9 (5.1)

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

	2014	2015	2016	2017	2018
Private consumption	2.2	2.4 (2.4)	2.9 (2.8)	3.0 (3.0)	2.8 (2.7)
Public consumption	1.3	2.2 (2.2)	4.0 (4.0)	2.5 (2.5)	1.8 (1.8)
Gross fixed capital formation	7.5	7.3 (7.3)	4.8 (5.1)	4.6 (4.7)	4.8 (4.8)
Inventory investment**	0.1	−0.1 (−0.1)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)
Exports	3.5	4.9 (4.8)	5.6 (5.5)	4.4 (4.4)	4.5 (4.7)
Imports	6.3	4.4 (4.4)	6.3 (6.3)	5.5 (5.4)	5.8 (5.9)
GDP	2.3	3.7 (3.7)	3.5 (3.6)	2.8 (2.9)	2.5 (2.5)
GDP, calendar-adjusted	2.4	3.5 (3.5)	3.3 (3.3)	3.0 (3.2)	2.6 (2.6)
Final figure for domestic demand**	3.1	3.4 (3.4)	3.5 (3.5)	3.1 (3.2)	2.9 (2.9)
Net exports**	−0.9	0.4 (0.4)	−0.1 (−0.1)	−0.3 (−0.3)	−0.4 (−0.4)
Current account (NA), per cent of GDP	4.9	5.5 (5.5)	5.3 (5.2)	4.8 (4.6)	4.2 (4.0)

*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

	2014	2015	2016	2017	2018
Population, aged 15–74	0.7	0.7* (0.7)	1.1 (1.1)	1.6 (1.6)	1.8 (1.8)
Potential hours worked	0.7	0.7 (0.7)	0.7 (0.7)	0.9 (0.9)	1.1 (1.1)
GDP, calendar-adjusted	2.4	3.5 (3.5)	3.3 (3.3)	3.0 (3.2)	2.6 (2.6)
Number of hours worked, calendar-adjusted	1.8	1.0 (1.0)	1.7 (1.8)	1.2 (1.3)	1.2 (1.2)
Employed, aged 15–74	1.4	1.4* (1.4)	1.6 (1.6)	1.3 (1.3)	1.3 (1.4)
Labour force, aged 15–74	1.3	0.8* (0.8)	0.9 (0.9)	1.1 (1.2)	1.5 (1.5)
Unemployment, aged 15–74 **	7.9	7.4* (7.4)	6.8 (6.8)	6.7 (6.7)	6.9 (6.9)

** 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

	2014	2015	2016	2017	2018
Hourly wage, NMO	2.8	2.5 (2.6)	3.2 (3.2)	3.5 (3.5)	3.4 (3.4)
Hourly wage, NA	1.8	3.3 (3.3)	3.3 (3.3)	3.7 (3.7)	3.6 (3.6)
Employers' contribution	0.0	0.5* (0.5)	0.5 (0.5)	0.0 (0.0)	−0.1 (−0.1)
Hourly labour cost, NA	1.8	3.8 (3.7)	3.9 (3.8)	3.7 (3.7)	3.5 (3.5)
Productivity	0.5	2.5 (2.4)	1.6 (1.5)	1.8 (1.8)	1.5 (1.4)
Unit labour cost	1.3	1.3 (1.2)	2.2 (2.3)	1.9 (1.8)	2.0 (2.0)

* 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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