Monetary Policy Report

April 2015

SVERIGES RIKSBANK

Monetary Policy Report

The Riksbank's Monetary Policy Report is published six times a year. The report describes the deliberations made by the Riksbank when deciding what would be an appropriate monetary policy to conduct.[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 produce background material for monetary policy decisions, and to spread knowledge about the Riksbank's assessments. By publishing the reports, the Riksbank aims to make it easier for external parties to follow, understand and assess its monetary policy.

The Riksbank must submit a written report on monetary policy to the Riksdag (Swedish Parliament) Committee on Finance at least twice a year (see Chapter 6, Article 4 of the Sveriges Riksbank Act (1988:1385)). During the spring, special material is submitted as a basis for the evaluation of monetary policy. During the autumn, the current Monetary Policy Report is submitted as an account of monetary policy.

The Executive Board made a decision on the Monetary Policy Report on 28 April 2015. The report is available on Sveriges Riksbank's website, www.riksbank.se. It is also possible to order a printed version of the report free of charge on the website, or to download the report as a PDF.

If you would like to subscribe to the Monetary Policy Report, please contact the Riksbank:
E-mail: kontorsservicecenter@riksbank.se
Address: Sveriges Riksbank, SE-103 37 Stockholm, Sweden
Telephone: +46-(0)8-787 00 00

Further information on the Riksbank can be found at: www.riksbank.se

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

Monetary Policy in Sweden

MONETARY POLICY STRATEGY

- According to the Sveriges Riksbank Act, the objective for monetary policy is to maintain price stability. The Riksbank has 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 repo-rate path may need to be supplemented with other measures to promote financial stability and ensure that monetary policy is effective.
- The Riksbank endeavours to ensure that its communication is open, factual, comprehensible and up-to-date. This makes it easier for economic agents to make good economic decisions. It also makes it easier to evaluate monetary policy.

DECISION-MAKING PROCESS

The Executive Board of the Riksbank usually holds six monetary policy meetings per year at which it decides on monetary policy. 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 MONETYARY 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 expansionary monetary policy is assessed to have a positive effect on the Swedish economy and contribute to inflation rising now. To ensure this development continues, the Executive Board of the Riksbank has decided to extend the purchases of government bonds with a further SEK 40–50 billion. Moreover, the repo-rate path is revised down significantly in relation to the February Monetary Policy Report. The repo rate is expected to remain at –0.25 per cent until the second half of 2016, after which it will be slowly raised to 0.8 per cent in the middle of 2018. The Riksbank maintains a high level of preparedness to make monetary policy even more expansionary if this should prove necessary to ensure that inflation rises sufficiently fast. The expansionary monetary policy underlines the Riksbank's aim to safeguard the role of the inflation target as nominal anchor for price-setting and wage-formation.

Economic activity is strengthening and inflation has begun to rise

Global economic activity is continuing to improve slowly, in line with the forecasts in the February Monetary Policy Report. Although there is still considerable uncertainty over economic developments abroad, the recovery in the euro area appears to be on firmer ground. Conditions on the financial markets in Sweden and abroad are more expansionary, with lower interest rates and rising asset prices. Developments since February have been largely marked by measures taken by the world's central banks and communications from them, as well as continuing fluctuations on the foreign exchange markets. The euro has continued to weaken against most currencies, while the dollar has appreciated. The fluctuations in the krona rate have been relatively large. All in all, the krona exchange rate has been weaker than was forecast in February.

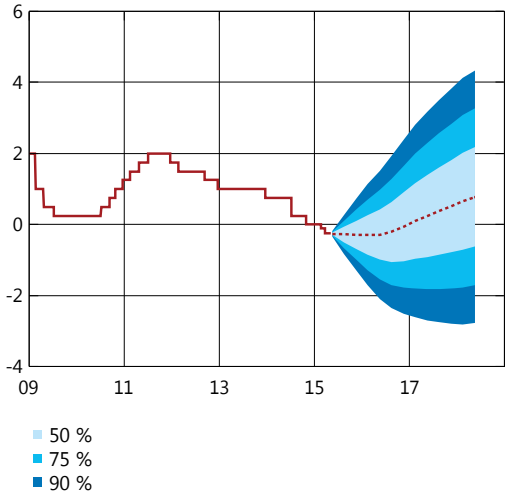
Growth in the Swedish economy has been stronger than expected. The stronger economic activity has so far been mainly driven by a strong household sector and a rapid increase in housing investment. However, as foreign demand increases and growth in global manufacturing and trade accelerates, it is expected that Swedish exports will also increase at a faster pace. Supported by the expansionary monetary policy, GDP growth should rise in the coming years (see Figure 1:1 and 1:2). Compared with the earlier assessment, growth is expected to be higher in 2016–2017. The labour market in Sweden will thus also strengthen at a faster pace. However, the labour force is expected to grow almost as quickly as employment, which means that unemployment will decline only slowly in the coming years.

Inflation has been too low for a long time, but in recent months the outcomes for CPIF inflation have been slightly

Table 1:1.

Important factors for monetary policy
Growth in the Swedish economy has been stronger than expected.
Somewhat higher CPIF inflation than expected in recent months.
Monetary policy abroad is out of step and it is difficult to assess exchange rate developments.
Uncertain how quickly inflation will rise, an overly rapid krona appreciation could stop the upturn in inflation.
Expansionary monetary policy also entails risks, but these must be managed by other policy areas.
Conclusion: A more expansionary monetary policy is required to ensure that inflation rises sufficiently quickly and in roughly the same way as was forecast in February.

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

higher than expected. Underlying inflation, illustrated by CPIF inflation excluding energy, has begun to rise. One factor that has contributed to this is that the krona has weakened since spring 2014, which has led to a stronger development in prices of goods and food. But prices of services are now also increasing at a slightly faster pace. Low energy prices will continue to slow down CPIF inflation for the remainder of the year and the effects of the weak krona on inflation will gradually wane. As resource utilisation increases, however, it is expected to be easier for companies to raise their prices and that wages increase at a faster pace. But it is uncertain how quickly this will happen, particularly given the fact that inflation has been lower than expected on several occasions. The assessment now is that a more expansionary monetary policy is required to ensure that inflation rises sufficiently quickly and in roughly the same way as was forecast in February. All-in-all, the upward revision of the inflation forecast is limited despite the more expansionary monetary policy and a weaker krona. In addition to the expansionary monetary policy, changes in fiscal policy also contribute to some upward revision in the forecast for inflation in 2016 and 2017. CPIF inflation is expected to reach 2 per cent at the turn of the year 2015–2016 (see Figure 1:3). CPI inflation will also rise towards the end of the year (see Figure 1:4).

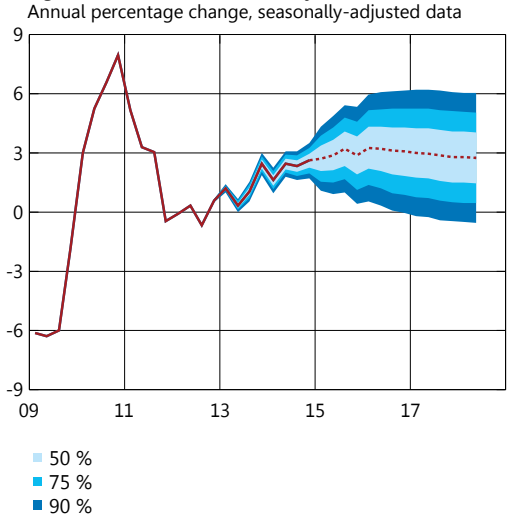
Current monetary policy

Monetary policy has gradually been made more expansionary

At the monetary policy meeting in February there were signs that underlying inflation had bottomed out but international developments were considered more uncertain, which increased the risk that inflation would not rise sufficiently fast. The Executive Board of the Riksbank therefore decided to make monetary policy more expansionary by cutting the repo rate to −0.10 per cent and buying government bonds to a value of SEK 10 billion. Moreover, it was stated that monetary policy could quickly be made even more expansionary if necessary, even between the ordinary monetary policy meetings.

At the end of February and beginning of March, the foreign exchange markets fluctuated substantially and in the space of a few weeks there was a rapid appreciation of the krona, for instance against the euro. A continued rapid appreciation of the krona rate was expected to constitute a tangible risk to the inflation forecast that formed a base for the monetary policy decision in February. The Executive

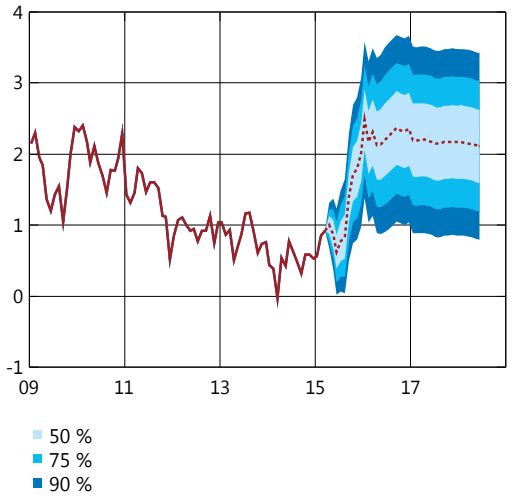
Figure 1:2. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



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

Sources: Statistics Sweden and the Riksbank

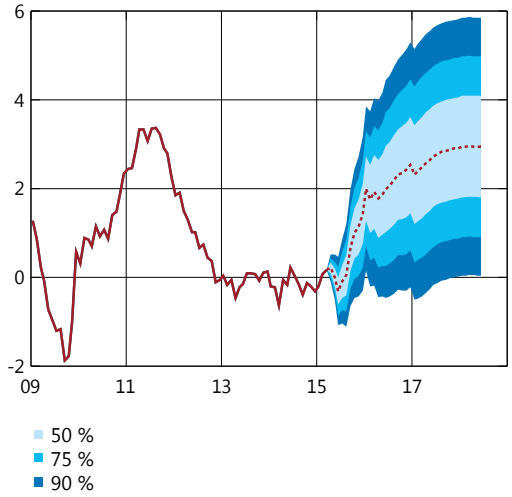
Figure 1:3. CPIF with uncertainty bands
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

Figure 1:4. 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

Board therefore decided on 18 March to cut the repo rate further, to −0.25 per cent, and to buy government bonds for a further SEK 30 billion. No new repo-rate was published, but the Riksbank stated that the repo rate was expected to remain at −0.25 per cent at least until the second half of 2016, and then to be raised gradually and at a slower pace than was forecast in the February Monetary Policy Report.

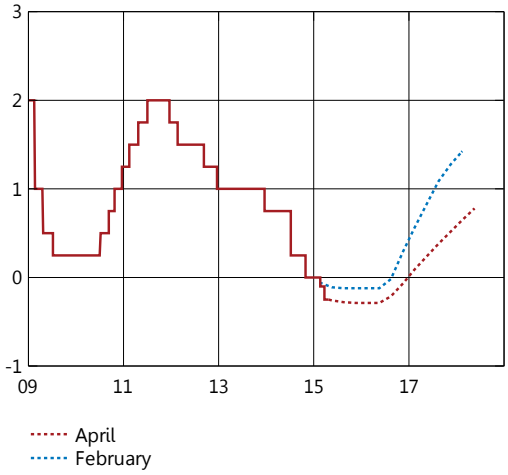
Expansionary monetary policy to ensure that inflation continues to rise

The expansionary monetary policy is assessed to have a positive effect on the Swedish economy. CPIF inflation has begun to rise and has in recent months become somewhat higher than was forecast by the Riksbank. GDP growth during the fourth quarter of 2014 was also higher than expected. Following the monetary policy decision on 18 March, the fluctuations in the krona exchange rate against both the euro and the dollar have declined. In an environment where monetary policy abroad is out of step, it is difficult to assess exchange rate developments. If the krona were to appreciate rapidly, there is a risk that it would stop the upturn in inflation.

To support the positive development and ensure that inflation rises sufficiently quickly, the Executive Board of the Riksbank has now decided to extend the purchases of government bonds by a further SEK 40–50 billion. The Board has also decided to hold the repo rate unchanged at −0.25 per cent. At the same time, the repo-rate path is revised down in line with the assessments made in March, when the repo rate was cut (see Figure 1:5 and 1:6). The repo-rate path also reflects the fact that it is possible to cut the repo rate further. The assessment is that it will be appropriate to begin slowly increasing the repo rate in the second half of 2016 at the earliest. CPIF inflation will then be above 2 per cent and GDP will be growing by around 3 per cent a year. The repo rate will then rise gradually and is expected to attain 0.8 per cent during the second quarter of 2018 (see Figure 1:5). This is a very low interest rate at a time when economic activity is relatively good, resource utilisation is close to or over its normal level and inflation is above the target of 2 per cent.

The extended purchases of government bonds, together with the lower repo-rate path, aim to hold back interest rates charged to households and companies. The fact that monetary policy is now being made more expansionary stimulates consumption and investment further so that demand will rise faster. Stronger demand will make it easier for companies to pass on their cost increases to consumer prices. The expansionary monetary policy will

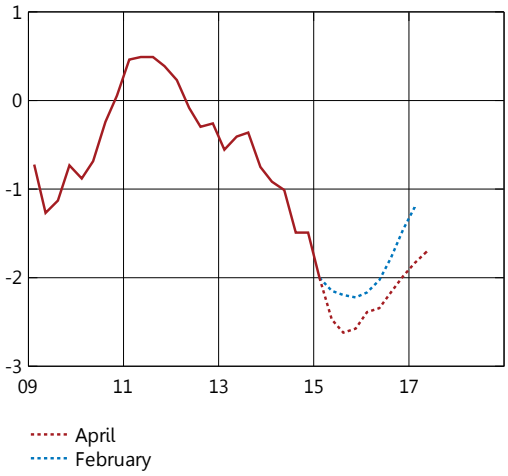
Figure 1:5. Repo rate
Per cent



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

Source: The Riksbank

Figure 1:6. Real repo rate
Per cent, quarterly averages



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

Sources: Statistics Sweden and the Riksbank

also contribute to that the krona will remain at a weaker level for a longer period of time, which leads to a faster increase in the demand for exports and higher prices for imported goods. Despite the more expansionary monetary policy and the weaker krona, there has only been a small revision to the forecast for inflation. The assessment is thus that a more expansionary monetary policy is required to ensure that inflation rises sufficiently quickly and in roughly the same way as was forecast in February. If inflation were to rise faster than is now assumed, this does not necessarily mean that monetary policy would need to become less expansionary.

Important that inflation expectations remain anchored

The next large-scale wage bargaining rounds will take place in 2016. In that context it is important that the long-run inflation expectations remain anchored around the inflation target of 2 per cent. This will be made easier if inflation has clearly approached the target at the beginning of the bargaining rounds. According to the Riksbank's forecast, both CPI and CPIF inflation will attain 2 per cent at the turn of the year 2015–2016 and then rise further. The inflation forecast, combined with the Riksbank's forecast for nominal wage increases implies that real wages are increasing roughly in line with productivity. In this way, the wage increases will be neither too high nor too low, but will contribute to a balanced development of the economy (see the article "A monetary policy for effective wage formation").

The Riksbank is prepared to do more

The Riksbank's monetary policy reflects the fact that the tolerance for low inflation is very limited. There is thus still a high level of preparedness to make monetary policy even more expansionary if necessary, also between the ordinary monetary policy meetings. The purchases of government bonds can be extended. Moreover, the repo rate can be cut further and future increases in the repo rate can be implemented more slowly. The Riksbank is also prepared to launch a programme for loans to companies via the banks and to intervene on the foreign exchange market if the upturn in inflation is threatened as the result, for instance, of a very troublesome market development. Purchases of other assets are also a possibility. The measures taken and the readiness to do more underline the Riksbank's aim to safeguard the role of the inflation target as a nominal anchor for price setting and wage formation.

Worrying situation in Greece

Greece is experiencing an acute funding crisis and faces substantial requirements regarding interest payments and repayments on its sovereign debt in the near term. The country's negotiations with the international lenders on reforms of the Greek economy that will make it possible to end the current support programme and thus pave the way for the final loan payment in the programme are making very slow progress. The assessment is that the risk that Greece will suspend payments has increased since the February Monetary Policy Report. It is difficult to assess what the consequences of a Greek suspension of payments would be for the Greek economy and, by extension, the ongoing recovery in the euro area. There are several possible scenarios, which do not necessarily mean that Greece will leave the euro area.

The recovery in the euro area is sensitive to setbacks. However, economic-policy measures have meant that the euro area is now better equipped to handle a Greek suspension of payments than it was a few years ago. For example, the European banking sector is much less exposed to the Greek banking system. The ECB also has more tools that it can use to limit the contagion effects of any new risks. However, although the direct economic risks may have been limited, the political contagion risks linked to the irrevocable membership of the EMU remain.

Uncertainty and risks

Forecasts of future economic developments are always uncertain. In principle, the Riksbank's forecasts endeavour to take into account all relevant uncertainty so that the risks are balanced around the forecast. However, it is difficult to give full consideration to the prevailing uncertainty and risks. There can thus be a need to further weigh in risks and the uncertainty over and above the forecast, for instance, by putting greater emphasis on any conceivable events that are considered to have particularly large negative consequences for the economy. In this way, monetary policy to some extent involves weighing different risks.

Uncertain how rapidly inflation will rise

CPIF inflation is expected to rise gradually as economic activity strengthens in Sweden and abroad. But it is uncertain how quickly this will happen. Weaker international economic activity than expected, lower energy prices or a rapid appreciation of the krona are events that could mean inflation does not rise fast enough. As inflation has been low for a long time, a further risk is that the effects on inflation can be intensified if expectations in the corporate and household sectors are affected more than usual. If inflation were to rise too slowly for some reason, monetary policy would need to become even more expansionary.

Uncertainty about economic activity abroad remains high and is linked among other things to the situation in Russia and Ukraine and the acute funding crisis in Greece. But it is difficult to judge exactly what effects a deteriorating situation in Greece would have on the Swedish economy. How certain emerging economies will be affected by a normalisation of US monetary policy is also an uncertainty factor.

An overly rapid appreciation could break off the inflation upturn

The development of the exchange rate is an important factor for inflation prospects. In trade-weighted terms, the krona is expected to remain at roughly its current level for a while before it begins to slowly strengthen (see Figure 4:4). However, there is considerable uncertainty about the development of the krona. For instance, it is uncertain how the expansionary monetary policy conducted by the Riksbank and the ECB will affect the relationship between the krona and the euro. At the same time, it is difficult to know how quickly monetary policy will be tightened in the United States. One risk for inflation prospects is that the

appreciation of the krona could occur sooner and at a faster pace.

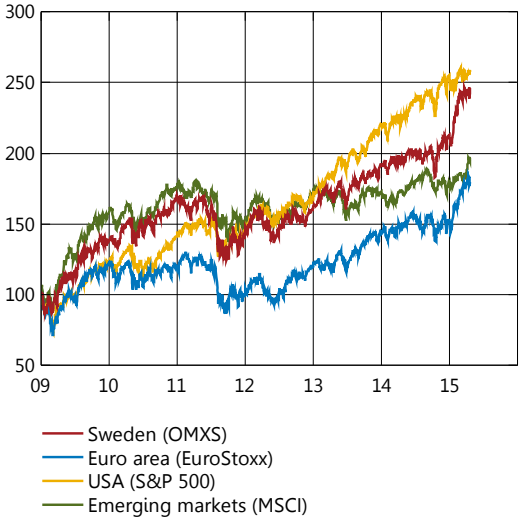
If the krona were to appreciate faster than in the main scenario, prices of imported goods would rise more slowly and thus inflation would be lower. When inflation has been low for a long time, there is moreover a risk that the effects on inflation will be greater than normal, for instance, via lower inflation expectations. As the Riksbank's tolerance for continued low inflation is very limited, this risk is now being given large significance in the monetary policy decision. A rapid appreciation of the krona could thus entail that monetary policy needed to become more expansionary quickly. The article "Rapid strengthening of the krona" illustrates the effects that might arise with the aid of two scenarios.

Expansionary monetary policy entails risks

The purpose of the expansionary monetary policy is to bring up inflation, to reduce the risks linked to excessively low inflation. But at the same time, monetary policy has an impact through, for instance, lower market rates and increased demand for credit, which contribute to other risks. Lower market rates mean that wealth increases in value, as share prices and bond prices rise (see Figure 1:7). This has a positive effect on household consumption, for instance, so that demand in the economy increases. However, the unusually low interest rates can lead to prices of high-risk financial assets rising too fast, especially if investors do not adapt their nominal yield targets to the prevailing interest rates. The rapid increase in prices of various risky assets recently thus requires increased vigilance in the period ahead. If, for instance, the market valuation of companies rises much faster than the expected profits, there is a risk that share prices fall in the coming period. The increased optimism that follows on from rising share prices then risks turning into pessimism.

The expansionary monetary policy also contributes to the trends of rising house prices and indebtedness in the Swedish household sector continuing (see Figure 1:8 and 4:10). This makes households more vulnerable to shocks, which can have a negative effect on the development of the economy in general. While the high household saving ratio in recent years means that the household sector in general has built up buffers that to some extent can be used against various types of shock, savings are probably unevenly distributed and not all households have increased their saving. Many households also save by buying shares or investing in mutual funds rather than by making

Figure 1:7. Stock market movements
Index, 2 January 2009 = 100



Sources: Macrobond, Morgan Stanley Capital International, Standard & Poor's and STOXX Limited

Figure 1:8. Housing prices
Annual percentage change

Sources: Valueguard

amortisation payments on their loans, which increases their sensitivity to developments on the stock market.
The rising house prices and slow rate of repayment of loans on the whole entail a higher indebtedness among households. At present, however, monetary policy needs to focus on bringing up inflation. The responsibility for implementing measures that reduce the risks linked to household indebtedness lies with the Government and other public authorities. The amortisation requirement is one of a range of measures that should be taken to reduce the risks associated with household indebtedness. Possible measures that can be taken include a tougher mortgage cap, a limit to the percentage of mortgages that can be taken at a variable interest rate, an adjustment in the tax deductions for interest rates, an introduction of minimum levels in the banks' discretionary income calculations, limits to households' possibilities to take loans in relation to their incomes, increased capital adequacy requirements (sector wise capital requirements, general capital requirements and countercyclical capital requirements) as well as increased tax on housing. In addition, measures that increase the supply of housing and lead to a more effective housing market are necessary. As such reforms need to be introduced gradually over a long period of time, there will be a time lag before they have a significant impact on household indebtedness. As current debt levels already entail significant risks for the Swedish economy, it is essential that the reform work is hastened.

Article: Rapid strengthening of the krona

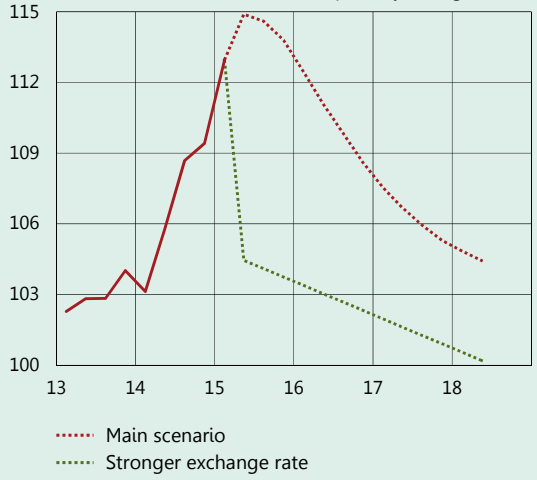
The Riksbank expects the krona to strengthen in the long term. However, a too rapid strengthening of the krona would risk halting the upturn in inflation that has begun. The fact that inflation has been low for a long time also means that a rapid strengthening of the krona in the near term could have a greater impact on inflation than normal, by way of lower inflation expectations. How expansionary monetary policy needs to be then depends on how great this risk is assessed to be.

Two scenarios are presented here to highlight how a rapid strengthening of the exchange rate may affect the inflation outlook.[2] In both scenarios, the krona strengthens significantly during the second quarter of 2015 (see the green line in Figure 1:9). It is assumed in the scenarios that monetary policy is the same as in the main scenario. In the first scenario, the strengthening of the krona is assumed to have a limited impact on inflation expectations. The prices of imported goods and the demand for Swedish exports is lower than in the main scenario. Thus, CPIF inflation is also lower. However, the effects of the stronger krona weaken and inflation reaches 2 per cent in 2018 (see the yellow line in Figure 1:10).

However, inflation has been low in Sweden for a long time and a dramatic strengthening of the exchange rate, which occurs when inflation is still low, could have a greater impact on inflation expectations.[3] In the second scenario we assume instead that Swedish companies are more affected by the recent low level of inflation, and particularly by the significant strengthening of the exchange rate, when they set their prices. The inflation and wage expectations of the social partners are also affected more.[4] In this scenario, the strengthening of the exchange rate has a greater impact on inflation. Lower inflation expectations have a direct impact on companies when they set their prices. Lower wage increases also mean that the companies expect slower cost increases going forward and they thus raise their prices at a slower rate. In this scenario, CPIF inflation remains very low in 2015 and 2016 and then rises to approximately 1.6 per cent at the end of the forecast period (see the blue line in Figure 1:10).

In short, the scenarios show that the effects of a stronger exchange rate on inflation depend to a great extent on how inflation expectations are affected. If the impact on inflation expectations is limited, CPIF inflation will be lower than in the main scenario, but will nevertheless reach 2 per cent in early 2018. However, as inflation has been low for a long time there is a significant risk that inflation expectations would be affected more and that the effects on inflation would therefore be substantially greater. If the exchange rate strengthens much more rapidly than in the main scenario, monetary policy would need to become more expansionary. The degree to which monetary policy would then need to be changed depends greatly on how much inflation expectations are affected.

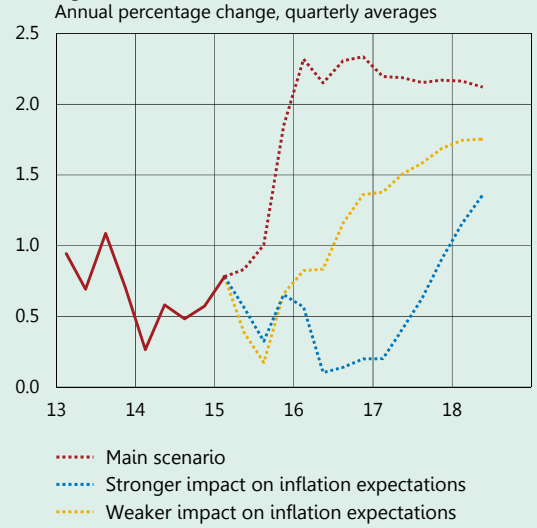
Figure 1:9. KIX-weighted nominal exchange rate
Index, 18 November 1992 = 100, quarterly averages



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

Source: The Riksbank

Figure 1:10. CPIF
Annual percentage change, quarterly averages



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

Sources: Statistics Sweden and the Riksbank

[2] The scenarios are designed using the Riksbank's model Ramses. For a description of the model, see Adolfson, M., Laséen, S., Christiano, L., Trabandt M. and Walentin, K., "Ramses II: Model description", Occasional Paper no. 12, 2013.
[3] See, for example, Ehrmann, Michael (2014), "Targeting inflation from below – how do inflation expectations behave?", Working Paper 2014-52, Bank of Canada.
[4] Companies and trade unions, in comparison with the first scenario, attach greater importance to the actual rate of inflation and less importance to the inflation target when they form their expectations. Consequently, a shock, for example a stronger exchange rate, has more persistent effects on inflation.

Article: A monetary policy for effective wage formation

The Riksbank is conducting an expansionary monetary policy and is prepared to do more if the need arises. This creates the preconditions for wages and prices to rise in a way that is in line with the inflation target, and contributes to well-anchored inflation expectations. Effective wage formation makes it easier to conduct monetary policy. Similarly, wage formation becomes easier if monetary policy is consistent and credible. Monetary policy and wage formation are thus interlinked.[5]

Wages and other costs associated with labour account for a substantial proportion of production costs and are therefore of great significance when the companies set their prices. Estimating the future development of wages is therefore an important part of the inflation forecast that forms the basis for the Riksbank's monetary policy.

Assessing the rate of inflation in the period ahead is also important for other participants in the economy, for example the social partners when they negotiate wages, as inflation has an impact on real wages. There is thus a link between inflation expectations, wage formation and the actual rate of inflation. If inflation is reasonably close to the inflation target over time, the households, companies, employees and employers will expect this to remain the case in the future. The inflation target will thus become a natural starting point in price and wage formation, which in turn means that it will also be easier for the Riksbank to actually reach the target. A positive self-reinforcing process arises and the facilitation of wage formation creates the potential for a balanced development of the economy in which real wages rise in the long term in pace with productivity in the economy.

However, a precondition for the inflation target acting as a nominal anchor, that is as a stabilising factor for price and wage formation, is that inflation is not too much above or too much below the target for too long a time. This would give rise to the risk of a *negative* self-reinforcing process. If, for example, inflation is well below the target for a long period of time, expectations may adjust to the assumption that inflation will not return to the target even in the longer term. If the anchor begins to slip uncertainty will increase, and the preconditions for wage formation will deteriorate. If, for example, a company believes that its competitors will leave its prices and wages unchanged, it will find it more difficult to raise its own prices and agree to wage increases. The result is that inflation will continue to be low, which in turn will affect inflation expectations and so on.

At present, the Swedish economy is a long way from getting trapped in such a negative process. However, the risk of such a process arising has gradually increased and plays an increasingly central role in monetary policy. It is also important to act in time before problems arise.

The next large-scale round of collective bargaining will take place in 2016, when wage agreements covering around 3 million employees in the private and public sectors will expire. It will then be important that inflation expectations are anchored around the inflation target of 2 per cent, which will of course be easier if inflation is clearly approaching the inflation target when bargaining begins. According to the Riksbank's forecast, CPIF inflation will reach 2 per cent at the turn of the year 2015-2016 and then continue to rise in 2016. It is true that the inflation target is defined in terms of the CPI, not the CPIF. But in periods with major interest-rate changes, as in recent years, CPIF inflation provides a better picture of inflationary pressures than the CPI, which includes the direct effect of changed interest rates.

The Riksbank's lowering of the repo rate to −0.25 per cent and complementary measures in the form of bond purchases have been carried out to ensure that inflation rises towards the target and that long-term inflation expectations are thus compatible with the inflation target. The expansionary monetary policy contributes to lower market rates and and a weaker krona, which ultimately increases inflationary pressures in the economy. By underlining the fact that the inflation takes priority in both words and action, the Riksbank is also attempting to affect inflation expectations more directly.

In this way, monetary policy attempts to *create the preconditions* for prices and wages to begin increasing in a way that is in line with the objective – to get inflation to rise in a balanced way. The inflation forecast, combined with the Riksbank's forecast for nominal wage increases implies that real wages are increasing roughly in line with productivity. In this way, the wage increases will be neither too high nor too low, but will contribute to a balanced development of the economy

The measures taken and the readiness to do more underline the Riksbank's aim to safeguard the role of the inflation target as a nominal anchor for price and wage formation

[5] A more detailed description of this link can be found in the article "The interplay between wage formation, monetary policy and inflation" in *Monetary Policy Report*, July 2014. See also, for example, N. Gottfries, Fungerar den svenska lönebildningen? (Does Swedish wage formation work?), Appendix 5 to *The Long-Term Survey of the Swedish Economy 2011* and *The Wage Formation Report, 2014, the National Institute of Economic Research.*

CHAPTER 2 – Financial conditions

Financial conditions in Sweden have become more expansionary since the February Monetary Policy Report was published. Interest rates are lower, partly as a result of the Riksbank's more expansionary monetary policy, but also as a consequence of lower interest rates internationally. At the same time, the exchange rate is somewhat weaker and asset prices continue to rise. In this environment the banks' funding costs are low and companies and households are also finding it relatively easy to get funding. Household debt continues to increase, which relates to low interest rates and rising housing prices.

Monetary policy and government bond yields

The world's central banks setting the tone on the financial markets

Since February, movements on the financial markets have largely been characterised by lower monetary policy expectations (see Figure 2:1) and measures taken by the European Central Bank (ECB), among others. This has contributed to downturns in interest rates and periods of substantial fluctuations on the foreign exchange markets.

In the euro area, the ECB has initiated the quantitative easing programme that it presented in January. The ECB has announced that it will conduct an expansionary monetary policy for some time to come and forward rates indicate that the policy rate is expected to remain close to zero until at least 2018. In the United States and the United Kingdom, market expectations are that future increases will now take place later than previously expected. In the United States, the Federal Reserve has communicated that it intends to raise its policy rate in 2015, but at a somewhat slower pace than previously declared. According to surveys, the first increase will take place during the third quarter of this year, and according to forward rates not until around the turn of the year 2015–2016. In the United Kingdom, forward rates indicate that the policy rate is expected to be raised at around the midpoint of 2016.

Table 2:1.

Developments on financial markets since the February Monetary Policy Report	
Government bond yields	In Sweden, the 10-year government bond yield has fallen substantially. Swedish yields have fallen more than German and US yields.
Foreign exchange market	Periods of substantial fluctuations in the krona. The krona is weaker in trade-weighted terms.
Stock markets	Prices have risen on most stock markets. The Stockholm Stock Exchange has risen by approximately 10 per cent.
Interest rates for households and companies	Interest rates for new loans fell on average by 0.1 and 0.3 percentage points respectively between January and February.
Credit growth (as annual rate)	Increased to 6.2 per cent for households and to 5.0 per cent for companies in February.

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 through the overnight rate. Expectations of the future course of monetary policy have a significant impact on the development of long-term government bond yields, which are also affected by conditions abroad. Government bond yields act as an anchor for other types of bond yield, which in their turn affect the banks' funding costs. This ultimately affects the interest rates offered to companies and households.

The Riksbank's monetary policy decisions in February and March have comprised repo-rate cuts, government bond purchases and the communication that further monetary policy measures will be taken if necessary. This has led to relatively strong reactions on the interest-rate and foreign exchange markets.

Monetary policy expectations have been adjusted downwards as a result of the Riksbank's measures and, according to the forward rates, the market sees some likelihood of an even lower repo rate. Expectations in the longer term have also fallen since February. According to forward rates, a first repo-rate increase is expected at the turn of the year 2016–2017 (see Figure 2:1), while the Prospera survey in April shows that the increases will begin at the end of 2016. The overall picture of monetary policy expectations is therefore relatively well in line with the repo-rate path, which indicates a first increase during the second half of 2016.

Lower government bond yields in Sweden and abroad

The repo rate and monetary policy expectations affect developments in market rates to a large degree. Moreover, Sweden, as a small open economy, is affected by developments in above all the euro area and the United States, and Swedish rates at long maturities are therefore partly governed by what happens there (see Figure 2:3).

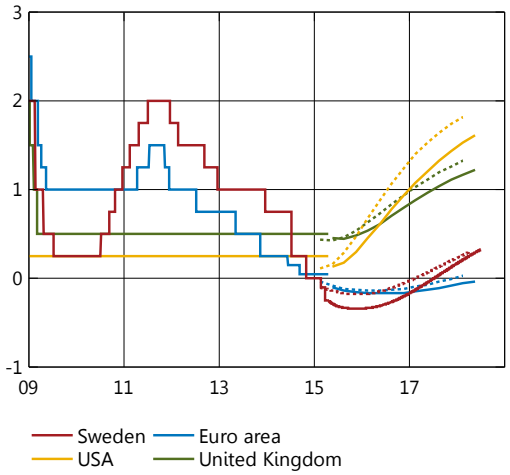
In the euro area, it is mainly long-term government bond yields in the core countries that have fallen since the ECB introduced its programme for the purchase of government bonds in March. German yields have once again been noted at record-low levels. The ECB's purchases have also led yields to fall in southern Europe since February, with the exception of yields in Greece. This is despite a slight upturn recently as a result of increased uncertainty about Greece's funding options, which has also led to a slight increase in other southern European yields.

In the United States, government bond yields are now lower than at the time of the Riksbank's monetary policy decision in February. This is mainly because yields fell in connection with the Federal Reserve's policy-rate decision in mid-March when, among other things, the forecast for future policy-rate increases was revised downwards. However, the differential between US and German yields remains significant which, among other things, reflects a clear difference in economic development and monetary policy expectations between the two regions.

Movements in Swedish market rates have been substantial since the monetary policy decisions in February and March, with downturns that have periodically been

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

Per cent

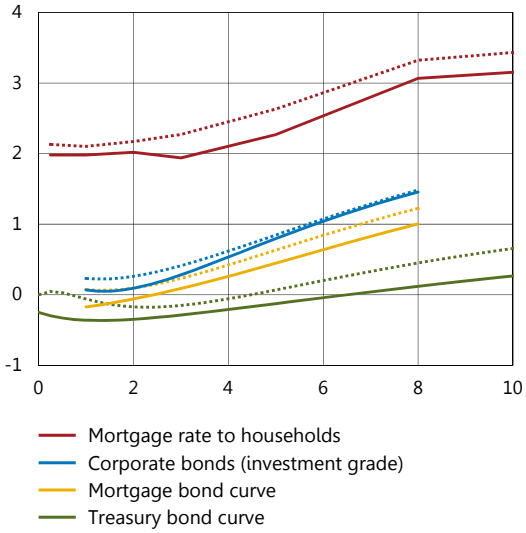


Note. Forward rates describe the expected overnight rate, which does not always correspond to the official policy rate. Unbroken lines are estimated 17 April 2015, broken lines 11 February 2015.

Sources: Macrobond and the Riksbank

Figure 2:2. Yield curves in Sweden

Per cent

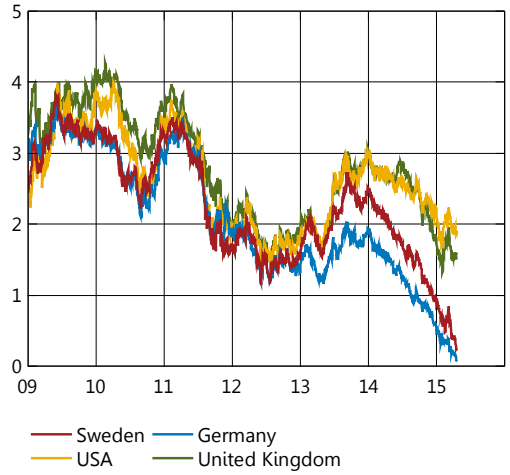


Note. Horizontal axis shows maturities. The government-, mortgage- and corporate-bond curves are zero coupon yields interpolated from bond prices using the Nelson-Siegel method. For mortgage and corporate bonds, only yields with a maturity up to 8 years are shown, which reflects the maturities for the bonds used for the interpolation. Mortgage rates for households are an average of mortgage rates listed by Swedish banks and mortgage institutions. Unbroken lines are estimated 17 April 2015, broken lines 11 February 2015.

Source: Macrobond, Deutsche Bundesbank and the Riksbank

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

Per cent



Source: Macrobond

counteracted by stronger Swedish macro statistics. All-in-all, however, government bond yields have fallen significantly since February and the largest downturn has been in the shortest and longest-term yields (see Figure 2:2 and 2:3). Swedish yields have fallen more than German (see Figure 2:4) and US yields. This is above all explained by the Riksbank's repo-rate cuts and government bond purchases, and by expectations that monetary policy can be made even more expansionary if necessary. The Riksbank's programme for government bond purchases is smaller than that of other central banks, both in absolute terms and as a percentage of GDP (see Table 2:2). However, Sweden's sovereign debt as a percentage of GDP is also much smaller than that of the United States, the United Kingdom and the individual countries in the euro area. This means that the Riksbank is purchasing a significant proportion of the total outstanding stock of government bonds. The Riksbank has also carried out its purchases over a shorter period of time.

The foreign exchange market

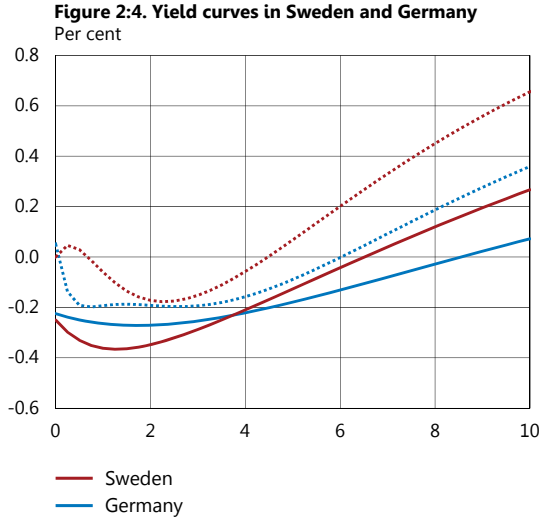
Substantial fluctuations in the krona

As in the case of Swedish market rates, there have been substantial fluctuations in the krona. This is partly explained by the Riksbank's monetary policy but also by the major fluctuations on the international foreign exchange markets. The euro, for example, has continued to weaken against most currencies and the dollar has strengthened.

The krona weakened significantly in connection with the monetary policy decision in February, which can largely be linked to the fall in Swedish market rates and the narrower differential in relation to German and US rates. Shortly thereafter, however, the krona strengthened again, above all against the euro (see Figure 2:5), as the interest-rate differential in relation to Germany increased as a result of stronger Swedish macro statistics and the fact that the ECB began its asset-purchase programme. In order to counteract this trend, which risked halting the upturn in inflation that had begun, the Riksbank decided to take further monetary-policy easing measures in mid-March.

The Riksbank's more expansionary monetary policy contributed to the krona being somewhat weaker, in trade-weighted terms, during the first quarter compared with the forecast in February (see Figure 4:4). However, it is very difficult to assess how the krona may develop in the period ahead. Like the ECB, the Riksbank is conducting an expansionary monetary policy and purchasing government bonds. The ECB will purchase large quantities of

Figure 2:4. Yield curves in Sweden and Germany
Per cent



Note. Horizontal axis shows maturities. The Yield curve is zero coupon yields interpolated from bond prices in accordance with the Nelson-Siegel method. Unbroken lines are estimated 17 April 2015, broken lines 11 February 2015.

Source: Deutsche Bundesbank, Thomson Reuters and the Riksbank

The ECB's asset purchases

What has the ECB announced

In January, the ECB decided that from and including March it would purchase bonds to a value of EUR 60 billion per month, with a focus on government bonds. The ECB will continue to do this until September 2016, or until the bank sees that inflation is moving sustainably towards the target of just under 2 per cent. The asset purchases will be distributed between the various countries according to the national central banks' capital subscription in the ECB. The purchases also include a smaller proportion of covered bonds and asset-backed securities (ABS), as was already announced in the autumn. At the beginning of March, the ECB announced that it will not purchase bonds with a lower yield than its deposit rate of –0.2 per cent. In addition to the asset purchases, the ECB continues to offer loans to the banks through its TLTRO programme, where the third loan was offered in March.

What has the ECB done so far?

Since the ECB began its asset-purchase programme in March, the bank has, up to and including 24 April, purchased bonds for approximately EUR 75 billion.

What effects can be seen on financial markets?

Since the initial purchases in March, it is above all longer-term government bond yields in the core countries that have fallen significantly. This is mainly linked to the ECB's restriction that it will not purchase bonds with a yield below the deposit rate, which many of the shorter-term bonds in these countries have. This means that the ECB needs to purchase bonds with longer maturities in order to meet its own guidelines. In the euro countries that were hit harder by the crisis, yield movements have been relatively limited since the asset purchases began, but compared to the period before the announcement in January both long-term and short-term government bond yields have fallen significantly.

government bonds over a long period of time at the same time as the Federal Reserve is drawing close to its first policy-rate increase, which probably means that the US dollar will remain strong. Compared with the forecast in February, the krona is expected to be somewhat weaker during the forecast period. This is connected, for instance, to the Riksbank's more expansionary monetary policy, as well as to the assumption that it will now take slightly longer before the krona reaches its long-term level.

Global asset markets

Great demand for high-risk assets

The expansionary monetary policy conducted in several major economies has led to low interest rates over a long period of time and thus to a great demand for high-risk assets in both Sweden and abroad. The differential between yields for corporate bonds and government bonds is low, although it has risen somewhat over the last six months. This is mainly because yields have increased for companies with links to the oil industry following the dramatic fall in oil prices.

Share prices have continued to rise since the February Monetary Policy Report (see Figure 1:7). Unlike previous years, this development has been stronger in Europe than in the United States. This is linked to the ECB's expansionary monetary policy, which has strengthened confidence in the region and led to a weakening of the euro, thus improving the competitiveness of the European companies.

However, there is also a risk of setbacks on the stock markets and corporate-bond markets where the low level of interest rates has contributed to rapid price increases in the search for higher yield. This may lead to a situation that does not reflect fundamental factors, such as the companies' future profits and growth potential (see also Financial Stability Report 2014:2).

The financial situation for banks, companies and households

Stable funding costs for Swedish banks

The preconditions for the banks' lending to households and companies are good. The banks' share prices, credit ratings and funding costs show that there is a relatively low level of risk in the Swedish banking sector. This is reflected, for example, in the banks' CDS premiums, which are linked to

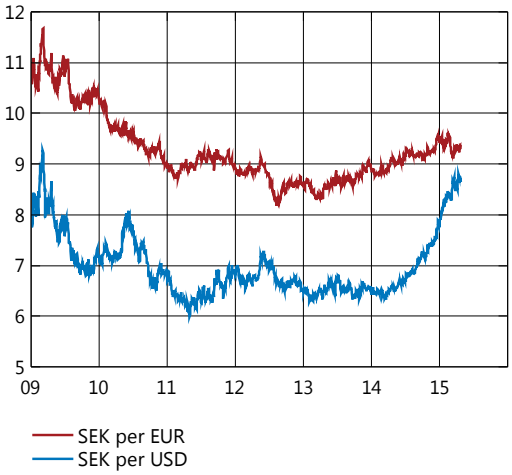
Table 2:2. Comparison of different central banks' programmes for purchases of government bonds[1]

	Purchases of government bonds (billions)	Purchases as percentage of stock (per cent)	Purchases as percentage of GDP (per cent)
Riksbank	SEK 80-90	14	3[2]
ECB	EUR 800[3]	14	8
Bank of England	GDP 375	29	21
Federal Reserve	USD 2000[4]	18	12

1. This type of calculation can be made in different ways, which means that the calculations in the table should be regarded as approximate.
2. Calculated on the basis of the expected market value for the purchases announced.
3. Around 70 per cent of the ECB's total planned purchases of securities of EUR 1,140 billion are intended for investments in government bonds.
4. LSAP 1+2 and Operation Twist.

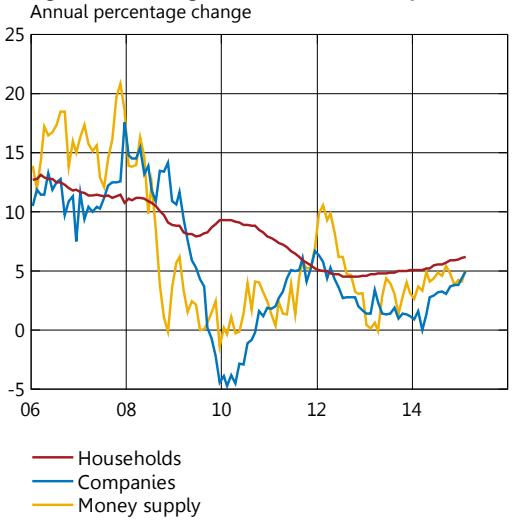
Sources: Bank of England, ECB, FRB NY, Swedish National Debt Office, UK DMO, US Department of Treasury and the Riksbank

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



Source: Macrobond

Figure 2:6. Lending to households and companies
Annual percentage change



Note. MFIs' lending to households and non-financial companies according to financial market statistics adjusted for reclassifications and traded loans since 2006. Money supply is M3 outstanding amount.

Source: Statistics Sweden

the cost of insuring against defaults. The premiums are very low, both historically and compared with other countries.

Against this background and the low interest-rate environment, the banks have continued to increase their lending in Swedish kronor, which is also helping to increase the money supply (see Figure 2:6).

Companies' bank borrowing increasing

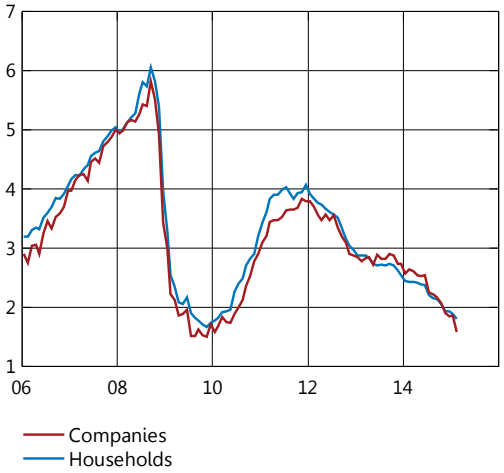
The companies' funding opportunities have improved in recent years. The low interest rates in Sweden and internationally (see Figure 2:2 and 2:3) have contributed to an increase in the demand for securities issued by companies that can provide an extra return in relation to, for example, government bonds. At the same time, statistical outcomes and the results of surveys from the National Institute of Economic Research, Almi and the Riksbank show that it has gradually become easier to get a bank loan following the financial crisis. This has entailed lower borrowing costs for companies and the situation is expected to continue to be favourable going forward, above all for large companies and those companies that already belong to the banks' existing circle of customers. In February, the average lending rate for companies, for new loan agreements, fell by approximately 0.3 percentage points to 1.6 per cent (see Figure 2:7). At the same time, the growth rate in bank lending to companies, which constitutes the largest component of the companies' indebtedness, has increased over the last six months (see Figure 2:6).

However, the companies' total indebtedness, which comprises security loans and bank loans, has not increased significantly in recent years. This probably relates to the weak business cycle in Sweden and abroad and to the low level of investment. However, investment is expected to increase in the period ahead and it is thus expected that the companies will increase their borrowing (see the article "Is private investment low, and if so, why?" in Chapter 4).

Lower mortgage rates and rising housing prices

Since the second half of 2014, the growth rate in bank lending to households has been somewhat higher than the average over the last three years (see Figure 2:6). This is due above all to the increase in mortgages during the period, which relates to the rise in prices on the housing market. Statistics from Statistics Sweden show that the average mortgage rate for new agreements fell by approximately 0.1 percentage points in February to 1.8 per cent (see Figure 2:7). The development of listed mortgage rates since then indicates that there were further falls in March and April this year.

Figure 2:7. Interest rates to households and businesses, new contracts
Per cent



Note. Interest rates on loans from MFIs to households with housing as collateral and to non-financial companies.
Source: Statistics Sweden

Experience of a negative policy rate

The need for a more expansionary monetary policy led the Riksbank to cut the repo rate in two steps in February and March, first to −0.10 per cent and then to −0.25 per cent. Having a negative nominal policy rate is unusual, but several countries have had such rates for a while now.

Experience thus far is that the two repo-rate cuts have had a normal impact on market rates and lending rates for households and companies. On the other hand, deposit rates for households and most corporate customers have not been adjusted downwards to the same extent, as the banks have chosen not to let these become negative.

In the case of market rates it is, among others, treasury bills, several government and mortgage bonds, interest-rate derivatives and certificates that are now being traded at negative rates. This does not appear to have generally affected the workings of the markets so far. However, there are examples of sub-markets where negative interest rates may pose a problem. This applies, for example, to the market for bonds with variable coupons, where the coupons for certain bonds may become negative.[a] However, these problems are considered to be manageable at the current level of the repo rate.

[a] For further discussion of how bonds with variable coupons are affected by negative interest rates and how the Riksbank considers these should be managed see the report "Financial Infrastructure" Sveriges Riksbank (2015) pages 16–17.

According to statistics from Valueguard, prices for tenant-owned apartments increased by almost 19 per cent, and for single-family dwellings by just under 13 per cent in February, expressed in terms of the annual percentage change (see Figure 1:8). At the same time, the households expect to see further price increases according to SEB's housing-price indicator, which fell marginally in April after reaching record-high levels in March.

CHAPTER 3 – The current economic situation

The assessment of the current economic situation and of near-term developments is important as it forms a basis for the analysis of longer-run developments. At present inflation is low, but several measures of underlying inflation appear to have bottomed out. The weakening of the exchange rate in the recent year contributes to raising inflation, while the low oil price holds it back. GDP growth was stronger than expected in the fourth quarter of last year. This was partly due to temporary factors and GDP is judged to increase more slowly in the first quarter of this year. At the same time, employment is rising and unemployment is expected to continue falling slowly. GDP growth abroad is improving. Growth in the euro area is low, but there are increasingly clear signs of a recovery. On the other hand, growth in several emerging economies is slowing down.

Inflation and resource utilisation

Inflation is low, but on the way up

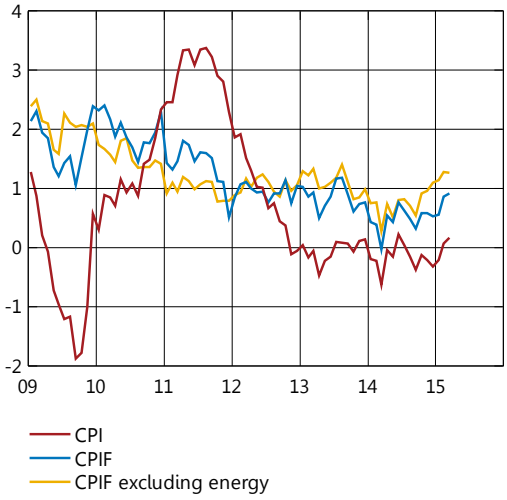
Inflation is still low, but has risen in recent months. The outcomes for January–March were slightly higher than expected in the February Monetary Policy Report. In March the CPIF, that is, the CPI with a fixed mortgage rate, increased by 0.9 per cent compared with the same month in the previous year. This is the highest growth rate since summer 2013. At the same time, CPI inflation remains close to zero, as the large repo-rate cuts contribute to holding back CPI inflation. But different measures of underlying inflation, including the CPIF excluding energy, indicate that inflation has bottomed out and is on the way up (see Figure 3:1).

Table 3:1. Outcome compared with previous forecast

Expected development in MPR February	Actual development
Inflation still low. CPIF inflation 0.8 per cent in March.	Slightly higher than expected, CPIF inflation 0.9 per cent in March.
GDP growth 2.1 per cent 2014 Q4.	Higher than expected, 4.6 per cent, partly due to temporary factors.
Slow downturn in unemployment.	Roughly as expected.
Continued weak GDP growth in the euro area.	Q4 marginally stronger than expected.
Relatively strong GDP growth in the USA Q1.	Consumption, weaker than expected, partly due to temporary factors.

Note. The CPIF is the CPI with a fixed mortgage rate. The CPIF refers to annual percentage change. GDP refers to quarterly changes in per cent, calculated as an annual percentage change.

Figure 3:1. CPI, CPIF and CPIF excluding energy
Annual percentage change



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

Exchange rate weakening contributes to higher inflation

One factor behind the upturn in the CPIF excluding energy is the successive weakening of the Swedish krona in the recent year (see Figure 4:4). This means that it has become more expensive to import consumer products than it was at the beginning of 2014, despite inflation abroad becoming lower. Inflation is low in most countries that are important to the Swedish economy. In the EU, for instance, inflation was below 1 per cent in all countries in March, and negative in a good 40 per cent of the countries. The higher import prices have also had an impact on prices charged to consumers. One sign of this is that food and energy prices are increasing faster in Sweden than in the euro area. In Sweden, the rate of increase in food prices has for some months been somewhat higher than the historical average (see Figure 3:2).

The exchange rate is expected to remain more or less unchanged in the coming period. However, it is expected to take a few more quarters before the most recent weakening of the krona has a full impact on consumer prices. There is

usually some time lag with regard to price changes for many products.

Signs that underlying inflation has bottomed out

Like the CPIF excluding energy, the Riksbank's measures of underlying inflation have also showed an upturn in recent months (see Figure 3:3). Another signal that inflation has bottomed out is that the rate of increase in services prices is higher than last year, despite these prices not being affected by the exchange rate as much as food and goods prices (see Figure 3:2). Behind the higher rate of increase in services prices are upturns in several types of service, including restaurants and accommodation.

There are also other statistics indicating that inflation will rise in the coming period. Price increases on consumer goods in the producer and import channels are rising. Moreover, the National Institute of Economic Research's Economic Tendency Survey shows that more companies than before are now intending to raise their prices.

One way of summarising the information in the indicators is to look at model forecasts. The Riksbank uses many different models and Figure 3:4 shows one of these for the CPIF excluding energy.[6] Given the recent developments in producer prices and the exchange rate, the model implies that inflation will rise in the coming months. The Riksbank's forecast is close to the model forecast for the coming months.

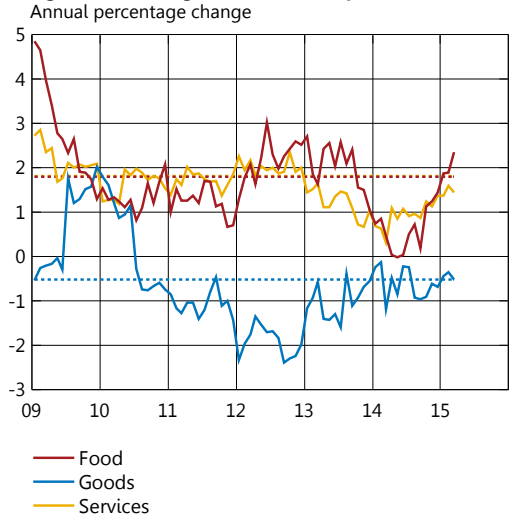
Resource utilisation lower than normal

One explanation for the low inflation in Sweden and abroad is that resource utilisation is currently lower than normal. During the fourth quarter, GDP growth in Sweden was higher than expected, but this is thought to be partly due to temporary factors. In relation to GDP, the number of hours worked showed a weak outcome and resource utilisation in terms of the number of hours worked is now somewhat lower than in the previous assessment. Unemployment remained at 7.8 per cent in the first quarter. The Riksbank's overall assessment is that resource utilisation is still lower than normal.

During the fourth quarter, unit labour costs increased more slowly than expected, as productivity was unexpectedly high. In the coming quarters, unit labour costs are expected to increase at a more normal pace.

[6] 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 that take into account both the historical seasonal patterns for inflation and the recent indicator information. The model's point estimate for the CPIF excluding energy is reported with a 50-per cent and a 90-per cent uncertainty band. The model is used up ti six months.

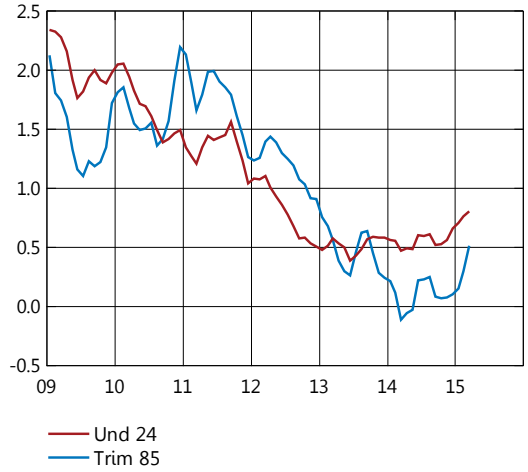
Figure 3:2. Food, goods and service prices
Annual percentage change



Note. The broken lines represent the average for the period 2000 to the latest outcome. The line showing the average for food overlaps the line showing the average for services.

Source: Statistics Sweden

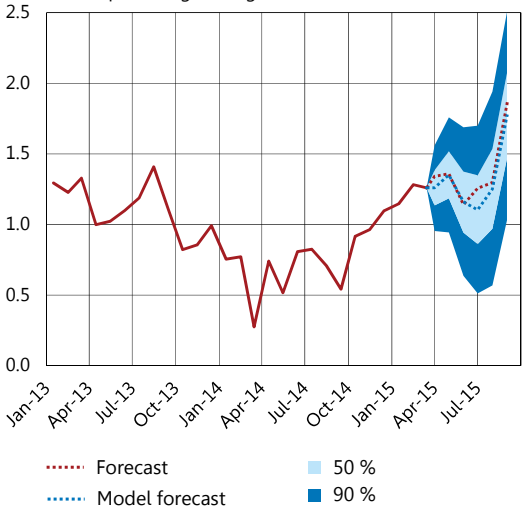
Figure 3:3. Measures of underlying inflation
Annual percentage change, three months moving average



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 highest and the 7.5 lowest yearly price changes have been excluded.

Sources: Statistics Sweden and the Riksbank

Figure 3:4. CPIF excluding energy and model forecast
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

Large differences between different measures of inflation when interest rates and energy prices fall

As mortgage rates have fallen, CPI inflation will remain lower than CPIF inflation this year and next year. Energy prices are currently much lower than at the same point in time last year, which means that the rate of increase in CPIF is lower than in CPIF excluding energy. This is partly because fuel prices are low due to the fall in the price of oil and partly because electricity prices have fallen. Energy prices will rise slowly in the coming period, which means the difference between CPIF and CPIF excluding energy will persist.

GDP and the labour market

High growth during the fourth quarter

GDP increased by 4.6 per cent during the fourth quarter of 2014, compared with the previous quarter, calculated as an annual rate (see Figure 4:8). The unexpectedly high growth is considered to be due to some extent to temporarily large exports of services (see Figure 3:6). This contributed to a rapid increase in total exports, after a long period with slower outcomes. At the same time, domestic demand continued to grow strongly, primarily because household consumption and housing investment increased.

Cautious rise in foreign demand

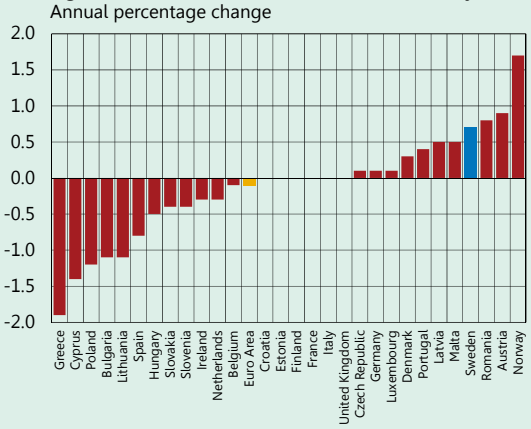
Demand for Swedish exports is expected to increase as the recovery abroad continues. The global economy is continuing to improve and currently benefits from the low oil prices, which are expected to stimulate both consumption and investment in countries that import oil. GDP growth is still unevenly distributed. However, the differences have declined recently in that the growth rate in emerging markets has slowed down. Growth in China is expected to be lower in the coming period, and in Russia and Brazil GDP is expected to begin falling.

Growth prospects in a number of developed economies have improved, on the other hand. There are now clearer signs of a recovery in the euro area and GDP growth is expected to have increased during the first quarter. In the United States, household consumption was temporarily slowed down by unusually cold weather and snowstorms in some regions. The appreciation of the dollar since summer 2014 has also contributed to competitiveness and company confidence declining. At the same time, the labour market in the United States remains relatively strong.

Swedish inflation relatively high in European context

Inflationary pressures are low in large parts of Europe as a result of the large spare capacity. In addition, lower oil prices contribute to holding back inflation. In March average inflation in the euro area was −0.1 per cent. Swedish inflation, measured according to the EU-harmonised index for consumer prices (HICP), was among the highest in Europe and amounted to 0.7 per cent (see Figure 3:5). Inflation was highest in Norway, where it amounted to 1.7 per cent. A weak Norwegian krona and relatively high resource utilisation are important explanations for the higher inflation in Norway (see the article "Why is inflation low in Sweden but not in Norway?" in the Account of monetary policy in 2014).

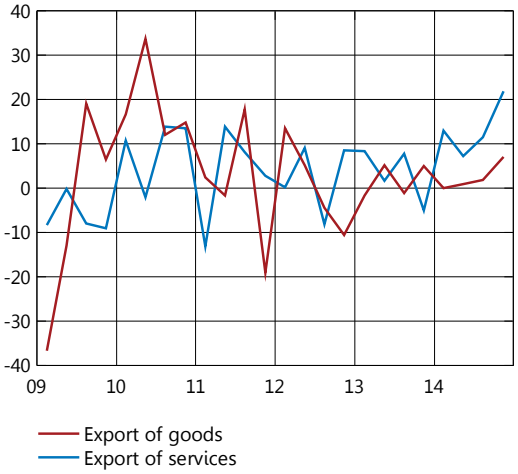
Figure 3:5. HICP in the EU countries and Norway
Annual percentage change



Note. The figure shows the percentage change in HICP between March 2015 and March 2014.

Source: Eurostat

Figure 3:6. Export of goods and services
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

The fact that demand abroad has increased is not yet reflected in any particularly high export orders in Sweden. Instead, these have fallen somewhat in recent months and are now at a lower than normal level. The monthly statistics for goods exports do not indicate any major upturn at the beginning of the year, either. At the same time, exports of services have increased more rapidly than exports of goods over the past year. This was particularly clear during the fourth quarter, when parts of services exports increased more than usual (see Figure 3:6). During the first quarter, however, it is expected to return to more normal levels, which will temporarily slow down GDP growth.

Swedish GDP growth slows down in first quarter

The Economic Tendency Indicator, which summarises expectations in the Swedish household and corporate sectors, has been higher than a historical average over the past six months. Other confidence indicators, such as the purchasing managers index for the manufacturing industry and services industries, are on a par with or stronger than their historical averages.

The retail trade sector has continued to perform strongly during the first quarter of this year and the broader indicator for household consumption points to continuing high growth in consumption. The strong domestic demand is also visible on the production side. Construction has increased substantially in recent years. A steady upturn is also visible in the production of services. However, industrial production, which is closely linked to goods exports, remains subdued (see Figure 3:7).

The Riksbank's overall assessment is that GDP increases by 1.6 per cent during the first quarter of 2015, compared with the previous quarter and calculated as an annual rate.

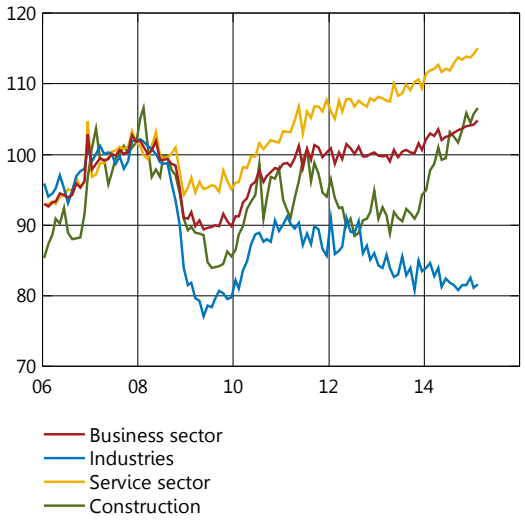
Unemployment falling slowly

Employment rose in the first quarter compared with the final quarter of 2014, while unemployment remained unchanged and amounted to 7.8 per cent (see Figure 4:12). Indicators of demand for labour point to employment growing at a good pace in the coming period, too. For instance, the number of new vacancies has been increasing for some time. The number of redundancy notices is also relatively small, although they have increased in the past month (see Figure 3:8). Employment is increasing, mainly in the services sector, which is natural as this is where productivity growth lies. Employment is expected to grow at a somewhat stronger rate than the labour force. This means that the trend of slowly falling unemployment will continue during the second quarter.

GDP the fourth quarter 2014

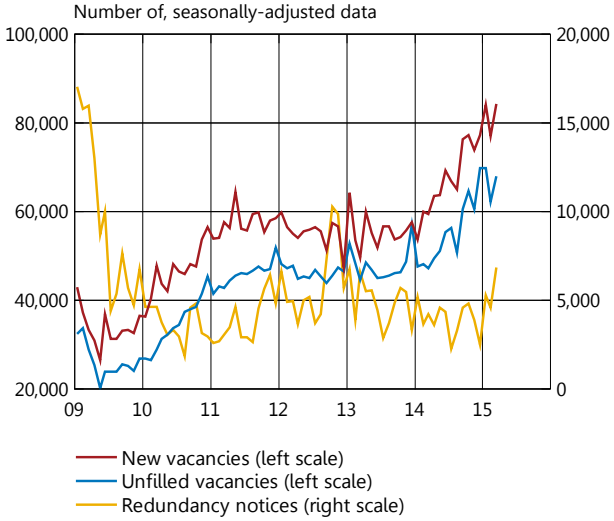
During the fourth quarter, GDP increased by 4.6 per cent, compared with the previous quarter and calculated as an annual rate. A very high growth in investment in Research and Development contributed to a large increase in investment in the fourth quarter. However, Statistics Sweden assesses that this increase will not affect GDP growth as these investment will also be booked as increased services imports in the National Accounts. In addition, some parts of services exports increased more than usual in 2014 the fourth quarter.

Figure 3:7. Production in the business sector
Index, 2007 = 100



Sources: Statistics Sweden and the Riksbank

Figure 3:8. New and unfilled vacancies and redundancy notices
Number of, seasonally-adjusted data



Sources: Employment Service and the Riksbank

CHAPTER 4 – The economic outlook and inflation prospects

The recovery in the world as a whole is expected to continue in the years immediately ahead, supported by an expansionary monetary policy and low oil prices. Global inflationary pressures are low at present but are expected to increase during the forecast period. In Sweden, GDP is expected to grow more rapidly than normal over the coming years. The continued expansionary monetary policy, with a negative repo rate over a long period of time and purchases of government bonds, will contribute to demand increasing and inflation rising. CPIF inflation is expected to reach 2 per cent at the turn of the year 2015–2016.

International outlook

The global economy continues to improve

Global economic activity has continued to slowly improve in the early part of the year. Although the assessment is that there has been a temporary slowdown in the United States due to unusually cold weather, the picture as a whole is that the economy is performing well. In the euro area, the recovery appears to be on increasingly firm ground and the recent economic signals from the region are the brightest since the outbreak of the debt crisis.

From headwind to tailwind

In the years ahead, the global economy will continue to be boosted by low oil prices, a stronger US economy and the ECB's extensive asset-purchase programme, which has been followed by monetary-policy easing measures in a number of other countries.

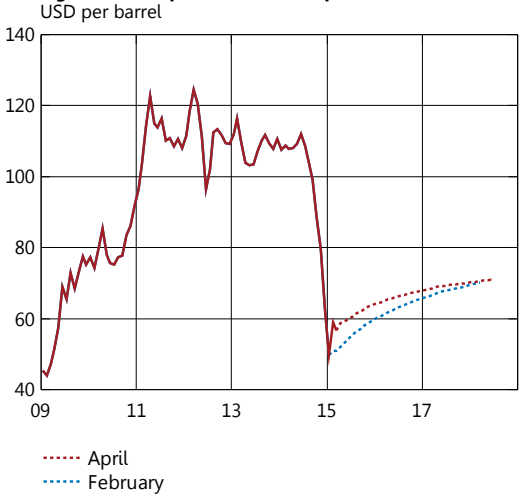
The world-market price for Brent oil fell by more than 50 per cent between June 2014 and January 2015, from USD 115 per barrel to USD 47 per barrel (see Figure 4:1). Since then the price has increased somewhat and has been in the region of USD 60 per barrel, which is somewhat higher than was assumed in February. Forward pricing indicates a slow increase to approximately USD 70 per barrel at the end of the forecast period. It is assumed that the fall in oil prices since the summer of 2014, which is assessed to be largely supply driven and relatively persistent, will have a positive effect on the global economy as a whole by stimulating domestic demand by way of an increase in the scope for consumption and lower production costs.[7]

Several factors that have previously hampered the recovery in the developed economies following the financial crisis, such as fiscal policy tightening in many countries, uncertainty regarding economic policy and tight credit conditions, are expected to wane in importance. This will

Table 4:1.

The forecast in brief
Gradually higher growth abroad and rising inflation.
Expansionary monetary policy in the years ahead.
Swedish growth driven by strong domestic demand supported by exports when international demand increases.
Continued labour market improvement in Sweden. Resource utilisation is normal from the beginning of 2016, thereafter somewhat higher.
Inflation in Sweden is expected to rise and CPIF inflation will reach 2 per cent at the turn of the year 2015–2016.

Figure 4:1. Oil price and futures 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

[7] For a more detailed discussion of the causes of the fall in oil prices and its effects on growth and inflation, see the article "Effects of the falling oil price on the global economy" in Monetary Policy Report, February 2015.

contribute to more rapid GDP growth going forward. However, other factors, such as an ageing population and an ongoing need for households, companies and governments to reduce their indebtedness, remain and mean that the recovery will take time. The United States has made more progress than the euro area in reducing debts in the private sector.

GDP growth in the developed economies will be somewhat higher this year than last year (see Figure 4:2). GDP growth in the United States is expected to be around 3 per cent in the years immediately ahead and then to slow down to more normal growth rates at the end of the forecast period. At the same time, GDP in the euro area will increase, albeit from a low level and at a slow pace. Increasing investment is an important factor in establishing a more lasting recovery in the developed economies (see the article "Is private investment low, and if so, why?" in Chapter 4).

Economic activity will slow down in the emerging economies this year. Many commodity-producing countries have been hit hard by the fall in oil prices, particularly Russia and Brazil, which in addition were already struggling with serious economic problems. In Russia, the sanctions imposed by the European Union and the United States have already exacerbated the domestic economic problems. India's economy, on the other hand, has been strengthened by the lower oil prices, which have reduced the current account and budget deficits at the same time as lower inflation has paved the way for policy-rate cuts. Growth in China is being subdued by the ongoing readjustment from export-driven growth to more consumption-driven growth.

Expansionary monetary policy supporting the recovery

As growth is moderate and inflation low, central banks in many parts of the world continue to conduct an expansionary monetary policy (see Figure 2:1). The Riksbank expects the KIX-weighted policy rate (which includes policy rates in the euro area, Norway, the United Kingdom and the United States) to remain at a level close to zero per cent until the second half of 2016 and thereafter to slowly rise towards 1 per cent at the end of the forecast period.

The ECB's asset-purchase programme, which was announced in January and began in March, represents a clear signal that the ECB safeguards the inflation target as a nominal anchor and that it intends to keep the policy rate low for a long period of time. This has helped to halt the earlier downward trend in the market's inflation expectations. The asset-purchase programme has also already had a tangible effect on longer-term government

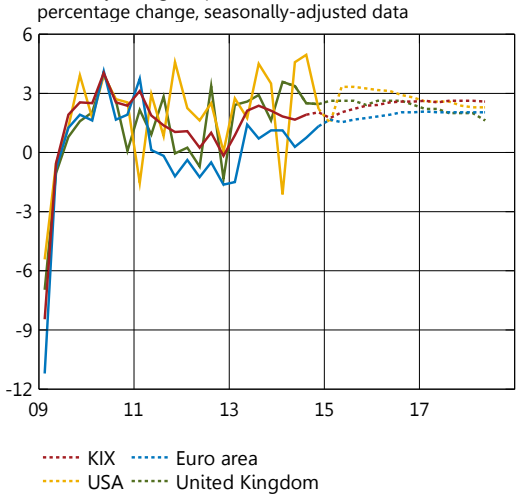
What does the stronger dollar mean for the global economy?

The US dollar has strengthened by approximately 20 per cent in trade-weighted terms since the summer of 2014. The strengthening of the dollar is founded on a stable, underlying upturn in the US economy. This should basically be seen as a positive factor for the ongoing recovery of the global economy.

In the euro area and Japan, the weakening of the domestic currencies is providing a well-needed boost to growth through higher exports, at the same time as higher import prices are pushing up the low rate of inflation. In the United States, the stronger exchange rate is of course leading to weaker competitiveness and lower exports. However, this is compensated to some extent by increased demand from a global economy that is performing increasingly well. The purchasing power of the US households is also increasing. The assessment is that the US recovery is strong enough to cope with a stronger dollar.

There are also risks associated with a considerable strengthening of the dollar. For emerging economies that have funded their current account deficits using substantial dollar loans (for example Brazil, Turkey and South Africa) the stronger dollar may have tangible effects. Another risk is how China, whose currency is closely linked to the dollar, will be affected.

Figure 4:2. Growth in various countries and regions
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



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

bond yields in the core countries, on share prices and on the euro (see Chapter 2).

However, it is as yet difficult to quantify how much these initially positive market effects will affect investment, consumption and, ultimately, inflation. Previous experience of asset purchases in the United States and the United Kingdom shows that there were positive effects on growth and inflation.

However, there are several factors that indicate that the effects in the euro area could be weaker than in the United States and the United Kingdom. For example, the banks account for the major part of lending in the euro area, while companies in the United States borrow on the capital markets to a greater extent. The forecast for the euro area assumes smaller effects on growth and inflation than in the United States and the United Kingdom, but the asset purchases will nevertheless provide a boost to the recovery.

The state of the economy described in February remains largely unchanged

KIX-weighted GDP, which covers the countries of most importance to the Swedish economy, is expected to grow by 2 per cent this year. Thereafter, the growth rate will rise gradually to 2.6 per cent in 2017. This is largely the same view of economic activity abroad as in the forecast in February. However, the composition of growth has changed somewhat. The GDP forecast for the euro area has been revised upwards slightly, while the assessment of growth in the United States in the next two years has been revised downwards.

Uncertainty about economic activity abroad remains high and is linked among other things to the situation in Russia and Ukraine and the acute funding crisis in Greece. The effect on other countries of a normalisation of US monetary policy is also uncertain. Some emerging economies have to a great extent funded their current account and budget deficits with foreign capital. If higher US interest rates lead to capital outflows from these countries, it will become more difficult to fund these deficits. If the domestic currencies weaken as a result of these capital outflows, the costs for these loans will increase. Problems will arise in particular for those companies and banks that have assets and incomes in currencies that weaken.

Rising inflationary pressures abroad

There has been a broad downturn in global inflation in recent years (see Figure 4:3). The 50 per cent fall in oil prices over the last six months has reinforced this trend. At present, inflation is below the countries' inflation targets in

Quantitative easing

How does it work?

Since the financial crisis, many central banks have purchased government bonds (and other assets) in order to make monetary policy more expansionary in a situation where the possibility to make further cuts in the policy rate is limited. This so-called quantitative easing affects interest rates, growth and inflation through several different channels. The *signalling channel* works such that purchases of, for example, government bonds at long maturities increase the credibility of the policy rate remaining low for a long period of time.[b] *The portfolio balance channel* works such that those investors who previously held government bonds turn to other, higher-risk assets which then increase in price.[c] This tends to reduce the yields of, for example, mortgage and corporate bonds, but share prices and property prices may also rise. A third channel is that lower interest rates than abroad help to weaken the *exchange rate*. The various channels help to increase demand in the economy and thus contribute to rising inflation.

How large might the effect be?

The results of studies of the various quantitative-easing programmes run by the Federal Reserve and the Bank of England vary widely. If one normalises the results of these studies to correspond to a programme that increases a central bank's balance sheet by approximately 4 per cent of GDP, it turns out that for both the United States and the United Kingdom the estimated average effect of the implemented programmes is that the yield of a ten-year government bond is 0.2–0.3 percentage points lower than it would otherwise have been.[d] The assessment is that this will lead to GDP growth being 0.7 to 0.8 percentage points higher over the course of a year, while inflation will be approximately 0.6 percentage points higher. These results should be interpreted with caution and cannot be directly applied to other countries due to differences in market structures, initial interest rate levels and so on.

[b] See for example De Graeve, F och J. Lindé (2015), "Effects of unconventional monetary policy: theory and evidence", Penning- och Valutapolitik, 2015:1. Krishnamurthy, A och A. Vissing-Jorgensen (2011), "The Effects of Quantitative Easing on Interest Rates: Channels and Implications for Policy", Brookings Papers on Economic Activity, Fall 2011.
[c] See for example Chen Han, Vasco Cúrdia och Andrea Ferrero (2011) "The Macroeconomic Effects of Large Scale Asset Purchase Programs", Federal Reserve Bank of New York, Staff Reports no. 527.
[d] This corresponds to the Federal Reserve's so-called LSAP2 programme, which involves purchases for USD 600 billion and expanding the central bank's balance sheet by around 4 per cent.

all of the major developed economies. Many countries also have negative inflation. In the emerging economies the picture is mixed. Russia and large parts of Latin America have had rising rates of inflation, while several eastern European countries and many countries in Asia have had falling inflation.

So far, cost pressures from the labour market are weak in most of the developed economies. This is the case not only in countries with high unemployment, such as many euro countries, but also in countries with a relatively strong labour market, such as the United States and the United Kingdom. In many developed economies, the rate of wage increases in recent years has been more subdued than implied by historical links between unemployment and the rate of wage increases.[8] At the same time, low demand has made it difficult for the companies to pass on rising production costs to the consumers.

As economic activity improves and resource utilisation rises, the rate of wage increases in the developed economies is expected to slowly increase, at the same time as increased demand in the economy will make it possible for the companies to raise their prices. This, together with gradually rising oil prices, will contribute to inflation rising in 2016. In the euro area, it is expected that the ECB's asset-purchase programme will contribute to inflation approaching the ECB's target at the end of the forecast period. These measures are expected to hold back interest rates, stabilise inflation expectations and weaken the exchange rate.

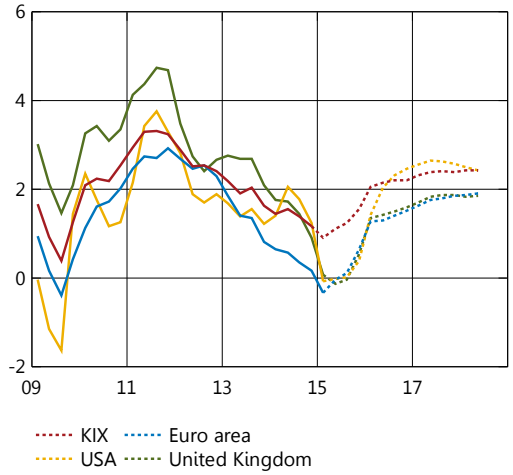
All-in-all, KIX-weighted inflation is expected to rise from 1.2 per cent this year to 2.4 per cent in 2017, which is somewhat higher than the assessment in February. The main reason for this is the weakening of the euro, which is pushing up import prices in the euro area, but somewhat higher forward prices for oil are also a factor.

Krona will remain at its current level a while longer

The development of the exchange rate is an important factor for inflation prospects. Over the past year, the krona has weakened against both the euro and the dollar. Since February, the krona has become weaker than expected and the assessment is that it will now take longer for the krona to reach its long-run level. In trade-weighted terms, the krona is expected to remain at roughly its current level for a while longer. The krona will then slowly strengthen, but in a situation in which economic activity is improving and inflation has risen (see Figure 4:4).

[8] OECD, Employment Outlook 2014, chapter 2.

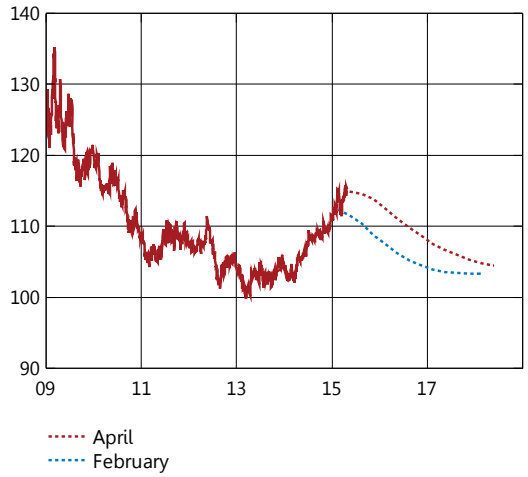
Figure 4:3. Inflation in various countries and regions
Annual percentage change



Note. KIX is an aggregate of the countries that are important to Sweden's international transactions. 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 measured using the HICP and for the United States and the United Kingdom measured using the CPI.

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

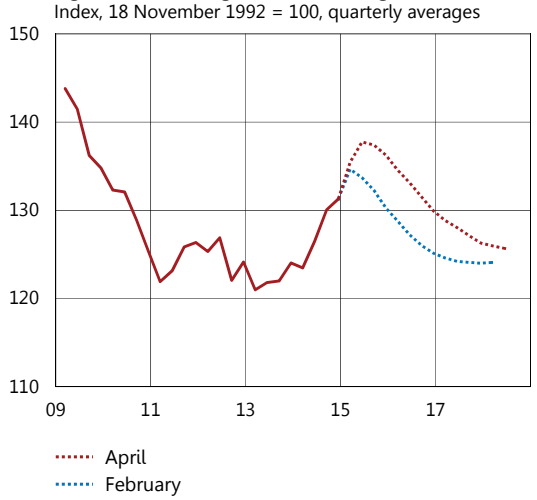
Figure 4:4. KIX-weighted nominal exchange rate
Index, 18 November 1992 = 100



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

Source: The Riksbank

Figure 4:5. KIX-weighted real exchange rate
Index, 18 November 1992 = 100, quarterly averages



Note. The real exchange rate has been deflated with the CPIF for Sweden and the CPI for the rest of the world. The CPIF is the CPI with a fixed mortgage rate. KIX is an aggregate of the countries that are important to Sweden's international transactions.

Sources: National sources, Statistics Sweden and the Riksbank

The Riksbank's long-term forecast for the trade-weighted exchange rate is based on an assessment of the long-term level of the real exchange rate. At present, the real exchange rate is weaker than this level, which means that the exchange rate should strengthen in real terms in a few years' time (see Figure 4:5). Swedish GDP is growing at a faster pace than that in other countries in the coming period and the fact that Sweden has had a current account surplus for many years are factors that support this assessment.

It is assumed in the forecast that the strengthening of the real exchange rate will be mainly due to a strengthening of the nominal exchange rate. However, the forecast for the exchange rate is uncertain and one main question is how quickly the strengthening can take place (see the article "Rapid strengthening of the krona" in Chapter 1).

Sweden

Continued strong domestic demand

The slow recovery abroad thus far has led to a weak development of Swedish exports in recent years. The recovery of the Swedish economy has instead been mainly driven by a strong household sector and a rapid increase in housing investment.

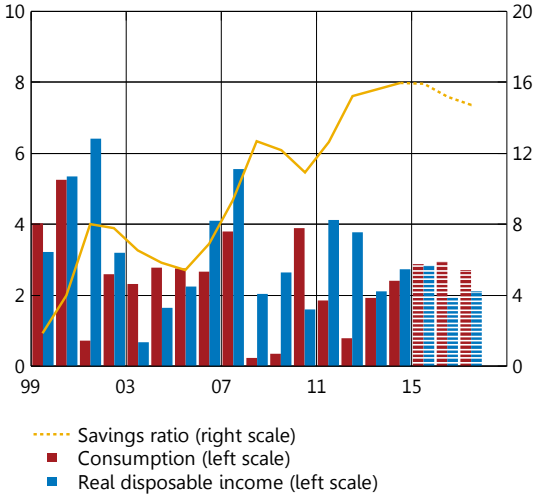
Several factors indicate that household consumption will continue to develop strongly in the years ahead. For example, the household savings ratio is high, which together with low real interest rates, a favourable development of household wealth and low oil prices will stimulate consumption (see Figure 4:6).

This means that the companies' need to invest to increase their production capacity will increase, particularly when international demand begins to rise. Housing construction has increased dramatically and is at a high level in historical terms. Continued high demand will lead to a further increase in housing construction, but at a much slower rate than previously.

Broader upturn in economic activity

The deep and prolonged recession and low investment, above all in many European countries, have contributed to the weak development of Swedish exports over a considerable period of time. The development of goods exports, in particular, has been weak in an historical perspective, while services exports have grown more rapidly, especially over the last 12 months. As international demand increases and growth in global manufacturing and trade expands, it is expected that Swedish exports will also

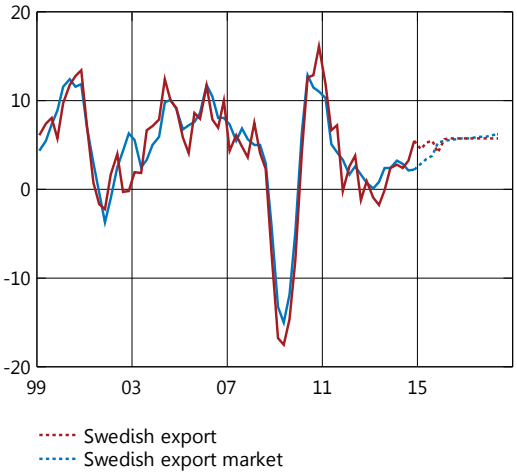
Figure 4:6. Households' real disposable incomes, consumption and savings ratio
Annual percentage change and per cent of disposable income



Note. The savings ratio includes collective insurance schemes. Disposable income has been deflated using the household consumption deflator.

Sources: Statistics Sweden and the Riksbank

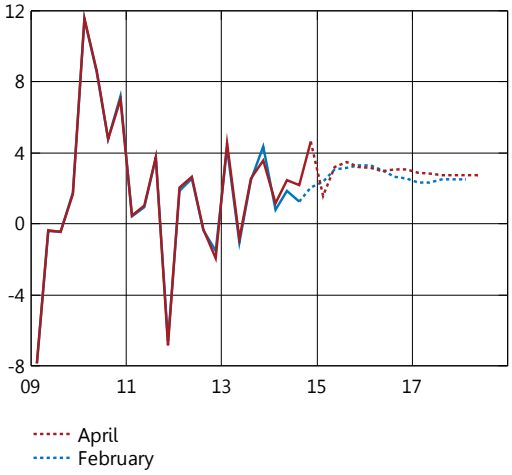
Figure 4:7. Exports and the Swedish export market
Annual percentage change, calendar-adjusted data



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

Sources: Statistics Sweden and the Riksbank

Figure 4:8. GDP
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



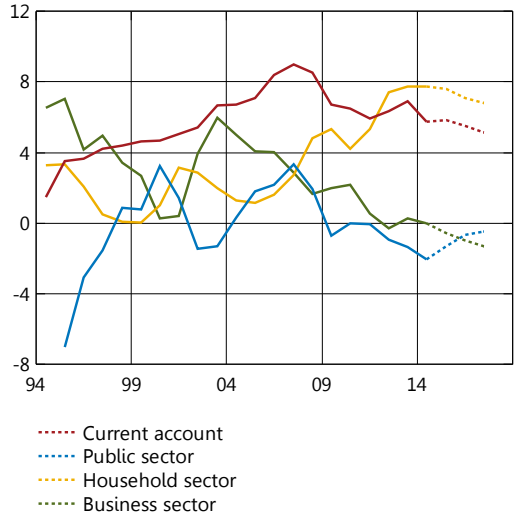
Sources: Statistics Sweden and the Riksbank

increase at a faster rate (see Figure 4:7). As a large proportion of imported intermediate goods are used in the manufacture of Swedish goods, imports will also increase more rapidly, a trend which will be reinforced by rising domestic demand.

All-in-all this means that GDP will grow at a faster rate than the historical average in the years ahead. Compared with the forecast in the Monetary Policy Report published in February, it is now assessed that GDP growth will be higher in 2015–2017 (see Figure 4:8). The upward revision of growth this year, by 0.5 percentage points to 3.2 per cent, is largely explained by an unexpectedly strong end to last year. The upward revision towards the end of the forecast period is partly explained by a more expansionary monetary policy, but also by a new assessment of the effects that economic policy and the strengthening of economic activity abroad will have on demand.

The surplus on the current account is expected to continue to be high, but it will decrease somewhat in the years ahead. It is expected that the household sector will reduce its saving and in the corporate sector saving will decline as investment increases. To some extent, this will be counteracted by an increase in saving in the public sector (see Figure 4:9).

Figure 4:9. Current account and net lending in different sectors
Per cent of GDP



Sources: Statistics Sweden and the Riksbank

Higher household indebtedness

Despite the dramatic increase in housing construction, housing prices have continued to increase rapidly. Together with a favourable development of other asset prices, this has contributed to a continued increase in the value of household assets. At the same time, the households finance a large part of their housing purchases with mortgages, which has led to an increase in household debt, too.

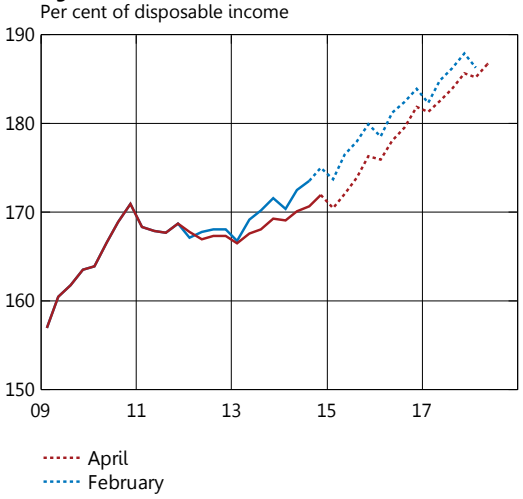
Rising incomes, low interest rates and a limited supply of housing in many regions will contribute to housing prices continuing to increase at a rapid rate in the years ahead. This contributes to household debt increasing more rapidly than household income. Debt as a percentage of households' disposable incomes, what is known as the debt ratio, will rise to around 187 per cent in the middle of 2018 (see Figure 4:10). However, viewed as a share of household assets, debt shows a weak increase. Compared with the assessment in February, the lower repo-rate path is expected to contribute to a somewhat higher growth in debt in the years ahead. New outcomes for debt and disposable income mean that the debt radio is somewhat lower to start with, however.

Effects of fiscal policy on inflation

The government presented a new budget on 15 April. Among the proposals it is above all higher employers' social security contributions for young employees that affect the inflation forecast. This increase will lead to higher labour costs in 2015 and 2016 and contribute to gradually higher inflation. It is estimated that the overall effect on CPI will be 0.2 percentage points by the end of the forecast period.

The government has also announced that it intends to lower the level of the subsidy in the ROT scheme for housing repairs, maintenance and improvements to 30 per cent in 2016. It is calculated that this will increase inflation by just over 0.1 of a percentage point in January 2016. The effect will remain for one year.

Figure 4:10. 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

Strengthening of general government net lending

In 2014, general government net lending corresponded to −2.1 per cent of GDP.[9] In the Spring Fiscal Policy Bill for 2015, the government proposes reforms requiring expenditure of SEK 8 billion in 2015 and accumulating to SEK 20 billion in 2016. The proposals include raising the ceiling in the unemployment insurance scheme. The increased expenditure will mainly be funded by gradually phasing out the reduction in employers' social security contributions for young employees. General government net lending is expected to strengthen in 2015 as economic activity improves. During 2016–2017 it will continue to strengthen slowly but will remain negative throughout the forecast period.

Good employment growth and rising resource utilisation

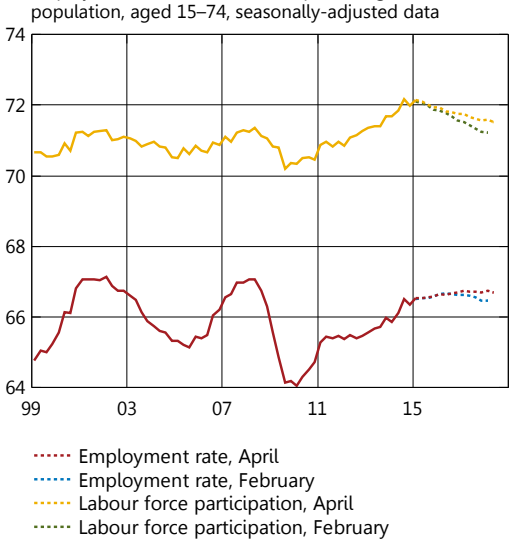
Despite a slow recovery in economic activity following the financial crisis, the labour market has developed well in recent years. Employment has increased, but unemployment has persisted as the labour force has also increased. It is assumed that the labour market will continue to strengthen in the period ahead. The demand for labour, and employment, are expected to continue to increase going forward when economic activity strengthens. However, unemployment will fall only slowly.

Labour force participation, that is the labour force in relation to the population of working age, is expected to decrease somewhat during the forecast period (see Figure 4:11). This is partly due to the fact that the population of working age (15–74 years) increasingly consists of groups with a lower average workforce participation. Against the background of demographic changes and the higher level of GDP growth, the Riksbank's assessment is that growth in both employment and the labour force will be stronger during the forecast period than was assessed in February. Unemployment is expected to fall somewhat more slowly than was assessed previously (see Figure 4:12).

Resource utilisation is lower than normal at present, although it has increased somewhat recently. This development is expected to continue during the forecast period, which indicates that cost and price pressures in the economy will increase. Rising demand abroad and in the domestic economy, supported by an expansionary monetary policy, will contribute to this development. The assessment

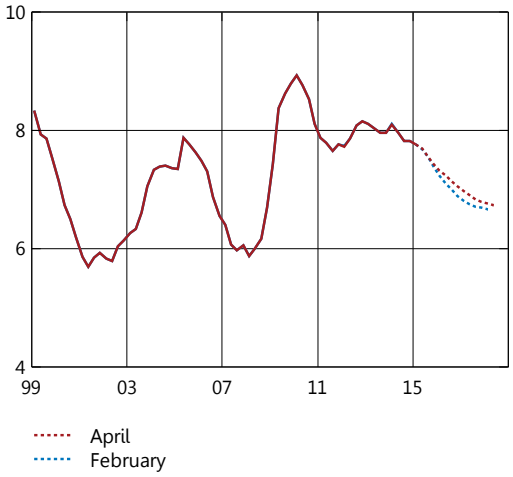
[9] The outcome for general government net lending in 2014 was revised in connection with Statistics Sweden's publication of the EDP statistics (figures on public saving and gross debt according to the EU's convergence criteria which are reported to the European Commission twice a year). In order for the statistics to be consistent with other forecast variables, the outcome relates to what was published in connection with the National Accounts.

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



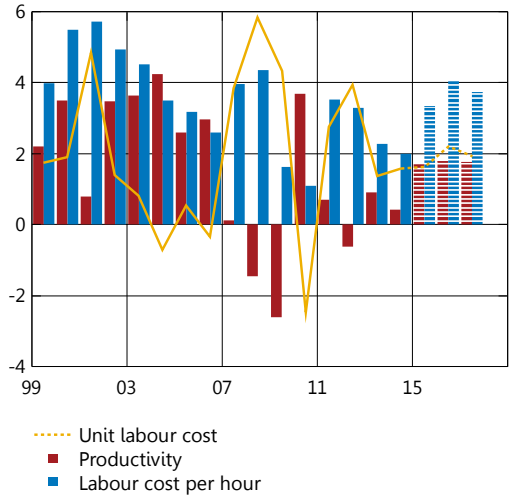
Sources: Statistics Sweden and the Riksbank

Figure 4:12. Unemployment
Per cent of the labour force, 15–74 years, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 4:13. Cost pressures in the economy as a whole
Annual percentage change



Sources: Statistics Sweden and the Riksbank

is that resource utilisation will be normal in early 2016 and thereafter somewhat higher than normal. At the end of the forecast period, unemployment will be 6.7 per cent and the employment rate will be at approximately the same level it was at before the financial crisis (see Figure 4:12).

Increased cost pressures from the labour market

According to the National Mediation Office's compilation, agreed wage increases for 2015 amount to 2.3 per cent. Next year, wage agreements for around three million employees will be renegotiated. Improvements in the development of economic activity and the labour market, more rapid productivity growth and rising inflation expectations mean that nominal wage development measured in terms of the short-term wage statistics is expected to gradually increase from 2.9 per cent this year to approximately 3.5 per cent in 2017. Higher social security contributions for young people and higher payroll taxes for older employees will lead to higher labour costs, above all in 2016.

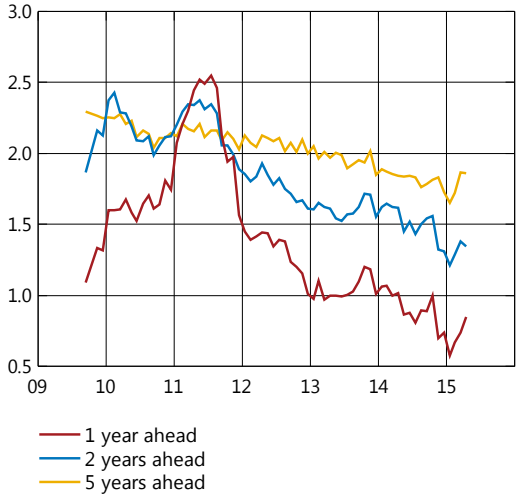
The low rate of inflation in recent years has contributed to real wages (deflated by the CPI) rising more rapidly than the historical average since 1998. Increases in real wages have also been significantly higher than productivity growth. Towards the end of the forecast period, the rate of increase in real wages is expected to have fallen back to 0.6 per cent as inflation rises.

Productivity will improve this year after having been very weak last year. Productivity is expected to increase by almost 1.8 per cent towards the end of the forecast period. The development of labour costs and productivity means that growth in unit labour costs will reach 1.9 per cent in 2017 (see Figure 4:13). This is a somewhat slower rate than assessed by the Riksbank in February.

Upturn in inflation expectations

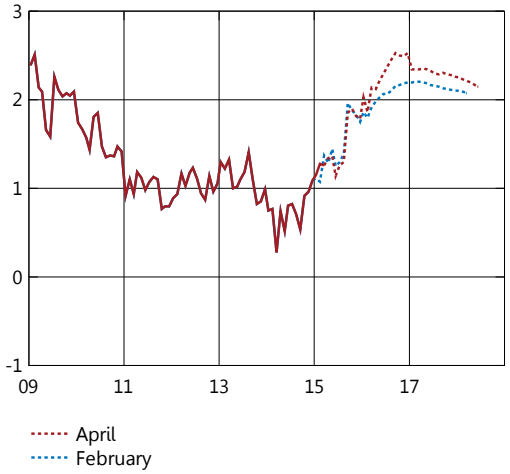
Long-term inflation expectations have shown a negative trend for some time. It now appears that this trend has reversed and that expectations are showing a cautious upturn. According to TNS Sifo Prospera's monthly survey, the money market's expectations five years ahead were at 1.9 per cent in April, which is approximately 0.2 percentage points higher than the lowest figure in January this year (see Figure 4:14). According to TNS Sifo Prospera's latest quarterly survey, employers' inflation expectations five years ahead increased to 1.8 per cent in the first quarter of this year, while employees' expectations remained at 1.7 per cent. According to the Economic Tendency Survey, household inflation expectations have risen in recent

Figure 4:14. Money market players' expectations of inflation
Per cent



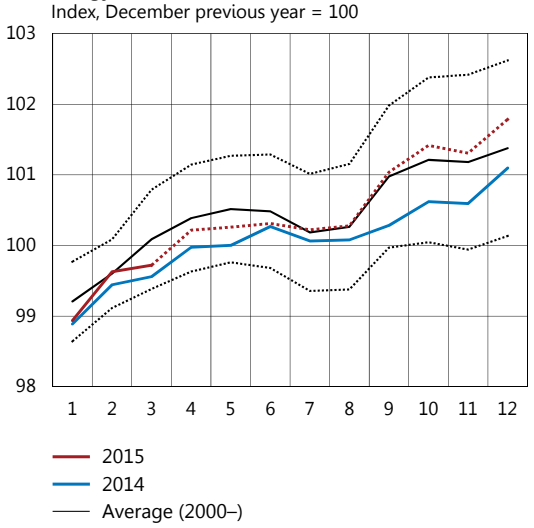
Source: TNS Sifo Prospera

Figure 4:15. CPIF excluding energy
Annual percentage change



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

Figure 4:16. Monthly development in CPIF excluding energy
Index, December previous year = 100



Note. Black dotted lines refers to 95 per cent confidence interval.
Sources: Statistics Sweden and the Riksbank

months and are at 0.9 per cent one year ahead, which is a substantial increase compared to 0.0 per cent in January.

Clear upturn in inflation in the autumn

Underlying inflation, measured for example as the CPIF excluding energy, has begun to increase but is still low. So far this year, inflation measured as a monthly change has been higher than in the corresponding period last year. For 2015 as a whole, the monthly rate of price increase in the CPIF excluding energy is expected to be marginally higher than the average since 2000. This means that inflation measured as an annual percentage change will increase rapidly in the autumn (see Figure 4:15). The upturn is expected to be particularly marked in September as monthly inflation in the comparison month, September 2014, was unusually low (see Figure 4:16).

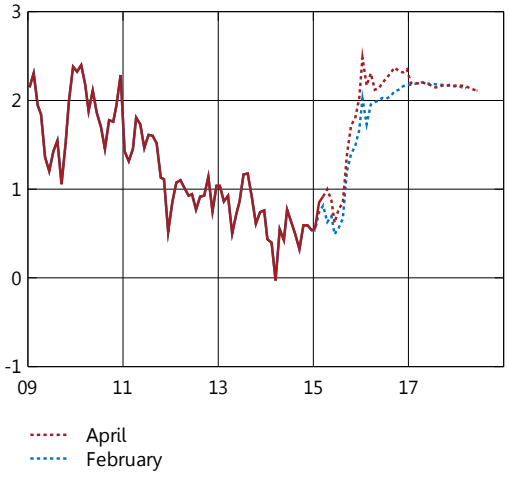
One factor that has contributed to the recent upturn in underlying inflation is the weakening of the krona that has occurred over the last 12 months. The krona is expected to remain at roughly its current level for a while longer before it begins to slowly strengthen This means that the exchange rate's contribution to higher inflation will wane during the forecast period.

CPIF expected to reach 2 per cent at the turn of the year 2015–2016

There are several explanations of why inflation is expected to rise in the period ahead. Economic activity is improving around the world, which will lead to higher international prices. International demand for Swedish goods and services is also rising, which together with steadily increasing domestic demand means that resource utilisation and unit labour costs will rise in the Swedish economy. The continuation of an expansionary monetary policy, with a negative repo rate for a long period of time and purchases of government bonds, will contribute to this and thus make it easier for the companies to raise their prices.

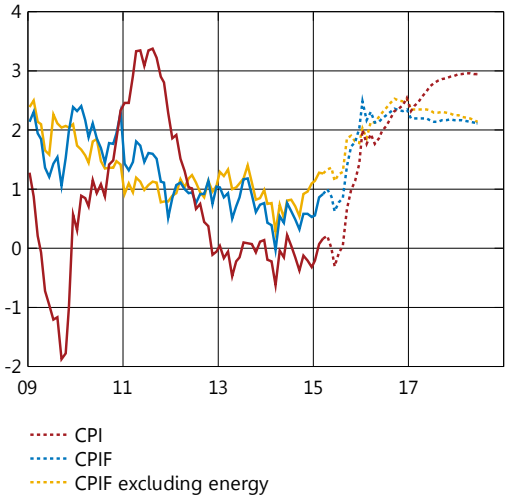
All-in-all, the revision of the inflation forecast is limited despite the more expansionary monetary policy and a weaker krona. In addition to the expansionary monetary policy, the announced changes in fiscal policy also contribute to the somewhat higher forecast for inflation in 2016 and 2017. CPIF inflation is expected to reach 2 per cent at the turn of the year 2015–2016 (see Figure 4:17). CPI inflation will also rise towards the end of the year (see Figure 4:19).

Figure 4:17. CPIF
Annual percentage change



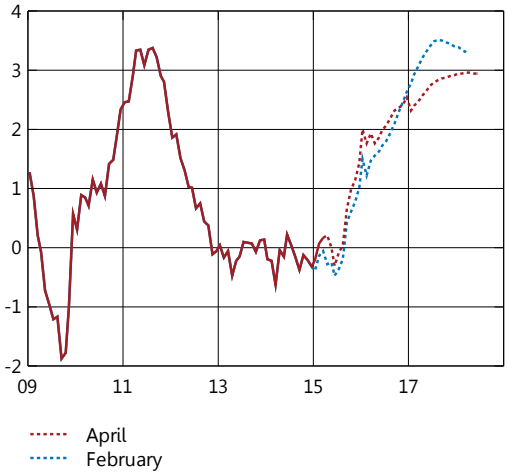
Note. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Figure 4:18. 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

Figure 4:19. CPI
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Significant differences between different measures of inflation

As in the previous forecast, it appears that oil prices and thus fuel prices will rise gradually during the forecast period. At present, however, fuel prices are considerably lower than they were a year ago, which is dampening CPIF inflation compared to inflation measured as the CPIF excluding energy. The assessment is that it is not until 2016 that fuel prices will begin to contribute positively to CPIF inflation, and the difference in relation to CPIF inflation excluding energy will be the opposite for a time (see Figure 4:18).

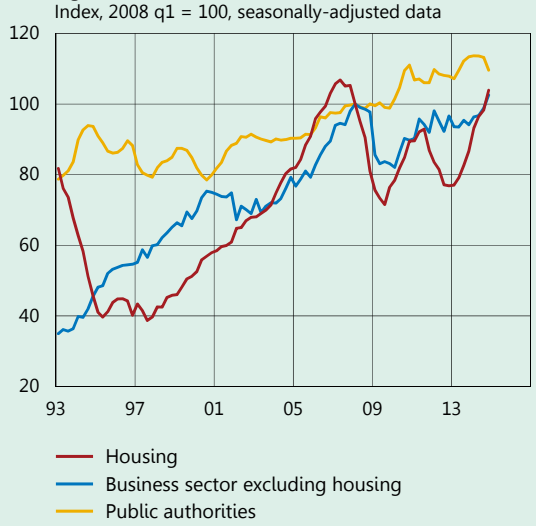
CPI inflation is currently even lower than inflation measured in terms of the CPIF as the households' interest costs are falling. Since the assessment in February, the repo rate and the repo-rate path have been lowered at the same time as monetary policy has been made even more expansionary through the Riksbank's purchases of government bonds. This entails lower interest costs for the households, particularly in 2017 and 2018, which means that CPI inflation has been revised downwards (see Figure 4:19). During periods with large interest rate adjustments, CPIF inflation, which does not include the direct effects of interest rate adjustments, provides a better picture of underlying inflationary pressures than the CPI.

Article: Is private investment low, and if so, why?

Investment in the business sector has been weak in Sweden and the euro area since the financial crisis, and has not managed to maintain the same pace as the recovery in production. This is despite expansionary financial conditions. However, prolonged downswings in investment are common in the wake of deep financial crises. The expansionary monetary policy conducted in Sweden and the euro area creates the right conditions for a strong and more lasting upturn in investment once the uncertainty over the economy in general wanes. In the euro area the upturn will occur from a very low level.

Since the financial crisis 2008–2009, Swedish investment in the business sector has developed weakly, despite expansionary financial conditions. It is only recently that they have returned to the level prevailing before the crisis. This is a trend that can also be discerned in other countries. Investment tends to vary substantially and normally accounts for a large share of the fluctuations in business cycles. The development of investment is important not just for short-term development, but also for growth conditions in the slightly longer term. Long-term growth is closely linked to a steady increase in the capital stock. A prolonged and deep decline in investment therefore risks affecting potential growth, too. The weak investment both at home and abroad therefore raises questions regarding the strength and sustainability of the global economic upturn that has begun.

Figure 4:20. Investments in Sweden 1993–2014
Index, 2008 q1 = 100, seasonally-adjusted data



Source: National Institute of Economic Research

Broad downturn in business sector investment

Investment in the business sector fell heavily in Sweden in connection with the financial crisis. Industrial and housing investments fell in particular, but the downturn was broad and could be observed in most industries. A large portion of the initial fall in investment was regained relatively quickly, but the economic downturn in the wake of the debt crisis in the euro area dampened investment in 2011 and 2012. The fluctuations in housing investment have been particularly large; these fell at most by a good 20 per cent to then rise by around 20 per cent in 2014 (see Figure 4:20). However, business sector investment excluding housing has fallen substantially and only managed to return to its pre-crisis level at the end of last year.

For the euro area as a whole, developments are reminiscent of those in Sweden until the debt crisis in 2010. However, aggregate data hide major differences between countries in the euro area. In the crisis countries – Greece, Spain, Portugal and Italy – the level of investment in the business sector is close to 40–50 per cent lower than prior to the financial crisis. The decline is to some extent explained by housing bubbles that have burst (for instance, in Ireland and Spain), but even disregarding housing investment, developments are very weak and have not yet returned to the levels prevailing before the crisis (see Figure 4:21).

What lies behind the weak investment?

Factors that are often highlighted in international studies as explanations of weak investment following the financial crisis include production changes, expectations of profits, cost of and access to credit, high indebtedness and a general uncertainty regarding economic policy.[10]

A relatively concordant result from these studies is that the decline in investment appears to be mainly explained by the lower production level and an increased economic and political uncertainty, which has made companies hesitate to invest. In some countries and market segments the lack of access to external funding may have been a contributory factor. This should have been less significant in Sweden as the transmission mechanism has functioned well in the light of the banking system being stable.

Large falls in investment common during financial crises

Compared with normal economic downturns, investment is performing weaker both in Sweden and the euro area. In the euro area, developments are largely following the pattern of

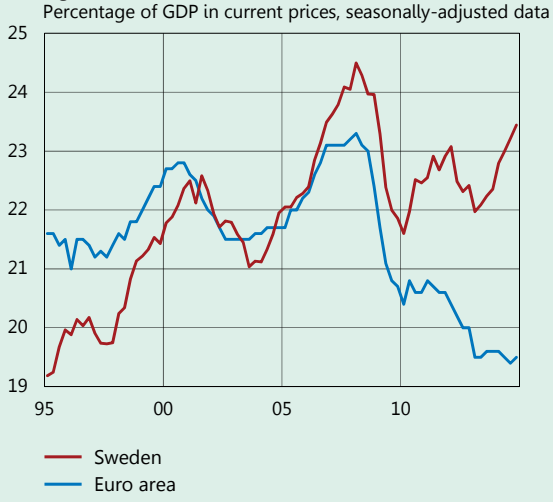
[10] See for example IMF, World Economic Outlook, April 2015 (kapitel 4). Barkbu, B, P Berkmen, P Lukyantsau, S Saksonovs och H Schoelermann (2015), "Investment in the Euro Area: Why has it been weak?", IMF Working Paper 15/32. Banerjee, R, J Kearns and M Lombardi (2015): "(Why) is investment weak?", BIS Quarterly Review, March 2015. European Invest-ment Bank (2013), "Investment and Investment Finance in Europe".

earlier serious financial crises (see Figure 4:22). The reason why the pattern looks different after financial crises than in normal economic downturns is that these have often been preceded by a large upturn in debt in the private sector, which needs to be corrected and thus dampens domestic demand.[11] This could also explain why investment in Sweden has shown a better development than in the euro area. In Sweden, investment has risen as a percentage of GDP, although it is not back at its pre-crisis level. However, one can argue that investment was unusually high in the years just before the financial crisis, and as a percentage of GDP investment is now higher than the average since 1993.

Conditions are right for an upturn in investment

In Sweden, investment increased rapidly at the end of 2014. This was partly an effect of temporary factors, but as the recovery continues, investment can be expected to continue increasing. However, the sustainability of this rise depends partly on international growth also accelerating. The euro area accounts for a good half of the demand for Swedish exports, which means developments there are decisive. The direct effect of increased investment abroad is also significant. The composition of Swedish exports, with a large share of intermediate and investment goods, means that the Swedish business cycle covaries well with investment growth abroad.

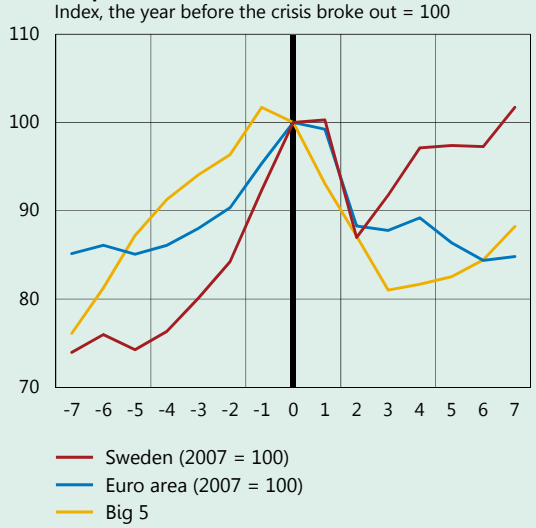
Figure 4:21. Investment ratio
Percentage of GDP in current prices, seasonally-adjusted data



Sources: Eurostat, Statistics Sweden and the Riksbank

In the euro area, too, investment increased in the fourth quarter compared with the third quarter of last year, after stagnating and then declining in the previous quarters. Several of the factors that have held back investment in the euro area can be expected to decline in significance now that economic activity is strengthening. Examples of these include the so-called financial fragmentation, with tougher credit terms and higher loan costs in the crisis countries, and the general economic and political uncertainty. Other factors are more structural in nature and expected to burden developments over a longer period of time. This applies, for instance, to expectations of lower potential growth, partly resulting from demographical developments. The planned European Fund for Strategic Investments, which aims to attract private capital by contributing a base of public funds, is expected to provide some positive contribution to the development of investment, however.

Figure 4:22. Investment in Sweden and the euro area compared with the five most serious financial crises
Index, the year before the crisis broke out = 100



Note. "Big 5" are financial crises in Spain 1977, Norway 1987, Sweden 1991, Finland 1991 and Japan 1992. T = 0 the year the crisis broke out.

Sources: OECD and the Riksbank

Given that the downswing in investment can be largely explained by the lower production level, measures to strengthen demand in the economy are necessary to raise the level of investment. The expansionary monetary policy, in the form of low interest rates and asset purchases, in both Sweden and the euro area, is one element in guiding developments in the right direction. However, structural reforms to improve competitiveness in the euro area are necessary to boost investment.

[11]. See for example Chen, S, M Kim, M Otte, K Wiseman och A, Zdzienicka (2015): "Private sector deleveraging and growth following busts", IMF Working Paper 15/35. Studies of microdata show that highly-indebted companies tend to invest relatively less than those with less debt. See also ECB (2014), "Deleveraging patterns in the euro area corporate sector", Monthly Bulletin February 2014.

Tables

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

Table 1. Repo rate forecast
Per cent, quarterly averages

	Q4 2014	Q1 2015	Q2 2015	Q2 2016	Q2 2017	Q2 2018
Repo rate	0.1	−0.1 (−0.1)	−0.3 (−0.1)	−0.3 (−0.1)	0.2 (0.8)	0.8

Source: The Riksbank

Table 2. Inflation
Annual percentage change, annual average

	2013	2014	2015	2016	2017
CPI	0.0	−0.2	0.3 (0.1)	2.1 (1.9)	2.7 (3.3)
CPIF	0.9	0.5	1.1 (0.9)	2.3 (2.0)	2.2 (2.2)
CPIF excl. energy	1.1	0.7	1.5 (1.5)	2.3 (2.0)	2.3 (2.2)
HICP	0.4	0.2	0.9 (0.9)	2.1 (2.0)	2.2 (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

	2013	2014	2015	2016	2017
Repo rate	1.0	0.5	−0.2 (−0.1)	−0.2 (0.0)	0.3 (0.9)
10-year rate	2.1	1.8	0.5 (0.8)	1.4 (1.8)	2.4 (2.8)
Exchange rate, KIX, 18 November 1992 = 100	103.0	106.7	114.1 (110.7)	110.5 (105.8)	106.4 (103.6)
General government net lending*	−1.4	−2.1 (−2.2)	−1.3 (−1.4)	−0.7 (−0.8)	−0.5 (−0.7)

* Per cent of GDP. The outcome for general government net lending in 2014 was revised in connection with Statistics Sweden's publication of the EDP statistics (figures on public saving and gross debt according to the EU's convergence criteria which are reported to the European Commission twice a year). In order for the statistics to be consistent with other forecast variables, the outcome relates to what was published in connection with the National Accounts.
Sources: Statistics Sweden and the Riksbank

Table 4. International conditions
Annual percentage change, unless otherwise stated

GDP	PPP-weights	KIX-weights	2013	2014	2015	2016	2017
Euro area	0.14	0.46	−0.4	0.9 (0.9)	1.4 (1.2)	1.8 (1.7)	2.1 (2.0)
USA	0.16	0.09	2.2	2.4	2.9 (3.6)	3.1 (3.3)	2.7 (2.5)
Japan	0.05	0.03	1.6	−0.1 (0.1)	0.4 (0.6)	0.8 (0.8)	0.4 (0.4)
China	0.15	0.08	7.8	7.5	6.5 (6.8)	6.5 (6.5)	6.3 (6.3)
KIX-weighted	0.75	1.00	1.2	2.0 (1.9)	2.0 (2.0)	2.4 (2.4)	2.6 (2.6)
World (PPP-weighted)	1.00	—	3.4	3.4 (3.3)	3.3 (3.6)	3.8 (3.9)	3.9 (3.9)

Note. Calendar-adjusted growth rates. The PPP-weights refer to the global purchasing-power adjusted GDP-weights for 2012, according to the IMF's forecasts. The National Institute of Economic Research 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 2012 that are used for 2015, and on an assumption that the weights will develop according to the trend of the past five years in the coming forecast years.

CPI	2013	2014	2015	2016	2017
Euro area (HICP)	1.4	0.4	0.1 (−0.1)	1.4 (1.2)	1.8 (1.7)
USA	1.5	1.6	0.1 (−0.3)	2.1 (2.2)	2.6 (2.7)
Japan	0.4	2.7	0.9 (0.9)	1.5 (1.5)	2.1 (2.1)
KIX-weighted	1.9	1.4	1.2 (1.0)	2.2 (2.0)	2.4 (2.3)

	2013	2014	2015	2016	2017
Policy rates in the rest of the world, per cent	0.2	0.2	0.1 (0.1)	0.1 (0.2)	0.4 (0.5)
Crude oil price, USD/barrel Brent	108.8	99.6	59.8 (54.7)	66.2 (63.0)	69.3 (67.8)
Swedish export market	1.5	2.6 (3.0)	3.9 (4.8)	5.6 (5.3)	5.9 (5.7)

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

	2013	2014	2015	2016	2017
Private consumption	1.9	2.4 (2.5)	2.9 (2.7)	2.9 (2.8)	2.7 (2.3)
Public consumption	0.7	1.9 (1.5)	2.2 (1.9)	2.7 (1.9)	1.9 (1.3)
Gross fixed capital formation	−0.4	6.5 (4.7)	4.0 (4.7)	5.6 (5.5)	4.4 (3.7)
Inventory investment*	0.1	0.2 (0.2)	0.0 (0.1)	0.0 (0.0)	0.0 (0.0)
Exports	−0.2	3.3 (2.2)	5.3 (4.8)	6.1 (6.5)	5.3 (5.0)
Imports	−0.7	6.5 (5.1)	4.9 (5.8)	6.7 (6.5)	6.1 (5.6)
GDP	1.3	2.1 (1.8)	3.2 (2.7)	3.4 (3.3)	2.7 (2.2)
GDP, calendar-adjusted	1.3	2.3 (1.9)	2.9 (2.4)	3.2 (3.1)	2.9 (2.5)
Final figure for domestic demand*	1.0	3.0 (2.6)	2.8 (2.8)	3.4 (3.1)	2.8 (2.3)
Net exports*	0.2	−1.1 (−1.0)	0.3 (-0.2)	0.0 (0.2)	−0.1 (0.0)
Current account (NA), per cent of GDP	6.9	5.8 (5.4)	5.8 (4.8)	5.5 (4.7)	5.1 (4.4)

*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

	2013	2014	2015	2016	2017
Population, aged 15–74	0.6	0.7	0.9 (0.8)	1.1 (1.0)	1.1 (1.1)
GDP, calendar-adjusted	1.3	2.3 (1.9)	2.9 (2.4)	3.2 (3.1)	2.9 (2.5)
Number of hours worked, calendar-adjusted	0.3	1.8 (2.0)	1.2 (1.1)	1.4 (1.0)	1.1 (0.8)
Employed, aged 15–74	1.0	1.4	1.4 (1.3)	1.3 (1.2)	1.2 (0.9)
Labour force, aged 15–74	1.1	1.3	1.0 (0.9)	0.8 (0.6)	0.8 (0.6)
Unemployment, aged 15–74 *	8.0	7.9	7.6 (7.6)	7.2 (7.1)	6.9 (6.7)

* Per cent of the labour force

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

Sources: Statistics Sweden and the Riksbank

Table 7. Wages and labour costs for the economy as a whole
Annual percentage change, calendar-adjusted data unless otherwise stated

	2013	2014	2015	2016	2017
Hourly wage, NMO	2.5	2.9 (3.0)	2.9 (2.9)	3.4 (3.4)	3.5 (3.5)
Hourly wage, NA	2.1	1.8 (1.7)	3.0 (3.2)	3.5 (3.7)	3.7 (3.7)
Employers' contribution*	0.2	0.2 (0.0)	0.3 (0.0)	0.5 (0.0)	0.0 (0.0)
Hourly labour cost, NA	2.3	2.0 (1.7)	3.3 (3.2)	4.0 (3.7)	3.7 (3.7)
Productivity	0.9	0.4 (−0.1)	1.7 (1.3)	1.8 (2.0)	1.8 (1.7)
Unit labour cost	1.4	1.6 (1.8)	1.6 (1.9)	2.2 (1.6)	1.9 (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

Sveriges Riksbank
SE-103 37 Stockholm

Tel +46 8 787 00 00
Fax +46 8 21 05 31
registratorn@riksbank.se
www.riksbank.se

SVERIGES RIKSBANK

MIX
Paper from responsible sources
FSC® C113148

PRODUCTION: SVERIGES RIKSBANK. PRINTING: TMG STHLM AB
ISSN 1654-1030 (print)
ISSN 2000-2076 (online)