Monetary Policy Report

October 2014

SVERIGES RIKSBANK

Correction 2014-10-31

In Table A2, p. 50, the numbers for Q4, 2014 have been corrected.

Monetary Policy Report

The Riksbank's Monetary Policy Report is published three times per year. The report describes the deliberations made by the Riksbank when deciding what would be an appropriate monetary policy.[1] The report contains a description of the future prospects for inflation and economic activity based on the interest rate path that the Riksbank currently considers will provide a well-balanced monetary policy. Each report also contains a description of the new information received since the previous report and an assessment of how the Riksbank views the current economic situation.

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)). In the spring this takes the form of a report entitled "Account of Monetary Policy". In the autumn it takes the form of the Monetary Policy Report.

The Executive Board decided to adopt the Monetary Policy Report at its meeting on 27 October 2014. The Report is available on the Riksbank's website, www.riksbank.se. From this address a printed version of the report can be ordered free of charge or the report can be downloaded as a PDF file.

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 8 787 00 00

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

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

Monetary Policy in Sweden

MONETARY POLICY STRATEGY[2]

- 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 with a view to achieving sustainable growth and high employment. This is achieved through the Riksbank, in addition to stabilising inflation around the inflation target, also striving to stabilise production and employment around long-term sustainable paths. 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, among other things, its own assessment of the future path for the repo rate. The interest 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 for monetary policy to be well-balanced. A well-balanced monetary policy is normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy.
- There is no general answer to the question of how quickly the Riksbank aims to bring the inflation rate back to 2 per cent if it deviates from the target. A rapid return may in some situations have undesirable effects on production and employment, while a slow return may have a negative effect on confidence in the inflation target. The Riksbank's ambition has generally been to adjust the repo rate and the repo rate path 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 repo rate 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 during a year, at which it makes decisions regarding the repo rate. In connection with three of these meetings, a Monetary Policy Report is published and in connection with the other three meetings, a Monetary Policy Update 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 interest rate decision and to see the arguments made by the different Executive Board members.

PRESENTATION OF THE INTEREST RATE DECISION

The interest rate 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 of the Executive Board voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

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

Contents

CHAPTER 1 – The economic outlook and inflation prospects

Economic activity in the world as a whole is expected to continue to slowly improve but the difference between regions remains considerable. The economic outlook for the United States and the United Kingdom is good, while the recovery in the euro area is expected to be even slower than in previous assessments. The forecasts for global inflationary pressures have also been revised downwards and several of the world's central banks are expected to continue to conduct a highly expansionary monetary policy for some time to come.

In Sweden, economic activity continues to improve, primarily driven by household consumption and housing investment. Consumption is also expected to continue to be an important driving force for growth going forward. Exports have been held back by the weak economic development in the euro area, but will strengthen in the period ahead in line with the recovery of global economic activity. The labour market will continue to strengthen in the years ahead and there will be a clear fall in unemployment.

Despite the fact that both GDP and employment have increased at a relatively good rate over the last 12 months, inflation has continued to be lower than expected. As the assessment is that inflationary pressures will also be lower than in earlier forecasts, monetary policy now needs to be even more expansionary for inflation to rise towards the target. The Executive Board of the Riksbank has decided to cut the repo rate to zero per cent and the repo rate will need to remain at this level until inflation has really picked up. The assessment is therefore that it will not be appropriate to begin raising the repo rate until mid-2016. With this low repo rate for a long period of time, it becomes increasingly urgent for other policy areas to manage the risks associated with household indebtedness and developments on the housing market.

Summary

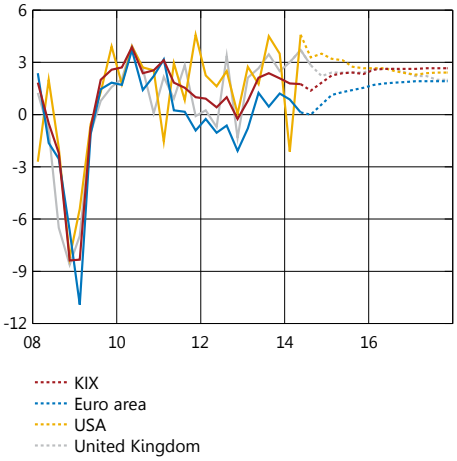
Gradual but uneven recovery in the global economy

For some time now the global economy has been marked by a recovery that is progressing slowly but unevenly in different countries and regions. Growth is low in the euro area, hampered, among other things, by the high level of public and private debt. Growth in the German economy has slowed down, which can partly be related to the impact of the conflict in Ukraine on German exports. Germany's ability to act as one of the key drivers for growth in the euro area has thus been undermined. Growth has slowed down somewhat in China too, but is still relatively high. Growth has also come to a halt in other major emerging economies such as Russia and Brazil. However, the situation is the opposite in the United States and the United Kingdom. Their economies are expected to grow at a comparatively good rate during the forecast period.

Inflation in the global economy is currently low partly as a result of weak demand, which has also contributed to lower oil and food prices. However, inflation is expected to rise somewhat during the forecast period as global demand gradually increases.

Given the generally subdued level of demand and the low level of inflation, central banks around the world are conducting a highly-expansionary monetary policy. However, they are in different phases. The ECB may increase its measures to stimulate the economy, while according to market pricing it is most probable that the Federal Reserve

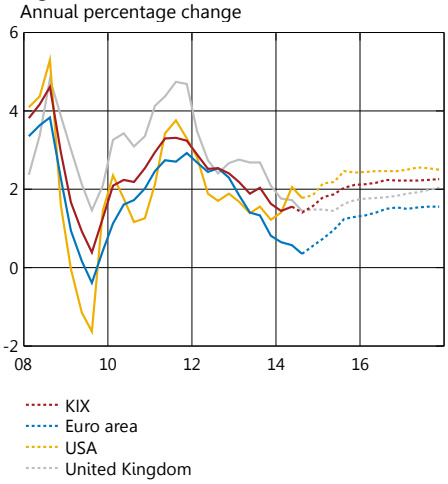
Figure 1:1. Growth in various countries and regions
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



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

Figure 1:2. 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

and the Bank of England will begin to raise their policy rates during the second half of 2015.

Overall, the global economy is expected to grow by just over 3 per cent this year and by just under 4 per cent per year in the period 2015 to 2017. This is a somewhat lower forecast than the one in the Monetary Policy Update in September. This downward revision is primarily a result of the assessment that development in the euro area will be weaker.

GDP growth aggregated on the basis of different countries' significance for Swedish trade, KIX, is also expected to be lower than the assessment in September. The weak development in the euro area, which is a region of great significance to Sweden, contributes to the fact that KIX-weighted growth is expected to be slower than global growth. The assessment is that KIX-weighted growth will be just under 2 per cent this year, just over 2 per cent in 2015 and approximately 2.5 per cent towards the end of the forecast period (see Figure 1:1).

The inflation rate in KIX-weighted terms is expected to rise somewhat as global resource utilisation increases, from 1.5 per cent this year to just over 2 per cent at the end of the forecast period (see Figure 1:2).

■ Recovery continuing in Sweden

The slow recovery abroad is reflected in the fact that Swedish exports have been subdued for some time. On the other hand, domestic components of demand such as households consumption and housing investment have increased relatively quickly. Exports and investment are expected to increase more rapidly as international demand increases. GDP growth is expected to amount to 1.9 per cent this year and 2.7 per cent next year (see Figure 1:3).

Employment and the number of hours worked have increased relatively quickly during the year. However, unemployment remains high because the inflow to the labour force has also been high. It is expected that the gradual improvement in economic activity will contribute to a further strengthening of the labour market, and unemployment is expected to fall more significantly in the years ahead. The unemployment rate is expected to be 6.5 per cent at the end of 2017.

Inflation is low and has been lower than expected on repeated occasions over the last 12 months. In September, the rate of inflation was once again a surprise on the downside. This indicates that domestic inflationary pressures are not only very low but also lower than the assessment in September. Together with weaker international price pressures, this means that inflation is also expected to be lower during the next two years. Falling fuel prices also contribute to the downward revision. It is now assessed that it will take longer for inflation to reach 2 per cent, despite a more expansionary monetary policy. Wages and prices are expected to rise at a faster pace as resource utilisation increases. Import prices are also expected to increase and contribute to rising inflation. CPIF inflation is expected to reach 2 per cent in the first half of 2016 (see Figure 1:4). When the repo rate is eventually raised,

today's very low mortgage rates will rise and CPI inflation will rise faster than CPIF inflation. In 2017, the CPI is expected to increase by over 3 per cent per year (see Figure 1:5).

■ Zero repo rate until inflation really picks up

Despite the fact that both GDP and employment have increased at a relatively good rate over the last 12 months, inflation has continued to be lower than expected and the assessment is that inflationary pressures will also be lower than previously assessed. Monetary policy therefore needs to be even more expansionary to get inflation to rise towards the target and the Executive Board of the Riksbank has therefore decided to cut the repo rate to zero per cent. The repo rate needs to remain at this level until inflation really picks up. The assessment is therefore that it will not be appropriate to begin raising the repo rate until mid-2016 (see Figure 1:6). With this low repo rate for a long period of time, it becomes increasingly urgent for other policy areas to manage the risks associated with household indebtedness and developments on the housing market.

Slow recovery abroad

Increased uncertainty on the financial markets

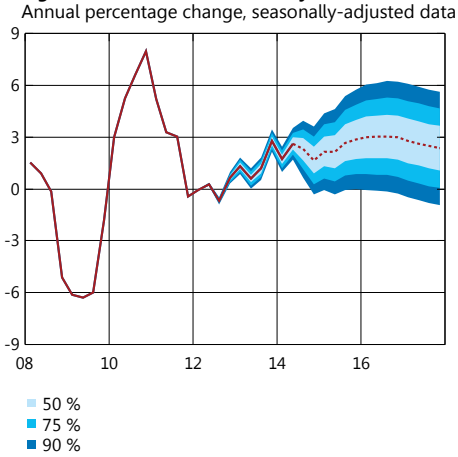
The slow global recovery and the relatively weak growth prospects have affected the financial markets recently. The demand for risk assets has decreased, share prices have fallen on several stock markets and uncertainty measured using a volatility index has increased.

On the fixed-income market, uncertainty is reflected in the shift in demand from bonds that carry a higher risk to government bonds with a high credit rating, which has led to an increase in the yield differential between these assets. There is a risk that the recent turbulence on the financial markets will affect various indicators of confidence in the economy. However, the general attitude of market participants is that movements have been unexpectedly large in relation to the information that has been received recently. This could indicate that the uncertainty is of a more temporary nature.

■ Monetary policy still expansionary, but different preconditions

The world's central banks continue to conduct an expansionary monetary policy with very low policy rates. However, growth prospects and expectations of the central banks differ between different countries and regions. Given the relatively positive course of development in the United States, the Federal Reserve is expected to cease its asset purchases during the autumn of 2014. However, the concern about global growth and the uncertainty on the financial markets has resulted in market pricing indicating a first policy-rate increase during the autumn 2015, a few months later than was expected in September. In the United Kingdom the economy has continued to develop well, but here too expectations of a first policy-rate increase have been moved forward. Market pricing indicates a first increase early autumn 2015.

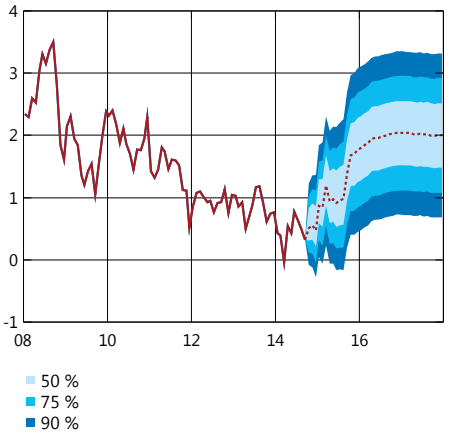
Figure 1:3. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



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

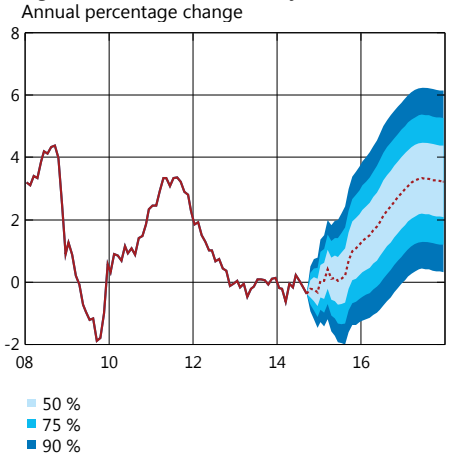
Figure 1:4. CPIF with uncertainty bands
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

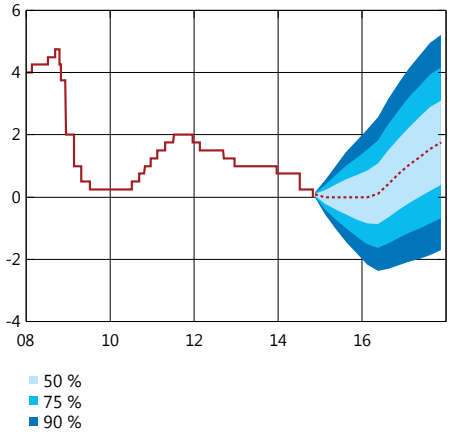
Figure 1:5. CPI with uncertainty bands
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

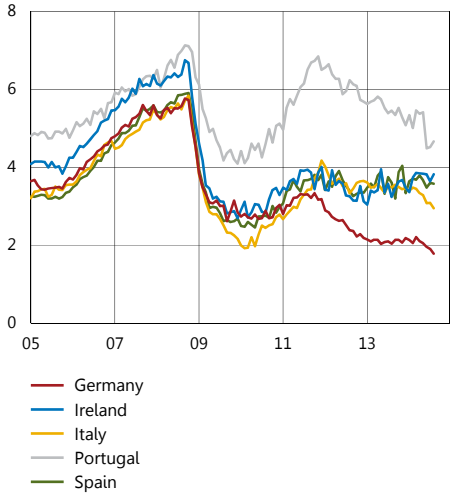
Figure 1:6. Repo rate with uncertainty bands
Per cent



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

Source: The Riksbank

Figure 1:7. Lending rates for companies in the euro area
Per cent



Note. MFIs' lending to non-financial companies, new contracts.

Source: ECB

Due to the weaker development in the euro area, the ECB cut its policy rate to 0.05 per cent and its deposit rate to −0.20 per cent in early September. At the same time, the ECB announced further support measures in the form of two programmes for the purchase of mortgage-related securities so-called asset-backed securities (ABS), and covered bonds. These are designed to reinforce the targeted, four-year loan facilities, the so-called Targeted Long-Term Refinancing Operations (TLTRO), which aim to strengthen bank lending. The low inflation and weak growth of recent months have also increased the market's expectations that the ECB will follow up its earlier measures with additional expansionary stimulus. Despite the monetary policy stimulus, the assessment is that inflation will be below the ECB's target of a rate of inflation under but close to 2 per cent in the years ahead. The ECB is not expected to begin raising its policy rate until towards the end of 2017.

■ Continued subdued growth in the euro area

Development is still weak in the euro area. The slowdown in growth during the first half of the year is due to the fact that global demand has fallen at the same time as activity in the domestic economy is held back by the ongoing downward adjustment of private and public debts and by slower wage and price increases with the aim of improving competitiveness. Increased uncertainty linked to geopolitical unease has also affected exports and the willingness to invest. A particularly worrying factor is that the German economy, shows clear signs of slowing down. It appears that the French economy will continue to stagnate during the second half of the year, hampered by structural problems and a weak labour market. Italy has already experienced two quarters with falling GDP and the slow pace of reform means that the economic outlook looks gloomy. Of the larger economies, only Spain is showing positive development. Spain is now benefiting from the ambitious reforms implemented in a number of areas since the outbreak of the financial crisis.

There is no clear domestic driving force for growth in the euro area, which is therefore largely dependent on developments outside the region for growth to pick up. The recent weakening of the euro, which has accentuated since the beginning of September, is expected to a have some positive effect on export volumes, though with a time lag. However, this will probably only partly outweigh the weaker domestic demand in the euro area.

High public and private debts in many euro countries have meant that the recovery has proceeded much more slowly than what would historically be regarded as a normal recovery. The recovery also seems to be taking longer in comparison with the situation following previous major banking crises. The fact that companies and households in the problem countries are still having to pay higher interest rates than in other euro countries is hampering the recovery (see Figure 1:7). The euro area has not yet made as much progress in its debt adjustment process as the United States and it is assumed that the process will continue in

the years ahead and have a dampening impact on growth, although to a lesser and lesser extent.

Several factors are nevertheless expected to contribute to the beginning of a slow recovery in the euro area. It is assumed that lending will pick up again at the same time as fiscal policy will be less tight. Exports are expected to be supported by the weaker exchange rate, and lower energy prices are expected to provide increased scope for consumption. An important precondition for growth to accelerate is that the reform and debt-adjustment processes in the euro area continue.

The banking sector in the euro area has significantly strengthened its capital situation, which indicates that lending will eventually improve. The ECB recently published an Asset Quality Review of the 130 largest banks in the euro area and stress tests of the banks' balance sheets. This review, which was based on how balance sheets looked at the end of 2013, showed a capital deficit of a total of EUR 25 billion in 25 of the banks involved. Twelve of these banks have already taken in new capital during 2014, while the remainder have a period of nine months in which to cover deficits totalling EUR 10 billion.

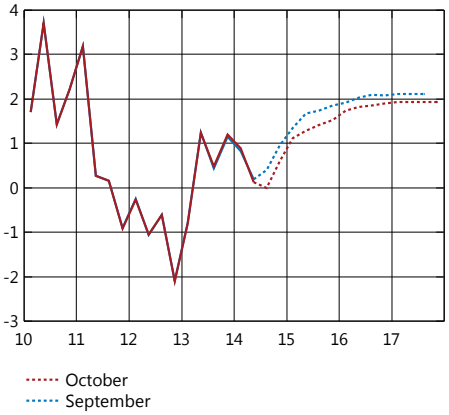
The ECB's Targeted Long-Term Refinancing Operations (TLTRO) are expected to facilitate lending going forward, although it can be assumed that the effect will be somewhat smaller than was assumed in the forecast in July given the low allocation in connection with the first auction in September. Investment, which has also been held back by uncertainty about economic activity and geopolitical unease, is thus expected to begin slowly increasing as there is a pent up need to invest following the prolonged downturn. The fact that the companies have made some progress in their debt adjustment processes also contributes to this.

These measures need to be complemented by continued structural reforms in, for example, the labour market and the service sector. Although some progress has been made, for example in Spain, the reform process is progressing sluggishly in general. The forecast is based on the reform process continuing at the same pace as previously, but more ambitious reforms are required to generate even stronger growth in the long term.

It is assumed that private consumption will benefit from an increase in real disposable incomes, which will rise as a result of a gradual improvement on the labour market and low inflation. However, unemployment is nevertheless expected to be high throughout the forecast period. Following several years of stringent austerity measures, fiscal policy is expected to be largely neutral during the forecast period.

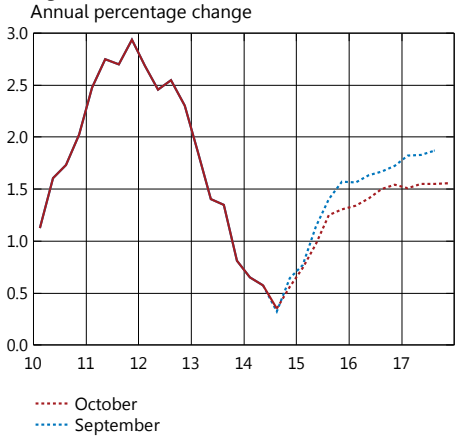
All-in-all, it is expected that GDP growth in the euro area will continue to be weak. It is not until towards the end of 2016 that GDP in the euro area is expected to get back to the levels that prevailed before the financial crisis. It is assumed that GDP growth will reach 0.9 per cent in 2015 and rise to 1.9 per cent at the end of the forecast period. Compared with the assessment made in September, the forecast for the euro area has been revised downwards (see Figure 1:8).

Figure 1:8. GDP in the euro area
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Eurostat and the Riksbank

Figure 1:9. Inflation in the euro area
Annual percentage change



Note. Inflation measured using the HICP.
Sources: Eurostat and the Riksbank

Low inflation in the euro area

It is assumed that HICP inflation in the euro area bottomed out at 0.3 per cent in September. One factor that has particularly dampened inflation is that energy and food prices have fallen relatively quickly. The assessment is that low resource utilisation and ongoing cost-adjustment processes in the problem countries in order to improve their competitiveness will continue to hold down inflation in the years ahead. The recent weakening of the euro means that energy prices, despite a lower oil price in dollars, are expected to make a larger positive contribution to HICP inflation in 2015–2016 than was assumed in September. However, this effect will be counteracted by the assumption that weaker demand will lead the companies to accept lower profit margins for some time to come. Inflationary impulses from the labour market are also very weak, at the same time as inflation expectations have continued to fall.

All-in-all, HICP inflation is not expected to rise above 1 per cent until mid-2015, and is expected to be only 1.5 per cent at the end of 2017. Compared with the September Monetary Policy Update, the inflation forecast has been revised downwards, above all in the slightly longer term (see Figure 1:9).

US economy relatively strong

In the United States, the economy has recovered following the weak beginning to the year, and the indicators suggest that growth will remain good over the coming quarters. Corporate confidence is high, the figures for new orders are strong, profits are high and credit conditions have improved. The labour market also continues to improve, with rising employment and falling unemployment. The assessment is that the gradual recovery on the labour market will lead to increased incomes for the households which will contribute to a continued increase in consumption and a continued moderate improvement on the housing market.

The assessment of the US economy is largely the same as in the Monetary Policy Update in September. GDP growth is expected to increase from just over 2 per cent this year to an average of 3 per cent in 2015 and 2016. Growth will decline somewhat towards the end of the forecast period as the economy approaches full resource utilisation (see Figure 1:1). The assessment is that inflation will be somewhat lower in the period immediately ahead since that energy prices have fallen. However, inflation is expected to begin rising again in the latter part of the year and to approach the Federal Reserve's inflation target towards the end of next year (see Figure 1:2). The recovery will be supported by an ongoing expansionary monetary policy.

Good growth on important export markets

In the United Kingdom, GDP growth is expected to be 3 per cent this year and then to gradually decline during the forecast period (see Figure 1.1). Domestic demand is expected to remain strong in the years ahead as a

result of low interest rates, less tight fiscal policy and rising real incomes among the households. Exports will also increase more rapidly as global growth increases. The inflation forecast for this year and next year has been revised downwards somewhat but the assessment is that inflation will be in line the Bank of England's inflation target of 2 per cent at the end of the forecast period (see Figure 1:2).

In the Norwegian economy, resource utilisation and unemployment are close to normal levels. The companies in Norges Bank's regional network expect to see stable growth in production in the quarters immediately ahead. Housing investment is expected to begin rising somewhat more rapidly going forward following a period of weak investment. This, together with a gradual strengthening of economic activity abroad and a slight reduction in the consumers' propensity to save, means that GDP growth in Norway will gradually approach the average of the last two decades of just under 3 per cent. The forecast for inflation is slightly below the target of 2.5 per cent during the forecast period.

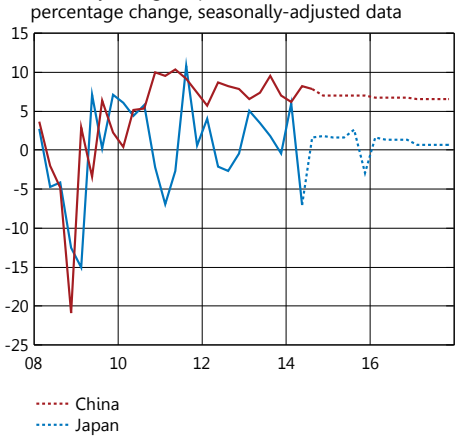
In Denmark, a slow and uneven recovery is underway, hampered by a weak export market but supported by a continued improvement in the situation on the housing market. GDP growth is increasing gradually in pace with the recovery in the euro area, which is strengthening the demand for Danish exports. In addition, it is expected that the Danish households will see less need to continue to reduce their debts going forward. This will contribute to a more rapid increase in household consumption. During the latter part of the forecast period, GDP is expected to grow by around 2 per cent per year. Inflation is low at present as a result of weak resource utilisation, but will increase gradually and is expected to reach 2 per cent in 2016.

■ Slowdown in China, but growth still high

In China, a transition of the economy is taking place with the aim of making growth less dependent on investment and exports and more oriented towards private consumption. In combination with the measures taken by the authorities to dampen growth in credit, this is expected to hold back GDP growth in the years ahead. The government's fiscal-policy stimulus measures in the spring led to strong GDP growth during the second quarter, but the effects of this are waning and growth is expected to slow down somewhat. It is estimated that China's GDP growth will gradually weaken from just over 7 per cent this year and next year to approximately 6.5 per cent in 2017 (see Figure 1:10). Inflation is expected to rise to just under 3 per cent during the forecast period (see Figure 1:11).

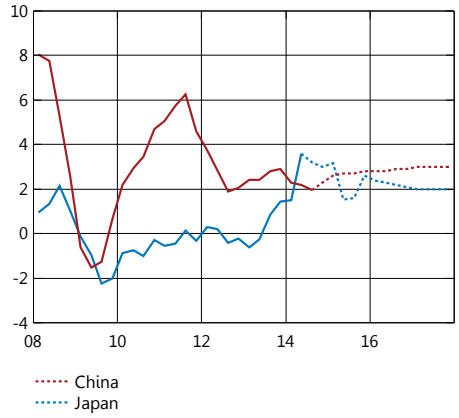
The outlook for several other emerging economies has deteriorated during the year. For example, the growth forecast for Brazil has also been revised downwards compared with the forecast in the Monetary Policy Update in September. In Russia, growth is expected to be practically non-existent in 2014 and 2015, largely as a result of the events in Ukraine and the subsequent sanctions. The fall in the oil price since the spring has also had a negative impact on the Russian economy.

Figure 1:10. GDP in China and Japan
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



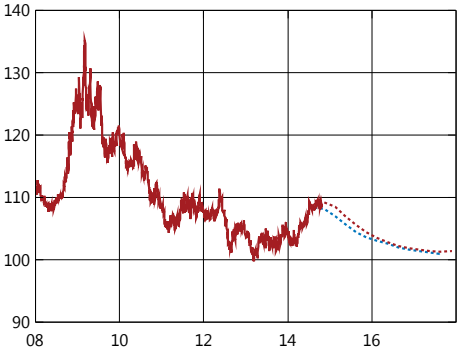
Sources: Japanese Cabinet Office, and National Bureau of Statistics of China and the Riksbank

Figure 1:11. CPI in China and Japan
Annual percentage change



Sources: National Bureau of Statistics of China, Statistics Bureau of Japan and the Riksbank

Figure 1:12. KIX-weighted nominal exchange rate
Index, 18 November 1992 = 100

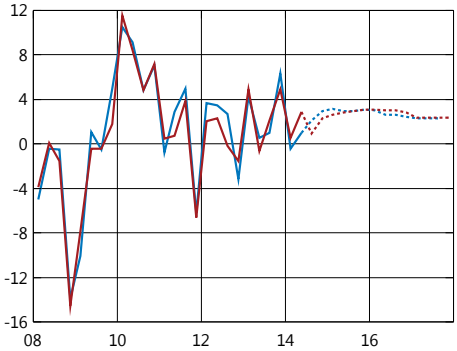


October
September

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

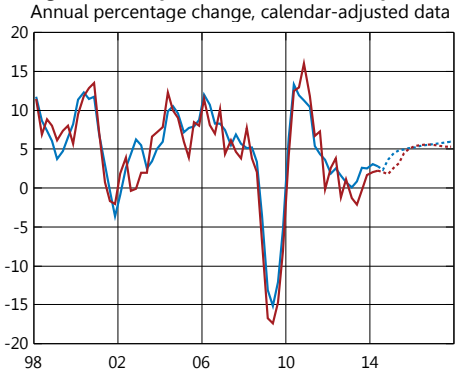
Figure 1:13. GDP
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



October
September

Sources: Statistics Sweden and the Riksbank

Figure 1:14. Exports and the Swedish export market
Annual percentage change, calendar-adjusted data



Swedish export
Swedish export market

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

Sources: Statistics Sweden and the Riksbank

In Japan, growth has benefited from a very expansionary economic policy. However, the VAT increase in April meant that many households brought forward purchases to the first quarter, which led to a substantial fall in GDP in the second quarter. The recovery following the VAT increase has been slower than expected, which indicates an underlying weakness in the Japanese economy and an ongoing need for structural reforms. The forecast for GDP growth in 2014 has thus been revised downwards somewhat and growth is expected to be below 1 per cent per year throughout the forecast period (see Figure 1:10). Inflation is expected to be close to 2 per cent, which is the Japanese central bank's inflation target (see Figure 1:11).

■ Gradual strengthening of relatively weak krona

The exchange rate for the Swedish krona has been largely unchanged since the Monetary Policy Update in September, in both nominal and real terms. The krona has thus remained at a weaker level since the Riksbank cut the repo rate in July. In terms of individual currencies, the krona has continued to weaken against the US dollar and sterling, but to strengthen somewhat against the euro. Movements on the foreign exchange market have been relatively large in recent months, which is mainly reflected in a strengthening of the US dollar against most other currencies.

The strengthening of the dollar is expected to prevail in the quarters immediately ahead and to affect the krona exchange rate in trade-weighted terms. Together with the Riksbank's lowering of the repo rate, this will result in a somewhat weaker krona in the quarters ahead compared with the forecast in September. However, the krona is expected to gradually strengthen during the forecast period, in both nominal and real terms, as it is assessed that the real exchange rate is currently weaker than its long-term level (see Figure 1:12).

Chapter 2 studies scenarios in which the krona either strengthens or weakens in connection with a significantly weaker course of development than expected in the euro area.

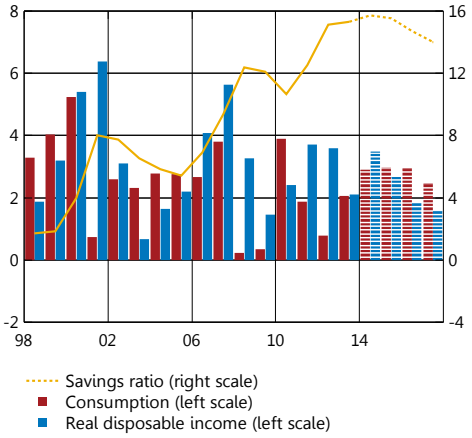
The recovery is continuing in Sweden

■ Strong household sector and gradually stronger exports

GDP growth picked up again in the second quarter following a weak beginning to the year. Household consumption and housing investment increased rapidly. Exports also increased, but as import growth was significantly higher net exports made a negative contribution to GDP growth. The new calculations from the National Accounts in September have resulted in the level of GDP being higher than previously, but the rate of growth has been less affected (see the article "Revisions to the National Accounts"). Consumption is expected to continue to increase at a good rate in the quarters ahead. A gradual strengthening of economic activity abroad also means that exports and corporate investment will be increasingly important to GDP growth from the beginning of next year.

GDP is expected to grow at a rate of 1.9 per cent this year and 2.7 per cent next year. During 2016 and 2017, GDP will grow by 3.3 and 2.3 per cent respectively (see Table 5). Compared to the assessment in the Monetary Policy Update in September, GDP growth is now expected to be somewhat higher this year, as a result of higher outcomes, but somewhat lower in 2015 as a result of weaker economic activity abroad (see Figure 1:13).

Figure 1:15. Households' real disposable income, 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

■ Gradual increase in exports

Export growth has been relatively weak in recent years. This is partly due to the fact that investment growth in many of Sweden's most important trading partners has been subdued and to the composition of Sweden's exports, with a large proportion of intermediate and investment goods. As investment increases and international growth picks up, exports are expected to increase more rapidly. However, compared to previous recovery phases both the export market and Swedish exports are increasing more slowly (see Figure 1:14).

Stronger demand on both the domestic and export markets going forward also means that the demand for imported goods and services will increase. This year, imports are expected to increase faster than exports, and net exports will therefore subdue GDP growth. The difference between growth rates for exports and imports is expected to shrink in the years 2015–2017, and the contribution to growth from foreign trade is expected to be close to zero. The weakening of the krona this year will contribute to this development.

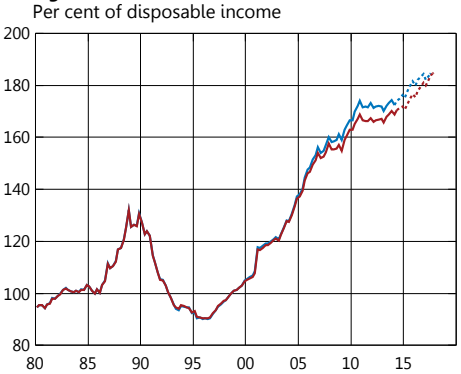
■ Housing investment remains high

Housing investment increased by approximately 25 per cent in the first half of this year compared to the same period last year. At the same time, the development of investment in other areas of the business sector has been weak. The subdued level of corporate investment relates to the fact that exports have not really picked up yet. Low interest rates and favourable funding conditions suggest that investments in other areas of the business sector will begin to increase when demand broadens and resource utilisation increases. Housing investment is expected to remain around the current high level, but is not expected to increase very much and will therefore provide a gradually decreasing contribution to investment growth in the period ahead.

■ Continued strong growth in consumption

According to the confidence indicator of the National Institute of Economic Research, household sentiment is good, which is reflected in rapidly rising housing prices and a rapid increase in consumption in the second quarter. Despite this, household saving as a proportion of household income is still high following the increase of recent years. In the new National Accounts, the figures for household income and household saving have been revised upwards significantly. The assessment is that the new higher levels will not have any great impact

Figure 1:16. Household debt ratio
Per cent of disposable income

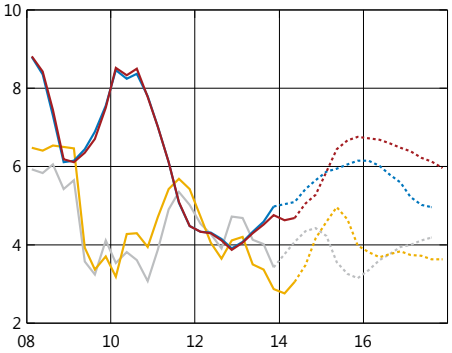


October
September

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

Sources: Statistics Sweden and the Riksbank

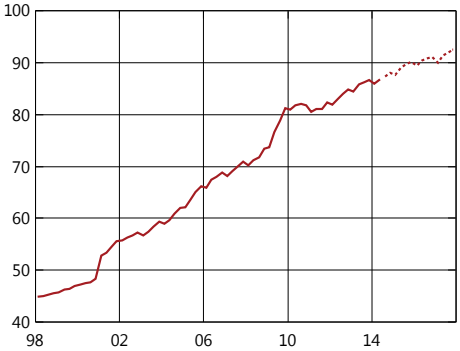
Figure 1:17. Household debt and disposable income
Annual percentage change



Household debt, October
Household debt, September
Disposable income, October
Disposable income, September

Sources: Statistics Sweden and the Riksbank

Figure 1:18. Household debt
Per cent of GDP in current prices



Note. Households' total debts as a share of GDP. Totalled over the past four quarters.

Sources: Statistics Sweden and the Riksbank

on the development of consumption going forward (see the article "Revisions to the national accounts"). Household confidence is expected to increase further as economic activity strengthens and precautionary saving will decrease. The assessment is thus that the households will continue to consume at a relatively good rate despite the fact that monetary and fiscal policy are together expected to be slightly less expansionary in the years ahead. This will have a dampening effect on the households' disposable incomes (see Figure 1:15). A larger proportion of the households' incomes will go to paying interest rates when interest rates eventually rise (see the article "The households' interest-rate sensitivity").

■ Highly-indebted households

Housing prices and household indebtedness have increased increasingly rapidly in recent months. Low interest rates in combination with a limited supply of housing are expected to contribute to an ongoing increase in housing prices too in the years ahead. This will contribute to an increase in household wealth but also lead to an increase in household indebtedness as housing purchases are largely funded with loans.

Household indebtedness is high in both a historical and international perspective.[3] After having remained relatively stable since mid-2010, the figure for debts as a percentage of disposable income has begun to rise again over the last 12 months (see Figure 1:16). Debts are estimated to increase more quickly than incomes over the next few years, which means that the debt ratio will increase. Compared with the assessment in September, the lower repo rate is expected to contribute to a somewhat higher growth in debt in the years ahead (see Figure 1:17). The debt ratio as a percentage of disposable income will reach 185 per cent at the end of 2017. Household debt will also increase as a percentage of GDP (see Figure 1:18).

■ Tighter fiscal policy

General government net lending in 2013 amounted to −1.3 per cent of GDP. The deficit has grown in 2014 and is expected to reach −2.3 per cent of GDP. General government net lending normally strengthens in an upturn and the forecast is that it will gradually improve to −0.4 per cent of GDP in 2017. The Riksdag (the Swedish parliament) has not yet decided on a national budget for 2015. The Riksbank assumes that the new government will implement the measures presented in the budget bill. This entails tax increases amounting to approximately SEK 25 billion in order to fund increases in expenditure of the same amount, for example higher spending on schools and to raise the ceiling in the unemployment insurance scheme. It is assumed that the government will thereafter take budget-strengthening measures totalling SEK 20 billion in 2016 and 2017. Fiscal policy is thus expected to dampen growth somewhat during the forecast period. A strict interpretation of the

[3] However, Statistics Sweden's new calculations of household disposable incomes mean that the debt ratio as a percentage of disposable income is now lower than previously (see the article "Revisions to the National Accounts").

budget policy framework could, as in the assessment in September, justify an even tighter fiscal policy in order to bring general government net lending closer to the surplus target. The Riksbank will gradually adjust its assumptions regarding fiscal policy as the budget measures are announced.

■ Current account and private saving falling

The surplus on the current account that Sweden has had for almost 20 years is matched by the high level of total financial saving (see Figure 1:19). Saving has been high in recent years in the household sector, while it has been weak in the business sector and negative in the public sector. The households are expected to reduce their saving in the years ahead, and increasing investment means that the business sector will do the same. However, public saving will move in the opposite direction and gradually increase in these years. All-in-all, the current-account surplus will fall in the years ahead, from 5.6 per cent in 2014 to 4.6 per cent in 2017.

■ The labour market continues to strengthen.

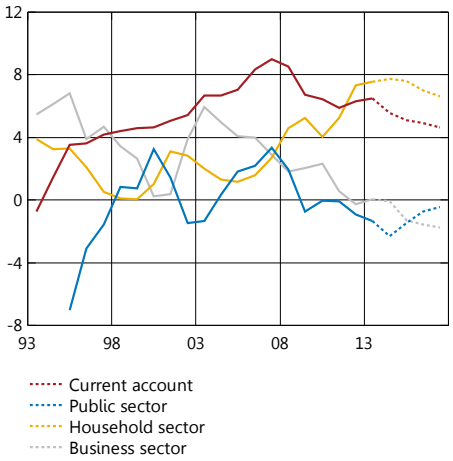
Employment continued to increase at a good rate during the third quarter. However, the fact that labour force participation is high means that unemployment is falling more slowly. Forward-looking indicators of the demand for labour, for example the number of job vacancies, indicate that the labour market will continue to strengthen during the rest of the year. In relation to the more subdued growth of GDP, the development of the labour market has been strong this year.

As economic activity strengthens in 2015–2017, the demand for labour will rise. Employment is thus expected to increase and unemployment to fall more markedly. The assessment is that the employment rate for the 15–74 age group, that is the number of those employed as a percentage of the population in this age group, will be 66.5 per cent toward the end of the forecast period (see Figure 1:20). Unemployment will then have fallen to 6.5 per cent (see Figure 1:21).

Weaker growth in Sweden and abroad means that the number of hours worked and employment are expected to increase marginally more slowly in the years immediately ahead than was assessed in the Monetary Policy Update in September. Unemployment will therefore fall somewhat more slowly.

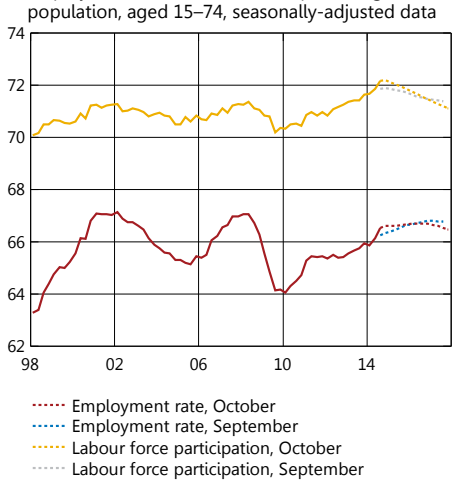
The population of working age (15–74) is expected to grow more in the years immediately ahead than was previously expected because the Swedish Migration Board has increased its forecast for the number of refugees coming to Sweden. The Riksbank's assessment of the supply of labour has therefore been revised upwards too. However, the addition to the labour force will not be as great as the actual increase in the population. This is because the composition of the population is changing, so that groups with a lower average workforce participation comprise a larger percentage. Unemployment will also be higher during the forecast period, as the labour force will to a greater degree consist of

Figure 1:19. Current account and net lending in different sectors
Per cent of GDP



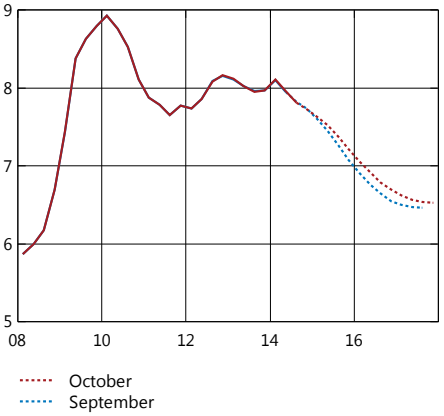
Sources: Statistics Sweden and the Riksbank

Figure 1:20. Employment rate and labour force participation
Employment and labour force as percentage of the population, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 1:21. Unemployment
Per cent of the labour force, 15–74 years, seasonally-adjusted data



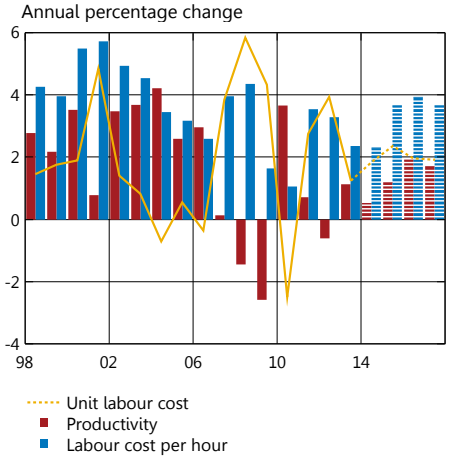
Sources: Statistics Sweden and the Riksbank

Figure 1:22. GDP gap, employment gap and hours gap
Per cent

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

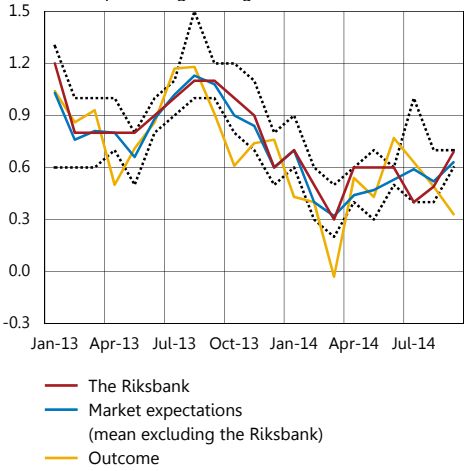
Sources: Statistics Sweden and the Riksbank

Figure 1:23. Cost pressures in the economy as a whole
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 1:24. The Riksbank's and market's short-term forecasts for CPIF inflation
Annual percentage change



Note. The Riksbank's CPIF forecasts according to the most recently-published assessment and market expectations, compared with outcomes. The Riksbank's figures are not entirely comparable with market participants' expectations, as the Riksbank's forecasts are often older. Broken lines refer to the highest and lowest forecasts for all forecasters.

Sources: Bloomberg, Statistics Sweden and the Riksbank

groups that at present are on the periphery of the labour market. All in all, the new assessment of the development of the population has led to the upward revision of the Riksbank's forecast of unemployment during the forecast period.

■ Resource utilisation lower than normal

The Riksbank's overall assessment is that resource utilisation in the economy is lower than normal at present, but that it has risen somewhat over the last 12 months. For example, the number of job vacancies, that is vacancies that could be filled immediately, is increasing, at the same time as recruitment periods are longer than last year. Capacity utilisation in the manufacturing industry gives a more mixed picture. According to the National Institute of Economic Research's Business Tendency Survey, capacity utilisation is low, while according to the corresponding figures from Statistics Sweden it is roughly normal. Unemployment is expected to fall during the remainder of 2014, but the Riksbank's assessment is that there is spare capacity on the labour market and the improvement can thus take place without any significant labour shortages arising. Updated national accounts show that resource utilisation, measured in terms of the GDP gap since 2012, has probably been lower than previously assessed by the Riksbank.

The very low interest rates together with higher global and domestic demand will contribute to rising resource utilisation in the years ahead (see Figure 1:22). The assessment is that resource utilisation will be more or less normal in 2015, which is in line with the forecast in September.

■ Rate of wage increases will rise gradually

According to the compilation of the National Mediation Office, agreed wage increases will be 2.2 per cent this year and 2.3 per cent in 2015. The next major round of collective bargaining will be in 2016, when wage agreements covering almost 2.8 million employees will expire. Apart from the assessments of future wage agreements, developments in economic activity and on the labour market are important factors for the Riksbank's forecasts of wage developments in the period ahead. During the forecast period, the rate of wage increases in the economy as a whole is expected to rise gradually as economic prospects and the labour market situation improve. According to the short-term wage statistics, the rate of wage increases in the economy as a whole will rise from 3 per cent this year to 3.5 per cent in 2017. Labour costs per hour are expected to increase by between 3.5 and 4 per cent per year.

Productivity growth in the Swedish economy is weak this year, but the assessment is that it will be somewhat stronger next year. Towards the end of the forecast period, productivity is expected to grow by approximately 1.8 per cent per year, which is in line with the historical average since 1994. All in all, this means that growth in unit labour costs will reach approximately 2 per cent in 2017 (see Figure 1:23). The forecast for domestic cost pressures this year has been revised downwards somewhat compared with the assessment in September.

■ Inflation rising slowly

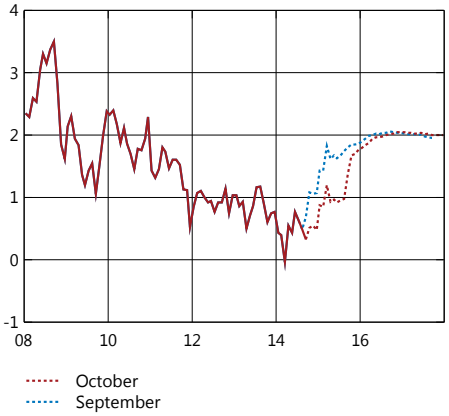
Inflation is low, and CPIF inflation was at 0.3 per cent in September, while CPI inflation was −0.4 per cent. One important explanation for the low inflation rate is assessed to be that companies have found it difficult to meet their cost increases by increasing prices. A survey that the Riksbank recently conducted on the price-setting behaviour of the companies confirmed the picture of squeezed margins at many companies. The explanations highlighted by the companies are that demand is weaker and that the economic situation is more uncertain than normal. There are also signs that price increases have been held back by structural factors, such as increasing competition. This picture is supported by the Riksbank's regular Business Survey.

Over the last 12 months, inflation has been surprisingly low in relation to the Riksbank's forecasts, as well as the forecasts of other analysts (see Figure 1:24). In September, the rate of price increases was again surprisingly low in most of the sub-groups in the CPI. The broad downturn in inflation and the repeated downward revisions of the inflation forecast imply that underlying inflationary pressures are very low and lower than previously assessed. This, taken together with lower inflation and a weaker development of economic activity abroad, means that it is expected to take longer for inflation to reach 2 per cent in relation to the forecast made in September. Compared with the forecast in September, CPIF inflation is now expected to be lower, above all in the year immediately ahead, despite a more expansionary monetary policy. Falling fuel prices as a result of a lower oil price also contribute to this downward revision. CPIF inflation will reach 2 per cent in the first half of 2016 (see Figure 1:25).

However, inflation will rise during the forecast period (see Figure 1:26). This is indicated by several factors. The expansionary monetary policy will contribute to an increase in demand in the economy and to resource utilisation gradually rising in the years ahead. This will in turn lead to more rapid wage increases and provide greater scope for companies to raise their prices. The rate of inflation abroad is also expected to rise. Despite the strengthening of the krona, the assessment is that import prices in the producer channel (which are measured in Swedish krona) will thus continue to increase during the forecast period after having fallen in 2012 and 2013.

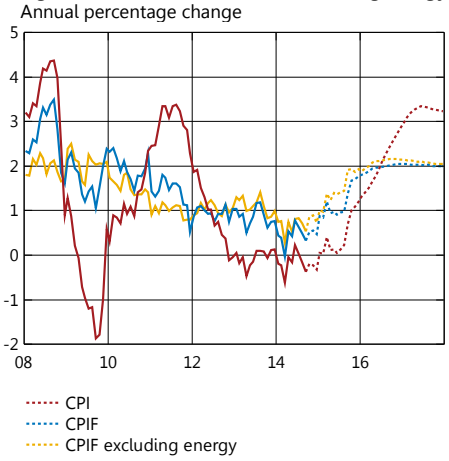
The households' interest expenditure for mortgages, which is low at present, will increase when the Riksbank eventually begins to raise the repo rate. CPI inflation will then increase faster than CPIF inflation. The rate of increase in the CPI is expected to peak at almost 3.5 per cent in mid-2017 (see Figure 1:27). During periods with large interest-rate adjustments, measures of inflation that do not include the direct effects of changes in interest rates, such as the CPIF, provide a better picture of underlying inflationary pressures than the CPI. In the longer run, when the repo rate has stabilised, CPI inflation and CPIF inflation will coincide, however.

Figure 1:25. CPIF
Annual percentage change



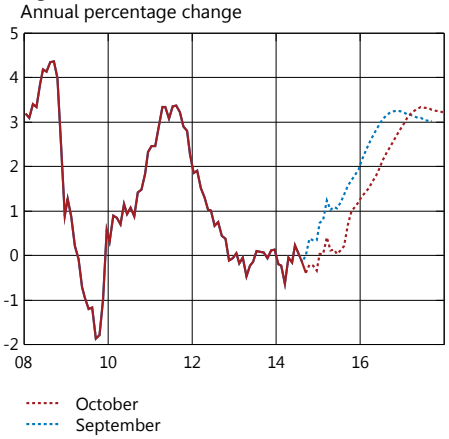
Note. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Figure 1:26. CPI, CPIF and CPIF excluding energy
Annual percentage change



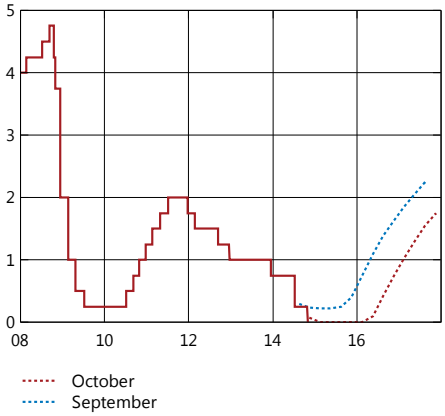
Note. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Figure 1:27. CPI
Annual percentage change



Sources: Statistics Sweden and the Riksbank

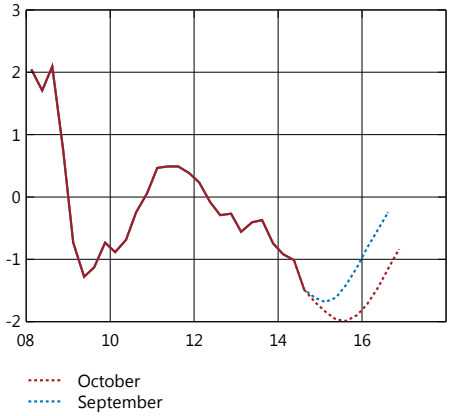
Figure 1:28. Repo rate
Per cent



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

Source: The Riksbank

Figure 1:29. Real repo rate
Per cent, quarterly averages



Note. The real repo rate is calculated as 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

Monetary policy considerations

The Executive Board of the Riksbank has decided to cut the repo rate by 0.25 percentage points to zero per cent. The assessment is that the repo rate will remain at this level until mid-2016, after which it will be slowly raised to 1.7 per cent towards the end of 2017. Both the nominal and real interest rates are much lower than was forecast in the September Monetary Policy Update (see Figures 1:28 and 1:29). The main reason for lowering the repo rate and the repo-rate path is that it is now assessed that inflationary pressures will be lower. A more expansionary monetary policy is needed to get inflation to rise and to keep inflation expectations anchored around the target. The low repo rate will continue to stimulate economic activity at the same time as the risks associated with the high level of household indebtedness are expected to continue to increase.

■ Economic activity improving but inflation is too low

Global economic activity is expected to continue to slowly improve. The economic outlook for the United States and the United Kingdom is good, but the recovery in the euro area is expected to be even slower than in previous assessments. The forecasts for global inflationary pressures have also been revised downwards and several of the world's central banks are expected to continue to conduct a highly expansionary monetary policy for some time to come.

In Sweden, economic activity is strengthening, primarily driven by consumption and housing investment. Exports have been held back by the weak economic development in the euro area, but will increase in the period ahead in line with the recovery of global economic activity. The labour market will continue to improve in the years ahead and there will be a clear fall in unemployment.

Despite the fact that both GDP and employment have increased at a relatively good rate over the last 12 months, inflation has repeatedly been lower than expected. In September, the rate of inflation was once again a surprise on the downside. This indicates that domestic inflationary pressures are not only very low but also lower than the assessment in September. Together with weaker international price pressures, this means that inflation is expected to be lower during the next two years. Falling oil and fuel prices also contribute to the downward revision. It is now assessed that it will take longer for inflation to reach 2 per cent, despite a more expansionary monetary policy (see Figures 1:25–1:28). The low repo rate will stimulate demand and contribute to CPIF inflation gradually rising to reach 2 per cent in the first half of 2016.

■ Zero repo rate until inflation really picks up

The repo rate has been cut in recent years as inflation has proved to be surprisingly low (see Figure 1:28). Now that inflationary pressures are expected to be even lower, the repo rate is being cut again to zero per cent and the repo rate path is being significantly revised

downwards. The fact that monetary policy in Sweden will now be even more expansionary means that demand in the whole economy will increase, which will contribute to higher inflationary pressures. The highly-expansionary monetary policy may also contribute to keeping inflation expectations anchored around 2 per cent by sending a clear signal that monetary policy is focused on inflation approaching the inflation target. Anchored inflation expectations make it easier for households and companies to make economic decisions, at the same time as the inflation target can continue to be the basis for wage formation.

The repo rate needs to remain at a very low level until inflation approaches the target. The assessment is therefore that it will not be appropriate to begin raising the repo rate until mid-2016. CPIF inflation will then have risen for a while and be close to 2 per cent, GDP growth will have been relatively high for just over a year and unemployment will have fallen. The repo rate will rise gradually and reach 1.75 per cent towards the end of 2017. This is an unusually low repo rate at a time when economic activity is good, resource utilisation is close to its normal level and CPIF inflation is 2 per cent.

■ Risks associated with household indebtedness must be managed

The low repo rate will continue to stimulate economic activity and will also contribute to strengthening the trend with rising housing prices and household indebtedness. This trend entails a risk that the economy will develop in a way that is not sustainable in the long run. If the households were to rapidly reduce their debts for one reason or another, this could have a substantial impact on demand and unemployment. This could also give rise to persistent difficulties in stabilising inflation around the inflation target. The fact that the repo rate is now being lowered further to get inflation to rise will increase the risks associated with household indebtedness. A higher repo rate would reduce this risk, but would also increase the risk of inflation remaining too low and of the role of the inflation target as a nominal anchor for price and wage formation weakening.

With this low repo rate for a long period of time, it becomes increasingly urgent for other policy areas to manage the risks associated with household indebtedness and developments on the housing market. The most important effect of the macroprudential policy measures taken so far is considered to be that the resilience of the Swedish banking system will be strengthened, while the effect on household indebtedness is considered to be slight. To reduce the risks of a development that is not sustainable in the long run, measures need to be taken to influence household demand for credit. The responsibility for this type of measure lies with the Government and other authorities.

Examples of measures that should be considered are stricter amortisation requirements, a stricter mortgage cap, a change in the right to tax deductions for interest expenditure and that sound minimum levels are introduced in the discretionary income calculations included in

the banks' credit assessments. Moreover, it is important to introduce reforms that will lead to the housing market functioning better.

■ Uncertainty over economic outlook and inflation prospects

The highly-expansionary monetary policy and a gradual recovery abroad is expected to lead to an increase in demand in Sweden in the years immediately ahead. Companies will then be able to raise their prices and pass on cost increases to the consumers to a greater extent, and inflation is thus expected to rise. However, it is uncertain how quickly inflation will rise, particularly given that inflation has been weaker than expected for some time.

Developments abroad are also a source of uncertainty in the forecasts. Growth has slowed down in the German economy, for example, and several indicators suggest that development will be weak in several countries going forward. The forecast for GDP growth abroad has therefore been revised downwards compared with the assessment in September. It cannot be ruled out that growth will be even lower than is now assumed. Chapter 2 of this report presents scenarios in which growth in the euro area is different than in the main scenario, and where the effects on the Swedish economy depend on what happens to the exchange rate.

The recent development of housing prices and debt, together with the even lower interest rate environment, points to a more rapid increase in debt going forward than assessed in September. In the forecast, household debt as a percentage of disposable income will therefore now rise more rapidly in the years ahead. An even more rapid increase in housing prices and debts would make the economy even more sensitive to shocks and thus further increase the risks associated with household indebtedness. Managing these risks is now a matter for other policy areas.

Monetary policy may need to be adjusted if the underlying conditions change. If monetary policy needed to become more expansionary, this would primarily entail postponing a first increase of the repo-rate.

Some central banks that have cut their policy rates to levels close to zero have also used complementary measures to make monetary policy even more expansionary.[4] The repo rate has now been cut to zero per cent and the Riksbank assesses that the situation in the Swedish economy does not justify any complementary monetary policy measures at present. However, if conditions were to change the Riksbank has the same possibilities as other central banks to take further measures to increase the monetary policy stimulus.

[4] See the article "Monetary policy when the policy rate is close to zero" in this report.

CHAPTER 2 – Alternative scenarios and risks

The economic recovery abroad is continuing. However, future developments are uncertain. In the euro area, which has considerable significance for Sweden, growth is burdened by, for instance, high debts in the public and private sectors. A poorer development abroad than is assumed in the main scenario would entail lower demand for exports in Sweden and thereby lower resource utilisation. If the krona strengthens at the same time, the result could be that both resource utilisation and inflation in Sweden are much lower than in the main scenario. In such a scenario monetary policy would need to become more expansionary and the repo rate would need to remain at zero for a longer period of time. If the krona were instead to weaken, the effects on the Swedish economy would be more limited.

Growth abroad could also be higher than in the main scenario. If, for instance, economic activity in the United States were to be stronger than expected, it could contribute to a faster increase in optimism abroad. In this type of scenario, resource utilisation and inflation would rise faster in the Swedish economy, too. The way that monetary policy then reacts depends on how inflation prospects are affected. Slightly higher inflationary pressures would not at present entail any changes in monetary policy.

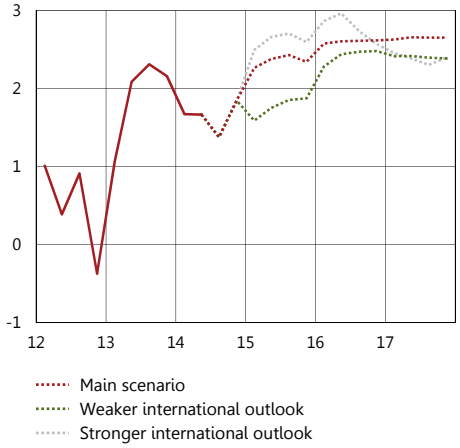
There is always considerable uncertainty regarding future economic events. This is illustrated in a general way by the uncertainty bands around the forecasts in Figures 1:3–1:6. The bands are based on the Riksbank's historical forecasting errors. This chapter discusses in greater detail the uncertainty concerning developments abroad. It describes two alternative economic scenarios for international developments and what effects they might have on the Swedish economy and monetary policy. The first scenario illustrates weaker developments abroad with a stronger and a weaker exchange rate, respectively. The second scenario illustrates stronger developments abroad. The scenarios have been constructed using the Riksbank's macroeconomic model, Ramses.[5] The model does not take into account the possibility to use unconventional monetary policy measures. Monetary policy in the scenarios thus covers only changes in the repo rate.

It is assumed in the main scenario that growth abroad will rise in KIX-weighted terms during 2015 and then stabilise around 2.5 per cent. Growth in the euro area, which has been weak in 2014, is expected to rise at the beginning of next year and then slowly continue to improve. Debts in the euro area are still high, however, at the same time as the implementation of structural reforms in, for instance, France and Italy is taking time. Companies and households in problem-ridden countries are still facing higher interest rates than in other euro area countries, which is hampering the recovery. One important condition for growth to develop in line with the main scenario is that euro-area countries implement necessary structural reforms and debt-adjustment measures. However, there are substantial political challenges and growth prospects for the coming years are very uncertain.

The first scenario assumes that developments abroad are weaker than in the main scenario. The large public and private sector debts in the euro area are dampening demand more than expected and the anticipated rise in growth in 2015 does not occur. The uncertain development in the euro area and lack of reforms in vulnerable countries

[5] For a description of the model, see M. Adolfson, S. Laséen, L. Christiano, M. Trabandt, and K. Walentin, Ramses II: Model description", *Occasional Paper no. 12*, 2013, Sveriges Riksbank.

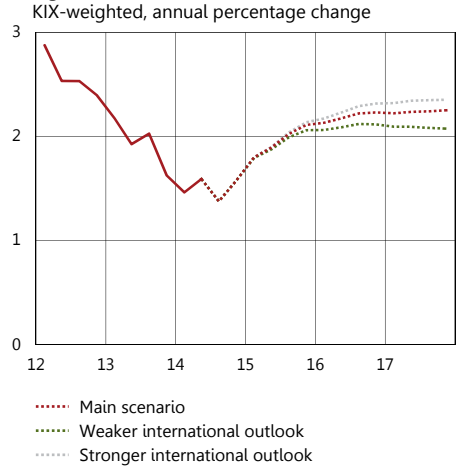
Figure 2:1. GDP abroad
KIX-weighted, quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



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

Sources: National sources and the Riksbank

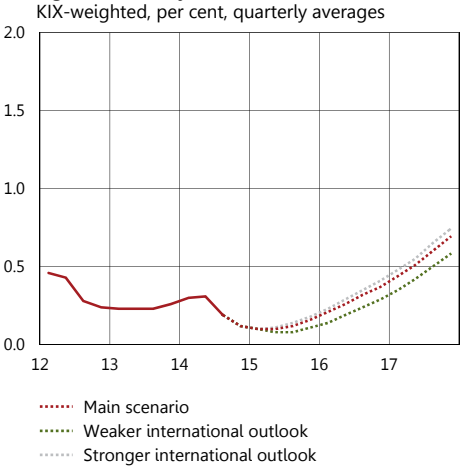
Figure 2:2. Inflation abroad
KIX-weighted, annual percentage change



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

Sources: National sources, OECD and the Riksbank

Figure 2:3. Policy rate abroad
KIX-weighted, per cent, quarterly averages



Note. KIX-4 is used when weighting together policy rates abroad. This includes the euro area, Norway, the United Kingdom and the United States.

Sources: Bank of England, ECB, Federal Reserve, Norges Bank and the Riksbank

also creates further uncertainty. The ECB recently announced new support measures and market expectations are that these will be followed up with further stimulus in 2015. However, central banks around the world are currently facing different growth prospects, and the US Federal Reserve is instead expected to conclude its asset purchases at its next monetary policy meeting. Given this, the krona exchange rate can become either weaker or stronger than in the main scenario. The first alternative scenario describes how weaker international demand may have different effects on the Swedish economy, depending on how the exchange rate develops. From a monetary policy perspective, the risks are greatest if weaker international developments are accompanied by a stronger krona exchange rate that further dampens growth and inflation in Sweden. Such a sequence of events could mean that the Riksbank needed to keep the repo rate at zero for a longer period of time than in the main scenario, to bring inflation in line with the target. If the exchange rate instead weakens, the effects of the weaker developments will be more limited.

The second alternative scenario instead illustrates the effects of a stronger development abroad. The large public debts in the euro area would have a less dampening effect on private finances than is assumed in the main scenario. At the same time, the good growth in the United States and the United Kingdom would continue, which means that optimism abroad increases. This creates a larger international demand for Swedish goods, at the same time as consumer confidence and willingness to invest increase in Sweden, too. As the exchange rate would then probably strengthen more than in the main scenario, however, the positive economic developments are subdued and the effects on inflation will be relatively minor. Inflation will be somewhat higher than in the main scenario, but this would not lead to any increase in the repo rate. As underlying inflationary pressures are currently very low, monetary policy remains very expansionary in order to ensure that inflation expectations remain anchored around 2 per cent and that inflation stabilised around the target.

Scenario: Weaker development in the euro area

The recovery in the euro area will remain slow. Debt levels in many euro-area countries are still high, and the ongoing debt adjustment is expected to continue to dampen growth during the coming years. The implementation of structural reforms in some of the euro-area countries has taken time, which creates uncertainty regarding growth prospects.

In this scenario, the uncertainty regarding future economic developments results in households and companies being more restrictive in their consumption and investment. If the reforms are further delayed and the problems on the financial markets persist, demand may be lower during the forecast period than in the main scenario. This would lead to lower growth among Sweden's most important trading partners (see Figure 2:1). Inflation abroad would then also be somewhat lower (see Figure 2:2). Monetary policy abroad is not fully able to parry the

weak development, mainly due to policy rates already being low, particularly in the euro area. This increases the risk that the recovery in growth will be further delayed and have tangible international contagion effects. However, central banks around the world are currently facing different conditions and, for instance, the Federal Reserve and Norges Bank have greater possibilities to take action to parry contagion effects of a downturn in the euro area. All in all, the aggregate policy rate abroad will be lower than in the main scenario (see Figure 2:3).

The consequences for the Swedish economy are to a significant degree affected by what happens with the exchange rate. In a situation where it is difficult to predict the effects of international monetary policy the future development of the krona exchange rate is very uncertain.[6]

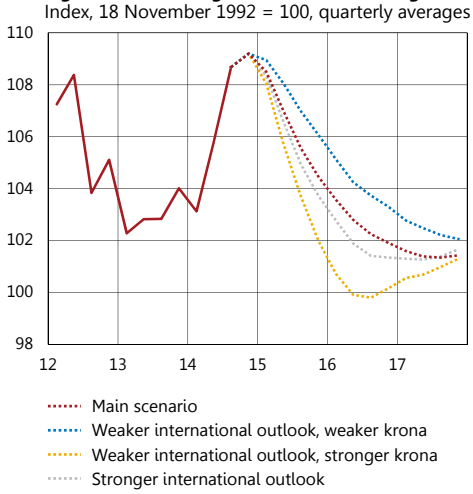
■ Increased uncertainty regarding global economic developments leads to weaker krona

If the uncertainty in the euro area creates unease on the financial markets, and monetary policy abroad is unable to suppress this, it is reasonable to expect larger global market fluctuations. Turbulence on the financial markets often leads to stronger preferences among investors for more liquid currencies. The demand for the Swedish krona would then probably decline, which would lead to the exchange rate being weaker than in the main scenario (see Figure 2:4). This is what has often been observed in times of economic unease. For instance, the Swedish krona depreciated by 20 per cent in connection with the financial crisis in 2008.

Lower growth abroad leads to a decline in demand for Swedish exports: partly because total demand abroad declines and partly because the lower inflation abroad means that goods and services produced abroad become cheaper than Swedish export goods. Both of these effects hold back Swedish exports (see Figure 2:5). In addition, consumption and investment fall as consumer confidence and willingness to invest decline as a result of the increased uncertainty. When demand for Swedish goods and services declines, companies demand less labour, and unemployment thus rises. Lower consumption and investment also mean that imports are lower.

The downswing in import growth is further reinforced by the weaker exchange rate. A weaker krona means that imports become more expensive and that domestically-produced goods thus become relatively cheaper. Swedish companies that use imported goods as intermediate goods in their production will thus benefit from reducing the percentage of imported and increasing the percentage of domestically-produced intermediate goods. This will partly dampen the decline in demand for labour and the upturn in unemployment will on aggregate be fairly small (see Figure 2:6). At the same time, the weaker krona means that Swedish exports become cheaper abroad, which partly counteracts the decline in demand for exports. All in all, GDP growth and resource utilisation become lower than in the main scenario (see Figures 2:7 and 2:8). But

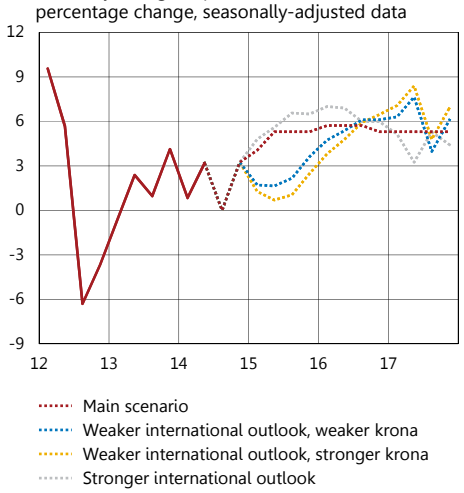
Figure 2:4. KIX-weighted nominal exchange rate
Index, 18 November 1992 = 100, quarterly averages



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

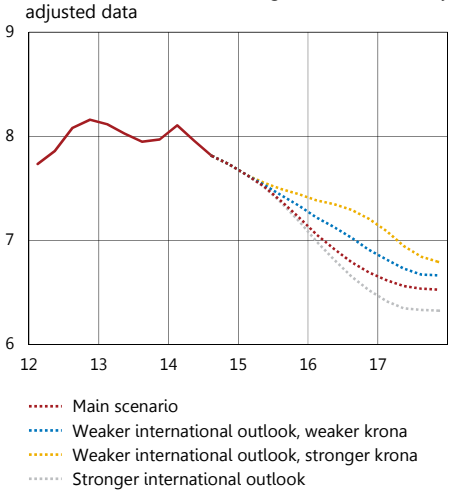
Source: The Riksbank

Figure 2:5. Exports
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

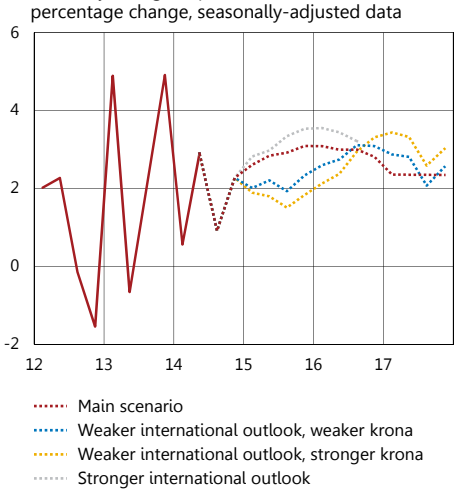
Figure 2:6. Unemployment
Per cent of the labour force, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

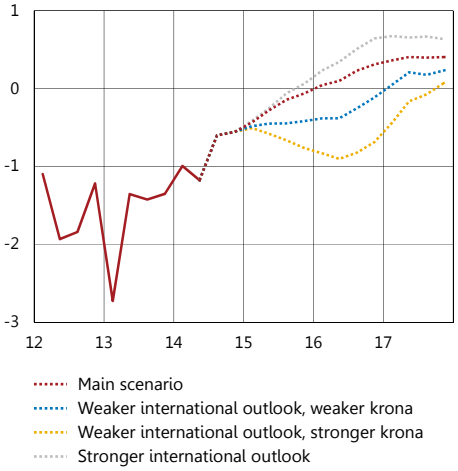
[6] In addition, there is uncertainty over the size of the effects that a change in the exchange rate would have on inflation and resource utilisation in Sweden. There is a discussion in the Monetary Policy Report published in 2012 of which factors affect the size of these effects.

Figure 2:7. GDP
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 2:8. Hours gap
Per cent



Sources: Statistics Sweden and the Riksbank

with a relatively weaker krona, we thus have two opposite effects on exports, which means that the negative demand effect is not as great as it would become in the case where the krona does not weaken.

When imports become more expensive, it also becomes more expensive to consume and invest in Sweden. The costs for companies that use imported intermediate goods become higher, which contributes to a faster rate of price increase. However, lower resource utilisation and a somewhat more restrained development in wages hold back prices. All in all, inflation in Sweden is then somewhat lower than in the main scenario (see Figure 2:9). Nevertheless, the two opposite effects on inflation mean that changes in the inflation forecast are relatively minor.

With a somewhat lower inflation rate and lower resource utilisation, monetary policy needs to become more expansionary. This means that a first increase in the repo rate is further postponed. The repo rate is thus somewhat lower than in the main scenario during the second half of the forecast period (see Figure 2:10).

■ A stronger krona further dampens resource utilisation and inflation

If the effects on the financial markets of a poorer development in the euro area are not as large, the lower GDP growth and inflation abroad might have other effects on the exchange rate. If the unease on the financial markets is thus more limited, international investors may decide not to change over to more liquid currency investments. A more expansionary monetary policy in the euro area, in the form of further support measures from the ECB could also further weaken the euro against other currencies. As the euro carries significant weight in the Swedish trade-weighted exchange rate, this would indicate an overall strengthening of the Swedish krona. Moreover, Sweden has relatively strong public finances, seen in an international perspective, and good future prospects for economic development. This could lead to increased demand for the Swedish krona, which could contribute to an appreciation of the krona exchange rate. If this is the case, the consequences for the Swedish economy may differ significantly from the above description. The remainder of the scenario describes the effects on the Swedish economy of an equally large deterioration in developments abroad as before, but with a stronger exchange rate than in the main scenario (see Figure 2:4).

If poorer developments abroad are followed by a more substantial weakening of the krona exchange rate than is assumed in the main scenario, the situation could become more problematic from a monetary-policy perspective. Lower demand from abroad, as in the description above, could lead to weaker demand for exports. A decline in consumer confidence and a lower willingness to invest would have negative consequences for Swedish consumption and investment. As a result, imports would also decline. However, the stronger krona would now make import goods cheaper than Swedish goods, which means it becomes more advantageous for Swedish companies to replace domestically-produced intermediate goods with imports. This to some

extent dampens the downturn in imports. However, the stronger krona also means, according to the same mechanism, that Swedish goods will be more expensive abroad and therefore less in demand, which would result in a further weakening of exports (see Figure 2:5).

Lower demand for Swedish goods and services means that companies are demanding less labour. The higher percentage of imported intermediate goods in production also contributes to this. The overall effect on unemployment and resource utilisation will thus be much stronger than in the scenario where the weaker development abroad is accompanied by a weaker krona (see Figures 2:6 and 2:8). This also means that wage developments are affected more, resulting in an even more restrained rate of wage increase.

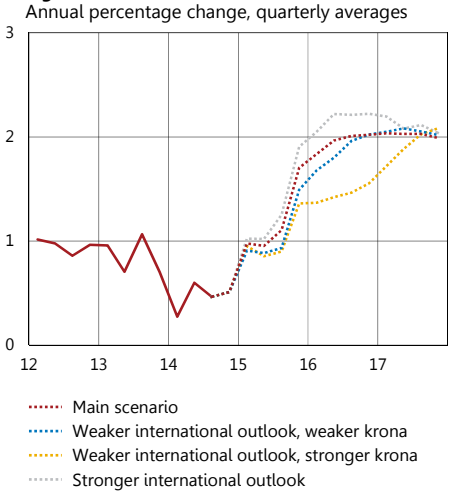
All in all, the demand for Swedish goods will decline more than in the case with a weaker krona, both domestically and via reduced exports (see Figure 2:7). The cheaper imports reduce price pressures among Swedish companies using intermediate goods produced abroad. Lower domestic wage pressures and cheaper import goods mean that inflationary pressures in Sweden are clearly lower than in the main scenario (see Figure 2:9). Monetary policy then needs to be even more expansionary for CPIF inflation to approach 2 per cent. In this version of the alternative scenario, therefore, the first increase in the repo rate is postponed until the beginning of 2017. After that it is raised gradually and remains much lower than in the main scenario for the rest of the forecast period (see the yellow line in Figure 2:10).

Scenario: Stronger international economic activity

There are also factors indicating that developments could be better than in the main scenario. If economic policy measures that strengthen confidence among households and companies in the euro area are taken in, for instance, France and Italy, the recovery in the region may pick up again. The large public debts in the euro area may also prove to have a less dampening effect on private finances than is assumed in the main scenario. Moreover, confidence among companies in the United States is very high and the labour market is continuing to improve. The British economy is also expected to remain strong over the coming years. If developments in these economies creates more optimism in the global economy, economic developments may become stronger than is assumed in the main scenario.

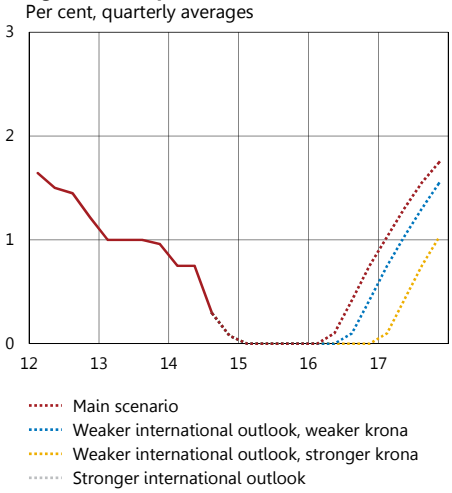
This alternative scenario illustrates the effects of confidence abroad rising faster, which would lead to stronger demand in the euro area, for instance. Production abroad, measured in trade-weighted terms, rises faster than in the main scenario and inflation is higher (see Figures 2:1 and 2:2). Despite growth being higher in the euro area, inflation will still be low and resource utilisation will be weak during the forecast period. The effects on monetary policy are therefore assumed to be very small. The average trade-weighted international policy rate is therefore raised only marginally faster than in the main scenario (see Figure 2:3).

Figure 2:9. CPIF
Annual percentage change, quarterly averages



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

Figure 2:10. Repo rate
Per cent, quarterly averages



Note. Grey line is hidden under the red line.
Source: The Riksbank

■ Stronger global growth boosts the Swedish economy

The stronger confidence among households and companies globally will probably have a stabilising effect on the financial markets. The effects on the Swedish economy in this scenario will then be the reverse of those in the scenario above. Stronger global confidence will lead to increased optimism in the Swedish economy, too. Companies' will to invest will increase, at the same time as increased confidence among households will lead to a faster growth in consumption. This means that imports also increase.

Higher growth abroad means that demand for Swedish exports increases (see Figure 2:5). Higher demand for Swedish goods and services means that companies in Sweden demand more labour, which reduces unemployment somewhat (see Figure 2:6).

■ Good growth in Sweden leads to a stronger krona

Stronger developments abroad and an accompanying higher growth in Sweden would probably lead to the krona strengthening more than in the main scenario. This makes import goods cheaper and makes it more advantageous for Swedish companies to substitute domestically-produced intermediate goods with imports. This further pushes up demand for imports. At the same time, prices of Swedish goods, calculated in foreign currencies, become higher and the increase in exports is thus dampened somewhat. The overall effect is a stronger Swedish GDP growth and higher resource utilisation (see Figures 2:7 and 2:8). However, with a stronger international economy and a stronger krona, we have, as in the alternative scenario above with weaker international developments and a weaker exchange rate, two opposite effects on exports and imports. The increase in Swedish growth is thereby somewhat subdued in relation to the case where the krona does not strengthen.

■ Swedish monetary policy remains unchanged

When the exchange rate strengthens, prices of imported intermediate goods are lower than in the main scenario, which holds back companies' costs. However, higher resource utilisation and the higher wages at the same time mean that companies costs rise faster. The final effect on inflation is positive, but rather small, as the positive effect of higher import prices and stronger wage developments is partly counteracted by the krona exchange rate strengthening (see Figure 2:9). When inflation rises somewhat, this would normally indicate a higher repo rate than in the main scenario. But as inflation has been low for a long time and it is important that inflation expectations remain anchored around the target of 2 per cent, slightly higher inflationary pressures at present would not indicate any changes in monetary policy (see Figure 2:10). The repo-rate path would, in a situation like this, remain the same as in the main scenario for the purpose of ensuring that inflation attains the target and inflation expectations remain anchored around 2 per cent.

CHAPTER 3 – The current state of the economy

This chapter presents new information received since the Monetary Policy Update was published in September and an assessment of economic prospects in the coming quarters.

Global economic activity is still weak, but there are considerable variations in the growth outlook in several of the major economies. In the euro area, the economy stagnated in the second quarter at the same time as there was strong growth in the US economy. The financial markets are marked by unease with regard to future growth, factors that have contributed to lower prices for risk assets recently.

At the same time as the Federal Reserve is expected to cease its asset purchases in October and thus move towards a less expansionary monetary policy, the ECB cut its policy rate further in September and has also presented new expansionary measures.

Swedish GDP growth continues to be largely explained by the development of domestic demand, and particularly of household consumption. Growth in the second quarter was somewhat stronger than normal, but statistics on foreign trade, industrial production and the retail trade indicate that development will be somewhat weaker in the third quarter. The situation on the labour market will improve in the coming quarters, but as both employment and labour force participation will increase, the fall in unemployment will be moderate.

Inflation was surprisingly low in September and significantly lower than the Riksbank's previous forecast. CPIF inflation is expected to increase somewhat during the final months of the year, but the underlying development of inflation is still weak.

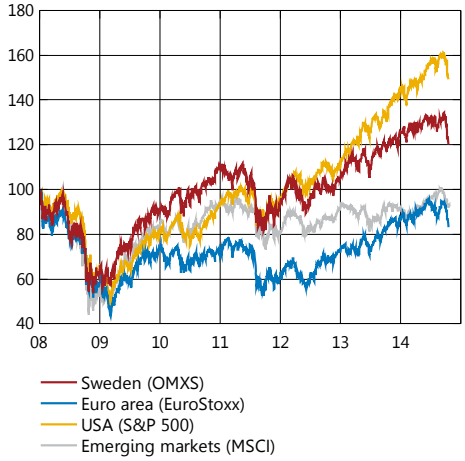
Financial markets

Uncertain growth prospects causing unease on the financial markets

The development of economic activity abroad has been weak since the Monetary Policy Update was published in September, at the same time as differences in the rate of growth in different regions are becoming increasingly apparent. The geopolitical uncertainty resulting from the ongoing conflicts in the Ukraine, Syria and Iraq remains, but is assessed to have had a limited impact on the financial markets so far.

On the other hand, it is assessed that increased uncertainty about the prospects for global growth has contributed to a fall in the demand for risk assets recently. Share prices in Sweden and abroad have fallen since the Monetary Policy Update was published in September, and this year's stock exchange upturns have now been largely wiped out on several stock markets (see Figure 3:1). On the fixed-income market, uncertainty is reflected in the shift in demand from bonds that carry a higher risk to government bonds with a high credit rating, which has led to an increase in the yield differential between these assets. The increased uncertainty is also reflected in measures of financial volatility. For example, the VIX index, which measures volatility in the broad US stock exchange index S&P500, has risen to the highest level for almost three years. At the same time, the strong performance of the stock market, falling interest rates and low volatility in recent years have led to fears that risks are building up in the financial system.[7]

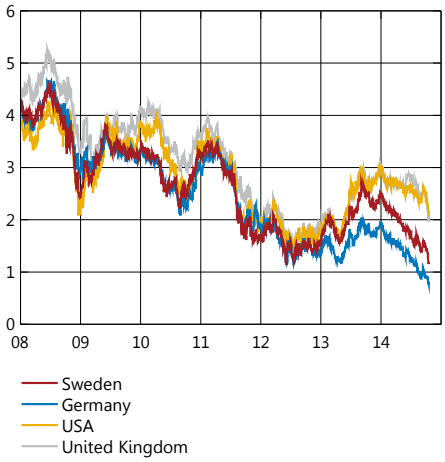
Figure 3:1. Stock market movements
Index, 2 January 2008 = 100



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

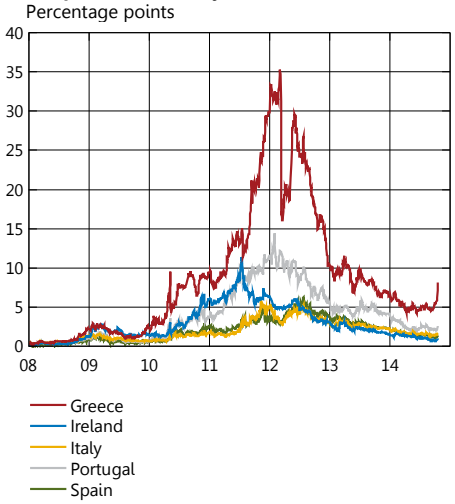
[7] See for example the October issue of World Economic Outlook, in which the IMF discusses concerns that the market underestimates the risks associated with macroeconomic developments.

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



Source: Macrobond

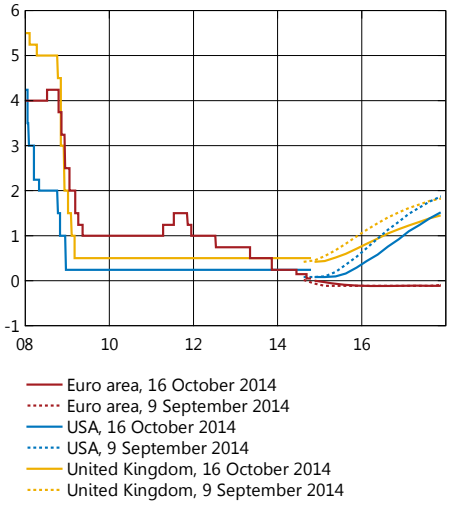
Figure 3:3. Differences in government bond yields compared to Germany
Percentage points



Note. Government bonds with approximately 10 years left to maturity.

Source: Macrobond

Figure 3:4. Policy rates and rate expectations according to forward rates
Per cent



Note. Forward rates have been adjusted for risk premiums and thus describe the expected overnight rate, which does not always correspond to the official policy rate.

Sources: Macrobond and the Riksbank

■ Substantial fall in oil prices

Prices on the world market for oil have fallen rapidly since the Monetary Policy Update was published in September. The price of Brent crude oil has fallen from just over USD 100 per barrel to just under USD 90 per barrel. The fall in prices can probably be explained by a combination of supply and demand factors. The United States has substantially increased its production of shale oil and reduced its oil imports, at the same time as the OPEC countries have maintained their production volumes. Weaker growth prospects in China and the euro area may also have contributed to a lower demand for oil. In its latest report, the International Energy Agency also adjusted its forecast for the demand for oil in 2014 and 2015 downwards, which led to a further fall in prices.

■ Very low government bond yields

Long-term government bond yields have fallen since the turn of the year, in particular in many European countries and Sweden, but also in the United States and the United Kingdom despite more favourable growth prospects (see Figure 3:2). The recent unease concerning global growth prospects has reinforced this trend and led the market participants to move forward their assessment of when the Federal Reserve and the Bank of England will raise their policy rates. In Europe, yields have also been affected by increasing expectations that the ECB will take further measures.

In early September, the ECB presented a number of new stimulus measures which, together with lowered forecasts for growth in the euro area, have led the German ten-year yield to fall to a record-low level. Expectations of further measures from the ECB have contributed to yields remaining low in large parts of Europe, although the recent increase in uncertainty has entailed slight increases in several countries. Yields have above all increased in Greece following renewed concern among investors. This follows from Greece announcing plans to leave its support package prematurely at the same time as the political situation is still uncertain (see Figure 3:3).

■ Central banks out of step

Following several years of highly expansionary monetary policy, the general assessment has been that a time is approaching when several of the major central banks are expected to begin raising their policy rates. At its monetary policy meeting in September, the Federal Reserve decided to continue to taper its asset purchases, and it is expected that these purchases will come to an end in October. The Federal Reserve also announced that its policy rate would be kept low for a considerable time, although the FOMC members' median forecast for the policy rate was adjusted upwards for both 2015 and 2016. Recently, however, concern about global growth and financial uncertainty have led the market to expect the first increases in the US policy rate to begin later. Forward pricing indicates that the increases will come during autumn 2015 (see Figure 3:4).

The economy has continued to improve in the United Kingdom, but here too it is expected that the first policy-rate increase will come later as a result of low inflation outcomes. Forward pricing indicates a first increase during early autumn 2015 (see Figure 3:4).

The ECB has taken further expansionary measures in the wake of falling inflation expectations and low growth. In September, the ECB cut its policy rate from 0.15 to 0.05 per cent and also communicated that it had thus reached a lower bound for the policy rate. At the same time, two programmes for asset purchases were announced.[8] According to the ECB's communication this, together with the already launched TLTRO programme, may mean that the balance sheet will increase to the level that prevailed at the beginning of 2012. Since the monetary policy meeting in September, the ECB has published figures on the banks' degree of participation in the first auction (of eight) within the framework of the TLTRO programme. The level of participation was significantly lower than the market's expectations but is instead expected to increase in the second auction in December, when the planned review and stress tests of the European banking system will have been completed. According to forward pricing, the market participants' assumption is that the policy rate will be left unchanged for a long time (see Figure 3:4).

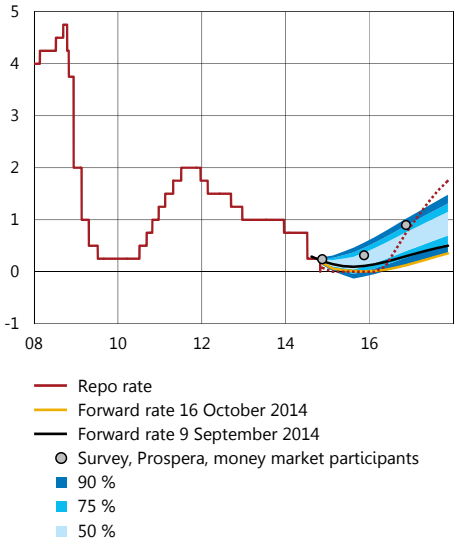
■ Swedish forward rates indicate a lower repo rate

The decision to leave the repo rate unchanged in September was in line with market expectations. Swedish forward rates have since shifted down following the publication of the surprisingly low inflation outcome for September. Market pricing indicates that a repo-rate cut to 0.15 per cent is expected in October and that there is a significant likelihood of an even lower repo rate further ahead (see Figure 3:5). Thereafter, forward pricing indicates that the repo rate will be left unchanged until mid-2016, which is largely in line with the Riksbank's forecast for the repo rate. According to the Prospera survey in September, expectations of the level of the repo rate two years ahead lie somewhat higher than market pricing and the Riksbank's repo-rate path. However, these expectations were measured before the surprisingly low inflation outcome in September.

■ Krona remains at a weaker level

In trade-weighted terms, the krona has remained largely unchanged since the Monetary Policy Update was published in September (see Figure 3:6). However, in bilateral terms, the krona has continued to weaken against the US dollar and sterling, while it has strengthened somewhat against the euro. The relatively small movements in trade-weighted terms mean, however, that the krona is still around the weaker levels that were noted following the repo-rate cut in July.

Figure 3:5. Repo-rate expectations in Sweden measured in terms of forward rates and surveys
Per cent



Note. Forward rates have been adjusted for risk premiums and describe the expected overnight rate. Surveys and forward rates are different measures of monetary policy expectations. The interval illustrates the historical difference between the Prospera survey and the adjusted forward-rate curve.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

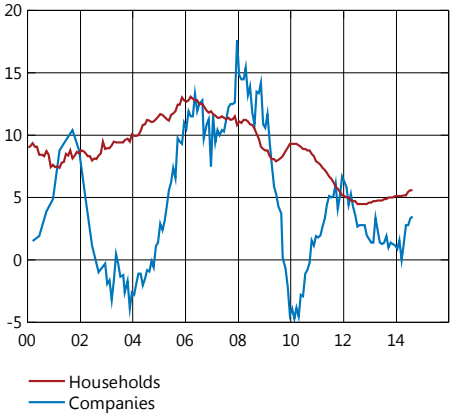
Figure 3:6. KIX-weighted nominal exchange rate
Index, 18 November 1992 = 100

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

Source: The Riksbank

[8] In the first programme the ECB intends to purchase asset-backed securities (ABS), while the second programme relates to the purchase of covered bonds.

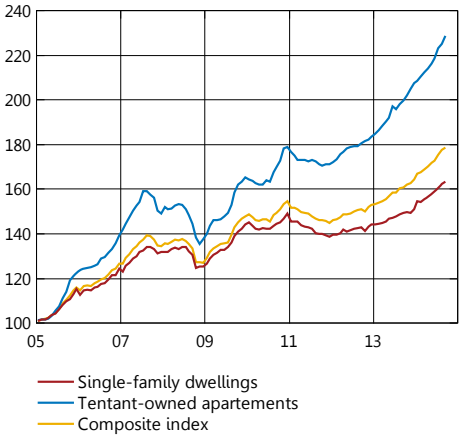
Figure 3:7. Lending to households and companies
Annual percentage change



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

Source: Statistics Sweden

Figure 3:8. Prices for single-family dwellings and tenant-owned apartments
Index, January 2005 = 100, seasonally-adjusted data



Sources: Valueguard and the Riksbank

■ Low interest rates for households and companies

Interest rates for households and companies fell in connection with the repo-rate cut in July and have remained largely unchanged since then. In August, both the average mortgage rate and the average bank rate for companies were at 2.2 per cent. The percentage of new mortgages at variable rates is just over 70 per cent.

Swedish corporate bond yields have continued to fall in line with lower government bond yields and it costs the companies less to borrow on the bond market than through bank loans, almost irrespective of their credit rating. The possibility to get inexpensive market funding continues to be reflected in a high growth in securities loans, but bank borrowing has also increased in recent months. In August, the annual rate of growth in bank lending to non-financial companies was 3.5 per cent (see Figure 3:7).

There are also signs that credit and funding conditions for the companies have become less stringent. The number of unsecured loans has increased in recent months, which indicates that the companies need less collateral in order to borrow. Surveys such as the Economic Tendency Survey and Almi's lending indicator also suggest that loan conditions for the companies will ease in the period ahead.

■ Housing prices continue to rise

The household demand for loans continues to increase, although the annual rate of increase was unchanged at 5.6 per cent in August (see Figure 3:7). However, the rate of increase for mortgages, which constitute over 80 per cent of total lending to households, continued to increase. This is mainly explained by the fact that lending with tenant-owned apartments as collateral increased at an annual rate of 9 per cent. However, lending with detached houses as collateral, which accounts for a majority of the mortgage market, also increased at an annual rate of just over 4 per cent.

According to statistics from Valueguard, the annual rate of price increases for tenant-owned apartments and detached houses also continues to increase and in September was at 14.5 and 9.4 per cent respectively (see Figure 3:8). Statistics Sweden's property-price index also indicates higher housing prices and the prices of detached houses increased by an annual rate of 5 per cent during the second quarter. However, according to SEB's housing-price indicator, the households have become somewhat less optimistic in their assessment of the development of housing prices. A large majority still expect to see rising housing prices in the period ahead, but in October the indicator fell slightly from its recent record levels.

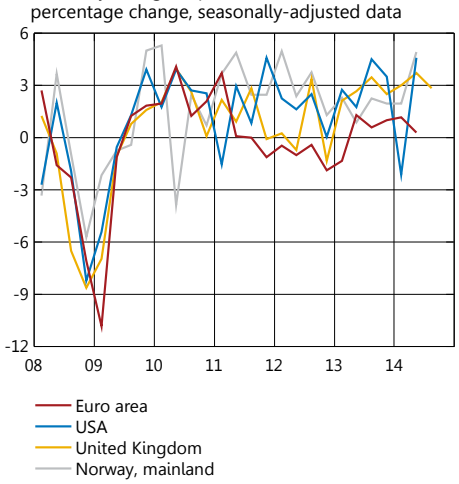
International outlook

■ Uneven recovery in the global economy

Global growth continued to be subdued in the second quarter of this year and development was somewhat weaker than assessed in September. Indicators such as new export orders in the purchasing managers' index suggest that development may also be weak in several countries during the second half of the year.

However, there are significant national variations. The US and British economies are developing well, while economic activity in the euro area remains weak (see Figure 3:9). Growth is also weak in the Japanese economy following a VAT increase earlier this year. Economic activity also appears to have slowed down in some of the most important emerging economies, such as China, Russia and Brazil.

Figure 3:9. GDP abroad
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Bureau of Economic Analysis, Eurostat, Office for National Statistics and Statistics Norway

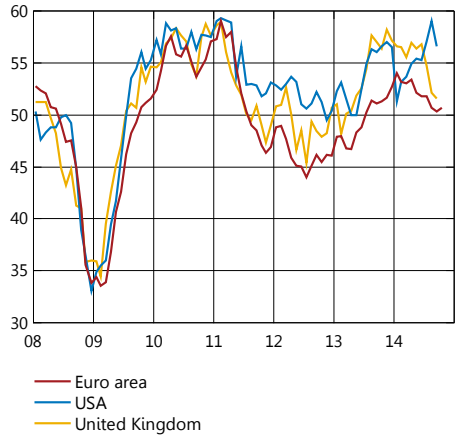
■ Economic activity remains weak in the euro area

In the euro area, the economy stagnated during the second quarter of this year after fourth quarters of weak growth. Although household consumption continued to strengthen and net exports also made a positive contribution to GDP growth, this was counteracted by falling investment and a negative contribution from stocks.

Survey-based indicators for households and companies, together with incoming statistics, indicate that the economy will continue to stagnate during the third quarter and not begin to show moderate growth until the fourth quarter. The economic slowdown has thus been more severe than forecast in the Monetary Policy Update in September. The weak development in Germany, where industrial production, exports and new orders fell significantly in August, is particularly worrying. In addition, the purchasing managers' index in the German manufacturing industry fell significantly in September but subsequently rose in October. According to the ZEW index, the low expectations of German investors remain and also decreased significantly in October. The same pattern of weaker confidence indicators can be seen in other countries (see Figure 3:10). This development also applies to the services sector. One factor that may counteract a further weakening of the economy of the euro area in the near term is that household consumption is expected to make a positive contribution to GDP growth during the third quarter. There was a faint increase in consumer confidence in October and retail sales were unexpectedly strong in August. The negative effect of falling exports on GDP will also be dampened by the fact that lower domestic demand will reduce imports.

The recent falls in share prices and increases in interest rates indicate that the economic situation in the euro area is very fragile. There are also still signs that the banking system and the monetary policy transmission mechanism are not working satisfactorily. The financial markets are still fragmented and companies in the crisis-hit countries have to pay higher interest rates than companies in the other euro countries. Credit conditions have long been tight, above all for small and

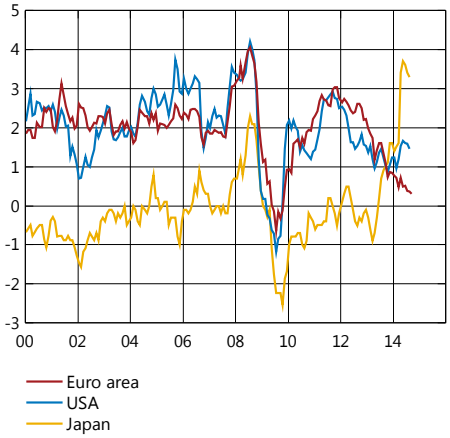
Figure 3:10. Purchasing Managers' Index, manufacturing sector
Index, seasonally-adjusted data



Note. Values above 50 indicate growth.

Sources: Institute for Supply Management and Markit Economics

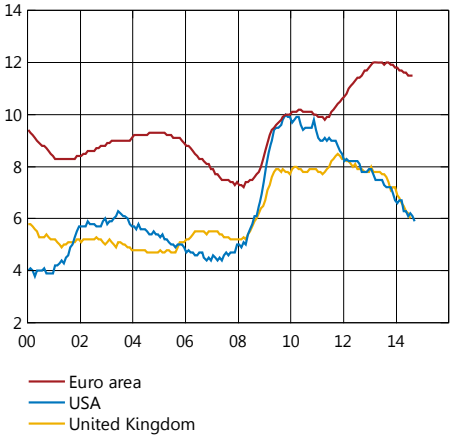
Figure 3:11. Consumer prices abroad
Annual percentage change



Note. Euro Area refers to HICP, USA refers to the PCE deflator and Japan refers to the CPI.

Sources: Bureau of Labour Statistics, Eurostat and Statistics Bureau of Japan

Figure 3:12. Unemployment
Per cent of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics, Eurostat and Office for National Statistics

medium-sized companies in the crisis-hit countries, which together with weak demand for several years has contributed to a fall in lending in these countries. However, there are now indications that the credit market is beginning to stabilise. Although bank lending to non-financial companies continued to fall in August, the rate of the fall has slowed down in recent months. The improvement is primarily due to developments in Germany, France, Austria and Spain. Lending to households continued to slowly increase in August, with positive increases in Germany and France, while it is still decreasing on an annual basis in the countries previously hit by the crisis. Bank lending became somewhat less stringent during the second quarter, which will probably boost credit growth going forward.

HICP inflation in the euro area has continued to fall and was 0.3 per cent in September, which is the lowest level since October 2009 and in line with the Riksbank's assessment in September (see Figure 3:11). The fall partly relates to the continued fall in energy prices, but the underlying inflation rate also fell somewhat. Both service prices and non-energy related goods contributed to the lower level of underlying inflation. According to the European Commission's indicator, the companies' employment plans indicate that unemployment will continue to be high, which will dampen inflationary impulses from the labour market.

■ Strong growth in the United States

The development of the US economy remains positive and GDP increased by an annual rate of 4.6 per cent during the second quarter (see Figure 3:9). Growth is somewhat higher than in the preliminary outcome, which is mainly because investment has increased more than was previously believed.

Growth prospects for the quarters immediately ahead continue to be favourable. Industrial production and new orders are following a rising trend and corporate confidence is still high according to the purchasing managers' index. The positive trend for households consumption and consumer confidence has continued in recent months and all-in-all the indicators suggest that GDP growth will be just over 3 per cent in the third quarter, calculated as an annual rate.

On the housing market, the number of construction starts has fallen in recent months. However, confidence among housing-construction companies increased in the same period, which indicates that the recovery on the housing market is continuing, although at a moderate rate. Employment increased by 248,000 individuals in September, which was more than expected, and unemployment fell by two tenths to 5.9 per cent (see Figure 3:12). Unit labour costs, measured as an annual percentage change, increased somewhat during the first half of the year, but the rate of increase is still low in historical terms. Other measures of wage costs have risen somewhat in recent months, but the rates of growth are still significantly lower than normal.

Inflation measured in terms of the deflator for private consumption fell to 1.5 per cent in August. (see Figure 3:11). This fall is mainly

explained by lower energy prices. Inflation excluding energy and food prices was unchanged at 1.5 per cent.

■ Stable development in the United Kingdom and Norway

The recovery is continuing in the United Kingdom and growth has been in line with or above the historical average over the last six quarters. The recovery is broadly based in that production in all sectors of the economy has shown a positive trend over the last 12 months. From the second to the third quarter, GDP increased by an annual rate of 2.8 per cent (see Figure 3:9). The labour market has continued to develop strongly and unemployment fell to 6 per cent in July (see Figure 3:12). Although the optimism of the households and companies has weakened in recent months, confidence is higher than normal, which suggests that growth will continue to be good in the short term. However, exports have been more subdued, which can probably be explained by the weak growth in, for example, the euro area and the fact that the sterling has strengthened over the last year. At the same time, inflation has fallen somewhat and was 1.2 per cent in September. Low wage increases and falling producer and import prices recently are expected to contribute to inflation being relatively low in the short term.

In Norway, GDP grew by 4.9 per cent in the second quarter compared to the first quarter, calculated as an annual rate (see Figure 3:9). This growth was partly due to temporarily high production levels in the fishing and energy sectors. Unemployment is low and stable at the same time as housing prices and turnover on the housing market have increased in the last six months following a temporary downturn. In recent months, CPI inflation has been somewhat lower than Norges Bank's target of 2.5 per cent.

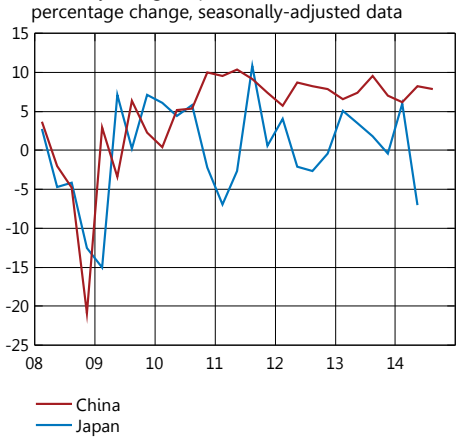
■ Clear signs of a slowdown in China

In China, GDP increased by 7.8 per cent in the third quarter compared with the previous quarter and calculated as an annual rate (see Figure 3:13). Growth has slowed down somewhat due to a decline in investment in the manufacturing and property sectors at the same time as credit growth has fallen in recent months. Growth in industrial production took an upward turn again in September following a period of somewhat weaker outcomes. Exports have increased in recent months, but the development of imports has been weak, which indicates that domestic demand is weak. A further sign of weaker domestic demand is that the retail sector has grown more slowly than previously. Some fiscal policy reforms, such as targeted support for small companies, less strict requirements for mortgages and a new budget law that limits the possibility of local authorities to take loans outside the budget frameworks, have come into force recently.

■ Growth in Japan still hampered by VAT increase

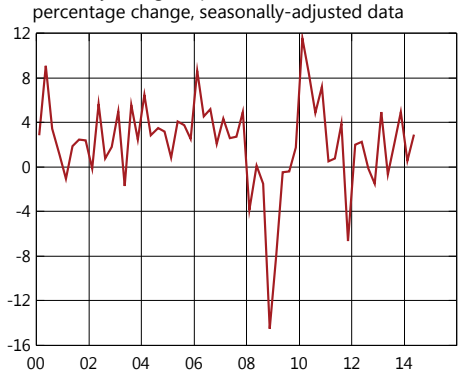
The VAT increase in April hit the Japanese economy hard and GDP fell by an annual rate of 7.1 per cent from the first to the second quarter (see

Figure 3:13. GDP in China and Japan
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



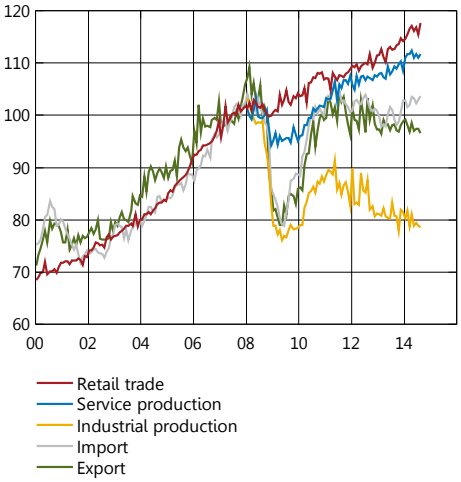
Sources: State National Bureau of Statistics China and Statistics Bureau of Japan

Figure 3:14. GDP in Sweden
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



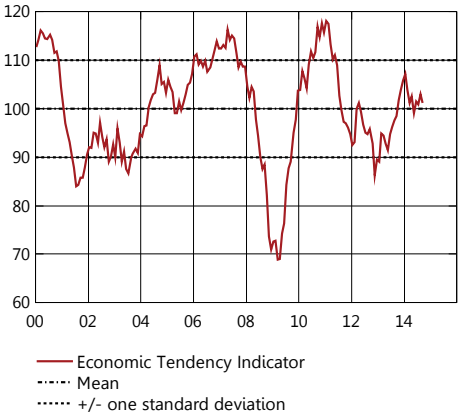
Source: Statistics Sweden

Figure 3:15. Monthly statistics for production and demand
Index, 2007=100, Seasonally-adjusted data



Source: Statistics Sweden

Figure 3:16. The Economic Tendency Indicator
Index, mean = 100, standard deviation = 10



Source: National Institute of Economic Research

Figure 3:13). The recovery has been slow since then. Industrial production has fallen and exports have been weak despite the fact that the Japanese yen has weakened against the US dollar. However, corporate confidence has improved in recent months. CPI inflation has increased as a result of the VAT increase and was 3.3 per cent in August.

The Swedish economy

The Swedish economy is recovering from the economic crisis, but resource utilisation is still lower than normal. The global downturn has meant that growth has been largely driven by domestic demand. Employment is increasing, but rising labour force participation means that unemployment is falling slowly. At the same time, the development of inflation has continued to be noticeably weak, largely as a result of the low level of resource utilisation in Sweden and on important export markets.

■ Domestic demand central to development

Swedish GDP increased by 2.9 per cent when calculated as an annual rate, from the first to the second quarter of 2014 (see Figure 3:14), which represented higher growth than in the Riksbank's forecast in September. Growth is mainly due to an increase in household consumption and a continued rapid increase in housing investment. However, the development of foreign trade was weak and made a negative contribution to growth.

The National Accounts have been revised in accordance with regulation ENS 2010. This has meant, for instance, that Statistics Sweden has adjusted up the figures for Swedish GDP. All in all, Statistics Sweden's adjustments as a result of the changeover are assessed to have minor effects on the Riksbank's growth forecasts. For a more detailed description see the article "Revisions to the National Accounts".

Domestic demand is expected to remain important for growth. Indicators point to a mixed picture of developments, where survey-based data generally imply growth figures in line with a historical average, at the same time as monthly data for production and foreign trade in particular paint a somewhat weaker picture of developments (see Figure 3:15).

The Economic Tendency Survey, which summarises sentiment among households and companies, fell somewhat in September, but is still at a level indicating that the Swedish economy is growing in line with the historical average (see Figure 3:16). Confidence in both the construction sector and the retail trade increased again after a downturn in August, and with the exception of private service industries, all sub-indexes in the September Economic Tendency Survey were slightly higher than their historical averages. The Riksbank's Business Survey in September also indicated continued growth, although uncertainty seems to have increased and respondents have a somewhat more pessimistic outlook on future prospects than they had in May.

Based on the published statistics for the third quarter, GDP is on the whole expected to grow by almost 1 per cent, compared with the previous quarter and calculated as an annual rate. The corresponding growth in the fourth quarter is expected to be somewhat higher, approximately 2.3 per cent, as important confidence indicators are still pointing to growth in line with historical averages.

■ Household consumption an important driving force for growth

The development of households consumption lies behind a significant part of the growth we have seen in recent years. In the second quarter, consumption grew by just over 5 per cent compared to the previous quarter and calculated as an annual rate.

Household confidence, measured in terms of the National Institute of Economic Research's confidence indicator, increased once again in September, following a downswing in August (see Figure 3:17). All in all, confidence is at a level just above the historical average. Retail trade sales increased in August, following a few months of weaker development.

All in all, the high growth during the second quarter is expected to be followed by a somewhat slower growth in consumption during the third quarter. During the second half of 2014, household consumption will thus grow by approximately 2.5 per cent, calculated as an annual rate.

■ Subdued growth in exports

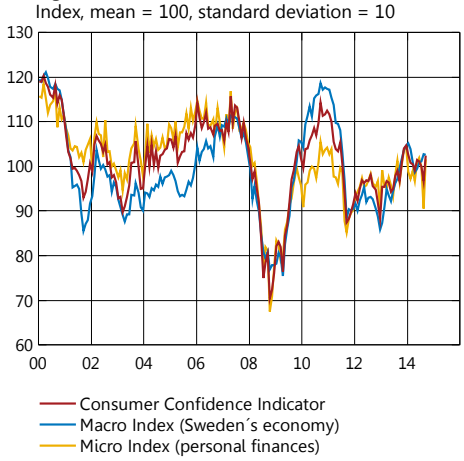
Weak development abroad has meant that Swedish exports have grown more slowly than normal and is one of the factors that has prolonged the recovery from the financial crisis. The second quarter was also marked by subdued growth in exports. Compared with the first quarter, exports grew by an annual rate of just over 3 per cent.

Survey-based indicators, such as the orders to the manufacturing industry according to the National Institute of Economic Research's Economic Tendency Survey and the purchasing managers' index, paint a picture of exports growing in line with the historical average (see Figure 3:18). At the same time, Statistics Sweden's monthly statistics for foreign trade in goods in July and August pointed to a weak development in the third quarter. All-in-all, this is expected to contribute to exports remained unchanged in the third quarter. However, exports are expected to grow at a more normal rate towards the end of 2014.

■ High growth in housing investment

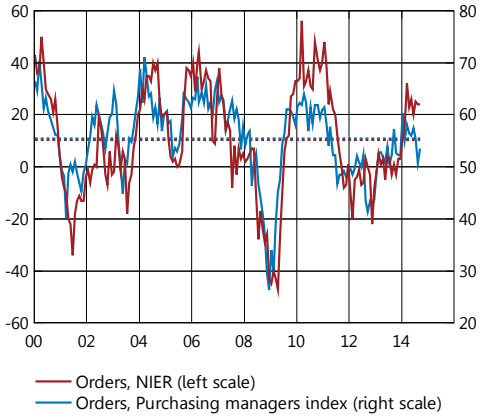
Housing investment is growing rapidly from an historical perspective and has been a central factor in explaining growth in fixed gross investment in the past year (see Figure 3:19). The business sector's other investment, on the other hand, has made a negative contribution to investment growth.

Figure 3:17. Confidence indicators for households
Index, mean = 100, standard deviation = 10



Source: National Institute of Economic Research

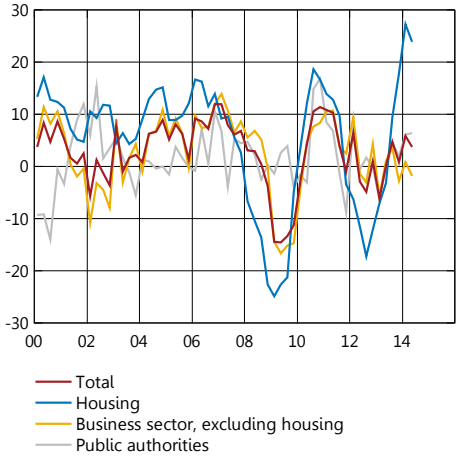
Figure 3:18. New export orders in the manufacturing sector
Net figures and index, seasonally adjusted data



Note. Net figures are defined as the difference between the percentage of companies reporting an increase in export orders and the percentage of companies reporting a decrease. Broken lines represent the average for the period 2000 to the latest outcome.

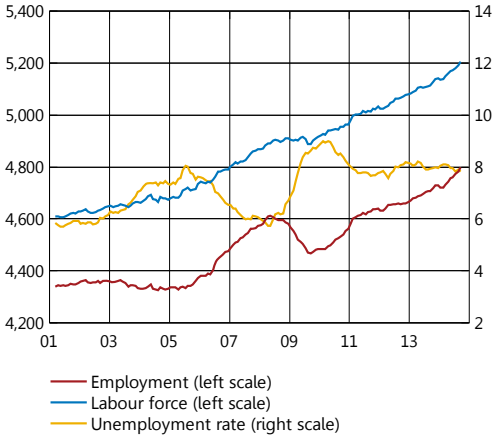
Sources: National Institute of Economic Research and Swedbank/Silf

Figure 3:19. Gross fixed capital formation
Annual percentage change



Source: Statistics Sweden

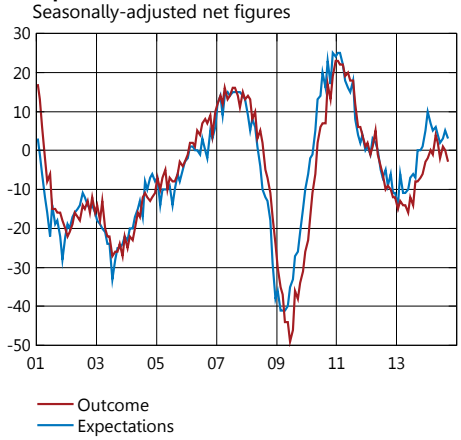
Figure 3:20. Employment, labour force and unemployment
Thousands and per cent of the labour force, aged 15–74, seasonally-adjusted data



Note. Three-month moving average.

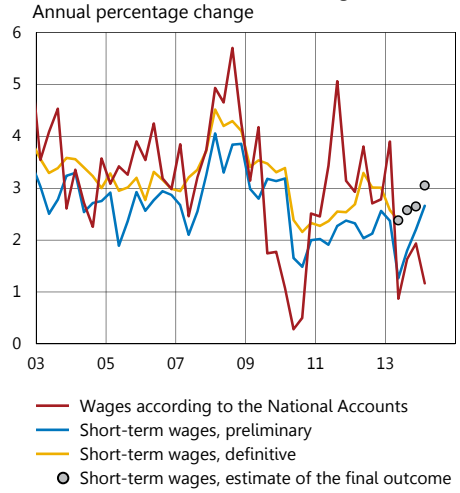
Sources: Statistics Sweden and the Riksbank

Figure 3:21. Employees in the business sector, expectations and outcome
Seasonally-adjusted net figures



Source: National Institute of Economic Research

Figure 3:22. Wages according to the National Accounts and to the short-term wage statistics
Annual percentage change



Note. The short-term wage statistics for the last 12 months are preliminary and are usually revised upwards. The grey dots in the figure show the Riksbank's assessment of the final outcome according to the statistics.

Sources: National Mediation Office, Statistics Sweden and the Riksbank

The rate of growth in housing investment is slowing down following a period of high growth. Nevertheless, housing investment is expected to increase by just over 20 per cent in 2014 as a whole.

At the same time, the Riksbank's Business Survey in September indicates somewhat weaker future prospects. This, together with the still sluggish exports, supports the picture of the other investment in the business sector continuing to grow at a moderate rate in the immediate future. During the third and fourth quarters of 2014, total fixed gross investment is expected to grow by 2 and 3.6 per cent respectively, calculated as an annual rate, compared with the previous quarter.

■ Number of employed increasing

The labour market situation is continuing to improve in many aspects (see Figure 3:20). The number of hours worked is rising, despite the moderate GDP growth, and newly-received information entails a minor upward revision to the figure for employment growth in 2014, compared with the Riksbank's forecast in September. At the same time, labour force participation is expected to be somewhat higher and the fall in unemployment will thus be slow in the coming period, completely in line with the Riksbank's forecast in September.

The labour force surveys for August and September indicate that the number of hours worked increased faster than expected in the third quarter. Given the subdued GDP growth, however, the number of hours worked is expected to increase only marginally in the fourth quarter and the forecast for the year 2014 as whole is thus largely the same as in the September Monetary Policy Update. At the same time, the surveys showed that employment and the labour force increased more rapidly in the third quarter than was expected in the previous forecast.

Indicators of the demand for labour imply on the whole that there will be more people employed and fewer unemployed in the period immediately ahead. The number of newly-registered vacancies at the Swedish Public Employment Service is increasing significantly and the picture of an increase in new vacancies is also confirmed by Statistics Sweden's statistics on vacancies. On the other hand, the business sector's employment plans look weak according to both the Business Tendency Survey for September and the Riksbank's Business Survey in September (see Figure 3:21). All-in-all, the assessment is nevertheless that the situation on the labour market will improve somewhat during the fourth quarter too.

■ Moderate growth in unit labour costs

The National Mediation Office's short-term wage statistics indicate that wages in the entire economy rose by an average of 2.7 per cent, calculated as an annual percentage change, during the first seven months of this year (see Figure 3:22). The statistics are still preliminary and are usually revised up when retroactive payments are entered. The forecasts for the coming months and for revisions to the statistics

received so far mean that wages are expected to increase by 3.0 per cent this year.[9]

The revision of the National Accounts (see the article "Revisions to the National Accounts") has among other things meant that the figure for productivity growth is somewhat higher and the figure for the growth of unit labour costs somewhat lower for the first half of 2014 than in the Riksbank's previous assessment. During the second half of 2014, growth in hourly wages and hourly labour costs is expected to be higher than during the first half of the year, while productivity is expected to develop roughly the same as during the first half of the year. Growth in unit labour costs will therefore be somewhat higher during the second half of the year, and when expressed as an annual percentage change, it will amount to around 1.7 per cent for the whole year 2014, which is anyway lower than the Riksbank assessed in September.

■ Surprisingly low inflation

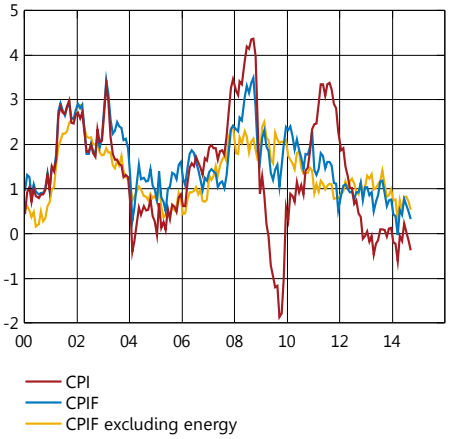
Inflation fell more than expected in September. The CPI fell by an annual rate of 0.4 per cent, which was lower than in August (see Figure 3:23). The very low CPI inflation rate is partly connected with household mortgage expenditure having fallen, which in turn is due to a gradually lower repo rate.

However, inflation is low even if one disregards the effect of falling interest costs. The annual rate of increase in the CPIF, that is, the CPI with a fixed mortgage rate, amounted to 0.3 per cent in September. If energy prices are also excluded, CPIF inflation was somewhat higher, 0.5 per cent. The outcomes for all of these three inflation measures were in line with what the Riksbank forecast in the September Monetary Policy Update.

Goods prices have tended to fall over time, but they fell particularly sharply during 2012 after a significant strengthening of the krona. However, the rate of price increase on goods became gradually less negative in 2013 and has been close to an historical average so far in 2014. This development is also to some extent linked to the weakening of the exchange rate recently. In September, the annual rate fell to −1.0 per cent (see Figure 3:24). The rate of increase in services prices amounted on average to around 2 per cent a year between the years 2008 and 2012, but slowed down considerably during 2013. The downturn was clear in most services price groups. In September, the annual rate of increase was 0.9 per cent. (see Figure 3:24).

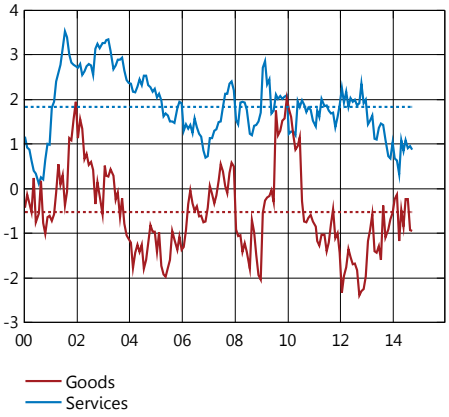
Several factors have contributed to the low rate of inflation Demand and resource utilisation have been lower than normal after the global financial crisis and have thus contributed to low price mark-ups being low, both in Sweden and abroad. The slower global demand has also contributed to energy prices developing weakly in recent years, which has affected the development of inflation in Sweden. Moreover, food

Figure 3:23. Consumer prices
Annual percentage change



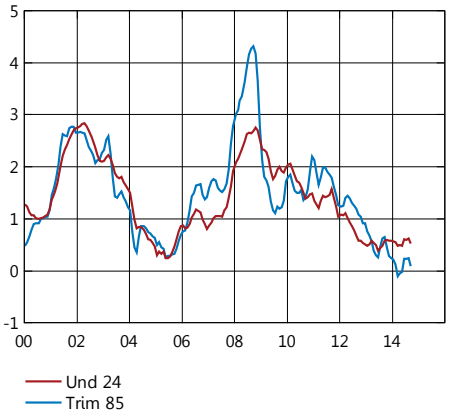
Note. The CPIF is the CPI with a fixed mortgage rate.
Source: Statistics Sweden

Figure 3:24. Goods and services prices
Annual percentage change



Note. The broken lines represent the average for the period 2000 to the latest outcome.
Sources: Statistics Sweden and the Riksbank

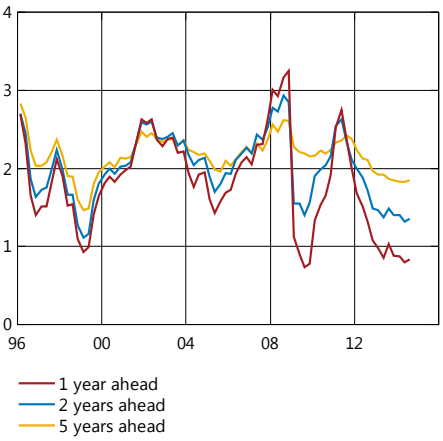
Figure 3:25. Measures of underlying inflation
Annual percentage change, three months moving average



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

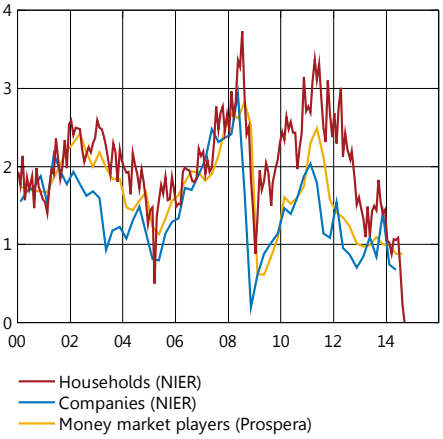
[9] The sample, which is changed in January each year, consists of 5,854 companies in the survey of short-term wage statistics for the business sector in 2014. According to the National Mediation Office's calculations for identical companies and all of the companies in the survey, the effect of the sample rotation is unusually large this year, approximately +0.3 percentage points.

Figure 3:26. All respondents' expectations of inflation
Per cent



Source: TNS Sifo Prospera

Figure 3:27. Expectations of inflation one year ahead
Per cent



Note. Households are stated monthly others quarterly.

Sources: National Institute of Economic Research and TNS Sifo Prospera

commodity prices fell in 2013, which has contributed to food prices in the consumer sector increasing slowly for some time.

It is assessed that the surprisingly low inflation outcome is only to a limited extent due to temporary effects. The assessment is thus that inflation will remain low during the final quarter of 2014. The krona has weakened over the past year and import prices in the producer channel have increased in recent months. At the same time, however, fuel prices have fallen, food prices are increasing only slightly in the CPI and underlying measures do not show any upturn in inflation (see Figure 3.25).

■ Well-anchored inflation expectations in the long term

According to surveys from the National Institute of Economic Research and TNS Sifo Prospera, inflation expectations have fallen in recent years. The TNS Sifo Prospera quarterly survey of money market agents, social partners and purchasing managers in trade and industry from September showed that inflation expectations for one year ahead were at 0.8 per cent, two years ahead were 1.4 per cent and five years ahead were at 1.8 per cent (see Figure 3:26). All in all, this means in principle that inflation expectations are unchanged in relation to those published in June. In the monthly survey, in which only money market agents are interviewed, inflation one and two years ahead were marginally higher. Expectations five years ahead were marginally higher for the second consecutive month and amounted to 1.8 per cent.[10]

According to the Economic Tendency Survey of the National Institute of Economic Research for September, the households' inflation expectations one year ahead were at 0.0 per cent in August (see Figure 3:27). In the most recent quarterly Economic Tendency Survey for July, corporate sector expectations regarding inflation one year ahead were 0.7 per cent.

The historical expectations covary with actual inflation and the prevailing expectations are not lower than is justified by the actual rate of inflation. Inflation expectations five years ahead also covary with actual inflation, although to a lesser extent than expectations in the shorter term. Expectations five years' ahead, which are 1.8 per cent according to TNS Sifo Prospera's quarterly survey, are in line with what is compatible with the actual level of inflation.

[10] TNS Sifo Prospera's survey was published before the surprisingly low inflation outcome for October was published.

Monetary policy when the policy rate is close to zero

What can the central bank do to further stimulate the economy when the policy rate is close to zero? This article lists various measures that central banks around the world have taken in recent years. The repo rate has now been cut to zero and the Riksbank assesses that the situation in the Swedish economy does not require any supplementary monetary policy measures at present. However, if conditions were to change, the Riksbank has the same possibilities as other central banks to take further measures to increase the monetary policy stimulus.

During the financial crisis of 2008–2009, many central banks made drastic cuts to their policy rates, in several cases to levels close to zero, to counteract the economic downturn and low inflation. In addition, several central banks have chosen to take complementary monetary policy measures to further stimulate the economy. These measures are primarily aimed at making monetary policy more expansionary. But exactly which measures have been adopted depends on which problems the central bank has chosen to address.

Measures to influence interest rates on long maturities

One way of making monetary policy more expansionary when it is not possible to cut the policy rate is to push market rates on long maturities down, if these are relatively high for various reasons. This can be done by either influencing expectations of future short-term interest rates, or by direct purchases of bonds.

To influence expectations, some central banks have chosen to communicate the length of time over which the policy rate is to be held at a low level or the circumstances under which the policy rate may start to be raised. For example, the Bank of Canada, the Federal Reserve and the Bank of England have issued such forward guidance on various occasions. Similarly, the Riksbank uses its repo-rate path to communicate that the repo rate is expected to be low for a longer time.

Many central banks, including the Federal Reserve and the Bank of England, have also purchased large amounts of bonds, thereby expanding their balance sheets. Their aim was not only to push down interest rates on the bonds purchased by the central banks but also on other types of bond. When a central bank purchases large amounts of government or mortgage bonds, investors who have previously invested in these bonds may instead be expected to increase their investments in other securities. The supply of risk capital or credits elsewhere in the economy may thus increase, and this may then push interest rates on these markets down too.

Measures to improve the impact of monetary policy

When the Riksbank lowered the repo rate and the repo rate path at the start of the financial crisis, market rates indicated that the period of low interest rates would be shorter than the Riksbank had assessed. Consequently, in 2009, to ensure that monetary policy would have the

intended effect, the Riksbank offered loans to the banks with fixed and low interest rates.

The ECB has recently launched a programme of large and inexpensive loans to the banking sector to boost lending to households and companies, as this kind of lending has long been weak. Like the Riksbank's measures in 2009, this is aimed at increasing the efficiency of monetary policy.

Since the financial crisis, central banks have also purchased different types of financial asset to improve the functioning of the market. For example, the Federal Reserve started to purchase large amounts of mortgage bonds when these markets threatened to close down entirely, which could have had serious consequences for the credit supply to the household sector.

Measures to influence the exchange rate

One further way of making monetary policy more expansionary is to intervene in the foreign exchange market with the aim of slowing down a substantial strengthening or achieving a weakening of the exchange rate. After the financial crisis, the Swiss franc strongly appreciated against more or less all currencies. This strengthening of the exchange rate was considered to be a threat to Swiss exports and thereby to entail a major risk to the development of the macroeconomy. There was a risk that inflation would be very low, as prices of imported goods plummeted. When the strengthening of the currency reached 40 per cent, the central bank introduced an exchange rate floor against the euro, which was clearly communicated to the market. In November 2013, the central bank of the Czech Republic announced that it would carry out interventions on the foreign exchange market to weaken the value of its own currency against the euro. This took place against a background of falling inflation and the weak development of the economy.

The situation in Sweden is different

Present conditions in Sweden differ from those in other countries where central banks have adopted complementary monetary policy measures. The financial markets and financial sector as a whole are functioning relatively well, lending to households and companies is increasing, interest rates at both short and long maturities are low and the krona is not remarkably strong. In addition, economic development is relatively strong, GDP is increasing at a normal rate and employment is rising. At the same time, inflation is too low. The repo rate has therefore been cut to zero per cent and is expected to remain at this level until inflation has clearly picked up. This highly expansionary monetary policy will stimulate demand and contribute to CPIF inflation rising to 2 per cent in the first half of 2016. The Riksbank therefore assesses that the situation in the Swedish economy does not require any supplementary monetary policy measures at present. However, if conditions were to change, the Riksbank has the same possibilities as other central banks to take further measures to increase the monetary policy stimulus.

Revisions to the National Accounts

When Statistics Sweden published the ordinary calculation for the second quarter, they for the first time reported the National Accounts figures in line with the new regulations, ENS 2010. Adjustments made as a result of the changeover and other historical revisions mean, for instance, that Swedish GDP is now a good 5 per cent higher. As a large share of the revisions are based on changes in definitions, they are not expected to have any greater economic significance or impact on the Riksbank's forecasts.

New definition of investment gives higher historical GDP

When the National Accounts figures for the second quarter were published, Statistics Sweden changed over to reporting in line with the new regulations, ENS 2010[11]. At the same time, the National Accounts were revised, partly as a result of new calculations for the whole year 2012.

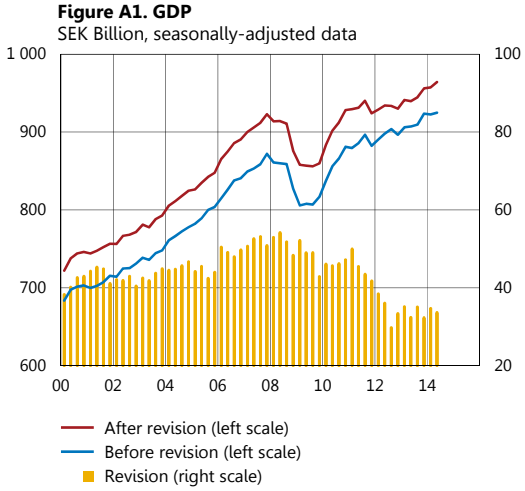
All in all, these changes have meant that the historical GDP level has been adjusted upwards by on average around 5 per cent (see Figure A1). This is largely explained by the new regulations entailing that costs for research and development (R&D) are reported as investment. One direct consequence of this change is that investment's percentage of GDP is now higher than before (see Figure A2). A new classification of costs for military equipment also contributes to this upward adjustment, although to a much smaller extent. Another consequence of these changes is that the profit share in the economy becomes higher (see Figure A3). This is because the higher GDP level largely corresponds to increased production in the business sector at the same time as the number of hours worked has not been adjusted.

New calculations entail lower GDP growth in 2012 and higher disposable incomes

Statistics Sweden has also, in addition to the changeover in the calculation of the National Accounts, made a general revision of the National Accounts, which includes new calculations for the whole year 2012. This has meant that the historical growth in GDP is somewhat different than before, for instance, with relatively large downward revisions to domestic demand in 2012 (see Figure A4).

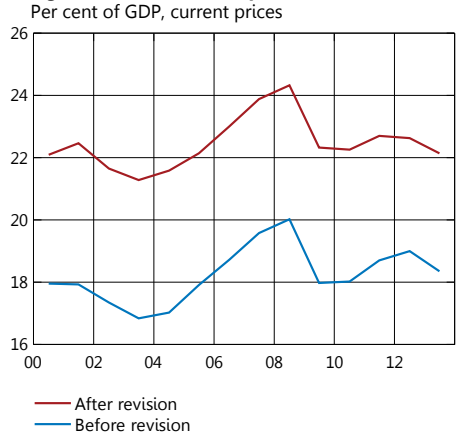
As the number of hours worked has in principle not been revised, the changes in GDP growth give rise to lower figures for productivity growth in 2010–2012 and somewhat higher figures for productivity growth during the first half of 2014. At the same time, this means that growth in unit labour costs has changed in the opposite direction and is around a percentage point higher in 2012, but around half a percentage point lower in the first half of 2014 (see Figure A5).

Figure A1. GDP
SEK Billion, seasonally-adjusted data



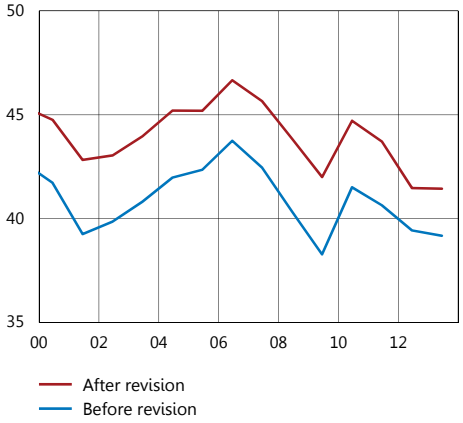
Source: Statistics Sweden

Figure A2. Gross fixed capital formation
Per cent of GDP, current prices



Source: Statistics Sweden

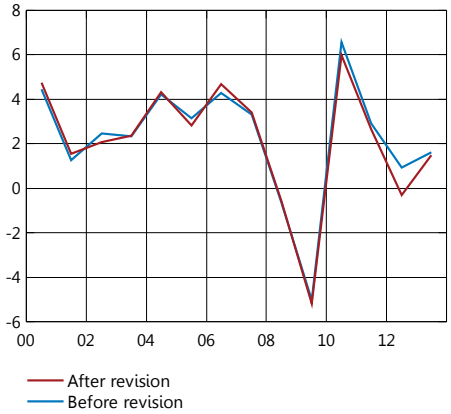
Figure A3. Profit share
Per cent



Source: Statistics Sweden

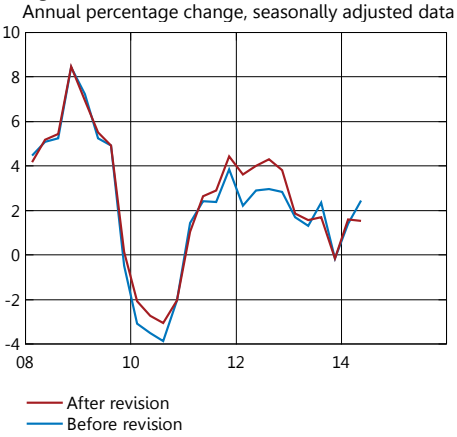
[11] The National Accounts are governed by the regulatory framework System of National Accounts (SNA) which has been drawn up by the United Nations. The regulations are updated regularly and adapted to economic developments. Within the EU, the calculation of National Accounts is governed by the ENS (European and National System of Accounts), which is an adaptation of the SNA to European conditions.

Figure A4. GDP
Annual percentage change



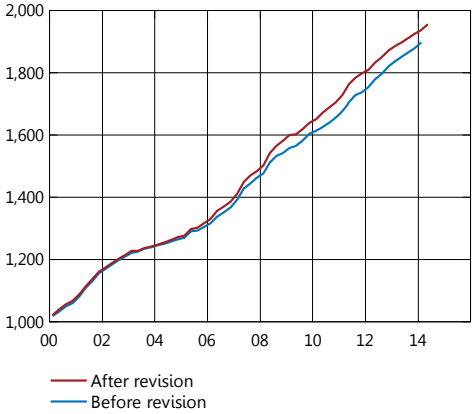
Source: Statistics Sweden

Figure A5. Unit labour cost
Annual percentage change, seasonally adjusted data



Sources: Statistics Sweden and the Riksbank

Figure A6. Disposable income
SEK Billion



Note. Current prices, expressed as a moving sum of four periods.
Source: Statistics Sweden

Another consequence of the new calculations is that households' disposable incomes are higher than before (see Figure A6). This affects, for instance, aggregated measures such as households' saving and debt ratios. New sources and methods for calculation in the insurance sector have contributed to households' capital incomes from both private insurance saving and pension saving being higher. Wage income from abroad has also been adjusted slightly upwards.

Revisions resulting from new regulations and general review have limited significance

The changeover in the National Accounts on the basis of the new regulations has led to changes in definitions, which give rise to level changes in several macroeconomic variables. These changes do not in themselves affect the functioning of the economy. Statistics Sweden's review of the National Accounts has not significantly changed the picture of the cyclical development of the economy, and the revisions are therefore not deemed to have any significant impact on the forecast.

Low global interest rates

Recently, the Riksbank's forecast for the repo rate has ended at a level that is significantly lower than normal. This is despite the fact that the Swedish economy, at this point, is expected to have reached a stage where economic activity is relatively strong and CPIF inflation is close to the target of 2 per cent. The Riksbank judges that it will take an unusually long time for the interest rate environment in Sweden to normalise. Among other reasons, this is because international interest rates are expected to be low for a long time, impacting small, open economies like that of Sweden. The low global interest rate environment can, in turn, be traced back to the unusually weak recovery after the financial crisis and to global patterns in saving and investment that have pushed real interest rates down for a longer period. It is still too early to determine the extent to which the low interest rates are a reflection of cyclical or more long-term factors. There is thus great uncertainty over the normal level of interest rates over the long term.

Low international interest rates for a longer period

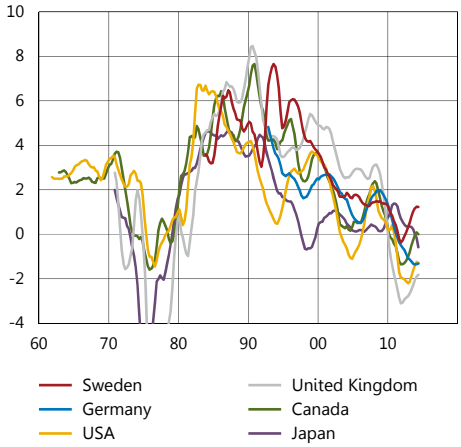
Both long-term and short-term real interest rates have shown a falling trend in many countries over the last 20–25 years (see Figures A7 and A8).[12] The figures show how interest rates seem to be moving in the same direction in many countries and that they are now at very low levels.[13] This decrease does not just apply to real risk-free interest rates but also to the interest rates charged to households and companies. Figure A9 shows nominal interest rates on corporate bonds and mortgages in the United States as an example, but there has been a similar development in most developed countries.

What is causing the decrease in global interest rates?

According to economic theory, there is a long-term relationship between the interest rate, households' propensity to save and the growth rate of the economy (which is to say the sum of productivity growth and population growth). The interest rate is the compensation received by households for deferring consumption. Its level thus depends on how important it is for households to consume today, as opposed to in the future. The more impatient households are to consume, the less inclined they are to save, leading to a higher interest rate. Over the long term, the economy is assumed to be in balance and things like capital's rate of depreciation, financial spreads and the valuation of risk are assumed to be constant.

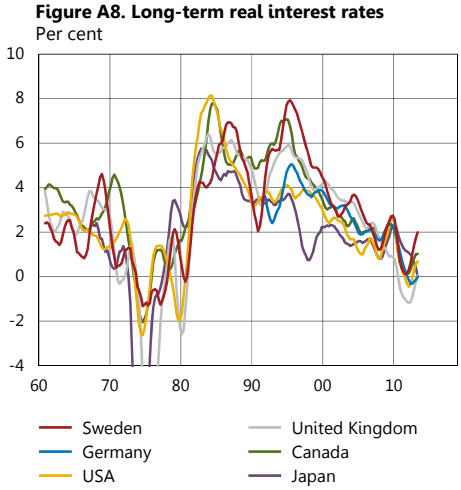
Over the short to medium term, fluctuations in saving and investing can lead the real interest rate to deviate from its long-term level. Globally, interest rates are determined by the equilibrium between supply and demand for saved funds or investments. How much people want to save or invest is, in turn, closely connected to the prospects for future growth in the economy. Events causing households to reassess their future incomes, such as expectations of higher productivity growth

Figure A7. Short-term real interest rates
Per cent



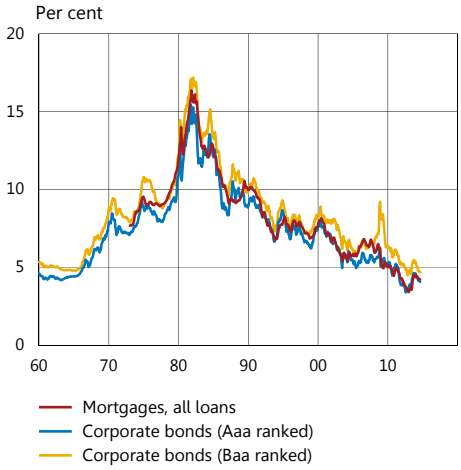
Note. The figure shows a 2-year moving average of nominal 3-month risk-free interest rates minus actual annual CPI inflation.
Source: OECD

Figure A8. Long-term real interest rates
Per cent



Note. The figure shows a 2-year moving average of nominal 3-month risk-free interest rates minus actual annual CPI inflation
Source: OECD

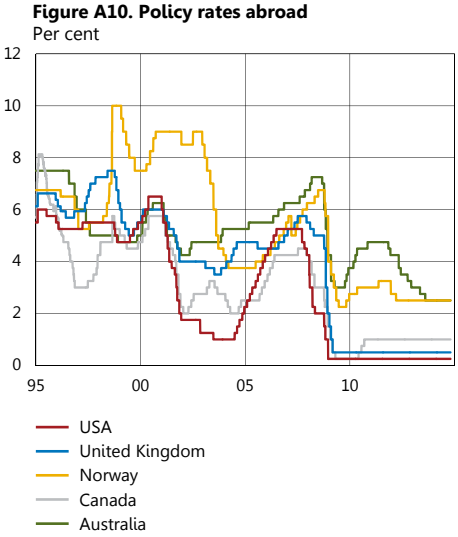
Figure A9. Nominal final interest rates in the United States
Per cent



Sources: Federal Housing Finance Board and Federal Reserve

[12] Real interest rates are usually expected to be most important when households and companies take decisions. Real interest rates are derived by removing expected inflation from nominal interest rates.
[13] Real interest rates were very low in the 1970s, but inflation was also very high then.

Figure A10. Policy rates abroad
Per cent



Sources: Bank of Canada, Bank of England, Federal Reserve, Norges Bank and Reserve Bank of Australia

in the future, will make them want to consume more today as they wish to even out their consumption over time. This will lead them to become less inclined to save and therefore higher compensation (or interest) will be needed to get them to do so. Factors affecting the propensity to save and prospects of future growth will therefore have an effect on the interest rate environment.

The prolonged decline in global interest rates can be seen from this perspective. It originates in a series of circumstances that have increased the global willingness to save.[14] Firstly, saving increased in many emerging economies, above all China, following the Asian crisis of 1997.[15] Secondly, many countries are experiencing a demographic trend with many people approaching retirement, which is pushing up saving. Finally, income disparities have increased in many large countries, with an increasing share of incomes going to the richest parts of the population, who have a higher propensity to save.

In addition to these more long-term factors, there are also effects that have arisen in conjunction with the financial crisis. The weaker prospects for growth have led to lower demand for investments. At the same time, precautionary saving has increased in the wake of the crisis, due to the substantial falls in housing prices in a number of countries. All of these factors should be pushing interest rates down. The effect on risk-free interest rates may have been strengthened by the way that the increased interest in saving in secure assets coincided with a diminished supply of these, in that the crisis had led to a revaluation of certain assets that had been considered safe prior to the crisis.[16]

A lower neutral interest rate requires a lower policy rate

Monetary policy can only influence the real interest rate in the short term and has a very limited effect on long-term real interest rates. It therefore needs to be adjusted to the downward trends in the real interest rate. The global factors that have acted to push down international interest rates have led to the interest rate compatible with balanced resource utilisation becoming lower than previously. This is usually described as the 'neutral' or 'natural' interest rate having fallen.[17]

Since the mid-1990s, when many countries introduced inflation targeting, monetary policy rates have become lower and lower in most developed economies (see Figure A10). For each economic downturn, a lower nominal policy rate has been needed to attain enough monetary policy stimulation to keep inflation on target and resource utilisation at a normal level.

The financial crisis and subsequent slow recovery finally led to many policy rates being lowered close to zero. The historically low policy rates are thus a combination of temporary weak demand following the crisis,

[14] Some observers have emphasised the falling relative price of investments as a factor contributing to the lower interest rates, but Blanchard et al. 2014 ("A prolonged period of low real interest rates?", essay in "Secular stagnation: facts, causes and cures". VoXEU e-book, 2014) claim that this is of lesser significance.
[15] Saving as a proportion of GDP increased by over 10 percentage points in emerging economies after the Asian crisis. In a speech, Bernanke called this the "global saving glut". See Bernanke, B. "The Global Saving Glut and the U.S. Current Account Deficit". Speech, 10 March 2005.
[16] See Caballero, R. J., and Farhi, E. "The safety trap". NBER WP No 19927. 2014.
[17] In this context, neutral interest rate means the interest rate that, if the economy was in balance, would keep it there. The neutral interest rate is thus a theoretical concept with somewhat different definitions in the literature. For a detailed discussion of the neutral or natural interest rate, see Lundvall H. and Westermark A., "What is the natural interest rate?". *Sveriges Riksbank Economic Review*, Sveriges Riksbank 2011.

meaning that interest rates are now close to zero, and a prolonged fall in global real interest rates, which also affects the prospects for policy rates in the slightly longer term.[18] However, it is very difficult to quantify how much of the decline depends on either short-term or long-term effects.

The risks of a prolonged period of low interest rates

Risks may arise if interest rates are low for a prolonged period. For example, unchanged nominal yield requirements may lead to excessive risk-taking.[19] Some researchers warn of interpreting the fall in global interest rates as a fall in neutral interest rates. [20] They argue that the low interest rates are the result of most central banks strongly stimulating the economy in economic downturns without taking consideration of the accumulation of debt or other financial imbalances in economic upturns. Over the long term, this kind of asymmetric policy encourages the accumulation of debt in the economy.

However, many researchers say that most developed economies are presently in a situation in which policy rates are not low enough, as policy rates below zero would be required to achieve full employment.[21] The focus of the discussion has been that monetary policy cannot be sufficiently expansionary to stimulate the economy, at the same time as many countries have very limited scope to stimulate via fiscal policy due to their high levels of debt.[22] This would mean that we can expect a long period of low growth, known as 'secular stagnation', in the period ahead. The weak global growth since the financial crisis is seen as a sign of this downshift to lower growth rates. The slowdown of population growth in developed economies may also be of significance here. There is an international discussion on how persistent the decline in growth may be and what this may mean for monetary policy.[23] However, it is still too early to determine whether this is due to the lingering effects of the crisis or of something more long-term.[24]

The interest rate environment in Sweden is dependent on the rest of the world

Sweden is a small open economy with strong international commercial and financial links. The low level of global economic activity since the financial crisis has led international policy rates to fall to a level close to zero. Low international policy rates give the Riksbank little scope to implement larger repo rate increases as these could lead the krona exchange rate to appreciate. At present, an exchange rate appreciation could risk leading to the already low rate of inflation becoming even lower. All in all, this has led to the repo rate being very low in recent years. The Swedish repo rate forecast, which is unusually low from a

[18] For a more detailed discussion of low international interest rates, see Blanchard et al. 2014 (see footnote 4).
[19] See, for example, Apel, M. and Claussen, C. A. "Monetary policy, interest rates and risk taking". *Sveriges Riksbank Economic Review*. Sveriges Riksbank. 2012.
[20] Borio, C. and Disyatat, P., "Low interest rates and secular stagnation: Is debt a missing link?". VoxEU, 25 June 2014.
[21] See, for example, Summers, L. H., "US economic prospects: secular stagnation, hysteresis, and the zero lower bound". *Business Economics*. Vol. 49. 2014.
[22] However, this does not apply to Sweden, which has a relatively public debt as a percentage of GDP.
[23] A summary can be found in Teulings, C. and Baldwin, R., "Secular stagnation: facts, causes and cures". VoXEU e-book, 2014.
[24] See, for example, Gordon, R. J. "The demise of US economic growth: restatement, rebuttal, and reflections". NBER WP No. 19895. 2014, or Fernald, J. G. and Jones, C. I. "The future of US economic growth". NBER WP No. 19830. 2014.

historical perspective, can thus be linked to the need to conduct an expansionary monetary policy in a large number of countries in the near future.[25]

Forecasts of future interest rates are highly uncertain, which is illustrated by the uncertainty interval surrounding the repo-rate path (see Figure 1:6). This interval is based on historical forecast errors. As global economic activity recovers and the effects arising from the financial crisis subside, the repo rate in Sweden is expected to rise gradually from its present extremely low level. However, even before the crisis, there were other factors that were pushing global interest rates down, and these are expected to persist over the medium term. As the interest rate environment in Sweden is highly dependent on international development, this means that the adjustment of the repo rate to its long-term equilibrium is expected to take place slowly.[26]

However, it is very difficult to determine at present to which extent the effects we see are temporary adjustments after the financial crisis or whether this is a matter of more long-term structural changes.[27] If productivity growth does not recover, the repo rate may also be lower in the long term. It may also be the case that the global propensity to save decreases more rapidly than expected or that global investments recover more rapidly than expected, pushing up global interest rates. However, saving propensity is usually sluggish and both the IMF and the OECD forecast that the high global saving propensity will persist over the medium term. It thus seems reasonable to expect global interest rates to remain low in the years to come.

[25] A number of central banks have communicated that they do not expect a normalisation of policy rates for a longer time. See, for example, "Bank rate in the medium term", article in Inflation Report February 2014, Bank of England, "Den nøytrale og den normale renten", article in Pengepolitisk rapport med vurdering av finansiell stabilitet mars 2014, Norges Bank and "The natural rate of interest in Canada", Mendez, R. R. Discussion paper 2014–5, Bank of Canada.

[26] For a more detailed discussion of the repo rate's long-term level, see the article in the Monetary Policy Report for February 2010.

[27] Barro (2006) has demonstrated how extreme events can have long-term effects on real interest rates, for example (see Barro, R. J. "Rare Disasters and Asset Markets in the Twentieth Century" *The Quarterly Journal of Economics,* 2006).

Households' sensitivity to interest rates

The current very low repo rate is contributing to holding down households' interest expenditure and to stimulating consumption. But high indebtedness, combined with a large share of mortgages at variable interest rates, has at the same time made households more sensitive to future interest rate changes. The Riksbank's forecast implies that household consumption will continue to grow at a stable pace, even when the gradual increases in the repo rate begin. However, there are risks and one cannot rule out the possibility of a weaker development in consumption.

There are considerable differences in the level of sensitivity to interest rates from household to household. Households with a high level of indebtedness will experience a large increase in interest expenditure over a few years, which could lead to extensive adjustments to consumption. The more households there are with a high level of indebtedness, the greater the risks to the macroeconomy. However, a high sensitivity to interest rates is not the only risk linked to high indebtedness. Sensitivity to a fall in housing prices, for instance, will also increase. There are thus several reasons to take macroprudential policy measures to try to dampen growth in household indebtedness.

Low interest rates have pushed down households' interest expenditure.

Changes in the repo rate affect the economy in several ways, for instance, via effects on households' interest expenditure with regard to mortgages. The size of the interest expenditure is determined by the level of the interest rate and the size of the debt:

$$Interest\ expenditure = interest\ rate \times debt$$

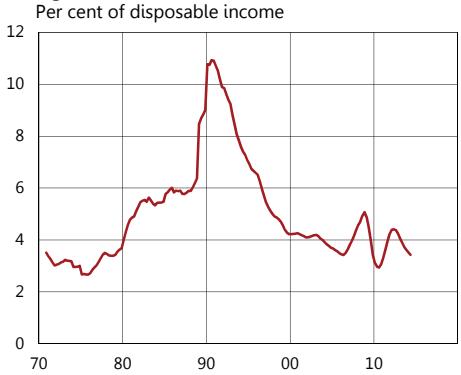
Households' interest expenditure is included in the calculation of disposable incomes, which gives an approximate idea of how much scope for consumption the household has. Disposable income is defined roughly as follows:

$$Disposable\ income \approx wages + capital\ income + transfers - taxes - interest\ expenditure$$

The larger the interest expenditure, the less disposable income is left, all else being equal. The absolute level of interest expenditure does not say very much about households' ability to bear debt. Interest expenditure is therefore often calculated as a percentage of disposable income, in the form of the so-called interest ratio:

$$Interest\ ratio = interes\ rate \times \frac{debt}{disposable\ income}$$

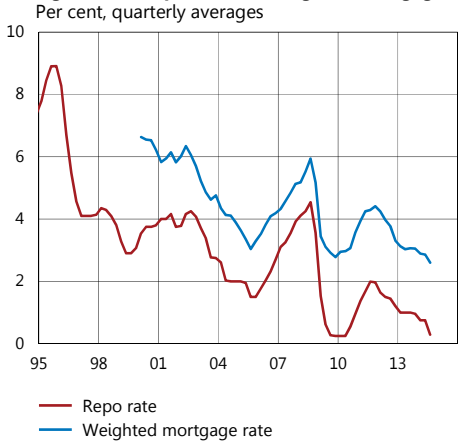
Figure A11. Households' interest ratio
Per cent of disposable income



Note. The interest ratio has been calculated as a 4-quarter moving average, where interest expenditure, excluding the FISIM adaptation, has been adjusted for tax deductions.

Source: Statistics Sweden

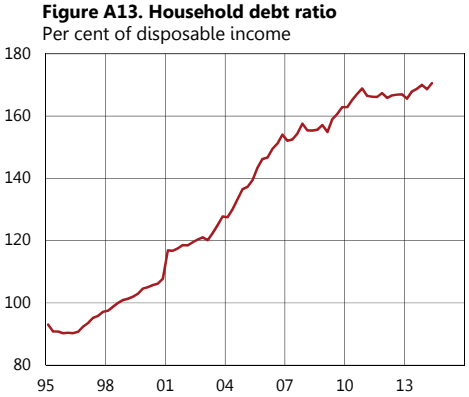
Figure A12. Repo rate and weighted mortgage rate
Per cent, quarterly averages



Note. Weighted mortgage rate refers to the mean of the major banks' list prices for maturities of 3 months, 1 year, 2 years, 3 years and 5 years, weighted with their respective maturity's weight in the CPI.

Sources: Statistics Sweden and the Riksbank

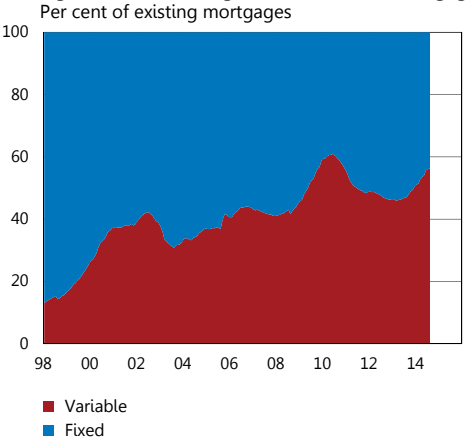
Figure A13. Household debt ratio
Per cent of disposable income



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

Sources: Statistics Sweden and the Riksbank

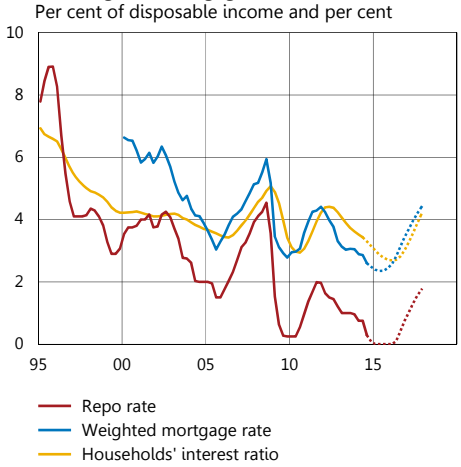
Figure A14. Percentage of variable-rate mortgages
Per cent of existing mortgages



Note. Variable-rate refers to mortgages with fixed periods of three months or less.

Source: Statistics Sweden

Figure A15. Households' interest ratio, repo rate and weighted mortgage rate
Per cent of disposable income and per cent



Note. Weighted mortgage rate refers to the mean of the major banks' list prices for maturities of 3 months, 1 year, 2 years, 3 years and 5 years, weighted with their respective maturity's weight in the CPI. The interest ratio has been calculated as a 4-quarter moving average, where interest expenditure, excluding the FISIM adaptation, has been adjusted for tax deductions.

Sources: Statistics Sweden

The historical development of the interest ratio is shown in Figure A11. We can see that the interest ratio has fallen since the beginning of the 1990s. One factor that has contributed to pushing down the interest ratio is the falling interest rates (see Figure A12). As household debt consists to a large extent of mortgages, the mortgage rate is the interest rate that has greatest importance for households' interest expenditure. Households' mortgage rates usually follow the development of the repo rate fairly well (see Figure A12).[28]

But at the same time as interest rates have fallen, household indebtedness has risen substantially. Household debt as a percentage of disposable income is currently twice as high as in the mid-1990s (see Figure A13).

High indebtedness increases sensitivity to interest rate changes

The high indebtedness contributes to making households more sensitive to changes in interest rates, as interest expenditure is greater for every given interest rate. A large and increasing share of Swedish households' mortgages are taken at variable interest rates (see Figure A14). This means that changes in the interest rate also have a more direct impact on households' interest expenditure.[29]

All in all, it is clear that households' sensitivity to interest rates has increased over time, to the extent that interest expenditure is to a large degree influenced by changes in interest rates. The question is what significance this may have for household consumption in the future.

Good conditions for continued strong growth in consumption in the coming years

Figure A15 shows the Riksbank's forecast for the repo rate and households' interest ratio until the end of 2017. The repo rate needs to remain very low to support economic activity and make inflation rise towards the target. This means that the interest ratio will bottom out at around 2.7 per cent, which is very low in an historical perspective. However, when inflation is clearly higher and growth has picked up, it is considered suitable to begin raising the repo rate. At the end of the forecast period, the repo rate is expected to be 1.75 per cent. The interest ratio is then expected to be around 4.2 per cent.

Even if an increasingly large share of households' incomes are spent on interest payments, the Riksbank assesses that household consumption in the economy as a whole will continue to develop in a stable manner in the coming years. There are two main reasons for this: one is the general development of disposable incomes and the other is households' saving behaviour.

Figure A16 and Table A1 show different components of households' disposable incomes. The table shows levels in SEK billions in 2014 and

[28] After the financial crisis, mortgage rates have not fallen quite as much as the repo rate, partly due to changes in competitive conditions, increased capital requirements and higher mortgage margins. See, for instance, the article "The relationship between the repo rate and interest rates for households and companies", Monetary Policy Report, February 2012, Sveriges Riksbank.

[29] See, for instance, J. Johansson, B. Lagerwall, and H. Lundvall, "Larger share of variable mortgages – how does this affect the impact of monetary policy?", The Riksbank's inquiry into risks in the Swedish housing market, Sveriges Riksbank, 2011 and J. Alsterlind, U. Holmberg, K. Jönsson, B. Lagerwall and J. Winstrand, "Risks to the macroeconomy and financial stability arising from the development of household debts and housing prices", Memo 6 of the analysis group of the Macroprudential Policy Council, Sveriges Riksbank, 2013.

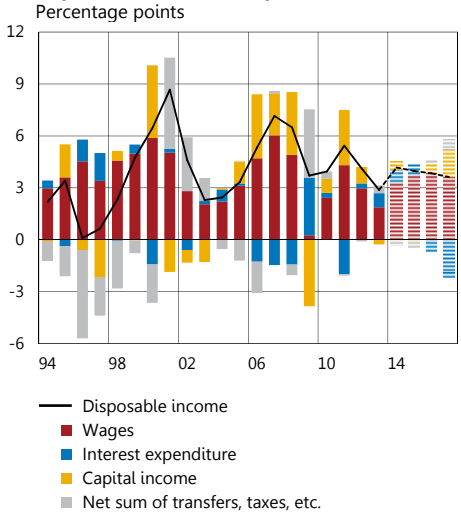
2017, while the figure shows the contributions of different components to the change in disposable income.

Table A1. Households' disposable incomes, consumption and saving
SEK billion

	2014	2017	Change
Wages*	1,593	1,829	236
Capital income	285	327	43
Net sum of transfers, taxes, etc.	171	181	9
Interest expenditure**	−43	−92	−49
Disposable income	**2,006**	**2,244**	**239**
Consumption	1,827	2,090	263
Saving***	179	154	−25

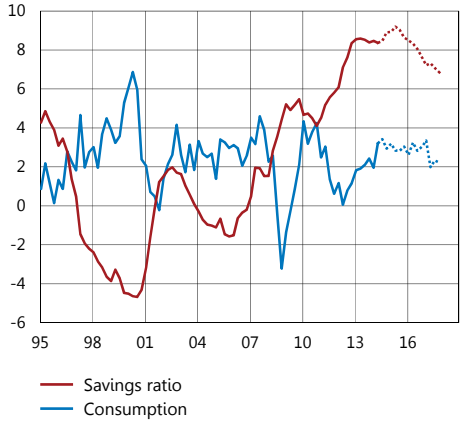
*Refers to payroll expense.
**Interest expenditure includes so called FISIM adjustment, which means that the relationship between interest expenditure and disposable income differs somewhat from the figures in the calculation of the interest ratio.
***Refers to own total savings.
Note. "Taxes, transfers, etc." is a collective item that includes taxes, transfers and entrepreneurial incomes. Due to rounding off, all items in the table do not exactly add up.
Sources: Statistics Sweden and the Riksbank.

Figure A16. Contributions to the households' disposable income development
Percentage points



Note. The figures refer to nominal data. Wages refers to payroll expenses. Disposable income is shown as annual percentage change, while contributions refer to percentage points. "Taxes, transfers, etc." is a collective item that includes taxes, transfers and entrepreneurial incomes.
Sources: Statistics Sweden and the Riksbank

Figure A17. Households' consumption and savings ratio
Annual percentage change and per cent of disposable income



Note. The savings ratio refers to own total savings.
Sources: Statistics Sweden and the Riksbank

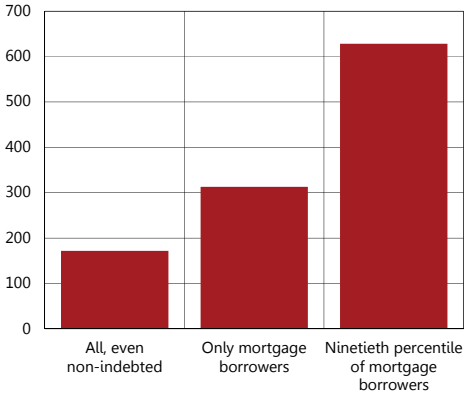
Particular attention should be paid to the blue columns in Figure A16, which show how changes in households' interest expenditure contribute to the development of households' disposable incomes. Columns larger than zero contribute to increasing disposable income and vice versa. The contributions reflect the development of the repo rate. The gradual cuts to the repo rate since the end of 2011 have made a positive contribution to households' disposable incomes. The repo-rate increases at the end of the forecast period, on the other hand, contribute to lower disposable incomes.

However, Figure A16 also shows that wages in the economy will increase faster in the coming years, as economic activity improves. This will contribute to disposable incomes in total continuing to grow at a good pace in the coming period. We see that columns above zero in the figure are far greater than those below zero during the forecast period.

Moreover, household saving is high to start with. The weak economic activity in recent years has probably contributed to an increase in precautionary saving among households. As economic activity improves, households are expected to reduce their saving (see Figure A17). Saving will nevertheless be at a high level, in historical terms, even at the end of the forecast period.

All in all, there are good conditions for consumption to continue to grow at a good pace, even if interest expenditure increases (see Figure A17). However, it should be emphasised that forecasts are always uncertain. It is not possible to rule out a weaker development in household consumption than in the Riksbank's main scenario. The general economic outlook can change. Developments abroad have been a major source of uncertainty in recent years. For instance, growth in the euro area could be lower than expected, which would probably dampen consumer confidence in Sweden, too. This could then lead to household

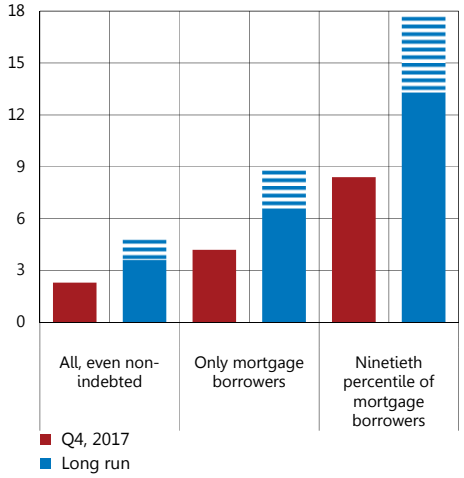
Figure A18. Debt ratio among different groups of households
Per cent of disposable income



Note. The debt ratio for mortgage borrowers is based on the Riksbank's credit data from July 2013. For all, including those with no debts, the aggregate debt ratio has been used, calculated using Statistics Sweden's data from Q2 2013 (non-revised data) to facilitate comparison.

Sources: Statistics Sweden and the Riksbank

Figure A19. Development of interest expenditure among different groups of households
Change in interest expenditure compared with Q4, 2014, percentage points compared to disposable income



Note. The broken interval refers to interest expenditure at the interval for the long-term repo-rate of 3.5–4.5 per cent. For more details on the calculations, see the note to Table A2.

Source: The Riksbank

saving increasing further and to consumption developing more weakly than in the main scenario. [30]

A further factor that could entail risks to developments in consumption and the macroeconomy, particularly in the longer run, is the link between households' sensitivity to interest rates and how debts are distributed between households.

The development of interest expenditure differs substantially from one household to another, depending on indebtedness

The aggregate debt ratio of around 170 per cent of disposable income hides major differences between groups of households. Many households have no loans at all. For mortgage borrowers, the average debt ratio is more than 300 per cent.[31] The 10 per cent mortgage borrowers with the highest debt have a debt ratio of more than 600 per cent (see Figure A18).[32]

Table A2 shows a rough estimate of the interest ratio for the different groups of households. The first column shows the level of the interest rate today, at the end of the forecast period and according to an interval for the long term level.[33] The columns on the right show the interest ratio for the different groups. The change in interest expenditure in relation to today's level is illustrated in Figure A19.[34]

Table A2. Interest expenditure for different groups of households
Percentage of disposable income

	Interest rate*	Interest expenditure**		
		All, even those with no debts	Only mortgage borrowers	Ninetieth percentile among mortgage borrowers
Q4, 2014	0.1 (2.5)	3.0	5.5	10.9
Q4, 2017	1.8 (4.4)	5.3	9.6	19.3
Long run	3.5–4.5 (5.5–6.5)	6.6–7.8	12.1–14.2	24.2–28.6

*The figures show the repo rate and, in brackets, the weighted mortgage rate. The long-run interest rate level refers to the interval 3.5–4.5 per cent for the repo rate and an assumed difference of two percentage points between the repo rate and the weighted mortgage rate.
**Percentage of disposable income including tax deduction for interest expenditure of 30 per cent,
Note. The table shows an estimate of the interest expenditure after tax as a percentage of disposable income, at different interest rates. The interest ratio for the different groups has been calculated as the weighted mortgage rate after tax deductions, multiplied by the debt ratio for the different groups. The debt ratio is 313 per cent on average for mortgage borrowers, while the ninetieth percentile for the debt ratio among mortgage borrowers is 628 per cent. For all, including those with no debts, the aggregate debt ratio of 172 per cent has been used. See also the note to Figure A18.
Sources: Statistics Sweden and the Riksbank.

It is clear that a rise in interest rates could have significant effects on interest expenditure for households with a high level of indebtedness.[35] For example, the calculations indicate that an upturn in the interest rate from the current level to the level at the end of the forecast period will make the interest ratio for the 10 per cent of mortgage borrowers with

[30] See Chapter 2 of this report.
[31] The average debt ratio among indebted households is around 250 per cent, but this includes both households with mortgages and those without mortgages but often with much smaller loans. These can be small credit card debts or loans for consumption. See J. Winstrand and D. Ölcer, "How indebted are the Swedish households?" *Economic Commentary* no. 1, 2014. Sveriges Riksbank.
[32] The ninetieth percentile for the debt ratio among mortgage borrowers is 628 per cent.
[33] There is great uncertainty over the level of the long term interest rate; see the discussion in the box "Low global interest rates" in this report..
[34] It is assumed in the calculations that the debt ratio will remain unchanged throughout the forecast period. As a result of differences in methods of calculation, the levels of the interest ratio differ somewhat for all households in relation to Figure A15.
[35] An adjustment for tax deductions has been made when calculating the interest ratio.

the highest debts rise to around 19 per cent or more.[36] This corresponds to an upturn of around 8.5 percentage points of disposable income in relation to the current level, which can be compared with around 2.5 percentage points for households as a whole (see Figure A19).

The interest-rate sensitivity of those with high debts may pose risks not only to individual households but also to the macroeconomy as a whole

The picture of the interest-rate sensitivity of highly-indebted households becomes even more tangible if one considers the interest ratio that would apply given a long-run normal repo rate of between 3.5 and 4.5 per cent. This is shown in the lowest line of Table A2 and in the blue bars in Figure A19. One should also bear in mind that variations occur around the long-run level of the repo rate, both upwards and downwards. A general illustration of how the interest expenditure of the different groups varies with the repo rate is shown in Figure A20. The effects of rising interest rates in the long run can therefore be considerable for highly-indebted mortgage borrowers. Substantial adjustments in consumption may be required on the part of these households.[37] This applies in particular if they have not made sufficient allowance for increasing interest rates but have based their loan decisions on interest rates being lower than proves to be the case.

The high level of interest-rate sensitivity among highly-indebted mortgage holders does not necessarily entail risks for individual households alone. The more highly-indebted households there are, the more households who may be forced to drastically adjust their consumption when interest rates eventually rise, and the greater the risks to the macroeconomy.

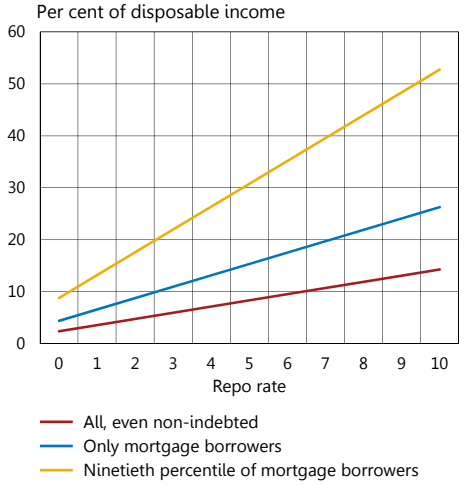
High sensitivity to interest rates is not the only risk linked to high indebtedness

So, what conclusions can we draw from the increase in the households' sensitivity to interest rates? In the Riksbank's forecast for the years immediately ahead, the assessment is that household consumption will continue to develop favourably, even when repo-rate increases eventually begin. However, there will be major differences in interest expenditure between different groups of households and expenditure will increase much more among the highly-indebted households. These households may eventually be forced to make significant adjustments to their consumption, which ultimately may also pose risks to the stability of the macroeconomy.

However, a high sensitivity to interest rates is not the only risk linked to high indebtedness. Sensitivity to other types of shock is also increasing. Several empirical studies from Denmark, the United Kingdom and the United States have shown that highly-indebted households

Figure A20. Illustration of how interest expenditure varies with the repo rate among different groups of households

Per cent of disposable income



Note. The calculations have added a constant supplement of 2 percentage points to the mortgage rate as compared to the repo rate. The calculations otherwise comply with Table A2.

Source: The Riksbank

[36] The calculations are based on the ninetieth percentile for the debt ratio among mortgage borrowers.

[37] As part of their credit assessments, the banks usually draw up so-called discretionary income calculations to assess a borrower's debt-servicing ability. The Riksbank's analysis indicates that a significant proportion of highly-indebted new mortgage borrowers risk deficits in their discretionary income calculations even at rather moderate interest-rate increases. In the event of a deficit, these households must then either reduce their saving or their consumption in order to be able to continue to meet their interest expenditure. Partly in light of this, the Riksbank has recommended Finansinspektionen to ensure that sound and realistic minimum levels are introduced for the banks' discretionary income calculations. See Financial Stability Report 2014:1, Sveriges Riksbank.

adjust their consumption more when housing prices fall than households with low debts. This need not only be due to direct credit constraints, but may also be due to precautionary saving increasing more among highly-indebted households. [38] In countries were housing prices have fallen, consumption has also shown very weak development. There are therefore several reasons for taking targeted macroprudential policy measures that aim to reduce household demand for loans and thus reduce the risks linked to household indebtedness.

[38] See, for example, A. L. Andersen, C. Duus, and T. Lærkholm Jensen, (2014), "Household debt and consumption during the financial crisis: Evidence from Danish micro data", Working Paper, Danmarks Nationalbank.

Appendix

Tables

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

Table 1. Repo rate forecast
Per cent, quarterly averages

	Q3 2014	Q4 2014	Q4 2015	Q4 2016	Q4 2017
Repo rate	0.3	0.1 (0.2)	0.0 (0.4)	0.8 (1.6)	1.8

Source: The Riksbank

Table 2. Inflation
Annual percentage change, annual average

	2013	2014	2015	2016	2017
CPI	0.0	–0.2 (0.0)	0.4 (1.3)	2.1 (2.9)	3.2
CPIF	0.9	0.5 (0.6)	1.2 (1.7)	2.0 (2.0)	2.0
CPIF excl. energy	1.1	0.7 (0.9)	1.5 (1.9)	2.1 (2.2)	2.1
HICP	0.4	0.2 (0.4)	1.2 (1.7)	1.9 (2.0)	2.0

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 (0.5)	0.0 (0.3)	0.3 (1.2)	1.4
10-year rate	2.1	1.8 (1.8)	1.4 (2.0)	2.4 (3.0)	3.3
Exchange rate, KIX, 18 November 1992 = 100	103.0	106.7 (106.3)	106.4 (105.2)	102.6 (102.3)	101.4
General government net lending*	–1.3	–2.3 (–2.1)	–1.4 (–1.3)	–0.7 (–0.6)	–0.4

* Per cent of GDP
Sources: Statistics Sweden and the Riksbank

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

GDP	PPP-weights	KIX-weights	2013	2014	2015	2016	2017
Euro area	0.13	0.47	–0.4	0.6 (0.7)	0.9 (1.2)	1.7 (1.9)	1.9
USA	0.19	0.08	2.2	2.3 (2.2)	3.3 (3.3)	2.7 (2.8)	2.4
Japan	0.05	0.03	1.5	0.7 (0.9)	0.9 (1.1)	0.8 (1.2)	0.9
China	0.16	0.07	7.7	7.4 (7.3)	7.2 (7.1)	6.9 (7.0)	6.6
KIX-weighted	0.79	1.00	1.1	1.9 (1.9)	2.1 (2.3)	2.5 (2.7)	2.6
World (PPP-weighted)	1.00	—	3.3	3.2 (3.3)	3.7 (3.9)	3.8 (4.0)	3.8

Note. Calendar-adjusted growth rates. The PPP-weights refer to the global purchasing-power adjusted GDP-weights, according to the IMF. 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 2011 that are used for 2014, 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	0.5 (0.5)	1.1 (1.2)	1.4 (1.6)	1.5
USA	1.5	1.8 (1.9)	2.3 (2.3)	2.5 (2.4)	2.5
Japan	0.4	2.8 (2.8)	2.2 (2.1)	2.2 (2.1)	2.0
KIX-weighted	1.9	1.5 (1.5)	2.0 (2.0)	2.2 (2.3)	2.2

	2013	2014	2015	2016	2017
Policy rates in the rest of the world, per cent	0.2	0.2 (0.2)	0.1 (0.3)	0.3 (0.5)	0.6
Crude oil price, USD/barrel Brent	108.8	103.2 (106.6)	93.8 (104.2)	94.6 (102.1)	94.2
Swedish export market	1.5	3.0 (3.0)	4.9 (5.2)	5.5 (5.9)	5.8

Note. Policy rates in the rest of the world refer to a weighted average of USA, the euro area, Norway and the United Kingdom.
Sources: Eurostat, IMF, Intercontinental Exchange, national sources, OECD and the Riksbank

Table 5. GDP by expenditure
Annual percentage change, unless otherwise stated

	2013	2014	2015	2016	2017
Private consumption	2.1	2.9 (2.8)	3.0 (3.1)	2.9 (2.8)	2.5
Public consumption	1.6	1.1 (1.0)	2.0 (1.6)	2.0 (1.6)	1.3
Gross fixed capital formation	−0.1	4.1 (3.3)	4.4 (5.7)	5.4 (5.6)	3.8
Inventory investment*	0.1	0.2 (0.1)	0.0 (0.1)	0.0 (0.0)	0.0
Exports	−0.5	1.9 (2.5)	4.3 (5.0)	6.0 (6.1)	4.9
Imports	−0.8	4.1 (4.5)	5.3 (5.9)	6.3 (6.3)	5.5
GDP	1.5	1.9 (1.7)	2.7 (3.0)	3.3 (3.1)	2.3
GDP, calendar-adjusted	1.5	2.1 (1.8)	2.5 (2.8)	3.0 (2.9)	2.6
Final figure for domestic demand*	1.3	2.5 (2.2)	2.9 (3.0)	3.1 (2.9)	2.4
Net exports*	0.1	−0.8 (–0.7)	–0.3 (–0.1)	0.1 (0.2)	–0.1
Current account (NA), per cent of GDP	6.5	5.6 (6.2)	5.1 (5.9)	4.9 (5.8)	4.6

*Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank

Table 6. Production and employment
Annual percentage change, unless otherwise stated

	2013	2014	2015	2016	2017
Population, aged 15–74	0.6	0.7 (0.7)	0.8 (0.8)	1.0 (0.8)	0.9
Potential hours worked	0.6	0.6 (0.6)	0.6 (0.6)	0.7 (0.6)	0.6
GDP, calendar-adjusted	1.5	2.1 (1.8)	2.5 (2.8)	3.0 (2.9)	2.6
Number of hours worked, calendar-adjusted	0.4	1.5 (1.4)	1.3 (1.4)	1.1 (1.1)	0.8
Employed, aged 15–74	1.0	1.5 (1.3)	1.4 (1.4)	1.0 (1.1)	0.7
Labour force, aged 15–74	1.1	1.4 (1.2)	0.9 (0.8)	0.4 (0.5)	0.4
Unemployment, aged 15–74 *	8.0	7.9 (7.9)	7.4 (7.3)	6.9 (6.7)	6.6

* 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	3.0 (3.1)	3.0 (3.1)	3.4 (3.5)	3.5
Hourly wage, NA	2.1	2.5 (2.8)	3.4 (3.5)	3.8 (3.9)	3.7
Employers' contribution*	0.3	−0.2 (−0.1)	0.2 (0.0)	0.1 (0.0)	0.0
Hourly labour cost, NA	2.3	2.3 (2.7)	3.6 (3.5)	3.9 (3.9)	3.7
Productivity	1.1	0.5 (0.4)	1.2 (1.3)	1.9 (1.7)	1.7
Unit labour cost	1.3	1.7 (2.3)	2.4 (2.2)	2.0 (2.1)	1.9

* Contribution to the increase in labour costs, percentage points

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

Sources: National Mediation Office, Statistics Sweden and the Riksbank

Table 8a. Alternative scenario: weaker international outlook, weaker krona
Annual percentage change unless otherwise stated, annual average. Main scenario in brackets.

	2014	2015	2016	2017
GDP abroad, KIX	1.9 (1.9)	1.7 (2.1)	2.2 (2.5)	2.4 (2.6)
Inflation abroad, KIX, per cent	1.5 (1.5)	1.9 (2.0)	2.1 (2.2)	2.1 (2.2)
Policy rate abroad, KIX, per cent	0.2 (0.2)	0.1 (0.1)	0.2 (0.3)	0.5 (0.6)
Nominal exchange rate, KIX, Index, 18 November 1992=100	106.7 (106.7)	107.5 (106.4)	104.1 (102.6)	102.4 (101.4)
Exports	2.0 (2.0)	2.0 (3.8)	4.4 (5.5)	6.1 (5.4)
Unemployment, aged 15–74, per cent of the labour force	7.9 (7.9)	7.5 (7.4)	7.1 (6.9)	6.7 (6.6)
GDP	2.1 (2.1)	2.0 (2.5)	2.6 (3.0)	2.8 (2.6)
Hours gap, per cent	−0.8 (−0.8)	−0.4 (−0.2)	−0.3 (0.2)	0.2 (0.4)
CPIF	0.5 (0.5)	1.1 (1.2)	1.9 (2.0)	2.1 (2.0)
Repo rate, per cent	0.5 (0.5)	0.0 (0.0)	0.1 (0.3)	1.2 (1.4)

Sources: Statistics Sweden and the Riksbank

Table 8b. Alternative scenario: weaker international outlook, stronger krona
Annual percentage change unless otherwise stated, annual average. Main scenario in brackets.

	2014	2015	2016	2017
GDP abroad, KIX	1.9 (1.9)	1.7 (2.1)	2.2 (2.5)	2.4 (2.6)
Inflation abroad, KIX, per cent	1,5 (1,5)	1,9 (2,0)	2,1 (2,2)	2,1 (2,2)
Policy rate abroad, KIX, per cent	0,2 (0,2)	0,1 (0,1)	0,2 (0,3)	0,5 (0,6)
Nominal exchange rate, KIX, Index, 18 November 1992=100	106,7 (106,7)	104,9 (106,4)	100,1 (102,6)	100,9 (101,4)
Exports	2,0 (2,0)	1,5 (3,8)	3,6 (5,5)	6,6 (5,4)
Unemployment, aged 15–74, per cent of the labour force	7,9 (7,9)	7,5 (7,4)	7,3 (6,9)	6,9 (6,6)
GDP	2,1 (2,1)	1,8 (2,5)	2,2 (3,0)	3,1 (2,6)
Hours gap, per cent	−0,8 (−0,8)	−0,6 (−0,2)	−0,8 (0,2)	−0,1 (0,4)
CPIF	0,5 (0,5)	1,0 (1,2)	1,5 (2,0)	1,9 (2,0)
Repo rate, per cent	0,5 (0,5)	0,0 (0,0)	0,0 (0,3)	0,6 (1,4)

Sources: Statistics Sweden and the Riksbank

Table 8c. Alternative scenario: stronger international outlook
Annual percentage change unless otherwise stated, annual average. Main scenario in brackets.

	2014	2015	2016	2017
GDP abroad, KIX	1,9 (1,9)	2,2 (2,1)	2,8 (2,5)	2,5 (2,6)
Inflation abroad, KIX, per cent	1,5 (1,5)	2,0 (2,0)	2,3 (2,2)	2,3 (2,2)
Policy rate abroad, KIX, per cent	0,2 (0,2)	0,1 (0,1)	0,3 (0,3)	0,6 (0,6)
Nominal exchange rate, KIX, Index, 18 November 1992=100	106,7 (106,7)	105,9 (106,4)	101,8 (102,6)	101,4 (101,4)
Exports	2,0 (2,0)	4,3 (3,8)	6,6 (5,5)	5,1 (5,4)
Unemployment, aged 15–74, per cent of the labour force	7,9 (7,9)	7,4 (7,4)	6,7 (6,9)	6,4 (6,6)
GDP	2,1 (2,1)	2,6 (2,5)	3,4 (3,0)	2,6 (2,6)
Hours gap, per cent	−0,8 (−0,8)	−0,2 (−0,2)	0,4 (0,2)	0,7 (0,4)
CPIF	0,5 (0,5)	1,3 (1,2)	2,2 (2,0)	2,1 (2,0)
Repo rate, per cent	0,5 (0,5)	0,0 (0,0)	0,3 (0,3)	1,4 (1,4)

Sources: Statistics Sweden and the Riksbank

Articles 2012–2014[39]

2012

2012 February The EMU and the debt crisis
2012 February The emerging economies and Sweden's exports
2012 February The relationship between the repo rate and interest rates for households and companies
2012 July The debt crisis in Europe – developments during the spring
2012 July: Long-run developments in the Swedish labour market
2012 July: Why has inflation been lower in Sweden than in the euro area?
2012 October KIX index better reflects Sweden's international dependence
2012 October New measures to manage the crisis in the euro area
2012 October The economic situation remains uncertain ahead of collective bargaining in 2013
2012 October Has the functioning of the labour market changed?

2013

2013 February Severe fiscal tightening avoided in the United States
2013 February The household balance sheet and the macroeconomic assessment
2013 February Perspectives on monetary policy expectations and forward rates
2013 July Financial imbalances on the monetary policy assessment
2013 July Cost developments and inflation
2013 July A long-term perspective on the krona
2013 October Expected tapering of the Federal Reserve's asset purchases
2013 October Perspectives on labour market developments in Sweden
2013 October Macroprudential policy and monetary policy

2014

2014 February Perspectives on the low rate of inflation
2014 February The effects of monetary policy on household debt
2014February Adjustments in the euro area: an update
2014 July Why is inflation low?
2014 July The interplay between wage formation, monetary policy and inflation
2014 July Stricter capital requirements for Swedish banks – effects on the macroeconomy

[39] A list of the articles published since 1993 can be found on the Riksbank's website www.riksbank.se.

Interest rate decisions 2010–2014[40]

Date of meeting	Decision (percentage points)	Repo rate (per cent)	Monetary Policy Report
2010			
10 February	0	0.25	February 2010
19 April	0	0.25	Monetary Policy Update
30 June	+0.25	0.50	July 2010
1 September	+0.25	0.75	Monetary Policy Update
25 October	+0.25	1.00	October 2010
14 December	+0.25	1.25	Monetary Policy Update
2011			
14 February	+0.25	1.50	February 2011
19 April	+0.25	1.75	Monetary Policy Update
4 July	+0.25	2.00	July 2011
6 September	0	2.00	Monetary Policy Update
26 October	0	2.00	October 2011
19 December	−0.25	1.75	Monetary Policy Update
2012			
15 February	−0.25	1.50	February 2012
17 April	0	1.50	Monetary Policy Update
3 July	0	1.50	July 2012
5 September	−0.25	1.25	Monetary Policy Update
24 October	0	1.25	October 2012
17 December	−0.25	1.00	Monetary Policy Update
2013			
12 February	0	1.00	February 2013
16 April	0	1.00	Monetary Policy Update
2 July	0	1.00	July 2013
4 September	0	1.00	Monetary Policy Update
23 October	0	1.00	October 2013
16 December	−0.25	0.75	Monetary Policy Update
2014			
12 February	0	0.75	February 2014
8 April	0	0.75	Monetary Policy Update
2 July	−0,5	0,25	July 2014
3 September	0	0,25	Monetary Policy Update

[40] A list of the historical interest rate decisions with effect from 1999 onwards can be found on the Riksbank's website www.riksbank.se.

Glossary

ABS: Asset Backed Securities. A security backed by a number of underlying assets such as various types of loan, leasing agreements and credit card receivables.

Annual rate: The annual rate means that the change between two periods following on from one another is converted into the same unit, the corresponding annual change. Recalculation to annual rate makes it easier to compare changes with different frequencies. Assume, for example, that GDP increases by 0.5 per cent between the first and second quarters, when calculated as an annual rate this is around 2 per cent and provides an indication of what the quarterly change may entail in terms of a full year change.

Asset prices: Refers mainly to prices of shares and properties.

Basis spread: Shows the difference between the interbank rate and the expected policy rate with the same maturity.

Bond market: See Fixed-income market.

Business tendency survey: A survey in which firms respond to questions about their sales, output, hiring plans, etc.

Calendar adjustment: Adjustment for variations in the number of working days from one year to the next. Calendar adjustment is usually used to compare developments in production, turnover and employment (number of hours worked) between quarters or months.

Capacity utilisation: The degree to which production capacity is utilised, that is, the maximum output that can be achieved with the existing workforce, machinery and premises.

Confidence indicators: Total measure of the situation within a sector or among households. Confidence indicators are based on an average of the responses to several different questions in a survey.

CPI: The consumer price index is a measure of the price level and is calculated on a monthly basis by Statistics Sweden. The Riksbank's inflation target is expressed in the annual percentage change of the CPI.

CPIF: The CPI with a fixed mortgage interest rate. The CPIF is not directly affected by a change in mortgage interest rates. The entire change in the sub-index for interest rate expenditures comes from the change in the value of the housing stock.

Credit spread: Refers to the difference between a security with credit risk and a risk-free security with the same maturity.

Current prices: The current price expresses the nominal value and is not adjusted for changes in value caused by inflation. See also Fixed prices.

Econometric estimates: Usually a statistical calculation made on the basis of historical data.

ECB: The European Central Bank.

ESM: European Stability Mechanism. A permanent international financial institution founded by the euro-area countries to safeguard stability in the euro area. The ESM replaces the former financing mechanism.

ESRB: European Systemic Risk Board. The European Systemic Risk Board is responsible for the macroprudential supervision of the financial system within the EU.

Executive Board of the Riksbank: The Executive Board governs the Riksbank and takes decisions concerning areas such as monetary policy.

Export market: Intended as a measure of the demand for imports in the countries to which Sweden exports. This is calculated by weighing together imports in 32 countries and covers approximately 85 per cent of Swedish export market. The weights are determined by the respective country's share of Swedish exports of goods.

Federal funds rate: The US Federal Reserve's policy rate.

Federal Reserve: The central bank of the United States.

Financial markets: A generic term for the markets in which financial instruments are traded. The four main financial markets are the foreign exchange market, the fixed-income or bond market, the share or equity market and the derivatives market.

Fixed-income market: The fixed income market is used for trading instruments that yields a specific predetermined return, an interest rate. The fixed income market is often divided into a bond market and a money market. The bond market comprises trade in securities – bonds – generally with maturities of one year and longer. Trading in the money market comprises treasury bills and certificates, usually with maturities of up to one year.

Fixed prices: Valuation at fixed prices means that the flows and stocks during an accounting period are valued at prices from an earlier period. The purpose of valuation at fixed prices is to break down changes in value into both changes in price and changes in volume.

Forward prices: The price for buying or selling an asset for future delivery.

Forward rate: A forward rate agreement entails a liability for the contracting parties to complete the purchase or sale of an interest rate asset at a predetermined rate, the forward rate, and at a predetermined point in time. The forward rate in a contract reflects the market participants' expected interest rates during the time until the contract matures.

FRA: A Forward Rate Agreement, where two parties agree to borrow and lend money respectively within the scope of a three-month interbank loan with effect from a particular date in the future at an interest rate agreed by the parties now. The market rates for these FRAs thus give an indication of market participants' expectations of future interest rates. See also the explanations of Forward rate and Interbank rate.

HICP: Harmonised index for consumer prices developed as a comparable measure of inflation within the EU. The HICP differs from the CPI both with regard to the measure of calculation and what it covers, for instance mortgage rates are not included in HICP.

Hodrick-Prescott filter (HP filter): A statistical method for breaking down the movements of a variable into trend and cyclical components. The method can be described as a weighted double-sided moving average where greater weight is placed on observations close at hand and gradually decreasing weight on observations further ahead.

Implied forward rates: For instance, the rate on two bonds with different maturities can be used to calculate future rates, that is, implied forward rates, during the time to maturity of the bonds. This method is used when there are no market-listed forward rates. See also Forward rate.

Inflation: General price rises that cause a reduction in the value of money. The opposite is known as deflation.

Interbank rate: The interest rate that applies when banks and large financial institutions borrow from one another on the interbank market for terms of up to one year.

KIX: Krona Index. An index for the Swedish krona exchange rate.

KIX-weighted: An aggregate of, for instance, GDP, CPI or the exchange rate in the euro area and 20 countries that are important to Sweden's international transactions. The KIX weights are updated regularly.

Labour costs: The total cost of labour according to the National Accounts, that is, the sum of wages, including for instance bonuses, employers' contributions, agreed collective charges and payroll-based taxes on output.

LFS: Labour Force Surveys. Monthly surveys conducted by Statistics Sweden to measure the size of the labour force, employment and unemployment.

Listed mortgage rates: The rates that are published by Nordea, SBAB, Swedbank Hypotek and Stadshypotek, for example in the daily press.

MFI: Monetary Financial Institutions. Include banks, mortgage institutions, financial companies, municipal and corporate-financed institutions, monetary securities companies and monetary investment funds (money market funds).

Monetary base: Defined in Sweden as banknotes and coins in circulation, monetary policy counterparties' deposits in the Riksbank and claims on the Riksbank as a result of Riksbank Certificates that have been issued.

Monetary policy: The measures taken by the Riksbank in order to maintain the value of money.

Money market: See Fixed-income market.

Money supply: The general public's holdings of banknotes, coins and their demand deposit. There are different measures of the money supply which include different definitions of the demand deposit.

Money market instruments: See Fixed-income market.

MPR: Monetary Policy Report.

MPU: Monetary Policy Update.

MRO: Main refinancing operation. The ECB's weekly market operations where the central bank manages the supply of liquidity and steers the short-term interest rates. This normally involves the ECB specifying an amount and a lowest interest rate, and the banks then being allocated liquidity via auction proceedings. However, since October 2008, the ECB has applied full allocation at a fixed interest rate, that is, the ECB determines an interest rate and the banks may loan an unlimited amount at this interest rate, given that they have sufficient collateral.

Net figures: The percentage of companies or households in a survey that state a positive development minus the percentage stating a negative development.

Net lending (general government): General government income minus expenditure.

Overnight rate: The interest rate for interbank loans overnight.

Policy rates: The interest rates set by central banks for conducting monetary policy. In Sweden these are the repo rate and the deposit and lending rates.

Productivity: The amount of goods and services produced in relation to the resources utilised in the form of labour and capital. The most common measure is labour productivity, which measures the output per hours worked.

Purchase price coefficient: The purchase price of a property divided by its rateable value.

Real interest rate: In reality the risk free real (that is expressed in purchasing power units) return on a real bond. As liquid real bonds are often not available for relevant maturities, the real interest rate is in practice usually calculated according to the Fisher equation as the nominal interest rate minus expected inflation.

Refi rate: The European Central Bank's policy rate.

Repo rate: The Riksbank's most important policy rate. The interest rate that the banks pay when they borrow money from the Riksbank.

Resource utilisation: The utilisation of the production resources labour and capital.

Risk premium: An extra return that an investor requires as a compensation for the risk.

RU indicator: A summarising measure of resource utilisation from survey data and labour market data. The indicator information is weighed together into an index with the aid of principal component analysis. The index, which is the actual RU indicator, can be regarded as a weighted average of the variables included.

Seasonal adjustment: Adjustment of data to even out regularly occurring variations over the year.

Spot price: The price of a commodity for its immediate delivery.

Statistics Sweden: The Swedish office of national statistics. The central government authority for official statistics.

STIBOR: Stockholm Interbank Offered rate. STIBOR is a reference rate used in many loan contracts.

STINA: Stockholm Tomorrow/next Interbank Average is an interest rate derivative contract where two parties exchange a fixed interest rate flow and a variable interest rate flow respectively with one another. The interest-rate flows are based on the STIBOR rate for the term tomorrow-to-next which is closely-related to the Riksbank's repo rate. The market-listed fixed interest rate in the STINA contracts reflects the average expected overnight rate during the term of the contract.

Sveriges Riksbank Act: The Act stipulating the tasks of the Riksbank.

TCW index: Total competiveness weights index. An index for the Swedish krona's exchange rate.

TED spread: Originally the treasury/euro-dollar spread. Shows the difference between the interbank rate and the rate on a treasury bill with the same maturity.

TLTRO: Targeted longer-term refinancing operations. The ECB is offering loans to the banks linked to how much they lend to non-financial corporations and households, disregarding mortgages. The total amount may not exceed 7 per cent of the banks' current loans to the private sector, excluding mortgages. The loans are to be offered on two occasions during autumn 2014 and then quarterly from March 2015 to June 2016. All of the loans will mature in 2018 and are at a fixed interest rate (the refi rate plus 0.1 percentage point).

Underlying inflation: Measures of inflation that in different ways exclude or attribute a different weighting to the prices of those goods and services included in the CPI. Underlying inflation can be calculated by excluding changes in the prices of certain goods and services for which the price tends to fluctuate sharply. Underlying inflation can also be calculated with the aid of econometric methods.

Yield curve: The yield curve shows the relationship between yield and maturity dates.

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)