



Monetary Policy Report

July 2013

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 "Material for assessing 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 2 July 2013. 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.

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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 STRATEGY²

- 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.

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■ Monetary policy considerations

– a summary

■ Repo rate unchanged at 1 per cent

The Swedish economy is on the way to a recovery. At the same time, inflation is expected to be low for a while longer. Economic developments in Sweden and abroad have been largely in line with the Riksbank's most recent forecast in April. The repo rate needs to remain low to support the economy and enable inflation to rise to the target of 2 per cent. The Executive Board of the Riksbank has therefore decided to hold the repo rate unchanged at 1 per cent. Gradual increases in the repo rate are expected to begin during the second half of 2014, as assessed earlier.

■ Gradually stronger growth in Sweden

Economic developments around the world are in different phases. In the United States, GDP is continuing to grow at a modest pace, while developments in the euro area are weak. Several euro area countries need to implement major reforms, which will take many years, although there are signs that developments are moving in the right direction. Moreover, there are good conditions for an increase in growth in the United States. The economic outlook abroad as a whole is expected to improve gradually over the coming years.

The weak demand in the euro area has led to a fall in exports and investment in Sweden. At the same time, households' finances are relatively strong. Low interest rates and rising employment have contributed to good growth in incomes preparing the ground for continued steady growth in consumption. As the global economy improves, demand for Swedish exports is expected to increase and GDP growth to accelerate at the end of the year. During 2014, the labour market and unemployment will fall again.

■ Inflation will rise to 2 per cent

Inflation is currently low and CPIF inflation is expected to remain at around 1 per cent this year. When economic activity improves, import prices and labour costs will rise at a faster rate, at the same time as companies are able to raise their prices more. This means that inflation is expected to attain 2 per cent in 2015.

■ Low repo rate supports the Swedish economy

Economic developments in Sweden and abroad have been largely in line with the forecast made by the Riksbank in April. The repo rate needs to remain at the current low level for around one year to stimulate the economy and to contribute to CPIF inflation rising towards the target. The Executive Board of the Riksbank has therefore decided to hold the repo rate unchanged at 1 per cent. Slow increases in the repo rate are not expected to begin until the second half of 2014.

An even lower repo rate could lead to inflation attaining the target somewhat sooner. However, at the same time, a lower repo rate now, when the situation for households is already relatively favourable, could lead to a further increase in the risks related to high household debt. If households were forced for one reason or another to quickly reduce their debts, there is a risk that unemployment would rise sharply and there would be prolonged difficulties in attaining the inflation target. The monetary policy conducted is therefore considered to be a reasonable balance that stabilises inflation and the real economy in the short run, at the same time as taking into account more long-term risks linked to households' high indebtedness.

■ CHAPTER 1 – The economic outlook and inflation prospects

Economic developments both in Sweden and abroad have been largely in line with the forecast made by the Riksbank in April. The prospects for a continued recovery in the United States are good, while growth in the euro area is held back by several countries needing to reduce their debt, in both the private and public sectors. Although the reform processes in the euro area will take a long time, there are signs that developments are going in the right direction. Economic prospects abroad thus differ in different countries, but on the whole a gradual improvement is expected in the coming years.

GDP growth in Sweden is expected to be lower than normal this year; mainly because of the weak developments in the euro area having led to a fall in exports and investment. At the same time, consumption is increasing steadily and housing prices have recently begun to rise. Growth in Sweden is expected to pick up gradually as international demand strengthens. This will lead to a recovery in the labour market. Employment is expected to rise faster and unemployment to decline in 2014.

Inflation has been low for a long time. When economic activity improves, import prices and labour costs will rise at a faster rate, while companies' price mark-ups will be higher. This means that CPIF inflation will increase to 2 per cent in 2015.

The repo rate needs to remain at the current low level for around one year to stimulate the economy and to contribute to CPIF inflation rising towards 2 per cent. The Executive Board of the Riksbank has therefore decided to hold the repo rate unchanged at 1 per cent. Slow increases in the repo rate are not expected to begin until the second half of 2014. Monetary policy is expected to stimulate economic developments and inflation and thus contribute to inflation rising at the same time as taking into account the risks linked to households' high indebtedness.

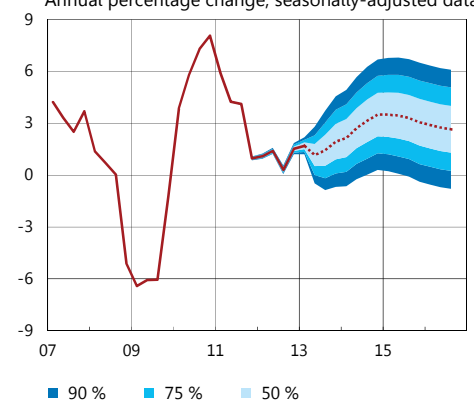
Summary: Low repo rate gives the Swedish economy impetus and inflation rises towards the target

■ Good growth in USA but slow recovery in euro area

In the United States, GDP continued to increase at a moderate pace during the first quarter of the year. Household consumption contributed substantially to growth, which can be regarded as a sign that households will soon have adjusted their debts to more sustainable levels. Fiscal policy is expected to be tight for the entire forecast period, although less so from 2014 onwards. The housing market will continue to improve, with rising house prices and increased housing sales. An increase in housing construction is expected to continue to provide a positive contribution to GDP. The situation in the banking sector is also continuing to improve. The US banks have increased their capital buffers substantially. GDP is expected to grow by a good 3 per cent a year in 2014 and 2015.

The Federal Reserve's message following its most recent meeting was that if the US labour market continues to improve, the central bank would reduce the scope of its bond purchases later this year and phase them out completely next year. At the same time, they said that their policy rate would remain at a low level. The Federal Reserve's

Figure 1.1. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data

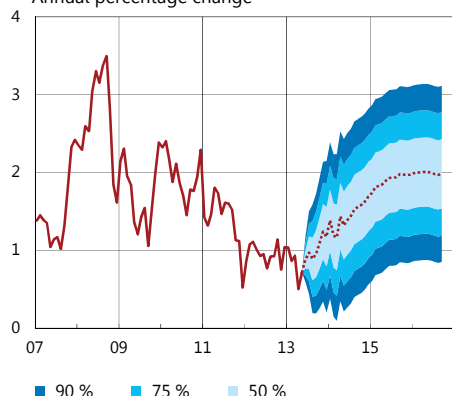


Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. There is also uncertainty for the outcomes for GDP, as the figures in the National Accounts are revised several years after the preliminary publication.

Sources: Statistics Sweden and the Riksbank

Figure 1.2. CPI with uncertainty bands

Annual percentage change

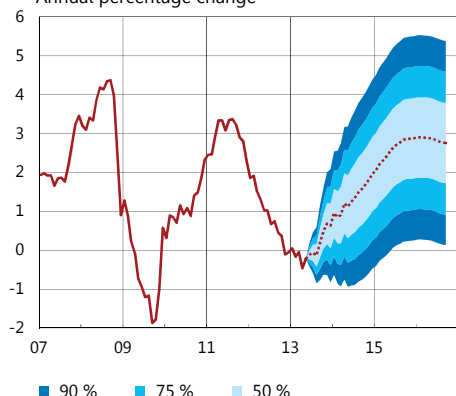


Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. The CPI is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 1.3. CPI with uncertainty bands

Annual percentage change

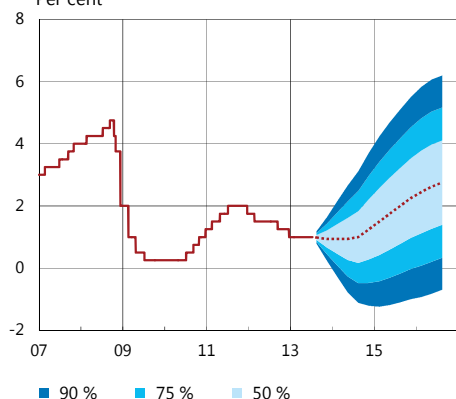


Note. The uncertainty bands are based on the Riksbank's historical forecasting errors.

Sources: Statistics Sweden and the Riksbank

Figure 1.4. 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. Outcome data are daily rates and forecasts are quarterly averages.

Source: The Riksbank

communication has contributed to yields on bonds with longer maturities rising in the United States, and also globally.

Economic developments in the euro area are marked by the need for the private and public sectors to reduce their debt, which is a process that will take many years. In addition, several countries have problems with low competitiveness. However, there are signs that developments are moving in the right direction in several of the countries with the biggest problems. Competitiveness has increased in that unit labour costs have fallen. Another sign that developments are moving in the right direction is that the public sector deficits have declined. The recovery in the euro area is expected to take a long time, which means that the European Central Bank's monetary policy will remain very expansionary in the coming years. However, the high level of debt also means that many countries are vulnerable to new setbacks and there is still great uncertainty over developments.

When GDP growth abroad is aggregated on the basis of the significance the different countries have for Swedish exports and imports, that is, the KIX weights, it only amounts to around 1 per cent this year. This is mainly because of the weak developments in the euro area, which has a large KIX weighting. However, the KIX-weighted GDP growth will improve gradually over the coming years and is almost 3 per cent in 2015.

■ Development of the Swedish economy divided

Total demand in the Swedish economy is currently lower than normal. This is largely due to the problems in the euro area, which have subdued demand for Swedish exports and also investment. At the same time, the financial situation of the households is relatively strong. Optimism among households has also increased, which is reflected in higher housing prices and increased lending, for instance. However, an acceleration of the recovery in Sweden also requires that demand abroad grows at a faster pace. The forecast assumes that the problems in the euro area will be managed so that the uncertainty over economic developments that is dampening company confidence will gradually fade. Demand for Swedish exports will return, at the same time as the upswing in domestic demand broadens. Household consumption and housing investment will increase at a faster pace when household confidence strengthens further and the labour market improves. As demand increases, companies will also increase their investment. This means that growth in Swedish GDP will increase gradually in 2013-2015 (see Figure 1:1).

The trend of rising employment and an increasing number of people in the workforce is expected to continue. Both the labour force and the number of employed are expected to remain largely unchanged as a percentage of the working age population during the coming year. Unemployment is therefore also expected to remain at roughly the current level before it begins to fall in the middle of 2014, when the higher GDP growth means that employment rises faster.

Inflation is low at present. During the forecast period, inflationary pressures are expected to increase gradually as economic activity improves and resource utilisation increases. CPIF inflation will rise gradually during the forecast period and reach 2 per cent in 2015 (see Figure 1:2). Rising mortgage rates will lead to CPI inflation being higher than the target of 2 per cent at the end of the forecast period (see Figure 1:3).

■ Continued low repo rate stimulates the economy

Economic developments have been largely in line with the forecast made by the Riksbank in April. Growth in Sweden and abroad is expected to be weaker than normal in the coming quarters. There is still spare capacity in the economy, which will contribute to inflation remaining low in the near-term. Developments in the Swedish economy are divided, with a relatively weak industrial sector on one side and optimistic households on the other. To support economic activity and contribute to CPIF inflation rising towards the target of 2 per cent, the repo rate needs to remain at its current low level for the coming year, and then to be raised slowly. Towards the end of the forecast period, that is, in around three years, the repo rate will amount to 2.8 per cent (see Figure 1:4).

Monetary policy is expansionary, but also takes into consideration the risks linked to households' high indebtedness. A more expansionary monetary policy could lead to inflation attaining the target earlier, but is also expected to lead to the risks with households' high indebtedness increasing further. Household debt remains high, both from a historical perspective and in an international perspective. This makes the Swedish economy more vulnerable to shocks. If households were to be forced, for one reason or another, to rapidly reduce their debt, there is a risk that unemployment would rise sharply and that long-term difficulties in attaining the inflation target might arise (see the article "Financial imbalances in the monetary policy assessment").

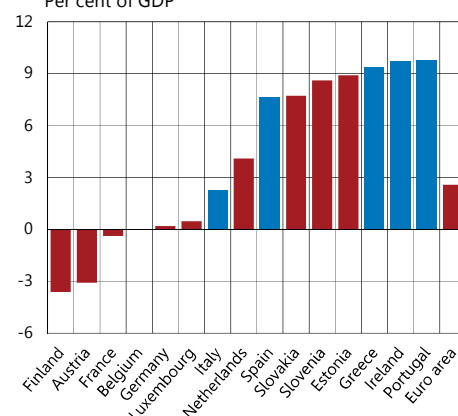
Uneven recovery abroad

■ Slow recovery in the euro area

Economic developments in the euro area are marked by the fact that both the private and the public sectors need to reduce their debts. In addition, several countries have problems with their competitiveness. The situation is somewhat brighter in Germany, where GDP grew during the first quarter and unemployment has remained stable at a relatively low level.

There are also signs that developments are moving in the right direction in several of the countries with the biggest problems. The so-called GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) all have smaller current account deficits now than when the crisis broke out in 2008 (see Figure 1:5). This is mainly because domestic demand is weak and imports are thus low, but also because exports are increasing in most of these countries. The GIIPS countries have also reduced their public

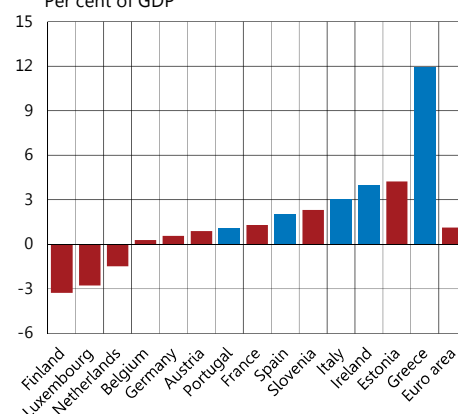
Figure 1:5. Change in current accounts of different countries in the euro area between 2008 and 2012
Per cent of GDP



Note. The euro area refers to the 15 countries that are also OECD countries, that is, Cyprus and Malta are excluded. The GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) are shown with blue columns.

Source: OECD

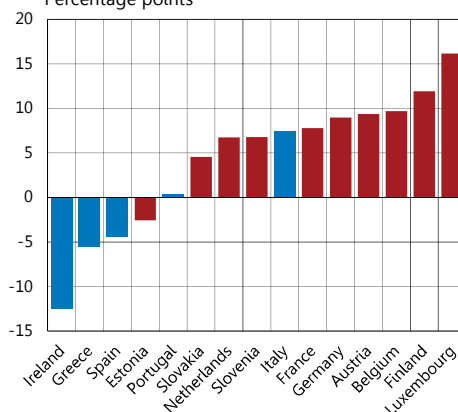
Figure 1:6. Change in general government net lending for different countries in the euro area between 2008 and 2012
Per cent of GDP



Note. The euro area refers to the 15 countries that are also OECD countries, that is, Cyprus and Malta are excluded. The GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) are shown with blue columns.

Source: OECD

Figure 1:7. Change in unit labour cost for different countries in the euro area between 2008 and 2012
Percentage points



Note. The euro area refers to the 15 countries that are also OECD countries, that is, Cyprus and Malta are excluded. The GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) are shown with blue columns.

Source: OECD

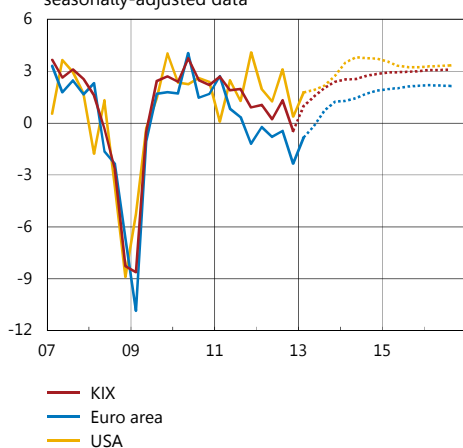
Figure 1:8. Government bond rates (difference compared to Germany)
Percentage points



Note. Government bond rates with approximately 10 years left to maturity.

Source: Reuters EcoWin

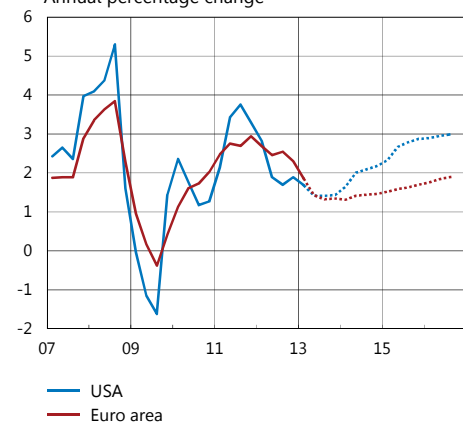
Figure 1:9. GDP in different regions and countries
Quarterly changes in per cent, annual rate, seasonally-adjusted data



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

Sources: Bureau of Economic Analysis, Eurostat and the Riksbank

Figure 1:10. Consumer prices in the euro area and USA
Annual percentage change



Note. This refers to the HICP for euro area and CPI for the United States.

Sources: Bureau of Labor Statistics and Eurostat

budget deficits (see Figure 1:6). However, their debts remain high. Last year the gross public debt in the euro area as a whole amounted to just over 90 per cent of GDP.

Another sign that developments are moving in the right direction is that competitiveness has improved in many of the countries with problems. For instance, unit labour costs have fallen by around 5 per cent in Spain and Greece and by more than 10 per cent in Ireland during the period 2008 to 2012 (see Figure 1:7). Although volatility has increased on the financial markets recently, compared with one year ago the uncertainty has declined. This is reflected in the fact that differences in bond yields since the middle of last year, for instance in Spain and Italy, have declined in relation to Germany (see Figure 1:8).

Debt consolidation in various countries in the euro area will dampen GDP growth. However, the effect will decline gradually over the coming years, which is in line with the assessment in the April Monetary Policy Update. The high level of debt means that many countries are vulnerable to new setbacks and there is still great uncertainty over developments.

GDP growth in the euro area is expected to be negative for the year 2013 as a whole, but positive during the second half of the year, when global demand increases and confidence among households and companies improves. In 2014 and 2015 the conditions for domestic demand are expected to improve and the economy to grow slightly (see Figure 1:9). Necessary conditions for this development are that the reform process in the euro area progresses and that credible measures are implemented. All in all, the forecast entails a slow recovery and GDP will not reach the same level as prior to the decline in 2009 until 2015.

The relatively slow recovery means that resource utilisation will remain weak during the entire forecast period. Inflation will therefore rise only slowly in the coming years (see Figure 1:10). The weak resource utilisation and low inflation mean that monetary policy will remain very expansionary during the forecast period.

■ Good growth in the USA despite fiscal policy tightening

GDP growth in the United States continued to grow at a moderate pace during the first quarter of this year. Household consumption contributed substantially to this, which can be regarded as a sign that their endeavour to reduce their debts to more sustainable levels will soon be over. Debts as a percentage of disposable incomes have fallen from 134 per cent in 2007 to just over 110 per cent in the first quarter of 2013. This should lead to households beginning to consume more of their income in 2013 than before (see Figure 1:11). However, consumption will be dampened as fiscal policy is tightened.

GDP is expected to increase at an increasingly rapid pace towards the end of the year. The labour market and housing market will continue to improve and contribute to a stronger growth in income. The main contribution on the demand side is from household consumption. The main factor behind this is the increased confidence in the household and corporate sectors.

Fiscal policy is expected to be tight for the entire forecast period, although less so from 2014 onwards. The housing market will continue to improve, with rising house prices and increased turnover on the housing market. An increase in housing construction is expected to continue to provide a positive contribution to GDP. The banking sector is also expected to continue to strengthen. The US banks have significantly increased their capital buffers and thus their scope to increase their lending. The improved situation on the housing market will also contribute to strengthening the banks.

The forecast for GDP growth in the United States is just over 3 per cent for 2014 and 2015 (see Figure 1:9). Resource utilisation will be relatively weak in the coming years, but will increase towards the end of the forecast period, when unemployment falls at a relatively rapid rate to below 6 per cent.

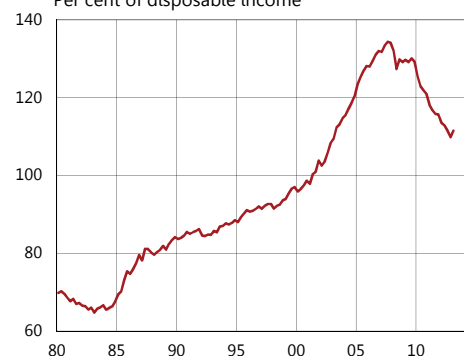
The forecast for CPI inflation has been revised down for 2013 as a result of unexpectedly low inflation outcomes. Towards the end of the forecast period CPI inflation will rise to around 3 per cent (see Figure 1:10). The Federal Reserve is expected to begin raising its policy rate towards the end of the forecast period, which is in line with the Federal Reserve's communications. Under the assumption that the US labour market continues to improve, the volumes of their monthly bond purchases may decline later this year and they may come to an end completely next year. At the same time, the Federal Reserve has said that their policy rate will remain at a low level. This communication has contributed to yields on bonds with longer maturities rising in the United States, and also globally.

■ United Kingdom, Denmark and Norway

GDP growth in the United Kingdom is expected to rise gradually from a relatively low level during the forecast period. The expansionary monetary policy, with a low policy rate, extensive asset purchases and improved credit terms, will contribute to the recovery, as will the rising global demand. However, growth will be held back to some extent by continued fiscal policy tightening. Inflation is expected to fall slowly back towards the inflation target as a result of lower price increases on imported goods and services and rising productivity growth that dampens domestic costs. Towards the end of the forecast period, inflation is expected to be in line with the target of 2 per cent. Monetary policy is expected to remain very expansionary throughout the forecast period.

The Danish economy is burdened by the weak international developments, and also by a domestic banking and property crisis. Real housing prices have fallen by around 30 per cent since the peak in the

Figure 1:11. Household debt ratio in the USA
Per cent of disposable income



Sources: Bureau of Economic Analysis and Federal Reserve

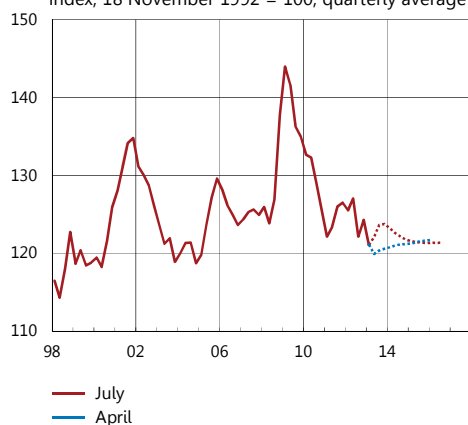
Figure 1.12. KIX-weighted nominal exchange rate
Index, 18 November 1992 = 100



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

Source: The Riksbank

Figure 1.13. KIX-weighted real exchange rate
Index, 18 November 1992 = 100, quarterly average



Note. The real exchange rate is deflated by the CPI for Sweden and the CPI for abroad. The CPI is the CPI with a fixed mortgage rate. KIX is an aggregate of countries that are important for Sweden's international transactions.

Sources: National sources, Statistics Sweden and the Riksbank

first quarter of 2007, and many Danish households are saving to be able to compensate for the decline in value. Fiscal and monetary policy are expected to remain expansionary during the forecast period, which will contribute to GDP rising at a faster pace in the coming years. Inflation has been somewhat lower than expected in recent months. The forecast for 2013 is therefore adjusted downwards in relation to the April forecast. Over the next few years, inflation is expected to rise and be around 2 per cent.

In Norway, GDP (mainland) is expected to grow by almost 3 per cent on average over the coming years, while resource utilisation is expected to be slightly higher than normal. Households' disposable incomes are expected to increase, and this should contribute to growth in consumption remaining high. Inflation has risen recently, primarily due to temporary factors such as rising electricity prices, and is currently around 2 per cent. It is expected to be just below 2 per cent for most of the forecast period. The policy rate is expected to rise to around 2.5 per cent at the end of the forecast period, which is in line with Norges Bank's most recent forecast.

Inflation prospects would in themselves indicate an even lower policy rate according to Norges Bank, while resource utilisation could imply a higher policy rate. At the same time, rising house prices and households' high indebtedness risk becoming a problem in the future, which is a further aspect taken into consideration by Norges Bank in its most recent interest rate decision.

■ Subdued growth in China and some positive signals from Japan

In China, the Government's desired changeover from investment-led to consumption-led growth in demand is now taking place. This, together with relatively weak demand for the country's exports, is holding back GDP growth. Another factor that dampens growth is the more restrained credit granting expected to follow as the need to reduce debt following the credit boom in recent years increases. This is emphasised by the recent unease on the Chinese interbank market. As yet, it is difficult to see how the problems in the banking sector will spill over into the real economy. There have been no signals of further more tangible stimulation measures, despite the recent weak (measured in Chinese terms) development in GDP and various indicators of economic activity. The Riksbank's forecast for growth is around 7.5 per cent and for inflation around 3 per cent in the coming years. This is in line with the official target for growth for this year, but somewhat lower than the forecasts in the April Monetary Policy Update.

In Japan, GDP, consumption and various confidence indicators have developed strongly during the first half of the year. This confirms the belief that the new government's aggressive stimulation policy will succeed in creating inflation and lift growth in the short and medium term. It also increases the probability that the government's VAT increases will be implemented, with a first step in April 2014 and a second step in October 2015. In the longer run, however, developments will be governed by what structural changes are implemented.

The Japanese economy is expected to grow by almost 2 per cent during both 2013 and 2014. Thereafter, growth will fall back somewhat. Inflation will rise temporarily above 2 per cent in 2014, partly as a result of the VAT increases announced. The forecasts for both GDP growth and inflation have thus been revised up somewhat in relation to the April Monetary Policy Update.

■ GDP growth abroad rising from a low level

The global economy as a whole is expected to grow by around 4 per cent a year during 2014 and 2015, which is slightly more than the average for the past thirty years. When GDP growth abroad is aggregated on the basis of the significance the different countries have for the Swedish economy, that is, the KIX weights, the developments are weaker. This is mainly because of the subdued developments in the euro area, which has a large KIX weighting. The KIX-weighted GDP growth will only be around 1 per cent this year, but will improve gradually during the forecast period and be just below 3 per cent in 2015 (see Figure 1:9). This is a marginal downward revision compared with the assessment in April.

■ Exchange rate to strengthen somewhat

The Swedish krona has weakened significantly against several major currencies since the Monetary Policy Update was published in April. Measured in terms of KIX, the krona's effective exchange rate has weakened by around 3 per cent. The krona has primarily depreciated against the pound sterling and the euro, which together have a weight of just over 50 per cent in KIX. However, during the forecast period the krona is expected to strengthen somewhat (see Figure 1:12).

The real exchange rate, that is, the nominal exchange rate adjusted for the relative price level in Sweden in relation to the rest of the world, is currently assessed to be within the weaker part of an estimated interval for its long-run level. It is therefore only expected to strengthen marginally in the coming years (see Figure 1:13), see also the article "A long-term perspective on the krona".

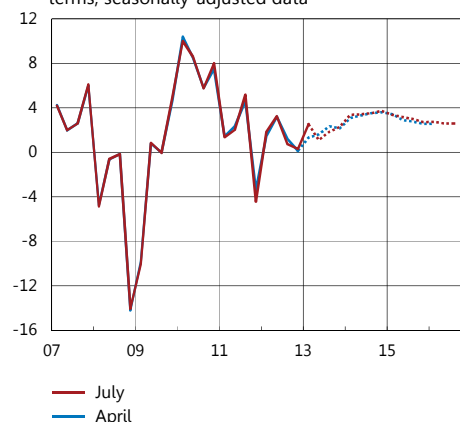
Gradually stronger growth in Sweden

■ Household sector stronger than corporate sector

Developments in the Swedish economy are divided, with the household sector being stronger than the corporate sector. Household confidence has strengthened and disposable incomes are rising relatively rapidly. Housing prices have increased faster recently and growth in lending to households is showing a tendency to rise. At the same time, companies in the manufacturing industry are showing a relatively low level of confidence and investment is declining. The forecast assumes that the crisis in Europe will be managed so that the uncertainty affecting companies and to some extent households will gradually subside. This will enable demand for Swedish exports to return, at the same time as the upswing in domestic demand broadens. Household consumption and

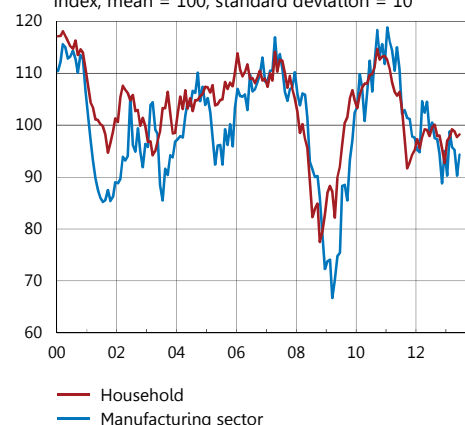
Figure 1:14. GDP

Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



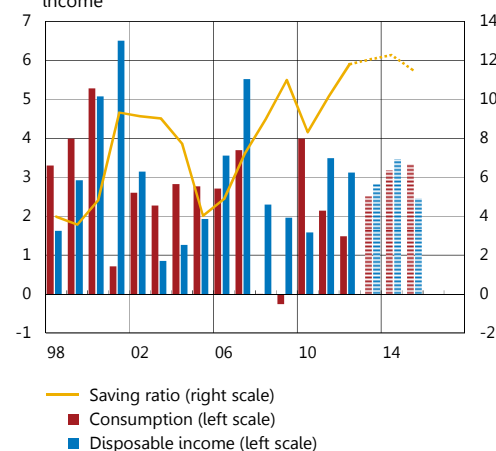
Sources: Statistics Sweden and the Riksbank

Figure 1:15. Confidence indicators for the households and the manufacturing sector
Index, mean = 100, standard deviation = 10



Source: National Institute of Economic Research

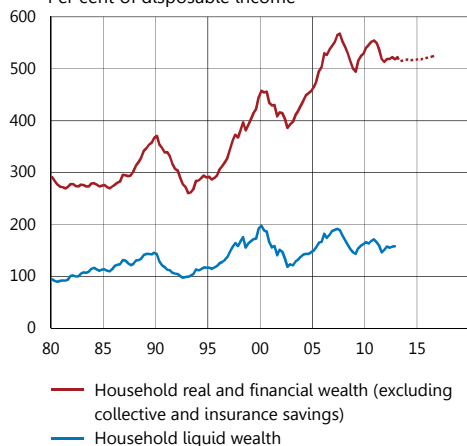
Figure 1:16. Households' disposable incomes, consumption and saving ratio
Annual percentage change and per cent of disposable income



Note. Saving ratio including saving in collective insurance schemes.

Sources: Statistics Sweden and the Riksbank

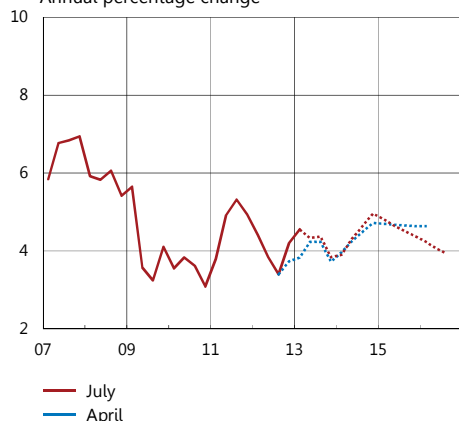
Figure 1:17. Households' wealth
Per cent of disposable income



Note. There is no regular publication of official data for the households' total wealth. The series refers to the Riksbank's estimate of the households' total financial assets and housing assets.

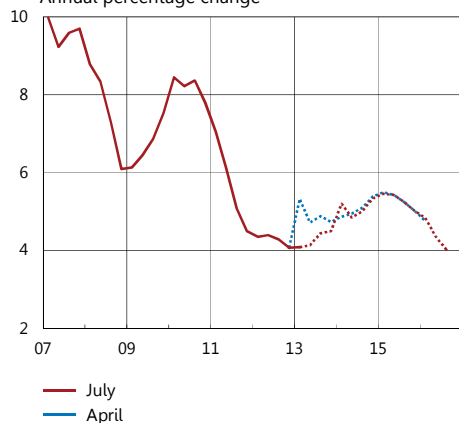
Sources: SCB and the Riksbank

Figure 1:18. Nominal disposable income
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 1:19. Household debt
Annual percentage change



Note. Households' total debts according to the Financial Accounts.

Sources: Statistics Sweden and the Riksbank

housing investment will increase at a faster pace when household confidence strengthens further and the labour market improves. As demand increases, companies will also increase their investment.

Swedish GDP growth is expected to be around 1.5 per cent this year. During 2014 and 2015, GDP will grow by 2.8 and 3.6 per cent respectively (see Table 5 and Figure 1:14). The forecast for GDP growth has been revised up somewhat since April, which is partly due to the assumption that fiscal policy will be slightly more expansionary.

■ High savings ratio in the years ahead

The household confidence indicator, which reflects households' views on their own finances and the Swedish economy, has in recent years been somewhat lower than normal, but is now roughly in line with its historical average (see Figure 1:15). When confidence is low, households tend to reduce their consumption and save more instead. The savings ratio has also risen over the past year. Next year, a gradual rise in employment and fiscal policy stimulation measures are expected to contribute to growth in disposable income increasing more than this year. All in all, this means that growth in household consumption will rise gradually during the forecast period (see Figure 1:16).

Household wealth also plays an important role for consumption. Total wealth, that is, both financial and real assets, such as houses, currently amounts to around 500 per cent of disposable income. If one only includes the more liquid assets, the figure is much lower (see Figure 1:17). It is the rising house prices and share prices that have contributed to the increase in household wealth this year. Housing prices are expected to continue to rise in the coming years, as a result of low interest rates and gradually stronger economic activity. This means that household debt will also increase, as house purchases are normally financed through loans. During a large part of the forecast period, debts will increase faster than incomes (see Figures 1:18 and 1:19). Household debt as a percentage of disposable income amounted to around 171 per cent in the first quarter of 2013. This is somewhat lower than expected, as disposable incomes have developed better and debts have increased more slowly. Household debt as a percentage of disposable income is expected to increase to almost 176 per cent at the end of 2016 (see Figure 1:20). Although this is slightly lower than the assessment in April, households' debt ratio is still high from an historical and an international perspective.

■ Gradual recovery in Swedish exports

It is clear that the weak developments in several of Sweden's most important export markets have subdued growth in Swedish exports. Despite the fact that growth in other parts of the world, such as the United States and China, is relatively high, this has only partly counteracted the fall in demand for Swedish exports from the euro area. The composition of the Swedish exports of goods, with an emphasis on input and investment goods, also contributes to demand being low as

investment in the euro area has been particularly weak. Exports of goods account for around 70 per cent of total exports. Exports of services, which account for the remaining 30 per cent, have continued to increase.

The prospects for growth and manufacturing sector activity among several of Sweden's most important trading partners indicate that developments will be weak in the coming quarters. However, growth in Europe and the rest of the world is expected to gradually increase during the forecast period. This means that growth in Swedish export markets, that is, growth in imports in the countries to which Sweden exports, will contribute to a faster increase in Swedish exports. All in all, exports are expected to decline this year and then increase at a faster pace (see Figure 1:21).

Swedish imports have developed weakly recently, and weak demand and a slowdown in the build-up of stocks are expected to continue to subdue imports in the near term. However, as exports and domestic demand rise during the forecast period, growth in imports will also increase.

■ Investment will increase next year

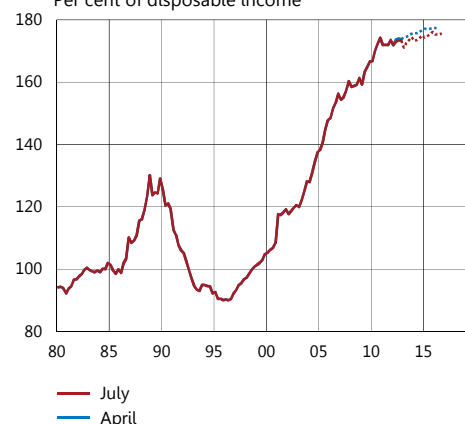
Companies currently have little need to invest. This is reflected, for instance, in capacity utilisation in the manufacturing industry, which is much lower than normal (see Figure 1:22). This year, companies are expected to be able to meet the increase in demand without increasing their investment volumes. This is also supported by the investment survey from May, in which most sectors stated that they would reduce their investments this year. However, as exports and household consumption grow, the need for new investment will also increase. When economic activity strengthens and confidence returns, housing construction is also expected to pick up. Investment is expected to decline this year and then increase at a faster pace in 2014 and 2015.

■ Lower public saving in 2013 and 2014

The Riksbank's forecasts for fiscal policy are based on measures that have already been announced. In addition, an assessment is made that is based, for instance, on how fiscal policy is usually adapted to the economic cycle and the surplus target. The Government has indicated that fiscal policy should become more expansionary in 2014. The Riksbank has therefore revised up its assumptions regarding unfinanced measures in 2014 and 2015, to a total of SEK 30 billion. Parts of this are expected to be used for tax cuts for households. This is expected to contribute to the strong growth in consumption during the forecast period.

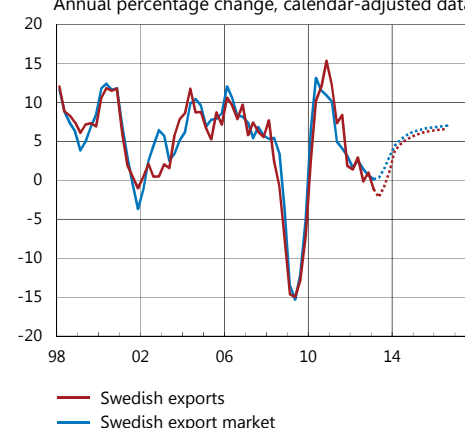
As a result of the weak economic activity, the public sector financial balance will deteriorate in 2013. As economic activity improves, tax incomes will rise while transfer expenditure will decline, which will lead to a higher financial balance in the coming period. All-in-all, financial saving is expected to improve gradually during the forecast period (see Figure 1:23).

Figure 1:20. Household debt ratio
Per cent of disposable income



Sources: Statistics Sweden and the Riksbank

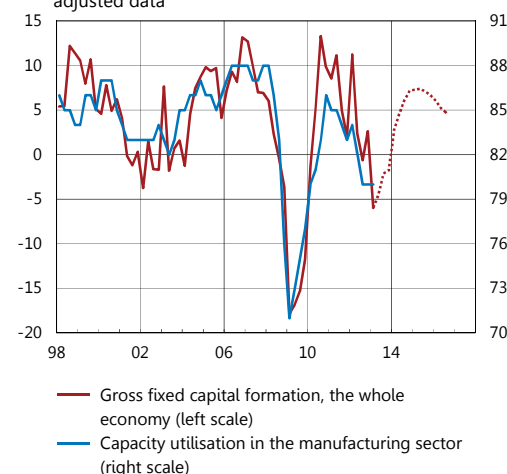
Figure 1:21. Swedish exports and the world market for Swedish exports
Annual percentage change, calendar-adjusted data



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

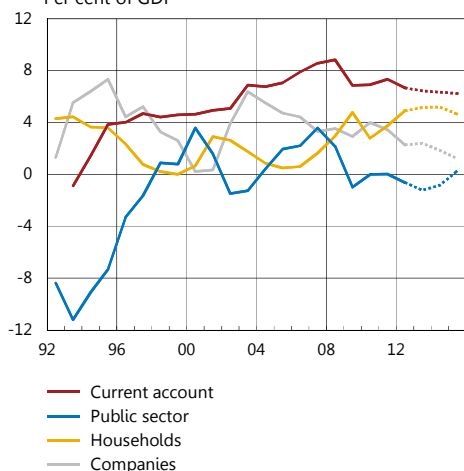
Sources: Statistics Sweden and the Riksbank

Figure 1:22. Gross fixed capital formation and capacity utilisation in the manufacturing sector
Annual percentage change and per cent, seasonally-adjusted data



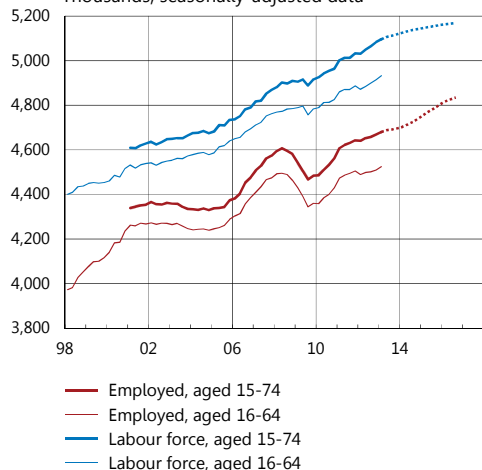
Sources: Statistics Sweden, National Institute of Economic Research and the Riksbank

Figure 1:23. Current account and financial savings in different sectors
Per cent of GDP



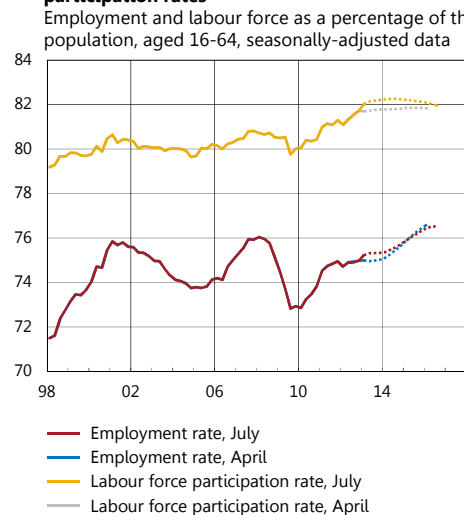
Sources: Statistics Sweden and the Riksbank

Figure 1:24. Labour force and number of employed
Thousands, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 1:25. Employment and labour force participation rates
Employment and labour force as a percentage of the population, aged 16-64, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

■ Large surplus on the current account

The surplus on the current account has remained at a relatively high level since the mid-1990s. The current account corresponds to total saving minus domestic investment (real saving). The surplus on the current account thus means that saving in the economy as a whole, that is, total financial saving among companies, households and the public sector, is high (see Figure 1:23). Private financial saving is expected to remain high in the coming years. This will contribute to total financial saving and the surplus on the current account remaining at a high level, despite some decline during the forecast period (see Table 5).

■ High labour force participation keeping up unemployment

The percentage of the population that is employed has been increasing more slowly than workforce participation for the past year, which has led to higher unemployment. The number of hours worked has developed weakly in relation to employment during the same period, as a result of an increase in absence among the employed. During the first quarter the number of hours worked fell heavily, but the fall is assessed as temporary. As growth becomes stronger, the number of hours worked is also expected to pick up towards the end of this year.

During the forecast period the trend towards rising employment and an increasing number of people in the workforce will continue (see Figure 1:24). Both the labour force and the number of employed are expected to remain largely unchanged as a percentage of the working age population during the coming year (see Figure 1:25). Unemployment is therefore also expected to remain at roughly the current level before it begins to fall in the middle of 2014, when the higher GDP growth means that employment rises faster. Towards the end of the forecast period, the employment rate is expected to amount to around 76.5 per cent and unemployment to 6.5 per cent (see Figures 1:25 and 1:26).

■ New population forecast has long-run effects on the labour market

The assessment of long-run developments on the labour market is affected by demographic developments. Since the Monetary Policy Update was published in April, Statistics Sweden has published a new population forecast indicating that the working age population (15-74 years) will grow more in the coming years than was previously expected. It is mainly net immigration that is calculated to be higher in the coming years. As the number of people of working age is expected to increase more quickly, the Riksbank's assessment of the labour supply has also been revised up. 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. The number of unemployed is also expected to be higher during the forecast period, as the labour force will to a greater degree consist of groups that are on the periphery of the labour market. This means that the Riksbank's

assessments of both actual and long-run sustainable unemployment have been revised up a couple of tenths. Compared with the forecast in April, the unemployment rate will be only marginally higher, but it will take longer before it begins to fall (see Figure 1:26).

■ Resource utilisation will normalise

The Riksbank's overall assessment is that resource utilisation is at present lower than normal. Unemployment is relatively high, at the same time as the employment rate is lower than is sustainable in the long run. The Riksbank's indicator of resource utilisation, which summarises information from surveys and the labour market, also points to the existence of plenty of spare capacity in the economy (see Figure 1:27). The low repo rate will boost economic activity and, together with the higher global demand, this will lead to employment and the number of hours worked rising gradually in the coming period. Towards the end of the forecast period, resource utilisation is expected to have normalised (see Figure 1:28).

■ Collective wage agreements of just over 2 per cent a year over a three-year period

Since the beginning of the year and up to the middle of June, around 220 new collective wage agreements have been signed, which cover a total of more than 2 million employees. The agreements signed so far are mainly for a period of three years. Although some agreements can be terminated earlier, the next large-scale wage bargaining rounds are expected to take place in 2016.

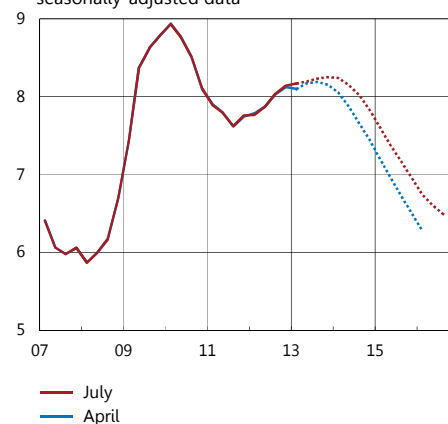
The level of the wage increases agreed by trade unions in the economy as a whole will rise during the forecast period. Local wage formation and wage drift will contribute to the outcomes for the wage increases in the economy as a whole normally being higher than indicated by the trade union agreements. During 2014 and 2015 the improved labour market situation will be an important factor in the rate of wage increase throughout the economy rising.

Labour productivity is expected to increase by around 1.6 per cent per year in 2013 and 2014 (see Figure 1:29). During 2015, it is expected to grow slightly faster and to be around a historical average. The assessment of cost pressures, measured in terms of unit labour costs, for 2014 and 2015 is roughly the same as in April.

■ Low but gradually rising inflation

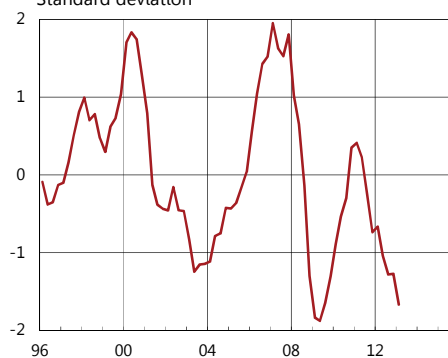
Inflation is currently low (see Figure 1:30 and the article "Cost developments and inflation"). It is primarily goods and energy prices that have continued to fall, but service prices have also risen more slowly than normal in recent months. The fact that goods prices have fallen is in turn primarily due to imported goods falling in price and to the krona having strengthened in recent years. However, inflation has also been unexpectedly low if one looks at developments in companies' domestic costs. Despite unit labour costs having increased at a roughly normal rate

Figure 1:26. Unemployment
Per cent of the labour force, aged 15-74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

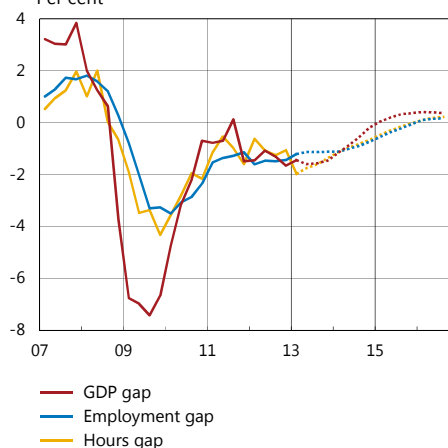
Figure 1:27. RU indicator
Standard deviation



Note. The RU indicator is normalised so that the mean value is 0 and the standard deviation is 1.

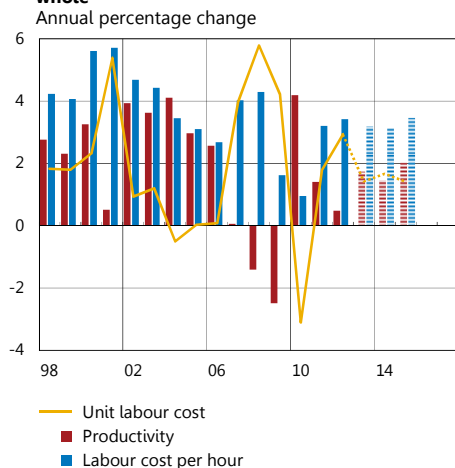
Source: The Riksbank

Figure 1:28. GDP-gap, employment gap and hours gap
Per cent

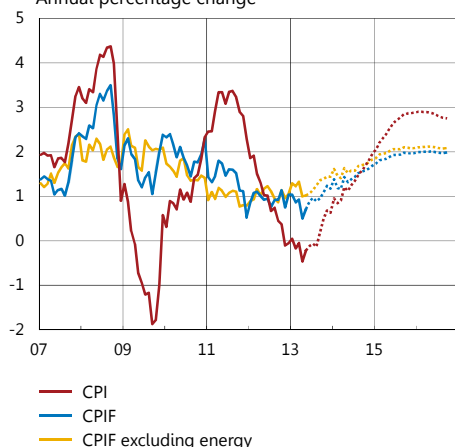


Note. GDP gap refers to the deviation from trend in GDP calculated using a production function. The hours gap and the employment gap refer to the deviation in the number of hours worked and the number of those employed from the Riksbank's assessed trend.

Sources: Statistics Sweden and the Riksbank

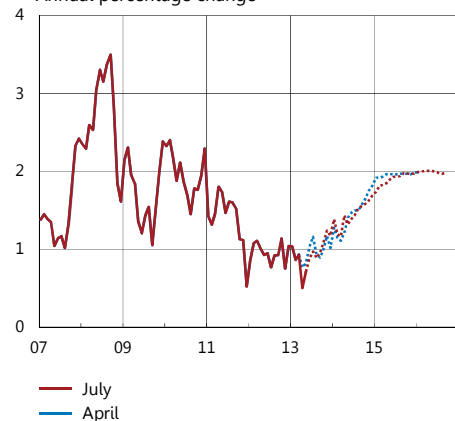
Figure 1:29. Cost pressures in the economy as a whole

Sources: Statistics Sweden and the Riksbank

Figure 1:30. CPI, CPIF and CPIF excluding energy

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

Sources: Statistics Sweden and the Riksbank

Figure 1:31. CPIF

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

Sources: Statistics Sweden and the Riksbank

in recent years, companies have not raised prices to the same extent.

Possible explanations for the low price mark-ups are the relatively weak demand, the low level of resource utilisation in the Swedish economy and substantial uncertainty regarding international developments.

Weak demand, combined with low energy prices, will contribute to CPIF inflation being low in the coming year (see Figure 1:31). Compared with the forecast made in April, the forecast for inflation in 2014 is revised up somewhat as a result of the krona depreciation in recent months (see Figure 1:32). The global recovery and the low repo rate will contribute to economic activity gradually strengthening and to resource utilisation rising, which will increase companies' possibilities to raise their prices. As economic activity in Sweden strengthens, the rate of wage increase will also rise. The gradually higher growth abroad will at the same time mean that global export prices rise and that prices for imported goods rise slightly faster. When the effects of the strong krona appreciation in recent years subside, this will also contribute to a higher rate of price increase. This means that inflation will rise gradually during 2014–2015 (see Figure 1:30).

All-in-all, CPIF inflation is expected to rise slowly towards 2 per cent in 2015 (see Figure 1:31). CPI inflation will be negative during the coming months, which is linked to the recent repo-rate cuts and falling mortgage costs. In the CPIF, all mortgage rates are held constant, which will be reflected in CPIF inflation being higher than CPI inflation in the coming year. When the Riksbank then begins to raise the repo rate in the middle of 2014, mortgage rates will rise and CPI inflation will increase more than CPIF inflation. CPI inflation is expected to be 2.8 per cent at the end of the forecast period. The expectation that the difference between the CPI and the CPIF will be large during, above all, 2015 relates to the fact that mortgage rates are rising rapidly from a low level. During periods with large interest rate adjustments, measures of inflation that do not include the direct effects of interest rate adjustments, such as the CPIF, provide a better picture of inflationary pressures. In the longer run, when the repo rate has stabilised, CPI inflation and CPIF inflation will coincide, however.

Monetary policy considerations

The Executive Board of the Riksbank has decided to hold the repo rate unchanged at 1 per cent. Compared with the Monetary Policy Update in April, the forecast for the repo rate remains in principle unchanged.

■ Economic developments in line with expectations

Since the Monetary Policy Update was published in April, economic developments in Sweden and abroad have been largely in line with the Riksbank's assessment. The euro area is marked by the fact that both the private and public sectors need to reduce their debts. Reform processes are under way, but will take a long time. The weak economic developments in the euro area also affect growth in Sweden in the form of exports and investments falling. At the same time, household confidence has strengthened, incomes have risen relatively substantially

and housing prices and lending to households have continued to increase.

The recovery abroad will gradually also improve the prospects for the Swedish economy. GDP growth will pick up in 2014 and the labour market will also improve, with a rising employment rate and falling unemployment. Inflation is currently low and CPIF inflation is expected to remain at around 1 per cent this year. During the coming period, rising labour costs and import prices, as well as higher price mark-ups, will lead to CPIF inflation rising and reaching 2 per cent in 2015.

■ Continued low repo rate supports economic activity and counteracts low inflation

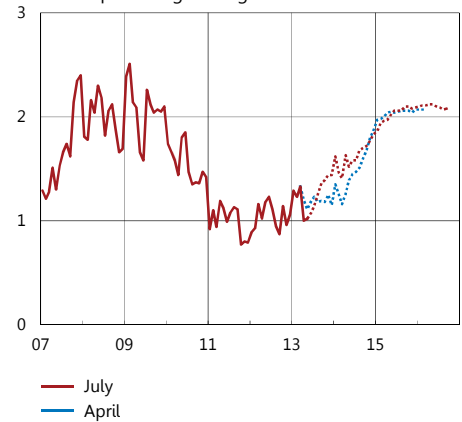
Monetary policy needs to remain expansionary to support economic activity and contribute to CPIF inflation rising towards 2 per cent (see Figures 1:33 and 1:34). The repo rate needs to remain at its current low level for around one year, and then to gradually be increased to 2.8 per cent at the end of the forecast period. If the repo rate needed to be changed in the near term, it is more likely that it would be cut than that it would be raised. This is mainly linked to the low inflationary pressures and the risks of setbacks in the euro area. The forecast for the repo rate, both nominal and real, is thus in principle unchanged since the Monetary Policy Update in April.

In the forecast, CPIF inflation attains 2 per cent in around 2 years' time. A slightly more expansionary monetary policy could lead to inflation attaining the target somewhat sooner. However, at the same time, a lower repo rate now, when the situation for households is already relatively favourable, could lead to a further increase in the risks related to high household debt. There could be a particularly difficult situation if households are expecting the low interest rate to persist. Such unrealistic expectations could lead to a strong upward trend in both housing prices and debts.

International experiences show that high debts make the economy more sensitive to various types of shock, such as a fall in house prices. Although household debt as a share of their disposable income has been revised down in this forecast, as a result of lower outcomes, the level is worryingly high. This makes the Swedish economy more vulnerable to shocks. If households were to be forced, for one reason or another, to rapidly reduce their debt, there is a risk that unemployment would rise sharply and that long-term difficulties in attaining the inflation target might arise (see the article "Financial imbalances in the monetary policy assessment"). The current repo-rate path is therefore considered to be a reasonable balance that stabilises inflation and the real economy in the short run, at the same time as taking into account more long-term risks linked to households' high indebtedness.

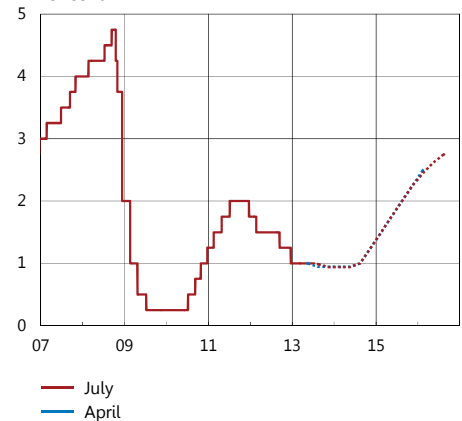
However, monetary policy cannot manage the risks linked to household debt on its own. Measures must also be considered in other policy areas. A number of measures have been implemented by various authorities in recent years, such as the introduction of a mortgage cap and higher risk weights for mortgages. However, there is great

Figure 1:32. CPIF excluding energy
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 1:33. Repo rate
Per cent



Note. Outcome data are daily rates and forecasts are quarterly averages.

Source: The Riksbank

Figure 1:34. Real repo rate
Per cent, quarterly averages



Note. The real repo rate is calculated as an average of the Riksbank's repo rate forecasts for the coming year minus the inflation forecast (CPIF) for the corresponding period.

Source: The Riksbank

uncertainty over the effects of these measures and whether they are sufficient. Swedish authorities and other participants should therefore consider carefully whether further measures are needed to ensure that developments in the Swedish economy are sustainable in the long run.

■ **Continued uncertainty over economic outlook and inflation prospects**

Developments in the euro area are continuing to create uncertainty in the forecasts. As before, the Riksbank is assuming that the situation in the euro area will be managed and that confidence will gradually improve. If the situation in Europe were to worsen, this would also have consequences for the Swedish economy, with lower exports and investment, rising unemployment and lower inflation. Poorer real economic developments, combined with increased financial stress could also lead to lower earnings in the major Swedish banks and to higher loan losses. The major Swedish banks would then also find it more difficult to obtain access to market funding.

Other factors that contribute to the uncertainty include the development of the krona and inflationary pressures. The Riksbank has no target for the exchange rate, but the development of the krona influences monetary policy through its effects on the inflation rate and resource utilisation. Inflation is also affected to a large degree by developments in prices abroad, where commodity prices can fluctuate substantially over time. Chapter 2 discusses first an alternative scenario showing how changes in commodity prices affect the Swedish economy and monetary policy. After this follows a discussion of some alternative scenarios that illustrates the impact on the Swedish economy of a stronger and a weaker exchange rate respectively.

CHAPTER 2 – Alternative scenarios and risks

Inflation in Sweden has been low for some time. One reason for this is that prices of imported input goods have increased slowly in recent years. Global market prices for goods imported to Sweden are closely following developments in global economic activity and price fluctuations are normally largest with regard to various commodities. If commodity prices were to fall unexpectedly rapidly, so that inflation was lower, the repo rate might need to be lower than in the main scenario. On the other hand, if international developments were to improve faster than expected, commodity prices could rise more than in the main scenario. In this case, it might be necessary to raise the repo rate faster.

It is notoriously difficult to forecast exchange rates. There are both upside and downside risks for the krona forecast, compared with the main scenario. The effects that exchange rate fluctuations have on the economy largely depend on whether companies perceive them as temporary or as more permanent changes in the level of the exchange rate. A weakening of the krona that is perceived as temporary will have less effect on inflation than if the krona is expected to be weak for a long period to come.

Future developments in the economy are always uncertain. This is illustrated in a general way by the uncertainty bands around the forecasts in Figures 1:1-1:4, which are based on the Riksbank's historical forecasting errors. This chapter describes two alternative scenarios for economic developments, and the possible direction for monetary policy if they were to become a reality. The scenarios have been constructed using the Riksbank's macroeconomic model, Ramses. In the model the repo rate is determined by the level of CPIF inflation and resource utilisation.³ But in practice monetary policy also has to take into account factors that the simplified description in the model does not illustrate. One such factor is the long-term risk of an overly rapid build-up of debt in the household sector.

In addition to the themes discussed in these scenarios, there are a number of other sources of uncertainty. The recovery in the European economy could be hit by setbacks, and the problems in the European banking system could then lead to renewed unease on the financial markets. Another risk is that the Swedish households' high level of debt can make the economy more vulnerable to various shocks, such as a fall in house prices.

The first alternative scenario illustrates the effects of falling, and rising, commodity prices as a result of weaker, or stronger, economic activity abroad. Inflation in Sweden has been low for some time. One reason for this is that the rate of increase in prices of imported input goods has been low. Global export prices, which are a measure of world market prices for Swedish import goods, have developed weakly in recent years as a result of the weak international economic activity.⁴ Price movements in such internationally-traded goods are normally greatest with regard to various commodities (see Figure 2:1). The scenario describes how weaker international demand, which leads to lower

Figure 2:1. Global export prices and commodity prices



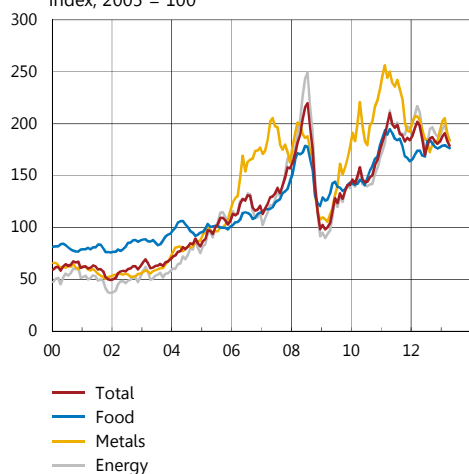
Note. Global export prices are an aggregate of export deflators (in local currencies), where Sweden's import shares are used as a weight. Both series are standardised, that is, the average value has been subtracted and the series are divided by the standard deviation.

Sources: IMF, national sources and the Riksbank

³ For a description of Ramses, see Adolfson, M., Laséen, S., Christiano, L., Trabandt M. and Walentin, K., "Ramses II: Model description", Occasional Paper no. 12, 2013. The model describes monetary policy with a so-called reaction function, where the repo rate depends on the deviation in inflation from 2 per cent and on resource utilisation, measured by the hours worked gap.

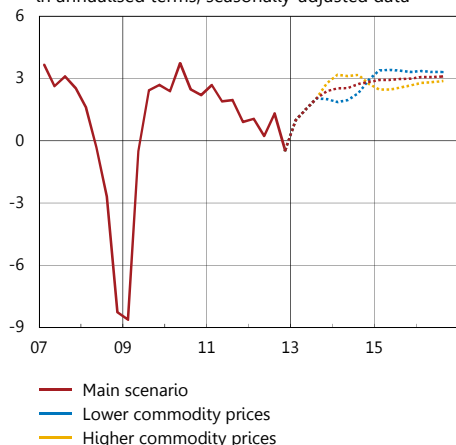
⁴ See the article "Cost developments and inflation" in this Monetary Policy Report.

Figure 2:2. Commodity prices
Index, 2005 = 100



Source: IMF

Figure 2:3. GDP abroad
KIX-weighted, quarterly changes in per cent calculated in annualised terms, 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

commodity prices and lower inflation than in the main scenario, could lead to the Riksbank cutting the repo rate further.

The second alternative scenario illustrates the effects of a weaker, or stronger, exchange rate, under different assumptions of companies' expectations of the future exchange rate. It is difficult to predict how the exchange rate will develop. Although the krona has often weakened in times of economic unease, which is also illustrated by the recent developments in the foreign exchange market, there are a number of factors indicating that this need not necessarily apply in the future. GDP growth has been higher in Sweden than in many other European countries. Moreover, public finances in Sweden are healthy, at the same time as many other European countries are showing budget deficits and large sovereign debts. Such circumstances could mean that the Swedish economy is perceived as relatively safe and thus constitutes an attractive alternative for international investors.

The effects of fluctuations in the krona rate on inflation and the real economy depend on whether households and companies perceive the movements to be temporary or to be more lasting. If a company's costs for imported input goods increase as a result of a weakening of the krona, for instance, it will be more likely to raise its prices if it believes the exchange rate will remain weak for a long period of time.

Scenario: effects of changes in commodity prices

Prices of several commodities have fallen, albeit fairly moderately, since February (see Figure 2:2). The price of oil, which comprises around half of the IMF's commodity price index, has fallen by around 10 per cent, for instance. Price movements for various commodities have covaried to an increasing extent in recent years, and the decline during the spring confirms this picture.⁵

Changes in energy and food prices have a relatively rapid impact on the inflation rate. For example, fuels and heating oil are included in the CPI, and prices of these goods are closely linked to the oil price. Changes in the prices of other commodities, such as metals, affect inflation with a longer time lag.

■ Driving forces behind commodity price movements

During the 2000s the upward trend in commodity prices has mainly been driven by an increased demand for commodities in emerging markets, primarily China. The high international demand has at the same time had a positive effect on Sweden's international trade. Rising world market prices for commodities have thus often coincided with, or been followed by, high GDP growth and high resource utilisation in Sweden. When commodity prices rise over a longer period, the effects on Swedish inflation are both greater and longer lasting.⁶

⁵ See, for example, Commodity Market Outlook, World Bank, January 2013.

⁶ There are, for example, studies showing that rising oil prices during certain periods have contributed to a lastingly higher CPI inflation rate, see for instance Bjellerup, Mårten and Löf, Mårten, "The effects of the oil price on inflation in Sweden", *Economic Commentary*, nr 4, 2008. Sveriges riksbank.

Conversely, the fall in commodity prices in recent months be largely connected to negative news regarding China's future growth prospects. This applies in particular to the prices of metals, as China accounts for around half of their global consumption. If potential growth in China were to be significantly lower, because economic developments have become more consumption-driven and less commodity-intensive, this could affect commodity prices.

Commodity prices are also governed by various factors that affect supply. Political turbulence in commodity-producing countries could, for instance, lead to large, but temporary effects on commodity prices. The fact that relatively small supply shocks can have major effects on prices is because the demand for many commodities is relatively price insensitive. However, such supply shocks usually have only brief effects on inflation in Sweden and therefore need not have any great effect on monetary policy.

Certain current developments may also have a more long-run impact on the supply of oil, according to some analysts. In North America, for instance, the extraction of shale oil and shale gas is increasing at a rapid rate. This means that US oil imports are declining. If this were to lead to a permanently higher supply of oil, the long-run level of the oil price could be affected. The effects on Swedish inflation could then be more permanent.⁷

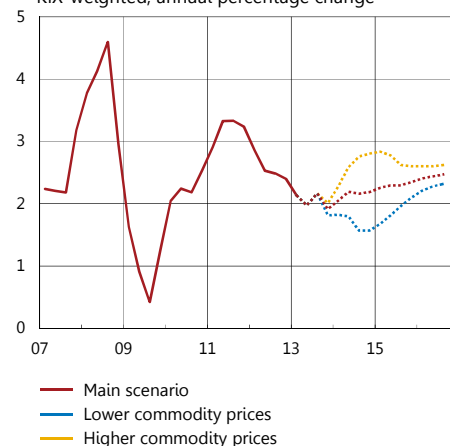
■ Weaker international demand gives lower commodity prices and lower inflation

This scenario shows how falling (or rising) commodity prices, as a result of weaker (or stronger) international demand, could affect the Swedish economy. The scenario can be said to capture the effects on the Swedish economy of the "typical" or "average" shock that has driven commodity prices for the past 15–20 years, when the historical relationships between commodity prices and other variables are interpreted using the Riksbank's macroeconomic model, Ramses.

The effects of weaker or stronger international demand are assumed to be symmetrical around the main scenario. We initially choose to study the consequences of falling commodity prices.

Commodity prices are assumed to be 20 per cent lower than in the main scenario, at the same time as GDP growth abroad is lower (see Figure 2:3). The adjustment to a lower price level begins in the fourth quarter of 2013 and is assumed to take place over a period of one year. The downturn in commodity prices means that the KIX-weighted international inflation rate is 0.5 and 0.4 percentage points lower respectively in 2014 and 2015, compared with the main scenario (see Figure 2:4). CPIF inflation will then be 0.3 and 0.1 percentage points lower respectively in 2014 and 2015 (see Figure 2:5). The effects on CPI inflation will be slightly greater, as households' interest expenditure will be lower than in the main scenario (see Figure 2:6). The lower inflation rate is mainly due to import prices rising more slowly. The reason why the effect

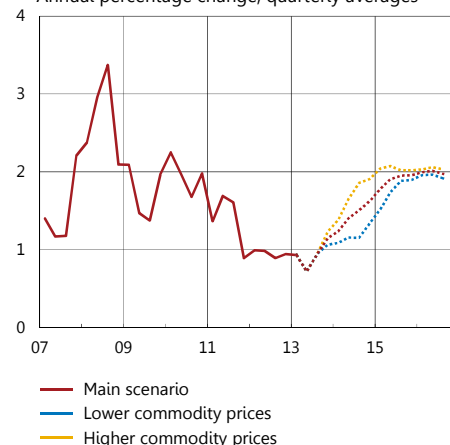
Figure 2:4. Inflation abroad
KIX-weighted, annual percentage change



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

Sources: National sources, OECD and the Riksbank

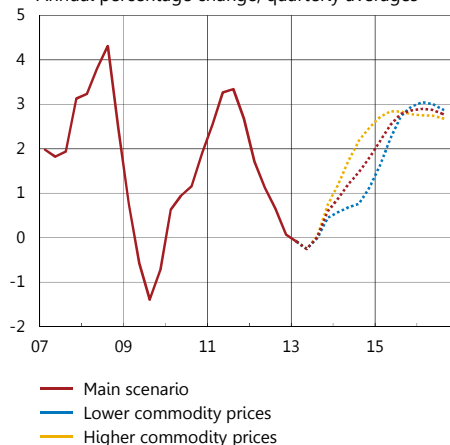
Figure 2:5. CPIF
Annual percentage change, quarterly averages



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

Sources: Statistics Sweden and the Riksbank

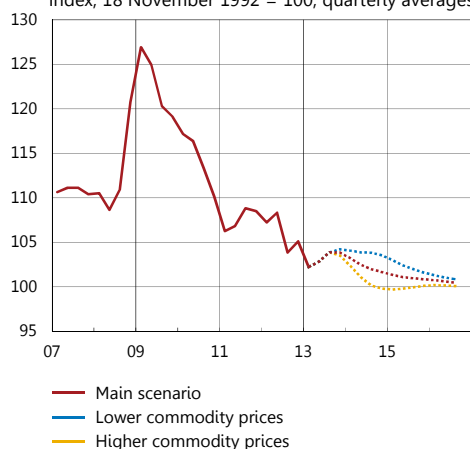
Figure 2:6. CPI
Annual percentage change, quarterly averages



Sources: Statistics Sweden and the Riksbank

⁷ See, for instance, "Shale oil: the next energy revolution", PricewaterhouseCoopers, February 2013.

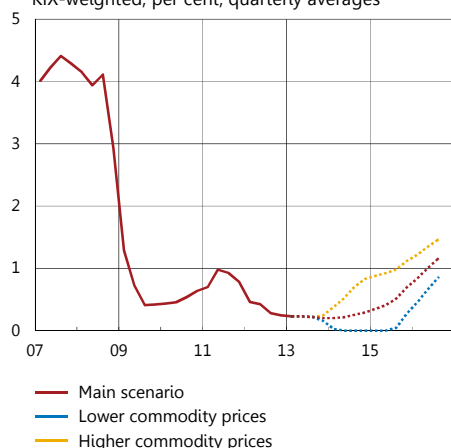
Figure 2:7. KIX-weighted nominal exchange rate Index, 18 November 1992 = 100, quarterly averages



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

Source: The Riksbank

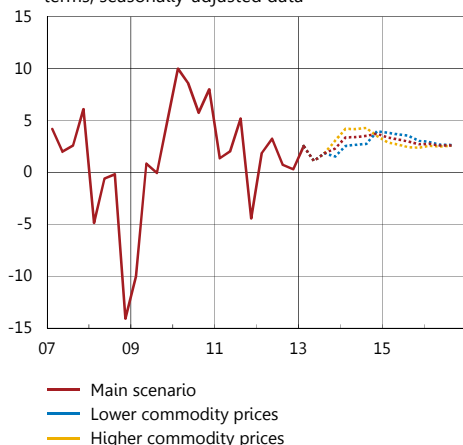
Figure 2:8. Policy rate abroad
KIX-weighted, per cent, quarterly averages



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

Figure 2:9. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

on inflation in Sweden, measured in terms of the CPIF, is less than on inflation abroad is largely because the krona is expected to weaken when commodity prices fall, in line with historical patterns (see Figure 2:7). The weaker krona is primarily a consequence of the decline in demand for assets perceived as high risk. However, a further factor that indicates the krona may weaken here is that policy rates in many countries are close to the zero lower bound (see Figure 2:8), which means that the repo rate is cut more than policy rates abroad (see Figure 2:11 and the discussion on monetary policy below). This leads to the interest rate differential with regard to other countries declining, which in turn reduces relative demand for Swedish assets, and thereby for the Swedish krona.

The driving forces behind the downturn in commodity prices becomes particularly decisive for the real economic effects. If prices fall as a result of increased supply of commodities, such as oil, imported input goods, which are used in the production of other goods, will become cheaper. Production can then increase without costs rising. In this type of scenario, one can thus expect that GDP growth will be slightly higher, even if the effects for Sweden will probably be relatively small.

When commodity prices instead fall as a result of weaker demand from abroad, this also means that the demand for Swedish export goods declines. Domestic demand also declines when households and companies become less optimistic about the future. The negative effects will then be greater in total than the positive effects on production from lower costs for imported goods. As a result, Swedish GDP growth will be lower than in the main scenario (see Figure 2:9). This means that the labour market situation also deteriorates, which is illustrated by the fact that the hours worked gap will be around one half of a percentage point lower in relation to the main scenario in 2014 and 2015 (see Figure 2:10). Lower resource utilisation will in turn lead to a lower rate of wage increase and to lower domestic inflation. The weak real economic development will thus have consequences on domestic cost pressures, and thereby have effects on inflation, in addition to the direct effects of lower import prices.

■ Stronger international demand gives higher commodity prices and higher inflation

If international demand were instead to be stronger, and commodity prices were therefore higher than in the main scenario, the effects on the Swedish economy would be the reverse. Such a scenario would mean that commodity prices remain at roughly the current level at the end of the forecast period.

In the scenario with higher commodity prices inflation is higher than in the main scenario, as a result of higher import prices. At the same time, the increased international demand leads to an increase in exports and increased confidence among households and companies, which in turn means that domestic demand increases. This leads with some time lag to increased employment and higher resource utilisation. It will then be easier for employees to demand higher wage increases, and domestic

cost pressures will rise. However, the higher inflation will be counteracted by the krona strengthening, as the demand for assets perceived as higher risk increases.

■ Krona usually acts as shock absorber

Falling commodity prices usually coincide with the krona weakening against the dollar, as a result of the demand for higher risk assets declining. And vice versa, rising commodity prices usually coincide with the krona strengthening. Moreover, this relationship has become stronger during the years since the financial crisis in 2008, at the same time as the covariation in price changes for different types of asset has in general increased. This means that the fluctuations in commodity prices will be slightly less, when prices are expressed in krona. The weaker exchange rate thus dampens the effects of lower commodity prices on inflation. It also means that the negative effects on exports are alleviated somewhat. If the relationship between commodity prices and the exchange rate were to weaken in the future, the effects of a fall in commodity prices on inflation in Sweden could be greater than is assumed in the main scenario.

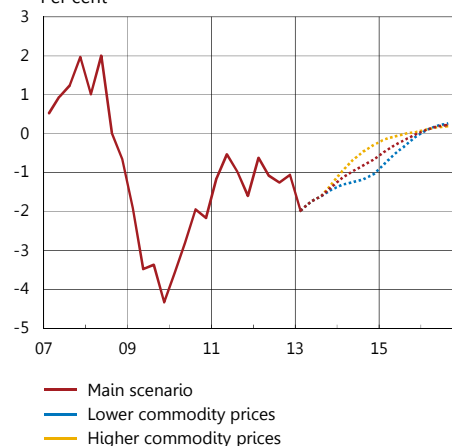
■ Lower commodity prices give a lower repo rate

Weaker international demand, which means that commodity prices will be lower than is assumed in the main scenario, will lead to both CPIF inflation and resource utilisation being lower than in the main scenario (see Figures 2:5 and 2:10). In the model simulations, the Riksbank therefore cuts the repo rate to prevent inflation and resource utilisation being too low (see the blue path in Figure 2:11).

Stronger international demand, which means that commodity prices will be higher than is assumed in the main scenario, will instead lead to higher inflation and higher resource utilisation. The repo-rate path is therefore raised to prevent inflation and resource utilisation being too high (see the yellow curve in Figure 2:11). In this favourable scenario, CPIF inflation approaches 2 per cent more quickly and resource utilisation reaches a normal level sooner, than in the main scenario.

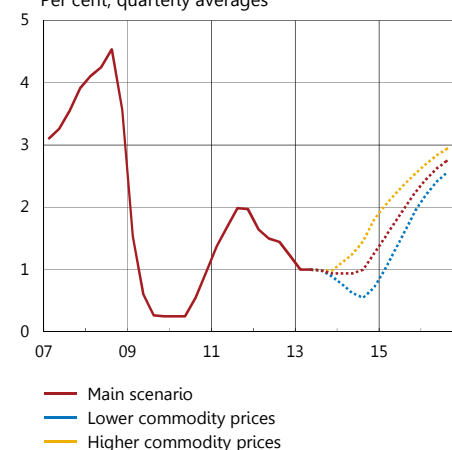
The repo-rate paths in these two scenarios are given by the model's monetary policy rule of action. However, in the case with the lower commodity prices, CPIF inflation only rises slowly back to 2 per cent, despite the lower repo rate (see blue curve in Figure 2:5). An even lower repo rate could therefore mean that inflation approaches 2 per cent sooner. However, monetary policy must also take other factors into account. One such important factor is the risk of financial imbalances building up. An excessively rapid build-up of debt and excessive level of debt in the household sector can increase the risk of poorer economic developments in the longer run. If a low repo rate is expected to increase this risk, it may instead justify the repo-rate path becoming slightly higher.⁸

Figure 2:10. Hours gap
Per cent



Sources: Statistics Sweden and the Riksbank

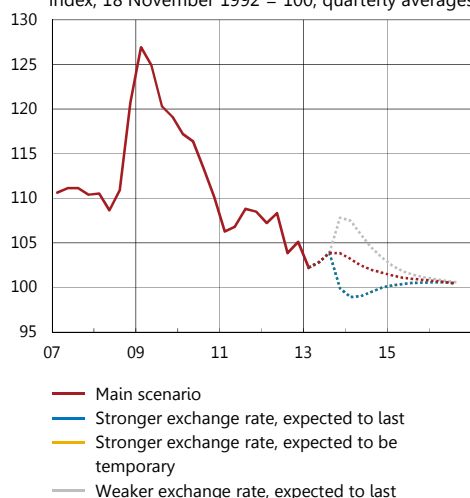
Figure 2:11. Repo rate
Per cent, quarterly averages



Source: The Riksbank

⁸ See the article "Financial imbalances in the monetary policy assessment" in this Monetary Policy Report.

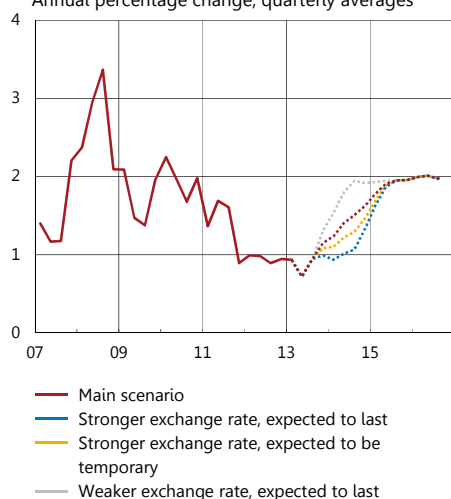
Figure 2.12. KIX-weighted nominal exchange rate Index, 18 November 1992 = 100, quarterly averages



Note. KIX is an aggregate of countries that are important for Sweden's international transactions. In the figure the yellow line is identical with the blue line.

Source: The Riksbank

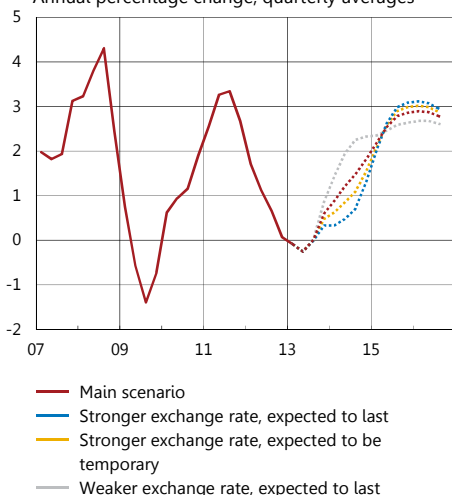
Figure 2.13. CPIF
Annual percentage change, quarterly averages



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

Sources: SCB and the Riksbank

Figure 2.14. CPI
Annual percentage change, quarterly averages



Sources: Statistics Sweden and the Riksbank

Scenario: the krona and the significance of expectations

The future development of the exchange rate is very uncertain. If economic developments in Sweden continue to be better than in the rest of Europe, the krona may be stronger than assumed in the main scenario. The fact that credit risk for lending to the Swedish government is relatively low may also indicate that the krona is a relatively safe currency. But it is also possible that the krona will weaken. This could be due, for instance, to increased unease in the world economy, similar to that in recent weeks.

■ Stronger exchange rate gives lower inflation

In this scenario the krona strengthens, or weakens, more than expected during the fourth quarter of 2013 (see Figure 2:12). The scenarios with the stronger and weaker krona are symmetrical around the main scenario. First we will describe the situation where the krona strengthens.

The krona then becomes 4 per cent stronger against a trade-weighted exchange rate index (KIX) in the fourth quarter of 2013, compared with the situation in the main scenario. It remains at a stronger level than in the main scenario up to the end of the second quarter of 2015. The scenario describes the effects of a stronger krona, with two different assumptions on companies' expectations of the exchange rate in the coming period. One important purpose of the scenario is to illustrate how different expectations of the future krona rate may affect economic developments in Sweden.

In the first case, companies expect that the krona will be stronger than in the main scenario for a long period of time (see the blue line in Figure 2:12). In the second case, they instead expect that the krona appreciation is temporary (see yellow line in Figure 2:12, which is identical with the blue line). They thus expect the krona to weaken and return to the forecast in the main scenario at a faster pace. Companies are then surprised by the fact that the krona remains strong and therefore gradually adjust their expectations.

A stronger exchange rate means that prices of imported input goods are lower, calculated in krona. These goods (and to a lesser extent also services) are then combined with domestically-produced goods and services into final products that are sold to consumers in Sweden. As the costs for the imported input goods are dampened, the rate of price increase in the consumer channel will also be slower. As Swedish companies compete with foreign companies, this also leads in the longer run, to a lower rate of price increase for some domestically-produced input goods. This also contributes to a lower rate of price increase for consumer products. CPIF and CPI inflation will therefore be dampened (see Figures 2:13 and 2:14).

A stronger krona also means that Swedish export products will be more expensive than foreign competitors' products. As net exports will then be lower, GDP growth and resource utilisation also fall somewhat (see Figure 2:15). The higher unemployment (see Figure 2:16) makes

wage formation somewhat more restrained, which reduces companies' wage costs and pushes inflation down further.

If the krona were to weaken instead, the effects would be the reverse. Higher import prices would then lead to higher CPIF inflation. Greater exports also mean that resource utilisation will be higher than in the main scenario. When employment rises, the rate of wage increase also rises, which pushes inflation up further.

■ Expectations of a more lasting exchange rate strengthening have greater effects on inflation and monetary policy

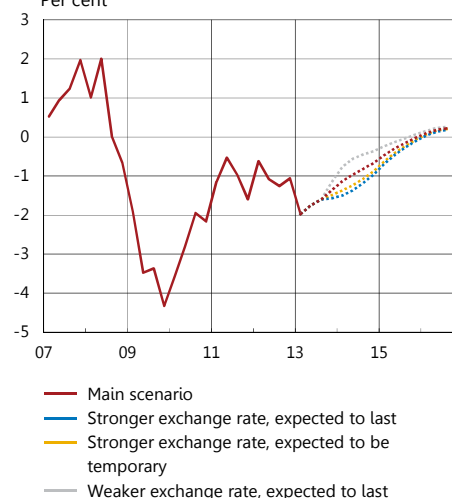
Expectations of the future krona exchange rate are important, as companies must take into account future developments in costs when determining their prices. If the krona appreciation is expected to be long lasting, this means that costs of imported input goods can be expected to be lower for a long time to come. In this case, CPIF inflation is 0.3 percentage points lower in 2014 than in the main scenario. However, if the appreciation is expected to be more temporary, the costs are not affected as much, and therefore neither are the prices in the Swedish consumer channel. In this case, CPIF inflation will be 0.2 percentage points lower in 2014 (see Figure 2:13).

If companies are expecting the krona to be stronger for a longer period, the effects on resource utilisation will also be somewhat greater. Companies can then cut their costs by increasing the share of imported input goods in their production and at the same time reducing the share of domestically-produced input goods. On the other hand, if the krona appreciation is perceived to be more temporary, companies have less to gain by increasing the share of imported input goods. In the previous case, therefore, the negative effects for domestic production and resource utilisation will be slightly greater (see Figure 2:15). Wage developments will then also be affected more than if the stronger exchange rate is temporary.

If the exchange rate becomes stronger, both inflation and resource utilisation will be lower than in the main scenario. According to the monetary policy rule of action in the model, the repo rate is therefore cut (see Figure 2:17). If the stronger exchange rate is expected to last for a long time, the effects on inflation and resource utilisation will moreover be greater than if the appreciation is perceived as temporary. The repo rate is therefore cut more in the former case.

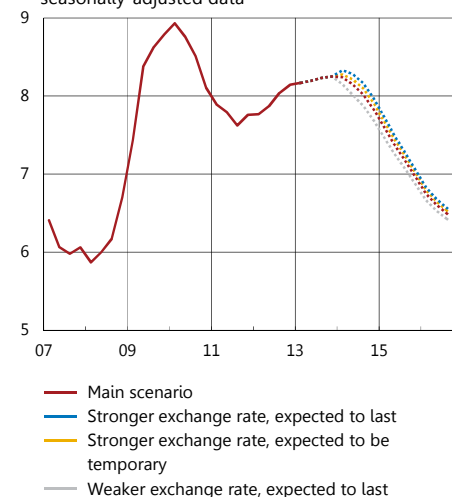
However, in both cases the deviation in CPIF inflation from 2 per cent is greater than in the main scenario, particularly during 2014. A lower repo-rate path could therefore bring CPIF inflation back to the target somewhat faster during the forecast period. At the same time, a more long-term perspective on the attainment of the inflation target, which takes into account the risks of high debt among households, means that the repo-rate path is set slightly higher than assumed in these scenarios (see the more detailed discussion earlier in this chapter, in the scenario "Uncertain development in commodity prices").

Figure 2:15. Hours gap
Per cent



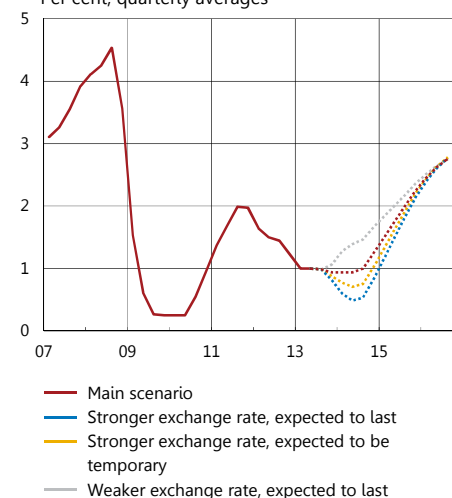
Sources: Statistics Sweden and the Riksbank

Figure 2:16. Unemployment
Per cent of the labour force, aged 15-74, seasonally-adjusted data



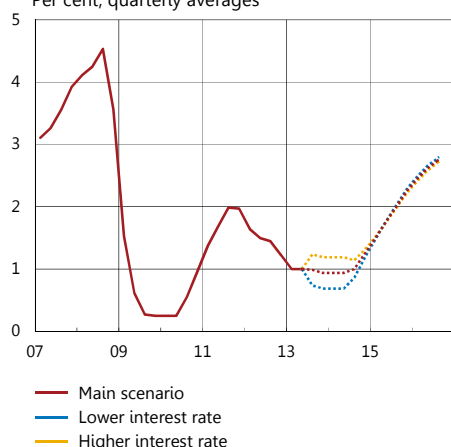
Sources: Statistics Sweden and the Riksbank

Figure 2:17. Repo rate
Per cent, quarterly averages



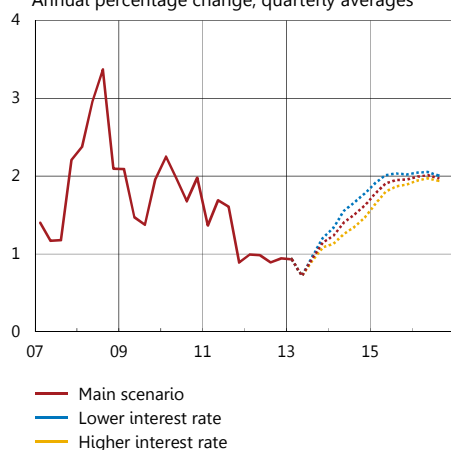
Source: The Riksbank

Figure 2:18. Alternative repo-rate paths
Per cent, quarterly averages



Source: The Riksbank

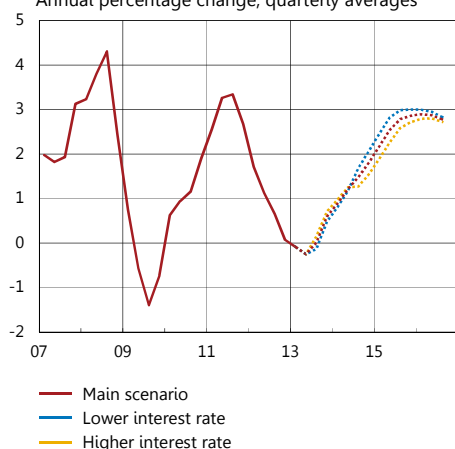
Figure 2:19. CPIF
Annual percentage change, quarterly averages



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

Sources: Statistics Sweden and the Riksbank

Figure 2:20. CPI
Annual percentage change, quarterly averages



Sources: Statistics Sweden and the Riksbank

Alternative scenarios for the repo rate

This section shows how inflation and resource utilisation could be affected if the Riksbank were to follow a different repo-rate path than the one in the main scenario. Two alternative repo-rate paths are shown. In the first alternative, the repo rate is set 0.25 percentage points lower for four quarters. In the second alternative, the repo rate is set 0.25 percentage points higher for four quarters (see Figure 2:18).

■ A higher repo rate leads to lower inflation and lower resource utilisation

A higher repo rate leads to higher market rates, for instance, higher interest on savings accounts. It becomes more favourable for households to save, compared with borrowing, and at the same time it becomes more expensive for companies to fund investments. This means that consumption and investment slow down. In turn, and with some time lag, this leads to the demand for labour slowing down, which means that unemployment is higher than in the main scenario.

Higher interest rates also mean that prices of Swedish assets, for instance bonds, fall. When the demand for these assets increases, the krona strengthens. This in turn means that the prices of imported goods will be lower, at the same time as the demand for Swedish export goods declines. All in all, GDP growth will thus be lower than in the main scenario.

When resource utilisation falls, wage developments will be more restrained. The price of capital, such as machinery and premises, will also be affected. This, together with lower prices for imported input goods, will mean that companies' costs decline. In turn, this will lead to companies raising their prices at a slower rate. Thus, CPIF inflation will be lower (see Figure 2:19). However, higher interest rates will mean that households' mortgage costs rise, which means that the effects on CPI inflation will be smaller initially (see Figure 2:20).

■ A lower repo rate gives higher inflation and higher resource utilisation

Conversely, a lower repo rate, will mean that it becomes less attractive to save, and consumption will rise. Lower interest rates will also mean that more potential investments become profitable. When the return on Swedish assets fall, the demand for the krona will decline, so the krona depreciates. This will mean that exports increase, at the same time as imported goods become more expensive. All in all, this would lead to higher GDP growth and higher resource utilisation.

Higher demand will lead, with some time lag, to higher employment and a higher rate of wage increase. This means that companies' costs will increase, which in turn will lead to a higher rate of price increase. CPIF inflation will thus be higher than in the main scenario.

■ The effects of monetary policy are uncertain

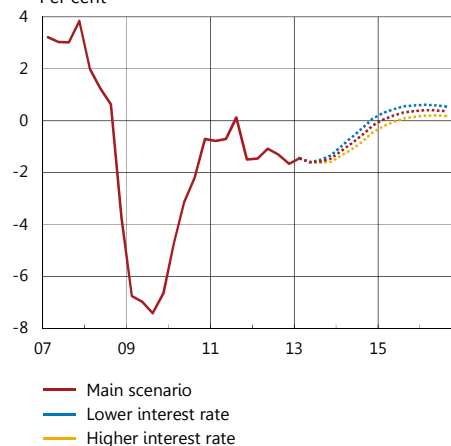
The quantitative effects of a lower or higher repo rate as shown in Figures 2:19 - 2:23 have been estimated using a macroeconomic model for the Swedish economy (Ramses). Other empirical approaches could lead to other estimates of the effects of a change in the repo rate, however. It could also be the case that the effects of a change in the repo rate are faster or slower than the average effects estimated using Ramses, depending on the current economic situation.

■ Several factors influence the monetary policy deliberations

A lower repo rate would mean, according to the calculations described here, that CPIF inflation approaches 2 per cent more quickly during the forecast period, compared with the main scenario (see Figure 2:19). Resource utilisation would also attain a normal level sooner (see Figures 2:21 and 2:22). On this basis, one could justify a more expansionary monetary policy.

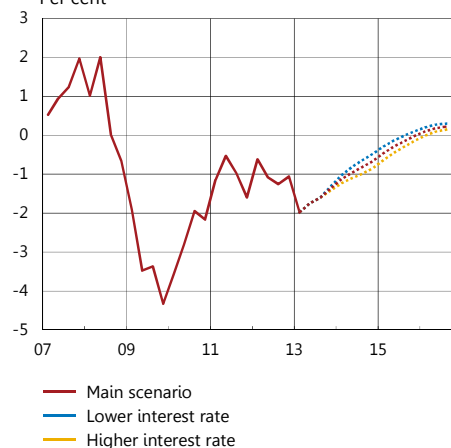
But the monetary policy deliberations are also affected by other factors. One important factor is household debt. Experiences from other countries in recent years illustrate the risks of an overly rapid build-up of debt. A rapid increase in debt, even if it is not considered to threaten financial stability, could make the economy more sensitive to shocks. A less expansionary monetary policy, which dampens the rate of increase in debt, could then contribute to reducing the risk of major fluctuations in inflation and resource utilisation in the future (see the article "Financial imbalances in the monetary policy assessment").

Figure 2:21. GDP gap
Per cent



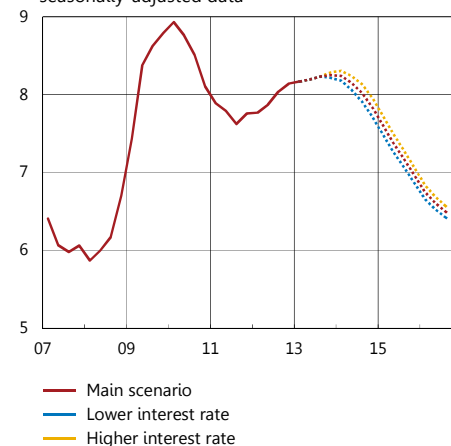
Sources: Statistics Sweden and the Riksbank

Figure 2:22. Hours gap
Per cent



Sources: Statistics Sweden and the Riksbank

Figure 2:23. Unemployment
Per cent of the labour force, aged 15-74,
seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

■ CHAPTER 3 – The current state of the economy

This chapter presents new information received since the Monetary Policy Update was published in April and an assessment of the development of the economy in the quarters immediately ahead.

Volatility has increased on the financial markets as a result of uncertainty among the market participants about what decisions the central banks will make in the period ahead. Growth in the euro area is still weak. However, there are several indications that growth will increase. The recovery in the United States is stable despite ongoing fiscal tightening. Both the housing market and the labour market continue to improve there. An expansionary economic policy is boosting growth in Japan, while economic development in the emerging economies of Asia is somewhat weaker.

In Sweden, GDP was slightly higher than expected during the first quarter of this year. However, the assessment is that the rate of growth will be lower in the quarters immediately ahead due to weak demand abroad. Employment continues to rise. However, the labour force is growing at a faster rate which means that unemployment has increased somewhat. Inflation is still low.

Financial markets

■ Uncertainty about economic policy is subduing the financial markets

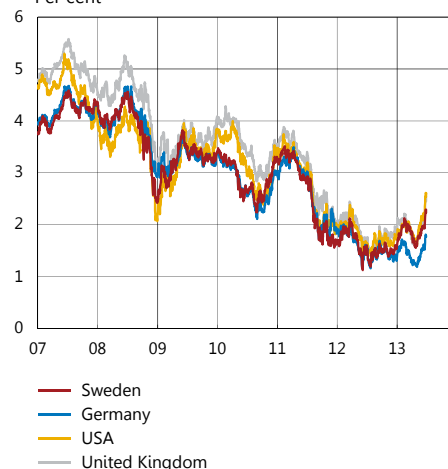
Uncertainty has arisen on the financial markets recently about how the central banks will conduct monetary policy in the period ahead. Signals that the US central bank, the Federal Reserve, may gradually reduce its monthly purchases of government securities and housing-related securities have led government bond yields to rise around the world recently, and have probably also led to falling share prices (see Figures 3:1 and 3:2). Concern about the situation at the Chinese banks has also contributed to falling share prices recently. Uncertainty among the market participants about the effects of highly expansionary fiscal and monetary policies in Japan has also contributed to the growing volatility on the stock, bond and foreign-exchange markets recently (see Figure 3:3). The recent increased volatility on the financial markets is also reflected in a Swedish stress index (see Figure 3:4).

■ Central banks in different phases

The major central banks around the world are in different phases. The Federal Reserve is preparing to taper off its bond-purchasing programme as the economy has improved. The Japanese central bank has increased in monetary policy stimulation measures, while the European Central Bank (ECB) has cut its policy rate again.

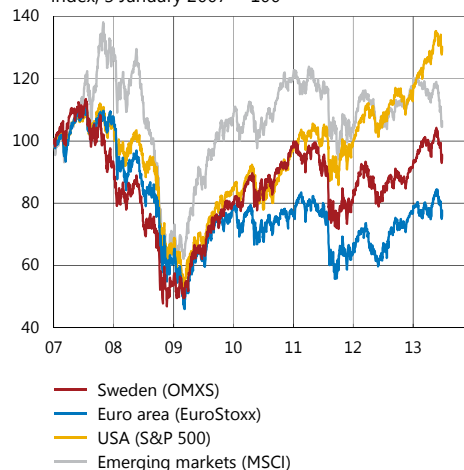
The Chairman of the Federal Reserve, Ben Bernanke, has communicated that the volume of the Federal Reserve's monthly bond purchases may be reduced later this year and that the purchases may cease altogether next year if the US labour market continues to improve. This communication, together with the improved economic outlook in the United States, has contributed to a significant rise in US bond yields at longer maturities in May and June. However, the Federal Reserve's

Figure 3:1. Government bond rates with 10 years left to maturity
Per cent



Source: Reuters EcoWin

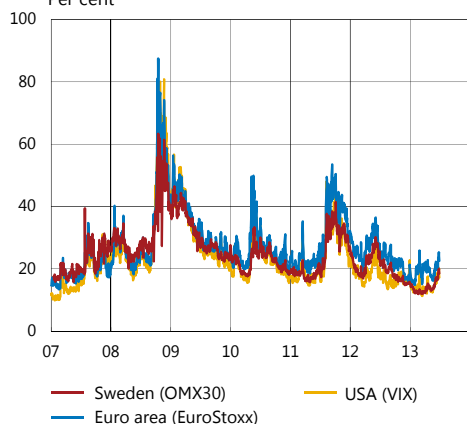
Figure 3:2. Stock market movements
Index, 3 January 2007 = 100



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

Figure 3.3. Stock market volatility

Per cent

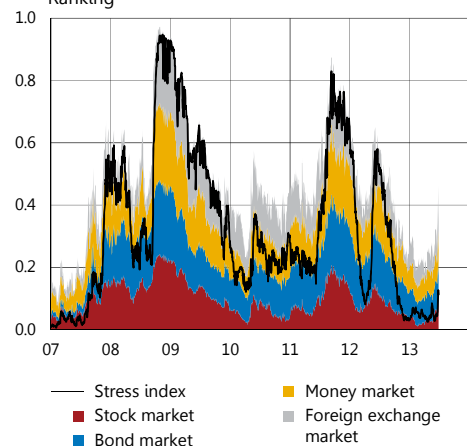


Note. Implicit volatility is estimated on the basis of prices on stock market index options.

Sources: Chicago Board Option Exchange, Reuters EcoWin and STOXX Limited

Figure 3.4. Swedish stress index

Ranking

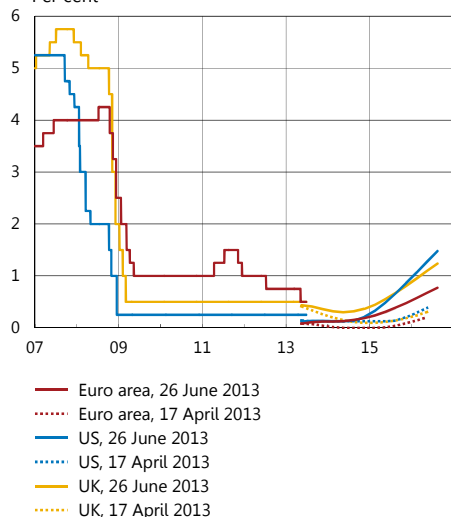


Note. The stress index is a correlation-weighted average of the stress level at four markets. The level of stress at a certain point in time takes a value between zero and one where zero signifies the historically lowest level of stress and one signifies the historically highest level of stress. See Further development of the index for financial stress for Sweden, Economic Review 2013:1, Sveriges Riksbank.

Sources: Bloomberg, Reuters EcoWin and the Riksbank

Figure 3.5. Policy rate expectations measured in terms of 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: Reuters EcoWin and the Riksbank

policy rate is expected to remain low throughout the forecast period (see Figure 3:5).

An upturn in government bond yields in Germany has been held back by the downward revision of growth prospects for the euro area at the same time as there are expectations that monetary policy in the euro area will continue to be expansionary over the next few years. In early May, the ECB cut its policy rate by 0.25 percentage points, to 0.5 per cent. In connection with this decision it was also decided to narrow the corridor between deposit and lending rates, which prevented the deposit rate from becoming negative. The almost 12-months old Outright Monetary Transactions programme (OMT), which enables the ECB to purchase government bonds issued by crisis countries, has not yet been activated, but its very existence has continued to contribute to lower interest rates and calmer markets than would otherwise have been the case.⁹ The ECB's balance sheet has shrunk somewhat recently as the banks have begun to repay the three-year loans that were issued in late 2011 and early 2012. Despite this, funding conditions for the banks, and in turn for households and companies, continue to be tight in the so-called peripheral countries of the euro area.

In its latest monetary-policy decision, the Bank of England held the policy rate unchanged at 0.5 per cent, as well as the target for asset purchases, while the *Funding for Lending Scheme* was expanded and extended until 2015. This expansion means that more financial institutions than previously will have access to less expensive funding through the central bank with the aim of improving credit conditions for small and medium-sized companies.

■ Expectations that the repo rate will remain low

The Riksbank's monetary-policy decision in April led to a fall in Swedish market rates, above all in bond yields and forward rates with maturities of up to three years. The Swedish two-year rate fell significantly and the gap between Swedish and German two-year rates is now smaller than it was before the decision in April. Pricing on the money market shows that there are expectations that the Riksbank's repo rate will remain largely unchanged in 2013 and that it will be raised to approximately 1.5 per cent at the end of 2015 (see Figure 3:6). The latest Prospera survey indicates that the money-market participants expect the repo rate, on average, to be just over 1.4 per cent in two years' time (see Figure 3:6). Swedish bond yields at longer maturities, together with the equivalent US and German bond yields, have increased since the latest Monetary Policy Update was published. The gap between Swedish and German 10-year yields has remained practically unchanged (see Figure 3:1).

⁹ OMT = Outright Monetary Transactions.

■ Weaker krona

The Swedish krona has weakened against several major currencies, in particular the pound sterling and the euro, since the Monetary Policy Update was published in April. In nominal KIX terms it has weakened by over 3 per cent. Some of this weakening took place directly after the publication of the Monetary Policy Update. The Swedish krona, like the currencies of several other small open economies, has weakened recently following the increased uncertainty that has arisen on the financial markets in connection with the Federal Reserve's signals regarding reduced asset purchases.

■ Lower mortgage rates for households

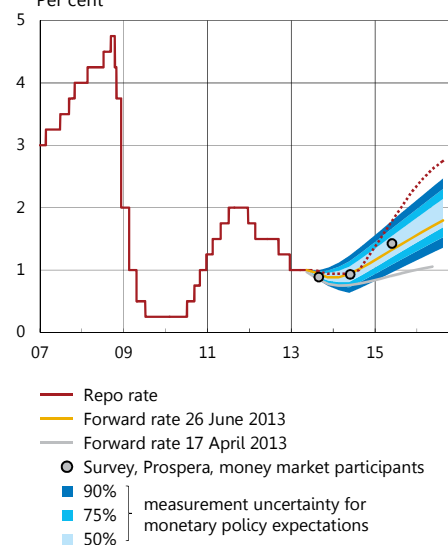
As the funding situation for Swedish banks and mortgage institutions has continued to be good, listed mortgage rates with a fixed period of three months have fallen somewhat (see Figure 3:7). Fixed mortgage rates fell in April and May as a result of the fact that the yields for the mortgage institutions' funding through mortgage bonds remained low during the spring. However, increases in international and Swedish government bond yields in recent weeks have also led to higher mortgage bond yields, and over the last few days the mortgage institutions have increased their fixed mortgage rates again in order to compensate for the higher funding costs.

■ Continued increase in the demand for loans

During the spring, household borrowing increased by almost 5 per cent as an annual percentage change (see Figure 3:8). The household debt ratio is still high in historical terms and in comparison with other countries. Housing prices have continued to increase (see Figure 3:9). Part of this increase can probably be explained by the fact that the supply of new housing is limited. According to SEB's housing-price indicator, the households expect housing prices to continue to increase in the period ahead. These expectations can also be viewed against the background of the increase in the households' disposable incomes. At the same time, the households expect to see low mortgage rates in the years ahead (see Figure 3:10).

The rate of lending from banks to non-financial companies is relatively low, which reflects the weak development of investment (see Figure 3:8). In recent surveys, a majority of bank managers and company representatives say that loan conditions for companies have remained largely unchanged lately and that in principle the situation is normal. The Riksbank business survey conducted in May revealed that funding conditions for large companies are actually very good, above all with regard to direct funding on the capital markets.

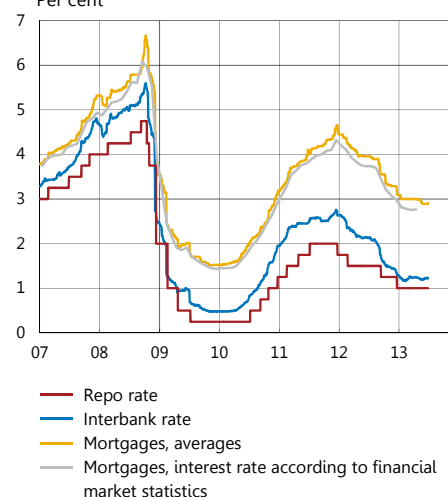
Figure 3:6. Repo-rate expectations in Sweden
Per cent



Note. Forward rates have been adjusted for risk premiums and describe the expected overnight rate. As neither surveys nor forward rates are exact measures of monetary policy expectations, the uncertainty of the measurement is illustrated by an interval.

Sources: Reuters EcoWin, TNS SIFO Prospera and the Riksbank

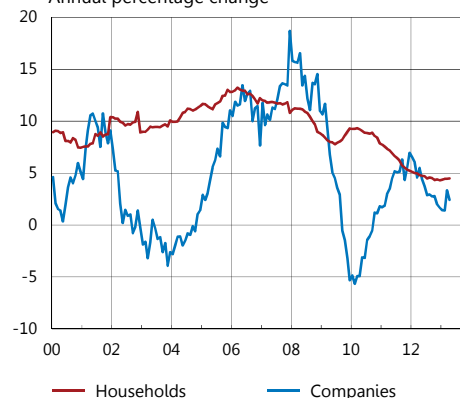
Figure 3:7. Interest rates in Sweden
Per cent



Note. Refers to average of three-month listed mortgage rates from banks and mortgage institutions, the three month interbank rate and the monthly average for three month mortgage rates for new loans according to financial market statistics.

Sources: Reuters EcoWin, Statistics Sweden and the Riksbank

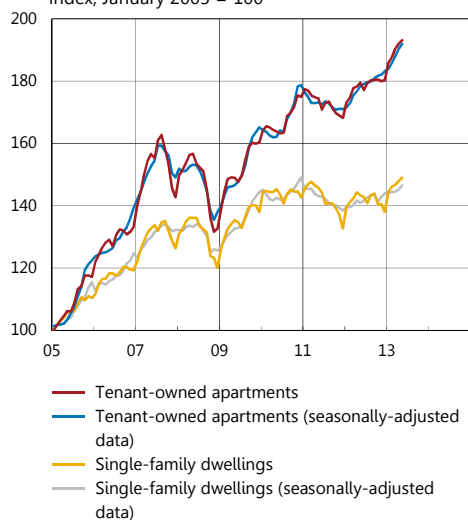
Figure 3:8. Bank lending to companies and households
Annual percentage change



Note. Lending to households and companies according to financial market statistics.

Source: Statistics Sweden

Figure 3:9. Prices for single-family dwellings and tenant-owned apartments
Index, January 2005 = 100



Sources: Valueguard och Riksbanken

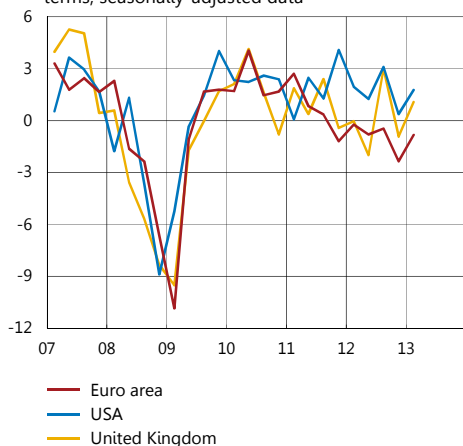
Figure 3:10. Households' interest-rate expectations
Per cent



Note. Households' expectations regarding the variable mortgage rate for five years ahead.

Source: National Institute of Economic Research

Figure 3:11. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



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

International developments

■ The euro area – improvement from low levels

GDP fell in the euro area during the first quarter of 2013, which meant that GDP has now fallen for six consecutive quarters (see Figure 3:11). There was a slight increase in household consumption, while investment continued to decline. Exports fell, but as imports fell even more foreign trade made a weak positive contribution to growth. Germany was one of the few countries where GDP increased, while GDP fell in other major economies such as France, Spain and Italy. The downturn was larger than forecast in the Monetary Policy Update in April and the GDP forecast has therefore been adjusted downwards for 2013 as a whole.

However, it is still the Riksbank's assessment that there will be a gradual improvement in growth in the euro area this year. Industrial production has increased in recent months (see Figure 3:12). The aggregate purchasing managers' index for the euro area is still somewhat below 50, which marks the borderline between decreasing and increasing activity, but it has risen from a low level in March. Unemployment continues to increase (see Figure 3:13).

New statistics on public finances in the euro area show that the public deficit fell from 4.2 per cent of GDP in 2011 to 3.7 per cent of GDP in 2012. In the annual review of the euro countries conducted in accordance with the Stability and Growth pact several countries, including France and Spain, were given a dispensation from the requirement to reach a public deficit level of 3 per cent because economic development in these countries is so weak. This means that fiscal-policy tightening is not expected to be quite as severe in 2013 as was previously forecast.

■ Stable growth despite fiscal-policy tightening in the United States

In the United States, GDP increased by 1.8 per cent from the fourth quarter last year to the first quarter this year, calculated as an annual rate (see Figure 3:11). This outcome was weaker than forecast in the Monetary Policy Update in April, mainly because public consumption fell more rapidly than expected. Household consumption expenditure increased by 2.6 per cent, despite the fact that both employers' contributions and income taxes for high-income earners increased at the turn of the year. The figure for household debt as a percentage of disposable income has fallen significantly over the last five years.

Household confidence and corporate confidence have moved in slightly different directions recently. According to the purchasing managers' index, confidence among companies in the manufacturing and service sectors has declined. However, the companies' balance sheets are strong and profits as a percentage of GDP were at an historically-high level in the first quarter. There is therefore scope for the companies to increase their investment and/or employ new staff. When corporate confidence increases, these factors may contribute to higher growth in

the period ahead. According to the Conference Board, household confidence has increased in recent months and is now at its highest level for five years. All-in-all, the statistics published since the Monetary Policy Update in April have indicated that GDP growth will be around 2 per cent during the second quarter. The GDP forecast is in principle unchanged for the second and third quarters.

Several indicators suggest that developments on the housing market will continue to be positive. The time it takes to sell a house or apartment is now at levels below the historical average and the confidence of the construction companies continued to increase in June. Fewer and fewer households are experiencing payment problems. The situation on the labour market also continues to improve. In May, employment increased by 175 000 jobs and unemployment was 7.6 per cent (see Figure 3:13).

■ The situation varies on other important export markets

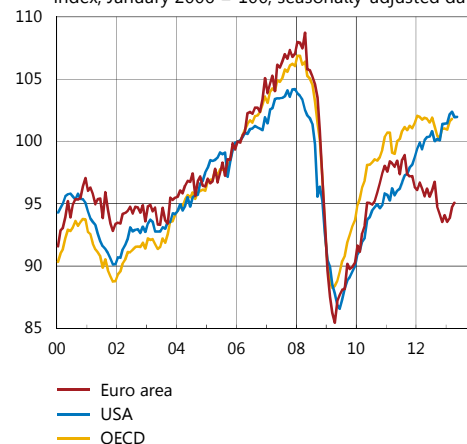
In the United Kingdom, GDP increased by 1.2 per cent from the fourth quarter last year to the first quarter this year, calculated as an annual rate (see Figure 3:11). Industrial production has increased in recent months, but is still at an historically low level. However, the companies have become more optimistic. In May, the purchasing managers' index for the manufacturing industry was above 50 for the second month in a row. The households have also become somewhat more optimistic, but confidence is still at a lower level than before the financial crisis.

GDP growth in Denmark is still weak. Following a substantial fall in late 2012, GDP fell by a further 0.2 per cent from the fourth quarter of last year to the first quarter this year, calculated as an annual rate (see Figure 3:14). Industrial production increased somewhat in April. Retail sales were somewhat lower in April and May than during the first quarter. Confidence indicators for both companies and households also suggest that development will continue to be weak. Problems on the housing market are subduing economic activity and housing investment continued to fall in the early part of the year.

The Norwegian economy continues to show strong growth. During the first quarter of this year, mainland GDP increased by 2.7 per cent compared to the fourth quarter of last year and calculated as an annual rate (see Figure 3:14). Household confidence is still high, but declined somewhat during the second quarter. Although retail sales fell slightly in April, they rose significantly in May.

Figure 3:12. Industrial production

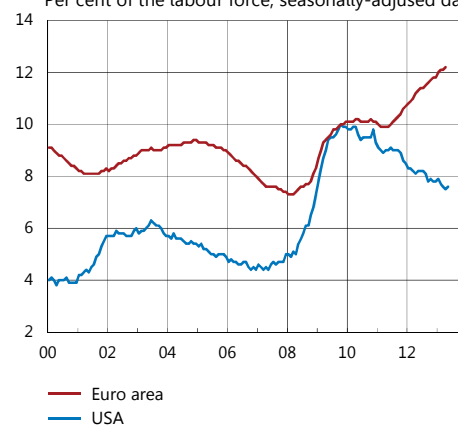
Index, January 2006 = 100, seasonally-adjusted data



Sources: Eurostat, Federal Reserve and OECD

Figure 3:13. Unemployment

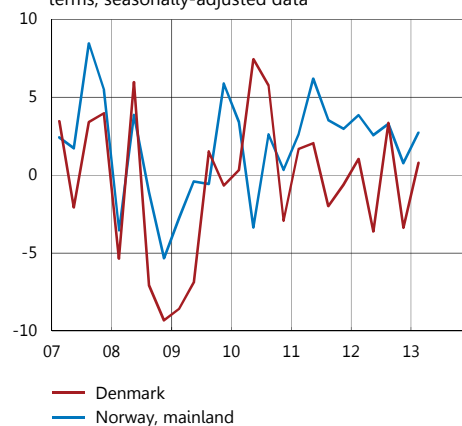
Per cent of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics and Eurostat

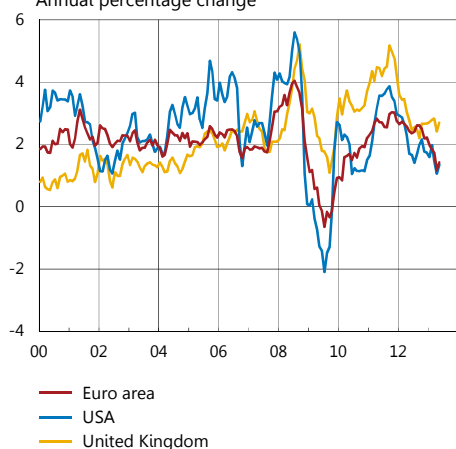
Figure 3:14. GDP in Denmark and Norway

Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Sources: Statistics Denmark and Statistics Norway

Figure 3:15. Consumer prices
Annual percentage change



Note. Data refers to HICP for euro area and CPI for United Kingdom and United States.

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

■ Mixed picture in Asia

GDP in Japan increased by 4.1 per cent in the first quarter of this year compared to the preceding quarter and calculated as an annual rate. Household consumption and exports made a positive contribution, supported by fiscal-policy stimulation measures and a weakened yen. Industrial production increased significantly in the early part of the year and the purchasing managers' index also indicates increasing production in the period ahead. Retail sales also developed strongly in April and May. An increase in new orders for machinery indicates that investment may contribute more to GDP going forward.

In China, GDP increased by 6.6 per cent in the first quarter of this year, calculated as an annual rate. The development of industrial production and retail sales in April and May, as well as a low level of confidence among consumers and purchasing managers and signs of disruptions in the banking system, indicate that growth figures will continue to be somewhat lower in the period immediately ahead than has been the case in China in recent years.

■ Subdued inflation on many important export markets

Inflation has been subdued recently in most of the countries that are important to the Swedish export market. In the euro area, weak resource utilisation has probably contributed to the fall in inflation over the last 12 months. However, tax increases have reduced the fall somewhat during the spring. In May, the rate of inflation rose slightly from 1.2 per cent to 1.4 per cent after falling clearly over the course of the previous year (see Figure 3:15).

In the United States, inflation fell in March and April at a slightly faster rate than expected. CPI inflation increased again in May, reaching 1.4 per cent (see Figure 3:15). Underlying inflation, that is inflation adjusted for energy and food prices, was unchanged in May at 1.7 per cent. The low inflationary pressures are one of the reasons why the forecast for inflation has been revised downwards for the quarters immediately ahead.

In the United Kingdom, CPI inflation rose from 2.4 per cent in April to 2.7 per cent in May (see Figure 3:15). In Denmark, inflation has slowed significantly over the last six months and the rate of inflation was 0.9 per cent in May. In Norway, inflation has begun to rise and the rate of inflation was 2.0 per cent in May.

In Japan, prices have begun to rise and inflation, measured as an annual percentage change, moved from -0.7 per cent in April to -0.3 per cent in May. This indicates that the efforts of the Bank of Japan to generate inflation may be succeeding. In China, the rate of inflation fell to 2.1 per cent in May, primarily due to a temporarily weak development of food prices.

Swedish economy

■ Higher growth than expected during the first quarter

GDP increased by 2.5 per cent from the fourth quarter 2012 to the first quarter 2013, calculated as an annual rate (see Figure 3:16). This outcome was higher than the Riksbank expected in April and also higher than the average of all the forecasters' forecasts. There was a rapid increase in household consumption, while exports and investment fell. Imports fell more than expected, even in relation to demand.

Household consumption is expected to continue to contribute to demand in the coming period. At the same time, exports are expected to gradually increase and investment to stop falling. Companies built up their stocks during the first quarter, which made a substantial contribution to GDP growth. This build-up is not expected to continue at the same rate in the quarters ahead, which will entail a negative contribution to GDP in the second quarter. All in all, GDP is expected to grow by approximately 1.1 per cent in the second quarter of this year and by 1.8 per cent in the third quarter, calculated as an annual rate, which is somewhat less than normal. This is assuming that international demand continues to be weak. The latest outcomes for the purchasing managers' index for the manufacturing sector indicate some growth in the sector (see Figure 3:17). The Economic Tendency Survey, which covers both households and companies, increased in June but is still below the historical average and indicates that growth in the Swedish economy is still weaker than normal (see Figure 3:18).

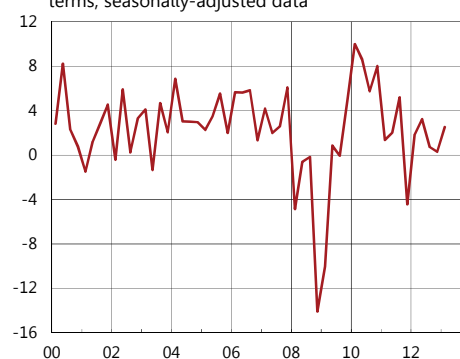
■ Strong growth in consumption

During the first quarter of 2013, household consumption increased by 4.1 per cent, compared with the fourth quarter of 2012 and calculated as an annual rate. Incomes increased at the same rate and saving thus remained at a high level. Part of the total saving relates to collective insurance saving schemes, so the level of individual saving was lower.

The high level of consumption growth coincides with the fact that household confidence, as measured using the confidence indicator of the National Institute of Economic Research, has returned and is now close to its historical mean value (see Figure 3:19). The households' confidence regarding their own financial situation weakened somewhat in June and is now below the historical average. On the other hand, confidence in the Swedish economy as a whole strengthened. Nevertheless, the Swedish households are still more optimistic about their own financial situation than about the Swedish economy. Following a subdued beginning to the second quarter, retail sales were strong in May.

Figure 3:16. GDP

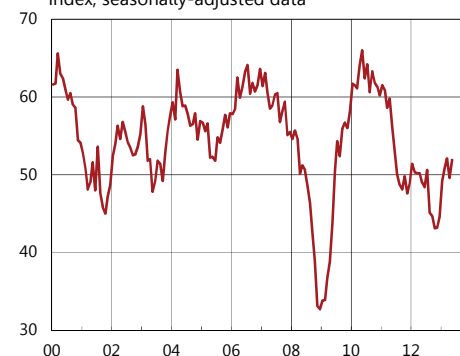
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Source: Statistics Sweden

Figure 3:17. Purchasing managers' index for the manufacturing industry

Index, seasonally-adjusted data



Note. Values above 50 indicate growth.

Source: Swedbank/Sif

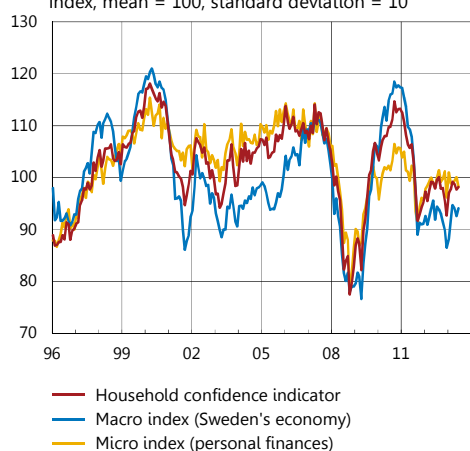
Figure 3:18. The Economic Tendency Indicator

Index, mean = 100, standard deviation = 10



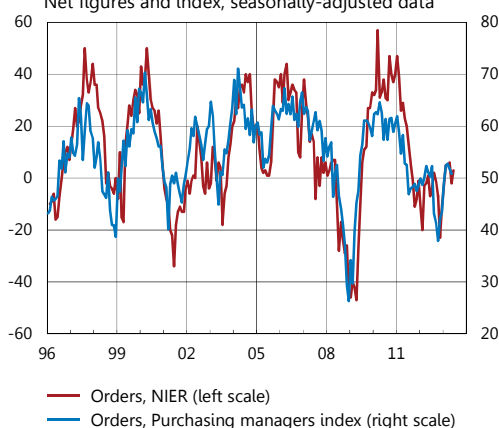
Source: National Institute of Economic Research

Figure 3:19. Confidence indicators for households
Index, mean = 100, standard deviation = 10



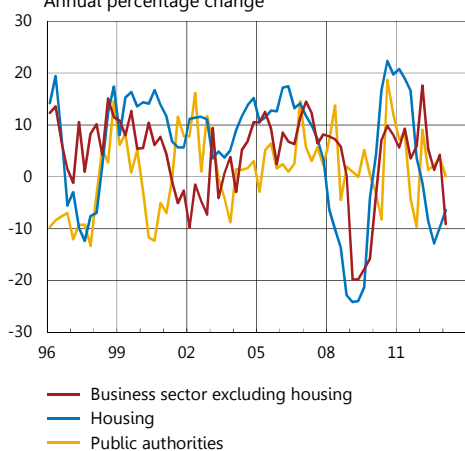
Source: National Institute of Economic Research

Figure 3:20. New export orders in the manufacturing sector
Net figures and index, seasonally-adjusted data



Sources: National Institute of Economic Research and Swedbank/Silf

Figure 3:21. Gross fixed capital formation
Annual percentage change



Source: Statistics Sweden

■ Weak exports but increase in orders

Weak industrial activity around the world, not least in important Swedish export markets, continues to dampen the growth of Swedish exports. According to the National Accounts, goods exports, which account for approximately two-thirds of Swedish exports, have fallen by almost 5 per cent since mid- 2012. However, exports of services have increased by almost 2 per cent. All-in-all, this means that total exports have fallen by approximately 2.5 per cent over the last three quarters. According to the foreign trade statistics, good exports continued to develop weakly in May and the order stock and level of new orders for the Swedish export companies are still somewhat lower than normal according to the Business Tendency Survey and the purchasing managers' index (see Figure 3:20). Nor does the purchasing managers' index in the United States and in the euro area indicate that there will be any turnaround in industrial activity on the Swedish export markets in the near future. All-in-all, the assessment is that exports will grow slowly in the quarters immediately ahead.

■ Low investment requirement

Partly as a result of the low level of industrial activity, the investment requirement in the Swedish economy is also low at present. During the first quarter of this year, investment in the business sector (excluding housing) fell by 9.1 per cent compared to the same period last year (see Figure 3:21). Gross fixed capital formation fell by almost 11 per cent from the fourth quarter last year to the first quarter this year, calculated as an annual rate. Capacity utilisation in the manufacturing sector is still significantly lower than normal and given the fact that industrial activity is weak it is expected that it will take time before there is any noticeable increase in investment in the sector. This is also confirmed by Statistics Sweden's investment survey, which indicates that investment in the manufacturing sector will fall by 10 per cent in 2013 compared to 2012. According to the investment survey, investment in the energy and service sectors will also be low in 2013. The development of new construction starts recently may be a sign that the weak trend in housing investment is about to change. All-in-all, however, the assessment is that investment will not pick up until next year.

The companies' build-up of stocks was surprisingly large during the first quarter of this year. The companies' assessments in the Business Tendency Survey indicate that they are now relatively satisfied with their stock volumes. This can be interpreted to mean that there is no need to either stock up or destock in the near future. The forecast assumes that the build-up of stocks will continue in the quarters ahead, but to a lesser extent than in the first quarter. This means that the development of stocks will make a negative contribution to GDP growth in the next quarter.

■ Weak demand dampening imports

Swedish imports have shown weak development recently and fell by almost 7 per cent from the fourth quarter of 2012 to the first quarter of this year, calculated as an annual rate. Ongoing weak demand with low export growth and investment and a declining build-up of stocks indicate that import growth will continue to be subdued in the coming quarters. The statistics for the foreign trade in goods in recent months also indicate that imports will be weak.

■ Both employment and the labour force are increasing

The positive trend on the Swedish labour market, with more people in the labour force and more people employed, is continuing (see Figure 3:22). At the same time, absence has increased over the last 12 months, which means that the number of people in work and the number of hours worked have increased less than employment. The number of hours worked fell more in the first quarter of this year than assessed in the Monetary Policy Update published in April. Since publication, employment and the labour force have increased more than expected, while unemployment has been approximately in line with the forecast. The increase in the number of unemployed over the last year can largely be attributed to full-time students.

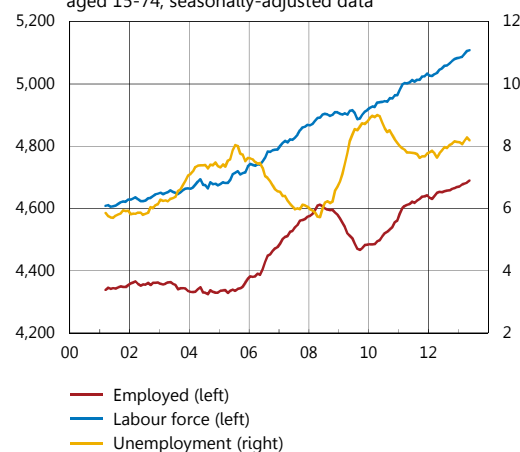
The picture of stable development on the Swedish labour market remains. The indications are that no major changes will take place within the next six months. Both the employment rate and unemployment rate are therefore expected to remain unchanged at approximately the same levels as today. The number of new job vacancies is volatile but is still at a relatively high level, and the number of redundancy notices is close to its historical average (see Figure 3:23). According to the Riksbank's business survey, which was conducted in May, a larger proportion of the companies no longer believe that their workforce is too large. More companies also indicated that they intend to increase their workforce over the coming three months. However, according to the latest Business Tendency Survey, companies in the business sector as a whole expect employment to fall somewhat in the months immediately ahead. It is primarily companies in the goods-producing sector that believe that employment will fall going forward, while companies in the service sector expect employment to remain largely unchanged. It is also in the manufacturing and construction sectors that the percentage of companies experiencing a shortage of labour has fallen (see Figure 3:24).

■ Slower increase in wages this year than last year

Wages in the economy as a whole increased by 3.1 per cent in 2012 according to the short-term wage statistics of the National Mediation Office. According to these statistics, wages increased, preliminarily, by 2.4 per cent as an annual percentage change in the first quarter of this year. Wages increased slowly in the manufacturing sector in February and March, partly because the structure of the preceding collective agreements entailed zero contractual wage increases in these months.

Figure 3:22. Employment, labour force and unemployment

Thousands and per cent of the labour force, aged 15-74, seasonally-adjusted data

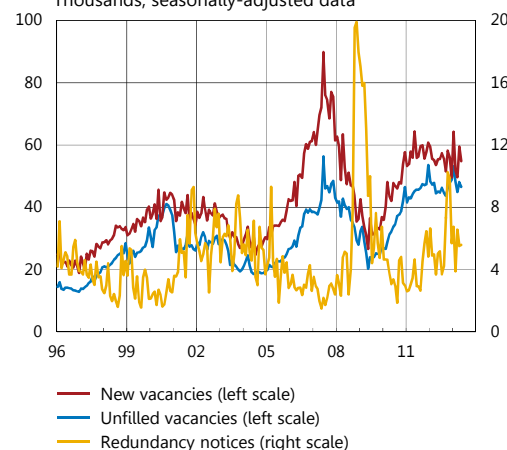


Note. Three-month moving averages.

Sources: Statistics Sweden and the Riksbank

Figure 3:23. New and unfilled vacant jobs and redundancy notices

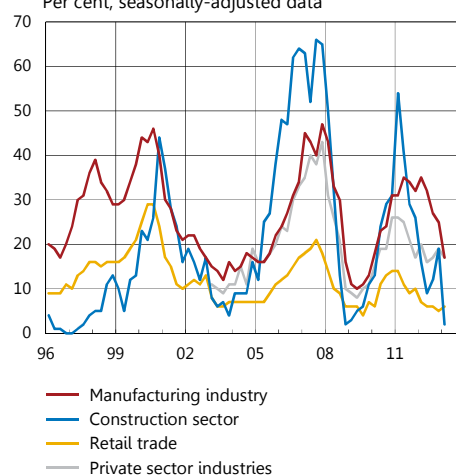
Thousands, seasonally-adjusted data



Sources: Employment Service and the Riksbank

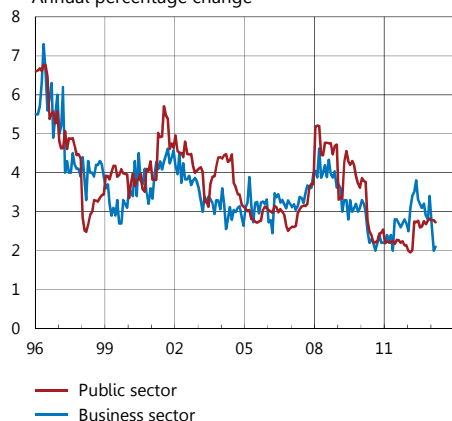
Figure 3:24. Proportion of companies reporting a shortage of labour

Per cent, seasonally-adjusted data



Source: National Institute of Economic Research

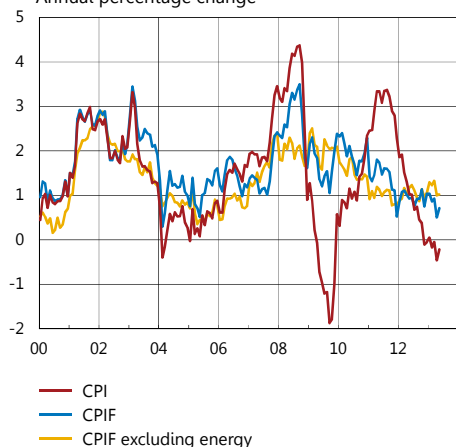
Figure 3:25. Wages
Annual percentage change



Note. Preliminary outcomes in the past 12 months, usually revised upwards.

Sources: National Mediation Office and the Riksbank

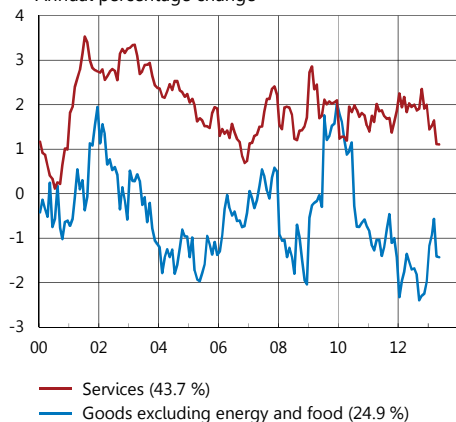
Figure 3:26. CPI, CPIF and CPIF excluding energy
Annual percentage change



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

Source: Statistics Sweden

Figure 3:27. Prices of goods and services in the CPI
Annual percentage change



Note. The weight of the CPI 2013 in the respective components is given in brackets.

Sources: Statistics Sweden and the Riksbank

Wages in the public sector increased more rapidly than in the business sector at the beginning of the year (see Figure 3:25). The assessment for 2013 as a whole is that wages in the entire economy will increase by 2.8 per cent.

According to the National Accounts, both wages per hour worked and labour costs per hour increased throughout the economy by approximately 4 per cent, as an annual percentage change, during the first quarter of this year. At the same time, productivity growth was higher than expected, which led to a somewhat slower increase in unit labour costs than expected, that is by 1.7 per cent an annual percentage change.

Both hourly wages and unit labour costs per hour are expected to increase by just over 3 per cent this year. It is also assumed that labour productivity will grow by 1.7 per cent, which is higher than the previous assessment. All-in-all, the forecast revisions mean that cost pressures will be lower this year than assessed in April.

■ Inflation still low

Inflation is still low. One possible explanation for this is that the weak demand in the Swedish economy has made it difficult for the companies to cover their costs by increasing prices (see the article "The development of costs and inflation" in this report).

The annual rate of increase in the CPIF, that is the CPI with a fixed mortgage rate, amounted to 0.7 per cent in May (see Figure 3:26). The annual rate of increase in the CPIF adjusted for energy price changes was 1.0 per cent. Goods prices (excluding energy and food) continued to fall in May and have now fallen for almost three years in a row (see Figure 3:27). In May they fell by 1.4 per cent compared with the same month last year. The rate of increase in the prices of services has fallen relatively quickly since the end of 2012 and is now just under one percentage point below the historical average. In May, service prices increased by 1.1 per cent compared with the same month last year (see Figure 3:27). Temporary factors can partly explain the low rate of increase in service prices. The annual rate of increase in food prices was 2.6 per cent in May, which was somewhat higher than expected. The CPI fell for the fourth consecutive month, measured as an annual percentage change (see Figure 3:26). This is linked to a fall in the households' mortgage interest expenditure, primarily as a result of the gradual cuts in the repo rate.

The outcomes for all the measures of inflation in April were 2 to 3 tenths lower than was expected in the latest Monetary Policy Update. Some of this deviation was recovered in May, when outcomes deviated less from the latest forecast. There are therefore only marginal revisions in the forecasts for inflation in the months immediately ahead.

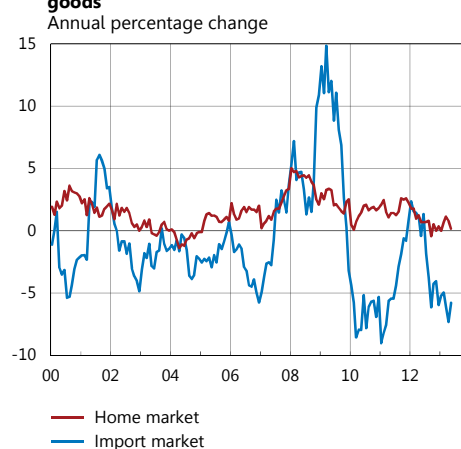
Inflation measured in terms of the CPIF excluding energy is expected to gradually rise and reach 1.4 per cent at the end of 2013. The weaker krona will contribute to rising inflation in the period ahead. According to the Riksbank's business survey conducted in May, the low price pressures in the economy will remain in the period immediately ahead and few companies have recently increased their prices or plan to do so in the short term. Increases in producer prices for consumer goods have also been subdued over the last 12 months, on both the domestic market and the import market, and this will affect consumer prices, although with a certain time lag (see Figure 3:28).

Forward pricing indicates that the oil price will fall somewhat in the months ahead, which means that CPIF inflation is expected to be lower than inflation measured in terms of the CPIF excluding energy during the remainder of 2013. It is assumed in the forecast that CPI inflation will increase more slowly than CPIF inflation in the period ahead, which is due to earlier repo-rate cuts and lower funding costs for the banks. This in turn has entailed lower mortgage rates which will continue to contribute negatively to CPI inflation for some time.

■ Inflation expectations well anchored in the long term

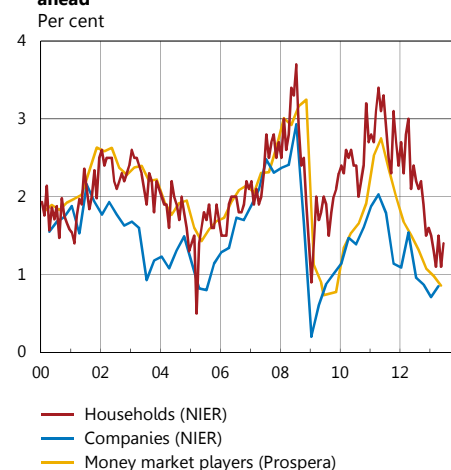
According to the Economic Tendency Survey published in June, the households' inflation expectations one year ahead increased from 1.1 per cent to 1.4 per cent (see Figure 3:29). The companies' inflation expectations one year ahead were at 0.9 per cent during the first quarter of this year. The Prospera survey published in June indicates that money market participants are expecting an inflation rate of 1.0 per cent in one year's time, 1.5 per cent in two years' time and 2.0 per cent in five years' time. Average inflation expectations for all participants fell from 1.0 to 0.9 per cent one year ahead, and from 1.5 to 1.4 per cent two years ahead (see Figure 3:30). Expectations five years ahead remained unchanged at 1.9 per cent. Long-term inflation expectations are thus well-anchored around the Riksbank's inflation target.

Figure 3:28. Producer price index, durable consumer goods



Source: Statistics Sweden

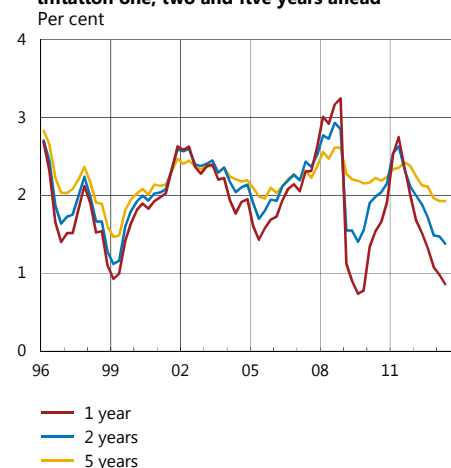
Figure 3:29. Expectations of inflation one year ahead



Note. Company figures are quarterly, others monthly.

Sources: National Institute of Economic Research and TNS SIFO Prospera

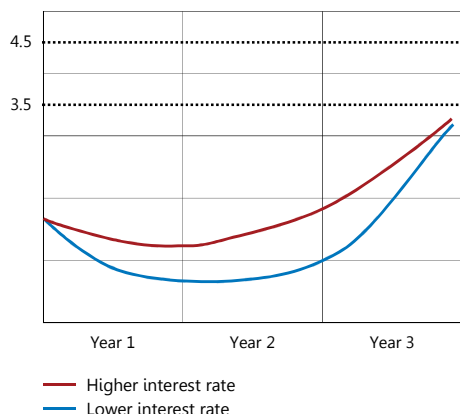
Figure 3:30. All respondents' expectations of inflation one, two and five years ahead



Source: TNS SIFO Prospera

Financial imbalances in the monetary policy assessment

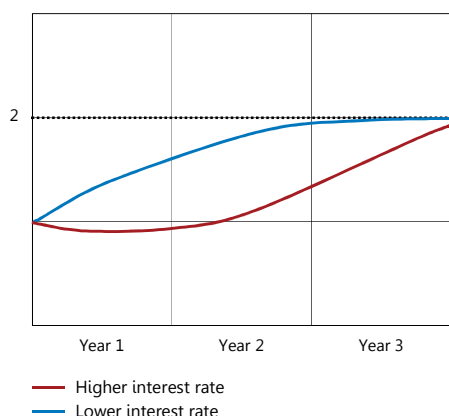
Figure A1. Two repo-rate paths: higher and lower
Per cent



Note. The broken lines show an interval for the long-term level of the repo rate.

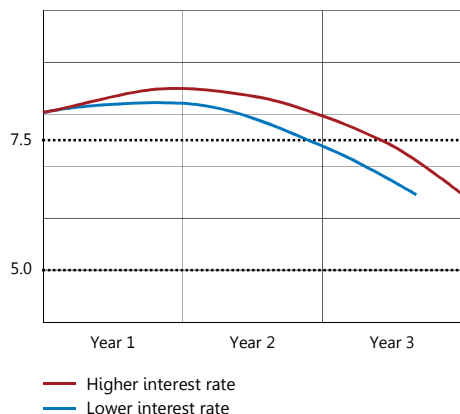
Source: The Riksbank

Figure A2. Inflation in connection with two repo-rate paths: higher and lower
Per cent



Source: The Riksbank

Figure A3. Unemployment in connection with two repo-rate paths: higher and lower
Per cent



Note. The broken lines show an interval for the long-term sustainable unemployment rate of 5 to 7.5 per cent.

Source: The Riksbank

One question that has been much discussed in connection with the monetary policy decisions is how to take the risks associated with household indebtedness into account. International experience shows that a high level of indebtedness can pose major risks to the economy. This article describes principles for how monetary policy can take household indebtedness into account within the framework of flexible inflation targeting.

The starting point is to adopt a more long-term focus and look beyond the three-year horizon that normally forms the basis of the Riksbank's forecasts. This means that when considering monetary policy we not only need to take a stance on how the repo rate will affect the outlook for inflation and economic activity over the next few years. We also need to form a view of the repo rate's effects on indebtedness and the build-up of financial imbalances – factors that can pose risks to the outlook for inflation and economic activity in the longer term. Hence, the monetary policy decision entails a trade-off between short-term effects and long-term risks, and there is ample scope for different assessments.

Monetary policy deliberations that do not take financial imbalances into account – an outline

The Riksbank conducts what is usually referred to as flexible inflation targeting. Apart from stabilising inflation around the target of 2 per cent, the Riksbank strives to stabilise production and employment around sustainable levels – this is usually called stabilising resource utilisation in the economy.¹⁰

The Riksbank has chosen to make forecasts for the three years immediately ahead, which is normally sufficient to expect inflation to be back on target and resource utilisation to return to a normal level. In monetary policy deliberations that do not take financial imbalances into account, the path that best stabilises inflation around 2 per cent and resource utilisation around a normal level over the three-year forecast period is chosen. This is illustrated in Figure A1. For the sake of simplicity, two repo-rate paths are shown: a higher and a lower. With the lower repo-rate path, inflation measured in terms of the CPIF comes closer to the target of 2 per cent (see Figure A2). Resource utilisation – here illustrated in terms of unemployment – is also normalised more quickly (see Figure A3).¹¹ According to this simple outline, the lower repo-rate path thus appears to be most appropriate.¹²

¹⁰ See *Monetary Policy in Sweden*, 2010. Sveriges riksbank.

¹¹ How resource utilisation should be measured is in itself a difficult question and the Riksbank uses several different measures. For the sake of simplicity, unemployment's deviation from a long-run sustainable rate is used as a measure of resource utilisation below, but the reasoning here is also valid for other measures of resource utilisation, for example the deviation of production from a long-run sustainable level.

¹² Beyond the forecast horizon it is assumed that the repo rate will approach a long-term level of between 3.5 and 4.5 per cent at the same time as inflation approaches 2 per cent and unemployment approaches a long-run sustainable rate of between 5 and 7.5 per cent.

New monetary policy experience after the financial crisis

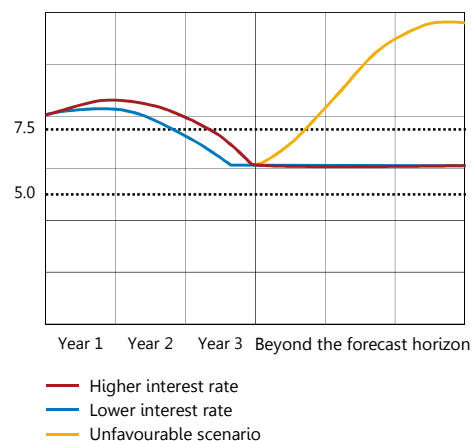
As a result of the financial crisis, the question of whether monetary policy should take the build-up of financial imbalances into account has come to the fore both in Sweden and abroad. Flexible inflation targeting is compatible with taking financial imbalances into account in the monetary policy decisions, as such imbalances ultimately threaten both the stability of the real economy and the stability of inflation.¹³ In a really negative scenario, financial imbalances may not only lead to unfavourable macroeconomic outcomes, they can also pose risks to financial stability. The Riksbank not only has the task of promoting price stability but also of promoting "a safe and efficient payment system", which is usually interpreted as promoting financial stability.¹⁴

Monetary policy deliberations that take household indebtedness and the risk of poor target attainment in the longer term into account

One problem with not taking financial imbalances into account when considering monetary policy is that target attainment may appear to be good in the short term, at the same time as one misses the fact that financial imbalances are building up that increase the risk of poor target attainment in the longer term. In monetary policy deliberations that take the risks associated with household indebtedness into account it is therefore a natural starting point to look beyond the normal forecast horizon of three years. Of course it is not possible to make "forecasts" so far forward in the sense of a certain course of economic development. A gross simplification would be to say that, looking so far ahead, the economy could be in one of two different situations. There is some likelihood that the economy would be in a state of long-term equilibrium, with an inflation rate of 2 per cent and a normal level of resource utilisation, but also some likelihood that the economy has been hit by an unfavourable scenario associated with household indebtedness, which is here illustrated using the development of unemployment (see Figure A4).¹⁵ A lower repo rate could contribute to increasing the risks, that is the likelihood of the unfavourable scenario materialising, and possibly to the extent of the effects on unemployment and inflation if such a scenario does materialise.

In the overall monetary-policy deliberations, the short-term effects of a certain repo-rate path are set against the long-term effects. In order to get a concrete example of how this trade-off works we need to answer the following questions. First: What kind of unfavourable economic scenario relating to household indebtedness risks occurring?

Figure A4. Unemployment with a higher and lower repo-rate path and the risk of an unfavourable scenario beyond the forecast horizon
Per cent



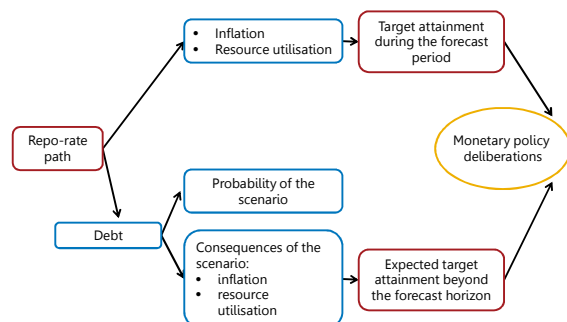
Source: The Riksbank

¹³ See for example *Monetary Policy in Sweden*, 2010. Sveriges riksbank, which says, among other things: "Monetary policy with an inflation target, where the emphasis is at the same time on stabilising developments in the real economy, also contributes to a balance on the financial markets. However, experience shows that even with such a policy, asset prices and indebtedness can sometimes develop in a manner that is untenable in the long run. This can entail risks of large price adjustments in the future, which can in turn have unfavourable and serious repercussions on the real economy and inflation. From experience, it appears to be primarily fluctuations in property prices and credit volumes that create problems. This type of risk cannot always be easily quantified or captured in the normal analysis and forecasting work, but may nevertheless need to be taken into account in the monetary policy decisions."

¹⁴ See *The Riksbank and financial stability*, 2013. Sveriges riksbank.

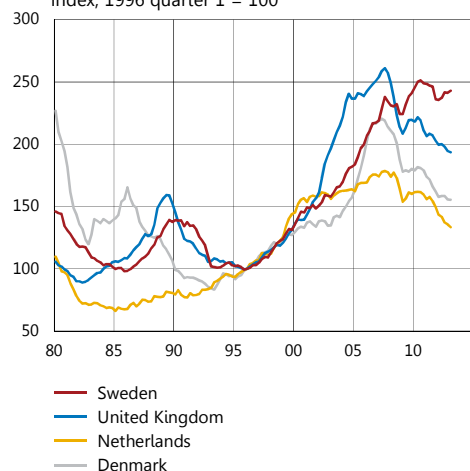
¹⁵ Actually, an unfavourable scenario could also occur within the normal forecast period, that is within the next three years. In this case, the state of the economy at the outset will have an impact on how much inflation deviates from the inflation target and how much resource utilisation deviates from a normal level. However, the difference between the two repo-rate paths above all has an impact on the risks in the longer term. As a simplifying assumption, we therefore analyse the risk of an unfavourable course of events *beyond* the forecast horizon.

Figure A5. Schematic outline of a monetary policy decision-making process that takes household debt into account



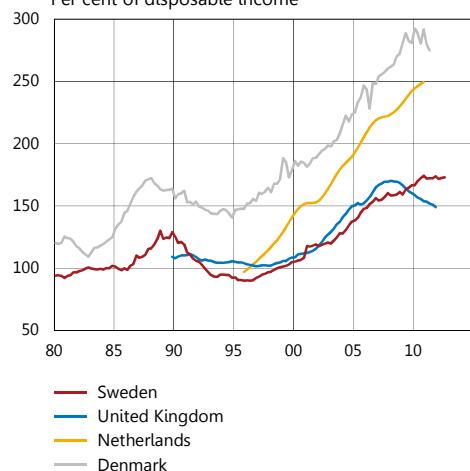
Source: The Riksbank

Figure A6. Real housing prices in various countries
Index, 1996 quarter 1 = 100



Sources: Nationwide Building Society, NVM, Statistics Sweden, Statistics Denmark, Statistics Netherlands and Office for National Statistics

Figure A7. Household debt ratio
Per cent of disposable income



Sources: Bank of England, Danmarks Nationalbank, Eurostat and the Riksbank

Second: How can monetary policy affect the risk of the scenario occurring? Finally – for the different repo-rate paths – the assessed effects beyond the forecast horizon need to be weighed against the effects during the normal forecast period. Figure A5 summarises the various assessments that need to be made in monetary policy deliberations that take financial imbalances into account.

The first question that needs to be answered is thus what scenario risks occurring in the event of a high level of household indebtedness.

Scenario based on international experience

In Sweden, housing prices and household indebtedness have increased sharply since the mid-1990s, and more than in several of the countries that have experienced serious problems in recent years in connection with a substantial fall in housing prices (see Figures A6 and A7).

The Riksbank's inquiry into risks on the Swedish housing market, which was published in the spring of 2011, showed that the increase in Swedish housing prices can be explained in terms of a low level of housing construction, falling real interest rates and rising incomes.¹⁶ The inquiry also noted that prices were above a long-term trend and that future price falls could not be ruled out. One explanation for this was that several of the factors behind the increase in housing prices were at historically abnormal levels.

The inquiry also pointed out that a fall in prices on the Swedish housing market could, in certain circumstances, have a relatively limited impact on the macroeconomy. However, this is based on the average links between housing prices and the macroeconomy in Sweden. One factor that was underlined was the difficulty of taking into account the fact that household indebtedness has shown an increasing trend since the mid-1990s. The consequences of a fall in housing prices would probably be worse in the case of a high level of household indebtedness.

In recent years, several studies have shown that a high level of indebtedness gives rise to major negative effects on the economy in the event of a fall in housing prices.¹⁷

One way of estimating the consequences that a fall in housing prices could have for the Swedish economy is to produce a *scenario* based on international experience. The scenario is based on the average macroeconomic effects of a number of episodes in OECD countries where house prices have fallen and indebtedness has been high. As additional comparisons, the average course of development in Denmark, the Netherlands and the United Kingdom during the latest financial crisis is also illustrated, as well as the course of development during the Swedish crisis of the 1990s.

Apart from a dramatic fall in housing prices, the scenario based on the average course of development is characterised by falls in household consumption, investment and GDP; and by increasing unemployment.

¹⁶ See *The Riksbank's commission of inquiry into risks on the Swedish housing market*, 2011. Sveriges riksbank.

¹⁷ See "The household balance sheet and the macroeconomic assessment". *Monetary Policy Report*, February 2013. Sveriges riksbank, and, for example, IMF World Economic Outlook, April 2012, A. R. Mian, K. Rao and A. Sufi (2011), "Household Balance Sheets, Consumption, and the Economic Slump", Chicago Booth Working paper, November 2011 and K. Dynan (2012) "Is A Household Debt Overhang Holding Back Consumption?", *Brookings Papers on Economic Activity*, spring issue.

Nominal housing prices fall by an average of approximately 10 per cent, while real housing prices fall more. The fall in household consumption is relatively substantial (see Figure A8). The fall in housing prices also leads to a fall in investment. The general weakening of demand leads to a fall in GDP (see Figure A9). The impact on the labour market is considerable and there is a clear rise in unemployment, at most by approximately 5 percentage points (see Figure A10).

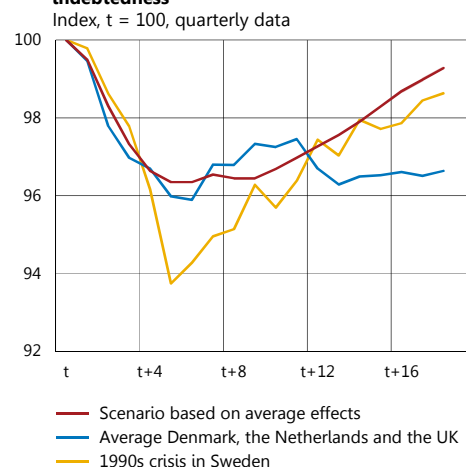
Inflation falls somewhat in the scenario (see Figure A11). However, the effect on inflation partly relates to the development of the exchange rate. The historical episodes that form the basis for the scenario cover countries and periods with fixed and floating exchange rates and there is a high degree of uncertainty about what would happen with inflation.¹⁸

The effects could be different in Sweden

International experience, illustrated in a scenario with an average course of events, thus shows that the consequences of a fall in house prices in connection with a high level of household indebtedness may be serious. The effects are greater than the effects of a fall in housing prices in Sweden that were identified in the Riksbank's inquiry into the housing market.¹⁹ How applicable the international experience is to the Swedish economy depends on several factors. As mentioned above, the international experience covers both fixed and floating exchange rate regimes and a floating exchange rate of course increases the ability of monetary policy to parry the negative effects on the economy by cutting interest rates. Historically, the Swedish krona has weakened substantially in periods of financial unease, which may have considerable effects on inflation. However, irrespective of whether inflation ultimately falls or rises as an effect of the fall in housing prices, uncertainty about the future development of inflation would increase, which would make it more difficult to attain the inflation target.

Another important question is how financial stability would be affected by a fall in housing prices. International experience also includes outright banking crises, which means that the effects on the economy may be exaggerated. In Sweden's case, there are many indications that the direct loan losses that the banks would make on mortgages may actually be limited.²⁰ On the other hand, the weak development of the macroeconomy will probably give rise to loans losses from corporate lending due to declining demand for the companies' goods and services. Swedish banks are also highly dependent on foreign market funding. There is a risk that a fall in housing prices will undermine the confidence of foreign investors and that the banks' access to funding will become more difficult and more expensive. This in turn may lead to more

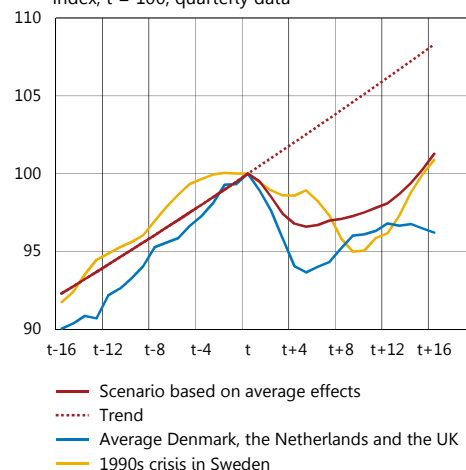
Figure A8. Household consumption in a scenario with a fall in housing prices in connection with high indebtedness



Note. Denmark 2008 Q2 = t, Netherlands 2008 Q1 = t, United Kingdom 2008 Q1 = t and Sweden 1991 Q3 = t.

Sources: IMF and the Riksbank

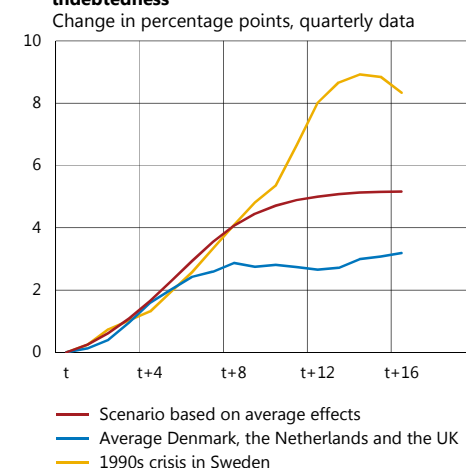
Figure A9. GDP in a scenario with a fall in housing prices in connection with high indebtedness



Note. Denmark 2008 Q2 = t, Netherlands 2008 Q1 = t, United Kingdom 2008 Q1 = t and Sweden 1990 Q3 = t.

Sources: IMF and the Riksbank

Figure A10. Unemployment in a scenario with a fall in housing prices in connection with high indebtedness



Note. Denmark 2008 Q2 = t, Netherlands 2008 Q1 = t, United Kingdom 2008 Q1 = t and Sweden 1990 Q3 = t.

Sources: IMF and the Riksbank

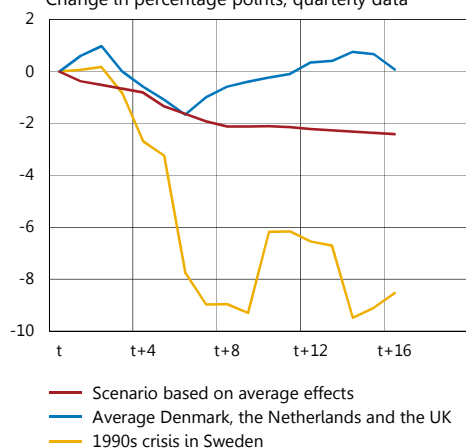
¹⁸ The figure shows the dramatic downturn in inflation that took place in connection with the Swedish crisis of the 1990s. The crisis was preceded by a period with very high rates of inflation of over 10 per cent.

¹⁹ See *The Riksbank's commission of inquiry into risks on the Swedish housing market*, 2011. Sveriges riksbank, which analyses the consequences of a 20 per cent fall in real housing prices.

²⁰ See also the article *The Riksbank's commission of inquiry into risks on the Swedish housing market*, 2011, Sveriges Riksbank, and "Higher risk weights for Swedish mortgages promote financial stability", *Financial Stability Report 2012:2*, Sveriges riksbank.

Figure A11. Development of inflation in a scenario with a fall in housing prices in connection with high indebtedness

Change in percentage points, quarterly data



Note. Denmark 2008 Q2 = t, Netherlands 2008 Q1 = t, United Kingdom 2008 Q1 = t and Sweden 1990 Q3 = t.

Sources: IMF and the Riksbank

expensive mortgages for Swedish consumers, which will further aggravate the downturn in economic activity.²¹

In the case of Sweden, there are also a number of other factors that could both reduce the risk of a fall in housing prices and mitigate the consequences of such a fall. In several of the countries where prices have first increased dramatically and then fallen dramatically, development has been characterised by the fact that the current account as a percentage of GDP has decreased during the period with rising housing prices as a result of a low level of household saving and a substantial increase in housing investment.²² The opposite has occurred in connection with the fall in prices: There has been a clear increase in household saving and a housing surplus has arisen, which has limited housing investment. However, this is not something that characterises the situation in Sweden where the current account has shown a considerable surplus, which in turn reflects the fact that housing construction has been low at the same time as household saving has been high for several years. It is of course difficult to estimate how much these factors reduce the risk of, as well as the consequences of, a fall in housing prices.²³

Monetary policy's effects on the risks

We will now analyse the second question: how does monetary policy affect the risk of an unfavourable scenario materialising? To facilitate the discussion we divide the question into two parts. First: How are the probability and the effects of the scenario affected by changes in household indebtedness? Second: How is household indebtedness affected by monetary policy?

The risk of the scenario materialising is affected by indebtedness

There are several international studies of the first part of the question that relate increases in housing prices and household indebtedness to the probability of financial crises. These studies have shown that a higher level of household and corporate indebtedness in relation to the "trend", or a higher rate of increase than normal, can increase the probability of a financial crisis occurring.²⁴ However, it is of course difficult to quantify the size of the effects. It has also been shown that the consequences of a fall in housing prices are worse if the level of household indebtedness is high.

²¹ In addition, a large proportion of Swedish mortgages have been taken at variable interest rates, which increases the households' exposure to changes in interest rates. See for example "Higher risk weights for Swedish mortgages promote financial stability", *Financial Stability Report 2012:2*. Sveriges riksbank.

²² The Netherlands are an exception in that the current account was in surplus and the level of housing construction was relatively low in the years before the major adjustment of housing prices.

²³ See for example IMF, *World Economic Outlook*, October 2009 and Armelius, Hanna and Dillén, Hans, "The relation between household saving and falls in housing prices". *Economic Commentary* no. 4, 2011. Sveriges riksbank.

²⁴ See M. Schularick and A.M. Taylor (2012), "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008", *American Economic Review* 102, pp. 1029-61. This article shows that a one percentage point higher rate of increase in lending to households and companies over a period of five years increases the probability of a financial crisis by almost 0.5 of a percentage point.

The effect of the repo rate on household indebtedness is an important part the assessment

When it comes to the second part of the question – that is how large an impact monetary policy has on household indebtedness – model estimates of the short-term relation between the repo rate and household indebtedness indicate that the effects may, on average, be relatively small.²⁵ However, there is a risk that estimates of short-term relations underestimate the overall effects of the repo rate on indebtedness.

One example of when these model estimates may underestimate the effects of monetary policy is if the households' expectations of future monetary policy are affected so that they overestimate how long the repo rate will be low. Calculations indicate that if the *real* mortgage rate were to become *permanently* lower, then the effects on indebtedness could be significant.²⁶

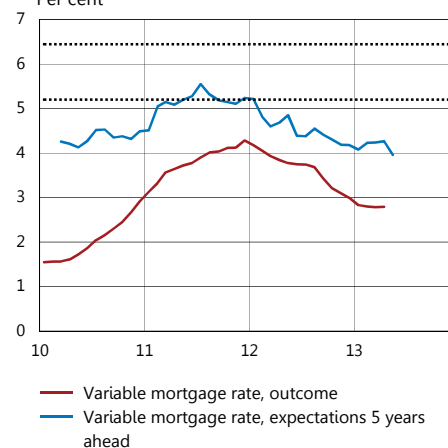
Expectations of the repo rate and the mortgage rate tend to be dictated by the prevailing interest rate situation, which indicates that the perception is that the current low level of interest rates will persist for some time (see Figures A12 and A13). The main risks associated with a low repo rate could thus be that the households expect these low rates to persist and therefore increase their indebtedness in an unsustainable way.²⁷ However, the downturn in long-term repo-rate expectations has coincided with a certain downturn in long-term inflation expectations (see Figure 3:30) and the expected real repo rate has therefore decreased somewhat less.

It is important to point out that the repo rate is not the only conceivable or the necessarily most effective tool for influencing household indebtedness. Measures in other policy areas must also be considered in situations in which household indebtedness risks becoming too high.

The risk of an unfavourable scenario in the future must be weighed against target attainment during the forecast period

Two monetary policy alternatives have been illustrated in this article: a higher and a lower repo-rate path. During the usual three-year forecast period, the lower repo-rate path provides better expected target attainment in terms of inflation and resource utilisation. However, as a lower repo-rate path can contribute to increased indebtedness, it also increases the risk of an unfavourable scenario beyond the forecast horizon, for example in the form of a fall in housing prices in connection with a high level of household indebtedness. This scenario entails major losses, for example in terms of higher unemployment, which in itself can also be aggravated by a high level of indebtedness at the outset.

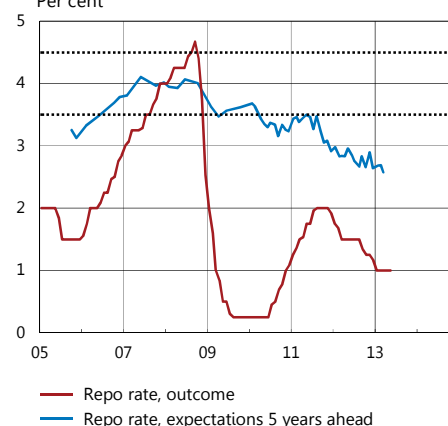
Figure A12. Interest-rate expectations among households regarding variable mortgage rates 5 years ahead
Per cent



Note. The broken lines show an interval for the long-term level of the variable mortgage rate. The interval is based partly on an interval for the long-term repo rate of 3.5–4.5 per cent and partly on an interval for the difference between a three-month mortgage rate and the repo rate of 1.7–2 percentage points.

Sources: National Institute of Economic Research and Statistics Sweden

Figure A13. Expectations of money market participants regarding the repo rate 5 years ahead
Per cent



Note. The broken lines show an interval for the long-term level of the repo rate of 3.5 to 4.5 per cent.

Sources: TNS SIFO Prospera and the Riksbank

²⁵ Such estimates indicate that a 1 per cent lower repo rate over a period of one year, and which gradually reverts, will give rise to an approximately 4 percentage points higher level of indebtedness as a percentage of disposable income. Similar estimates of the relation between housing prices and the repo rate also show small effects; see Chapter 2.1 of "The Riksbank's inquiry into risks on the Swedish housing market".

²⁶ The example calculations show that if the real mortgage rate were to become 1 per cent lower permanently, then household indebtedness as a percentage of disposable income could be up to 25 percentage points higher; in other words a considerable effect. This is calculated using a general equilibrium model for the Swedish housing market; see Walentin, Karl and Sellin, Peter (2010), "Housing Collateral and the Monetary Transmission Mechanism", Working Paper no. 239, Sveriges riksbank.

²⁷ Studies indicate that expectations of housing prices are also dictated by recent price movements; see for example K. Case, R.J. Shiller and A. Thomson (2012), "What Have They Been Thinking? Home Buyer Behavior in Hot and Cold Markets", NBER Working Paper No. 18400.

A monetary policy that takes into account financial imbalances therefore means that the choice between the two repo-rate paths in this case becomes a trade-off between attaining the target in the short and long term: inflation's deviation from 2 per cent and unemployment's deviation from a normal level during the normal three-year period are weighed against the expected course of development beyond the forecast horizon (see Figure A5).

Difficult monetary policy deliberations without easy answers

The monetary policy assessment thus entails analysing several difficult questions. What type of unfavourable scenario could high indebtedness lead to? How much would a reduction in household indebtedness contribute to reducing the risk of the unfavourable scenario materialising, and how much smaller would the effects on the economy be with a lower level of indebtedness if the scenario nevertheless does materialise? What effects does monetary policy have on household indebtedness? Finally: How should benefits in the short term be weighed against risks in the longer term?

Another question is how long-term inflation expectations will be affected. One of the aims of taking the longer term into account is that target attainment for inflation should be good in the long term too. This should lead to long-term inflation expectations continuing to be well-anchored around the inflation target.

In the final monetary policy deliberations all of these questions must be analysed in context, and the choice between different repo-rate paths is not obvious or easy.

Measures in other policy areas can facilitate the monetary policy deliberations

To the extent that monetary policy can influence household indebtedness it can also help to reduce the long-term risks to the economy. But monetary policy cannot manage these risks alone. Measures must also be considered in other policy areas. Macroprudential policy offers several tailor-made tools that could be more effective than the repo rate for managing risks associated with household indebtedness, for example a mortgage cap, sectoral capital requirements, amortisation requirements and higher risk weights for mortgages. Several external observers have pointed to the need for such measures in Sweden.²⁸ It is therefore very important that a framework for macroprudential policy is put in place in Sweden as soon as possible. Measures in other policy areas could reduce the need to take household indebtedness into account in the monetary policy decisions and facilitate the monetary policy deliberations.

²⁸ "Sweden – 2013 Article IV Consultation: Concluding Statement of the Mission", IMF, 31 May, 2013.

"Council Recommendation (COM(2013) 377 final)", European Commission, 29 May, 2013.

"Recommendation of the ESRB of 4 April 2013 on intermediate objectives and instruments of macroprudential policy (ESRB/2013/1)", ESRB, 20 June, 2013.

"Economic Survey of Sweden", OECD, 2012.

■ Cost developments and inflation

Inflation has been low in Sweden for a long time and is currently lower than the inflation target. There are several reasons for this. The krona has strengthened after the financial crisis, which has subdued prices of imported intermediate inputs. In addition, the weak economic activity has made it more difficult for companies to raise their prices.

However, during the forecast period global export prices are expected to rise as global economic activity recovers. This means that import prices will also begin to rise. Unit labour costs are expected to continue to grow by around 2 per cent a year. As economic activity in Sweden improves, companies are expected to raise their prices more than their costs increase. All in all, rising labour costs, import prices and price mark-ups mean that CPIF inflation will rise to 2 per cent in 2015.

Inflation has been low since 2010

Inflation is currently low and below the Riksbank's inflation target. The fall in the CPI is linked to the fact that the Riksbank has gradually cut the repo rate since December 2011, resulting in falling mortgage rates. However, even adjusted for these changes in mortgage rates, both CPIF inflation and the CPIF excluding energy have been lower than 2 per cent since 2010. All inflation measures are now at levels below their historical averages (see Figure 3:26 and Table A1). Swedish consumer prices are also increasing more slowly than those in many other countries, according to the harmonised inflation measure HICP (see Figures A14 and A15).

Table A1. Average development of various prices

Annual percentage change

	1995-2013	2010-2013	Jan-May 2013
CPI	1.4	1.4	-0.2
CPIF	1.8	1.4	0.8
CPIF excluding energy	1.4	1.2	1.2
Import prices, consumer goods	1.1	-0.8	-2.8
Goods excluding food and energy	-0.2	-0.9	-1.1
Services	2.1	1.7	1.4
Food	1.5	1.7	2.2
Energy	4.2	3.2	-2.8

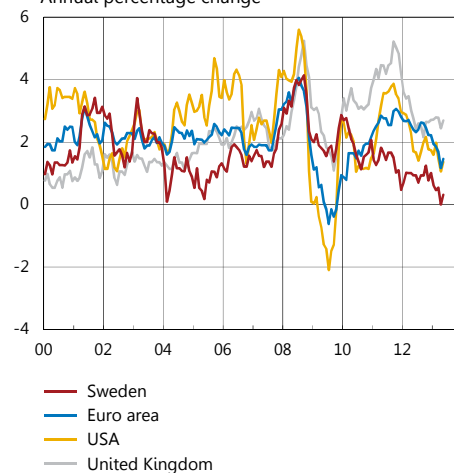
Note. Average values for the CPI and the CPIF refer to real-time inflation data.

Source: Statistics Sweden

A partial explanation for the low inflation is that import prices have been subdued since the financial crisis and are now even falling.²⁹ However, services prices are also increasing at a slower pace now than before (see Table A1). This is despite the fact that the service sector's imports are very small. This article analyses the factors that affect inflation in Sweden. Its purpose is to provide a better understanding of both recent developments in inflation and the inflation forecast presented in the Report's main scenario.

Figure A14. HICP in Sweden, the euro area, USA and United Kingdom

Annual percentage change

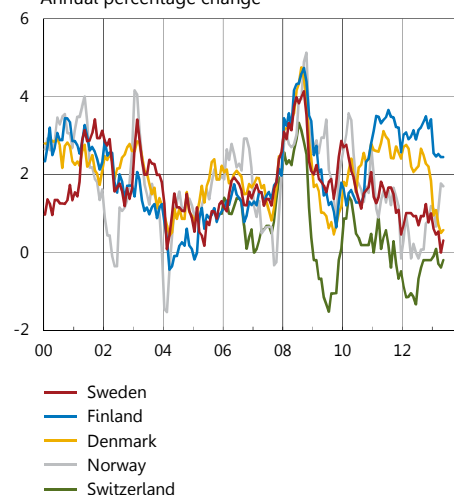


Note. The HICP refers to the Harmonised Index for Consumer Prices.

Sources: Eurostat and Statistics Sweden

Figure A15. HICP in the Nordic region and Switzerland

Annual percentage change

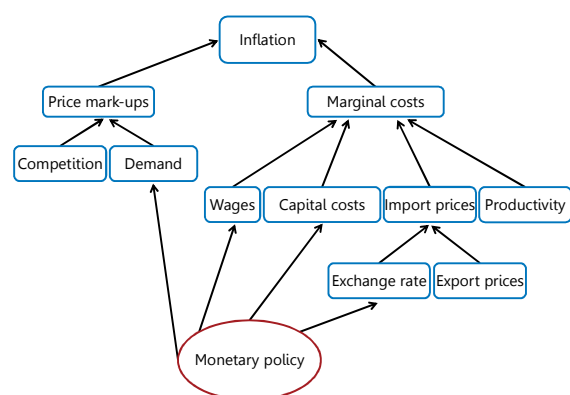


Note. The HICP refers to the Harmonised Index for Consumer Prices.

Sources: Eurostat and Statistics Sweden

²⁹ See *Account of monetary policy*, 2012. Sveriges riksbank

Figure A16. Schematic description of the determinants of inflation



Source: The Riksbank

Which factors affect inflation?

According to theory, the price a company sets for a particular product or service can be divided into a mark-up and marginal costs, which means that developments in inflation covary with changes in these two factors (see Figure A16 for a schematic description).

The marginal costs measure what it costs the company to produce one more unit of the product they manufacture. The marginal costs depend on the prices of the factors of production and are therefore influenced by wages, capital costs (for instance, rents on premises and machinery costs) and prices of imported intermediate inputs.³⁰ The price of these imported intermediate inputs is in turn affected by the world market for the product imported and by the development of the krona.³¹ The stronger the krona is, the less the company needs to pay in Swedish krona for the imported input goods.³² The marginal costs are also affected by productivity, as a high level of productivity means that fewer resources are needed to manufacture one more unit.

Price mark-ups are made because the company wants a return on its invested capital and it therefore sets a price that is higher than the production cost. The size of this mark-up depends, for instance, on competition in the sector where the company is active and on demand. For example, it is easier to charge a higher price when demand is high than when it is low.

Inflation is also affected by inflation expectations. If companies and households believe that prices will rise, the employees can demand higher wages to be able to buy as much in the future. Employers will agree to raising wages if they see an opportunity to raise their prices. Inflation expectations are central to both marginal costs and price mark-ups and it is therefore important that the long-term inflation expectations are anchored around the inflation target.

There are thus several factors that affect companies' price mark-ups and marginal costs. Many of these factors are in turn affected by monetary policy. Price mark-ups are impacted by the effects of monetary policy on demand. Marginal costs are impacted both via the effects of monetary policy on wages and capital costs and via its effects on the exchange rate, which in turn affects prices of imported intermediate inputs calculated in Swedish krona.

³⁰ Intermediate inputs are what the company buys in and uses in its production. For example, a car company can import engines and install them in the cars it manufactures. The car engines are then intermediate inputs. One can also regard the sale of cars produced entirely outside of Sweden in a similar way. The entire cars are then intermediate inputs.

³¹ Directly-imported goods, which are when someone buys products directly from a foreign supplier via the Internet or travels to another country, buys goods there and brings them back to Sweden, are not included in the CPI. As all products manufactured abroad entail some Swedish costs, they can be regarded as imported intermediate inputs.

³² A particular company may of course also use domestically-produced intermediate inputs, the prices of which are determined by wages, capital costs and price mark-ups. Aggregated across the entire economy, it is unimportant who produces the domestic input goods; the marginal costs are determined by wages, capital costs and the price of imported intermediate inputs.

Marginal costs have been low

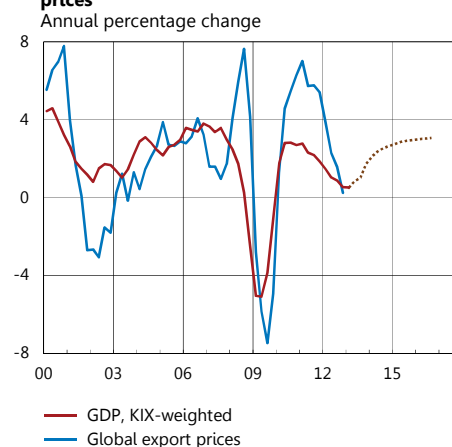
How have these factors developed in recent years? World market prices of imported intermediate inputs in the form of global export prices have followed developments in global economic activity relatively well. After the financial crisis in 2008 both KIX-weighted GDP and global export prices fell. During 2010-2011, on the other hand, they rose in line with the start of a global recovery. Now global economic activity has slowed down again somewhat, which has meant that global export prices are rising more slowly (see Figure A17). The exchange rate is also important to Swedish companies, and the krona weakening in connection with the financial crisis more than counteracted the fall in global export prices so that import prices rose initially. As the krona gained strength, however, import prices began to fall. Although the krona has weakened recently in trade-weighted terms, it is still stronger than it was a year ago, which together with the low rate of increase in global export prices is continuing to push down import prices (see Figure A18).

To gain an idea of how wages and capital costs have affected marginal costs, one can study unit labour costs.³³ These rose substantially in connection with the financial crisis in 2008 (see Figure A19). This was because production fell and it takes time to cut labour costs. The crisis agreements signed in the wake of the financial crisis contributed to reducing labour costs per hour. This, together with a fall in the number of hours worked meant that unit labour costs also began to fall in 2009. Since then, production has recovered somewhat, at the same time as the number of hours worked has also risen. Together with more normal wage increases, this means that unit labour costs have been increasing by around 2 per cent a year for some time now.

Greater imports in the goods sector

The various factors, import prices and unit labour costs affect different parts of the CPI to different extents. For example, the percentage of imports is greater in the goods sector than in the services sector (see Table A2).³⁴ The prices of goods are therefore affected relatively strongly by changes in import prices. Goods prices rose in 2009 as a consequence of the high import prices. When the krona then strengthened, import prices began to fall, which meant that goods prices also fell (see Figure A20).³⁵

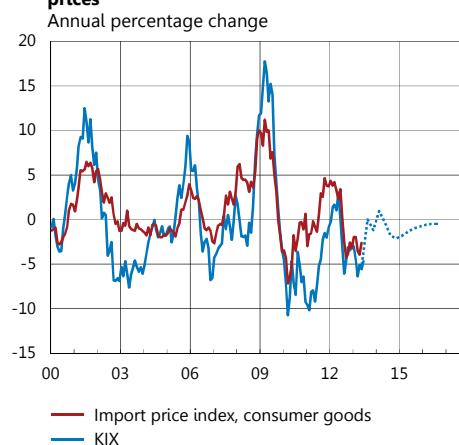
Figure A17. KIX-weighted GDP and global export prices



Note. Global export prices are an aggregate of export deflators (in local currencies), where Sweden's import shares are used as weights. KIX is an aggregate of countries that are important for Sweden's international transactions.

Sources: National sources and the Riksbank

Figure A18. Nominal exchange rate and import prices



Note. Import prices refer to consumer goods prices according to the producer price index (PPI). KIX is an aggregate of countries that are important for Sweden's international transactions.

Sources: Statistics Sweden and the Riksbank

Figure A19. Unit labour cost and import prices



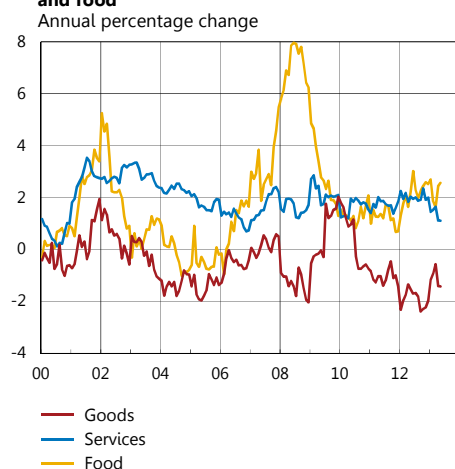
Note. Import prices refer to prices on consumer goods according to the producer price index (PPI).

Sources: Statistics Sweden and the Riksbank

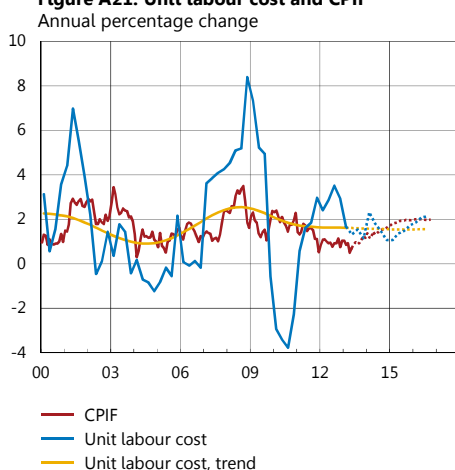
³³ The way that marginal costs are affected by wages and other costs depends on the production function. If the production function is a Cobb-Douglas with a constant return to scale, the marginal costs change in the same way as unit labour costs.

³⁴ The shares are calculated on the basis of so-called input-output tables, which are part of the National Accounts published by Statistics Sweden. The tables show the input structure in the economy and can therefore be used to calculate import contents in various sectors.

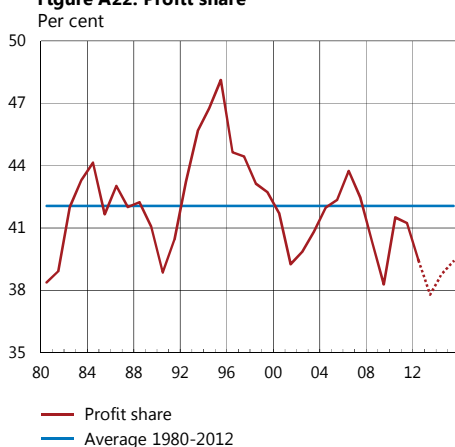
³⁵ The fact that the krona appreciation contributed to the low inflation via lower prices on imported intermediate inputs is in line with the Riksbank's earlier analyses, see the article "Why has inflation been lower in Sweden than in the euro area" in *Monetary Policy Report*, July 2012. Sveriges Riksbank.

Figure A20. Price developments in goods, services and food

Source: Statistics Sweden

Figure A21. Unit labour cost and CPIX

Sources: Statistics Sweden and the Riksbank

Figure A22. Profit share

Sources: Statistics Sweden and the Riksbank

Table A2. Percentage of domestic and imported costs in household consumption

Per cent

	Goods	Services	Food	Total
Domestic costs	49	88	67	75
Imported costs	51	12	33	25

Source: Hansson, Jesper and Johansson, Jesper (2007): Alternative measures of inflation for monetary policy analysis, *Economic Review*, 2007:3. Sveriges Riksbank.

Since the inflation target was introduced, goods prices have on average tended to fall somewhat, at the same time as services prices have increased by just over 2 per cent a year on average. The fact that price increases are lower in the goods sectors is partly due to productivity increasing faster there, which means that fewer resources are needed to manufacture one more unit. In addition, goods companies use a larger percentage of imported intermediate inputs, and the price of these has increased relatively slowly (see Table A1). Both of these factors mean that marginal costs are increasing more slowly in goods companies than in service companies. Goods prices are therefore increasing more slowly than services prices.

Weak demand has led to low price mark-ups

Costs vary much more than prices. This is because companies do not change their prices so often. There are several reasons for this. One is that a company may endeavour to have a long-term relationship with its customers. If, for instance, the price of a haircut is changed too often there is a risk that the customer will choose to go to another hairdresser. Another reason is that the price may contain an element of insurances. For instance, a company may offer to supply a particular product or service at a price that cannot be changed during a particular period. This could be fixed electricity prices, fixed mortgage rates or fixed charges for telephone calls.

The fact that costs vary more than prices means that companies allow temporary fluctuations in costs to affect their profits. But when cost changes are more lasting, prices also tend to change (see Figure A21). However, during 2012 in particular, companies found it difficult to pass on lasting cost increases to consumers. This could in turn be because demand is, and has been, weaker than normal and because there has been such uncertainty over international developments. The fact that companies have found it difficult to pass on cost increases to consumers is reflected in their profit shares, which contain both capital costs and price mark-ups. Profit shares have fallen since 2010 and are now below the average since 1980 (see Figure A22).

Inflation will rise gradually in the coming period

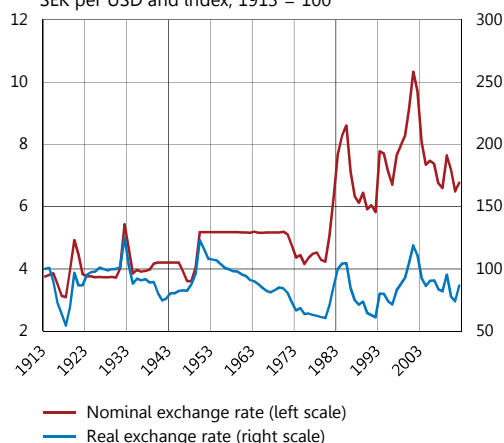
During the forecast period, global economic activity is expected to improve (see Figure A17). This indicates that global export prices will also begin to rise. Initially, the krona will strengthen somewhat in trade-weighted terms, which will dampen the impact on import prices in the short-term perspective. But from the beginning of next year, the krona will no longer hold back import prices; these will rise during the forecast period. The trend in unit labour costs will continue, growing by around 2 per cent during the forecast period. All in all, this means that companies' marginal costs will gradually normalise.

During the forecast period, the demand situation is also expected to normalise. As mentioned earlier, it is easier for companies to raise their prices when demand increases. Companies will then increase their price mark-ups, which will for instance result in rising profit shares (see Figure A22). All in all, rising unit labour costs, import prices and price mark-ups mean that CPIF inflation will rise to 2 per cent in 2015.

■ A long-term perspective on the krona

Figure A23. Nominal and real exchange rate, 1913-2012

SEK per USD and index, 1913 = 100



Note. The real exchange rate has been calculated using the CPI for Sweden and the United States.

Sources: Bureau of Labour Statistics, Statistics Sweden and the Riksbank

Although the Riksbank does not have a target for the exchange rate, the development of the krona is constantly of interest as it affects inflation and developments in the real economy. This article aims to explain the driving forces behind the long-term development of the krona.

In recent years, the krona has strengthened in trade-weighted terms, but in a historical perspective the krona is not particularly strong. The Riksbank's assessment is that the real value of the krona is now in the weaker part of a reasonable long-term interval and it will therefore probably strengthen somewhat in the coming years.

The Riksbank does not have a target for the exchange rate, but the exchange rate affects inflation and developments in the real economy. A strengthening of the exchange rate will contribute to lower import prices and thus lower inflation, at the same time as resource utilisation decreases. A weakening instead tends to push up the inflation rate and resource utilisation. Monetary policy therefore reacts to changes in the exchange rate to the extent that these affect the forecasts for economic developments.

The future development of the exchange rate is thus an important factor in the Riksbank's forecasting work. It is necessary in this context to distinguish between the nominal and real exchange rates, that is, the nominal exchange rate adjusted for the relative price level in Sweden compared with other countries. Like other real quantities, the real exchange rate is determined in the long run by real factors, such as households' preferences and the development of productivity in the economy, and is not affected by monetary policy. The Riksbank's forecasts therefore need to be based on an assessment of how the real exchange rate can be expected to develop in the long run and how this level relates to the current level.

Purchasing power parity and the very long run

Although the krona has strengthened in recent years, it is not markedly strong in real terms in relation to the most important currencies. Figure A23 gives a very long-run perspective of 100 years of the bilateral krona exchange rate with regard to the US dollar. In nominal terms, the krona has weakened against the dollar, but this has been counteracted by the fact that inflation has been higher in Sweden than in the United States, so that the real exchange rate is in principle the same today as it was 100 years ago. This observation is compatible with the theory of relative purchasing power parity, which means that the relative price of a basket of goods should remain constant over time between countries and that the real exchange rate should not show any particular trend.³⁶

³⁶ The concept of purchasing power parity was introduced by the Swedish economist Gustav Cassel almost one hundred years ago. G. Cassel, *The World's Money Problems*, E.P. Dutton and Co., 1921 and G. Cassel, *Money and Foreign Exchange after 1914*, MacMillan, 1922. For a review of the research into purchasing power parity, see for instance K. A. Froot and K. Rogoff "Perspectives on PPP and Long-run Real Exchange Rates" in G.M. Grossman and K. Rogoff (ed), *Handbook of International Economics Vol. 3*, Elsevier, 1995.

To capture how the Swedish economy is affected by the rest of the world as a whole, the Riksbank's exchange rate analyses focus on trade-weighted exchange rate indices rather than individual currencies. Figure A24 shows the real and nominal exchange rates according to two different indices, KIX and TCW, since 1993, that is, during the period with a floating exchange rate. The difference between the two indices is that the KIX weights are updated regularly, so that KIX captures, for instance, the increased significance of the emerging markets. For example, the BRIC countries (Brazil, Russia, India and China) together now have a weight of just over 10 per cent in KIX, while they are not included in the TCW-weighted index.³⁷

The theory of relative purchasing power parity appears to describe the krona exchange rate fairly well, even with regard to the trade-weighted indices; neither the real KIX nor the TCW show any clear trend, and the most recent outcomes are close to their respective averages since 1993. Although the nominal KIX-weighted exchange rate index has been volatile, it has nevertheless showed a strengthening trend since the start of 1993. According to KIX, the krona is therefore only slightly weaker today than before it began to float. During the same period, however, the krona has weakened in nominal terms against several large currencies. For example, the krona is currently weaker both in relation to the US dollar and the euro/ecu, compared with November 1992. The reason for the strengthening trend in the nominal KIX since 1993 is that some smaller currencies have weakened substantially against the krona. This applies, for instance, to the currencies of Brazil, Turkey and Mexico. These countries had very high inflation in the 1990s. As these currencies are not included in the TCW index, the nominal TCW-weighted index does not show the same strengthening trend.

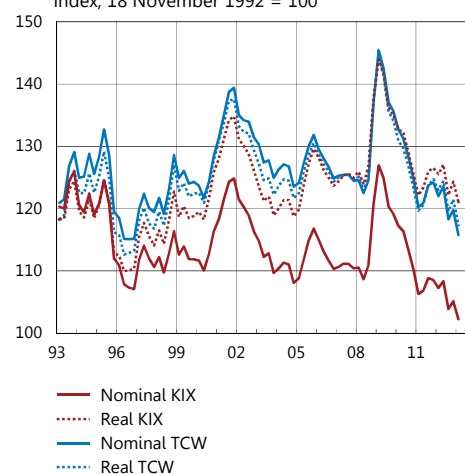
Lasting changes in the long-term real exchange rate

Although the theory of relative purchasing power parity appears to hold for the bilateral exchange rate against the dollar, and also in trade-weighted terms, the real exchange rate may show trends in the long run. A common theme for theories that try to explain this phenomenon is that the real exchange rate is stronger in "rich" countries. An example of such a theory is the Balassa–Samuelson effect, according to which the real exchange rate strengthens in economies that show a faster growth in productivity.³⁸ Economic growth is often driven by productivity growth in the goods sector. As productivity normally develops more slowly in the services sector, wages can only rise as much in that sector if prices of services rise. This means that prices in the whole economy rise, and the real exchange rate strengthens.

Empirical models that estimate the long-term real exchange rate are often based on this theory, and often use relative GDP developments, the net external position (a country's assets minus liabilities in relation to

Figure A24. Nominal and real competition-weighted exchange rate

Index, 18 November 1992 = 100



Note. The real TCW has been calculated using Swedish and TCW-weighted CPI for the period 1970–1980, after that Swedish CPIF and TCW-weighted CPI have been used. Real KIX has been calculated using KIX-weighted CPI and Swedish CPIF. Real KIX has been normalised to the same level as real TCW in Q1 1993.

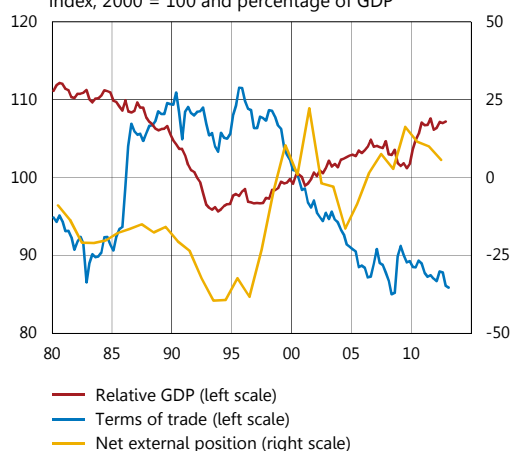
Sources: Statistics Sweden and the Riksbank

³⁷ See KIX index better reflects Sweden's international dependence. Article in *Monetary Policy Report*, October 2012. Sveriges Riksbank.

³⁸ This is also sometimes called the Harrod-Balassa-Samuelson effect. See R. Harrod, *International Economics*, Cambridge University Press, 1933. B. Balassa, "The Purchasing Power Parity Doctrine: a Reappraisal", *Journal of Political Economy* 72 (6), pp. 584–596, 1964 and P.A. Samuelson, "Theoretical Notes on Trade Problems", *Review of Economics and Statistics* 46 (2), pp. 145–154, 1964.

Figure A25. Relative GDP, terms of trade and net external position

Index, 2000 = 100 and percentage of GDP

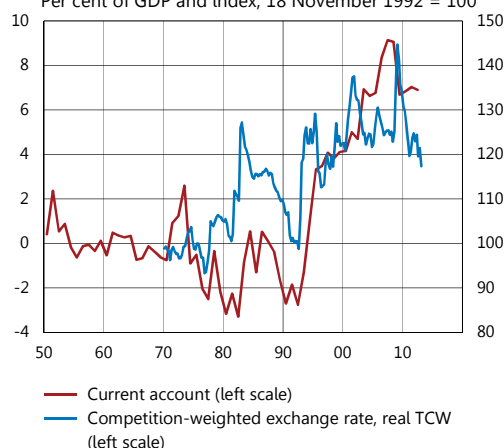


Note. International GDP refers to KIX-weighted GDP.

Sources: Statistics Sweden and the Riksbank

Figure A26. Current account and real exchange rate in Sweden

Per cent of GDP and index, 18 November 1992 = 100



Source: Reuters EcoWin

other countries) and terms of trade (the relationship between export prices and import prices expressed in Swedish krona) as measures of how rich the various countries are.³⁹ An increase in any of these variables would, according to the theory, lead to a strengthening of the real exchange rate.⁴⁰ Figure A25 shows developments in these three variables for Sweden since 1980. The Swedish terms of trade have shown a downward trend since the turn of the millennium. The reason is that prices of imported oil products have risen, at the same time as prices of, for instance, exported telecom goods have fallen. According to the theory, this should lead to a weaker real exchange rate. On the other hand, Swedish GDP during the same period has increased faster than GDP abroad, which should lead to a stronger real exchange rate. The net external position has been relatively stable. These three measures thus do not give any clear signals regarding the long-run development of the krona exchange rate.

Exchange rate and current account surplus

The balance on the current account is another important variable that is used to understand the long-term development of the real exchange rate. Since the changeover to a floating exchange rate, the surplus on the Swedish current account has corresponded on average to 5 per cent of GDP (see Figure A26). This is a large surplus in international terms and stands in sharp contrast to the small surpluses and deficits in the current account during the fixed exchange rate regime of the 1970s and 1980s. The large surplus under the floating exchange rate regime is connected to a real exchange rate that is in TCW-weighted terms on average 17 per cent weaker than in the 1970s and 1980s (see Figure A26).

The long-lasting surplus on the current account may indicate that the krona will strengthen going forward. However, the current account balance need not necessarily be at zero in a long-term equilibrium. This is because it reflects the difference between domestic saving and investment. Investment has been low for a number of years. Several reforms in Sweden, such as the introduction of the surplus target for public finances and the reform of the pension system, have caused saving to increase. This indicates that Sweden may have a current account surplus even in the longer run.

Different views of the long-term real exchange rate level

The Riksbank's assessment of the long-term level for the real exchange rate is based on models relating the real exchange rate to four macro variables, relative GDP, the terms of trade, the net external position and the current account balance. Similar methods are used by the International Monetary Fund (IMF), the European Central Bank (ECB) and the European Commission.⁴¹

³⁹ See, for instance, Lagerwall, Björn and Nessén, Marianne, The long-term developments of the krona. *Economic Commentary* no. 6, 2009. Sveriges Riksbank and Sellin, Peter (2007), Using a New Open Economy Macroeconomics model to make real and nominal exchange rate forecasts, *Working Paper* no. 213, Sveriges Riksbank.

⁴⁰ See P. R. Lane and G. M. Milesi-Ferretti, "The Transfer Problem Revisited: Net Foreign Assets and Real Exchange Rates", *Review of Economics and Statistics* 86 (4), pp. 841-857, 2004.

⁴¹ Lee, J., Milesi-Ferretti, G.M., Ostry, J., Prato, A. and L. Ricci, "Exchange Rate Assessments: CGER Methodologies", Occasional Paper no. 261, IMF, 2008; Bussière, M., Ca'Zorzi, M., Chudik, A. and A. Dieppe, "Methodological Advancements in the Assessment of Equilibrium Exchange Rates", Working Paper no. 1151, ECB, 2010 and Salto, M and A. Turrini, "Comparing Alternative Methodologies for Real Exchange Rate

Table A3 shows some different estimates of the Swedish real exchange rate's long-term level made by different analysts.⁴²

Table A3. Long-term competition-weighted real exchange rate according to different estimates

KIX, Index, 18 November 1992 = 100

Date	Assessor/method	Long-term real exchange rate.
Autumn 2011	IMF	102-117
Spring 2012	IMF	95-109
April 2012	IMF	95-131
March 2012	National Institute of Economic Research (NIER)	111
March 2013	Sveriges Riksbank's model estimate (according to Sellin, 2007)	122
March 2013	Purchasing power parity (average 1993 Q1 – 2013 Q1)	124

Note. The estimates concerning the IMF and the NIER are calculated on the basis of their published deviations and the real KIX-weighted exchange rate level on the date of publication.

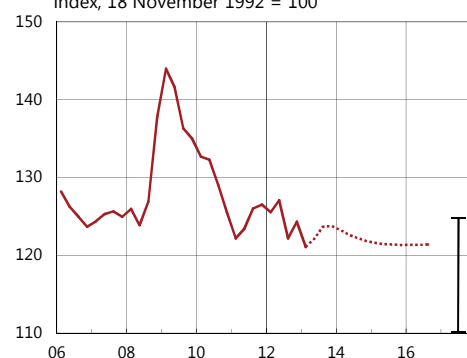
Sources: The IMF, Statistics Sweden and the Riksbank.

The table shows that there is considerable uncertainty over the long-term level of the real exchange rate. For example, the IMF's various model estimates are between 95 and 131, thus much stronger and somewhat weaker than the current level. However, most estimates indicate that the long-term level is somewhat stronger than the current level. On the basis of these estimates, the Riksbank assesses that a reasonable interval for the long-term level of the real exchange rate is currently between 110 and 125 in terms of KIX. The krona is currently in the weaker part of this interval and therefore close to its long-term level, but will probably strengthen somewhat in the coming period. This assessment is also in line with the IMF, which recently drew the conclusion that the krona is still slightly under-valued, but close to its long-term level.⁴³

The future development of the krona

The Riksbank's assessment is thus that the krona will strengthen marginally in real terms over the coming years (see Figure A27). As inflation during the same period is expected to be higher in the KIX-weighted rest of the world than in Sweden (measured in terms of the CPIF), the nominal exchange rate will strengthen somewhat more than the real exchange rate (see Figure 1:12). However, the value of the krona in relation to individual currencies may differ.

Figure A27. KIX-weighted real exchange rate
Index, 18 November 1992 = 100



Note. The vertical line marks the interval for the Riksbank's assessment of the real exchange rate's long-run sustainable level. KIX is an aggregate of countries that are important for Sweden's international transactions.

Sources: National sources, Statistics Sweden and the Riksbank

Assessment," Economic Papers no. 427, European Commission, 2010. The IMF's methods are often called CGERs (Consultative Group on Exchange Rate issues) and have recently been replaced by EBA (External Balance Assessment), see "External Balance Assessment (EBA): Technical Background of the Pilot Methodology", available at <http://www.imf.org/external/np/res/eba/>

⁴² "Swedish Economy: A long-term scenario up to the year 2035" Special study no. 30, National Institute of Economic Research, 2012, "Sweden, 2012 Article IV Consultation", Country Report no. 12/154, IMF, 2012 and Sellin, Peter (2007), "Using a New Open Economy Macroeconomics model to make real and nominal exchange rate forecasts", Working Paper no. 213, Sveriges Riksbank.

⁴³ "Sweden – 2013 Article IV Consultation: Concluding Statement of the Mission", IMF, 31 May 2013.

■ APPENDIX

- Tables
- Articles 2011-2013
- Interest rate decisions 2009-2013
- Glossary

Tables

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

Table 1. Repo rate forecast

Per cent, quarterly average values

	Q2 2013	Q3 2013	Q4 2013	Q3 2014	Q3 2015	Q3 2016
Repo rate	1.0	1.0 (0.9)	0.9 (0.9)	1.0 (1.0)	2.0 (2.0)	2.8

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2012	2013	2014	2015
CPI	0.9 (0.9)	0.1 (0.1)	1.3 (1.4)	2.6 (2.7)
CPIF	1.0 (1.0)	0.9 (1.0)	1.4 (1.4)	1.9 (2.0)
CPIF excl. energy	1.0 (1.0)	1.2 (1.2)	1.6 (1.5)	2.0 (2.0)
HICP	0.9 (0.9)	0.5 (0.6)	1.4 (1.4)	1.9 (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

	2012	2013	2014	2015
Repo rate	1.5 (1.5)	1.0 (1.0)	1.0 (1.0)	1.9 (1.9)
10-year rate	1.6 (1.6)	2.1 (1.8)	2.9 (2.5)	3.6 (3.4)
Exchange rate, KIX, 18 Nov. 1992 = 100	106.1 (106.1)	103.2 (101.4)	102.3 (101.1)	101.1 (101.2)
General government net lending*	-0.6 (-0.7)	-1.2 (-1.3)	-0.8 (-0.6)	0.3 (0.5)

* 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	2012	2013	2014	2015
Euro area	0.14	0.47	-0.5 (-0.5)	-0.6 (-0.4)	1.2 (1.2)	1.9 (2.0)
USA	0.19	0.09	2.2 (2.2)	1.8 (2.1)	3.2 (3.2)	3.5 (3.5)
Japan	0.06	0.03	1.9 (2.0)	1.8 (1.1)	1.9 (1.8)	1.2 (1.1)
China	0.15	0.08	7.8 (7.8)	7.6 (8.1)	7.6 (8.2)	7.6 (8.2)
KIX-weighted	0.79	1.00	1.0 (1.0)	1.0 (1.3)	2.4 (2.5)	2.9 (3.0)
World	1.00	-	3.2 (3.2)	3.2 (3.4)	4.0 (4.1)	4.2 (4.3)

Note. The PPP-weights refer to the global purchasing-power adjusted GDP-weights for 2012, according to the IMF. The National Institute of Economic Research updates the weights for the KIX krona index at the start of every year. The figures in the table are based on new KIX weights for 2010 that are used for 2013, and on an assumption that the weights will develop according to the trend of the past five years in the coming forecast year.

CPI	2012	2013	2014	2015
Euro area (HICP)	2.5 (2.5)	1.5 (1.7)	1.4 (1.4)	1.6 (1.6)
USA	2.1 (2.1)	1.5 (1.6)	2.0 (1.9)	2.7 (2.5)
Japan	0.0 (0.0)	0.1 (0.3)	2.3 (1.3)	2.0 (1.7)
KIX-weighted	2.6 (2.6)	2.0 (2.3)	2.1 (2.1)	2.3 (2.3)

	2012	2013	2014	2015
Policy rates in the rest of the world, per cent	0.4 (0.4)	0.2 (0.2)	0.2 (0.3)	0.5 (0.6)
Crude oil price, USD/barrel Brent	112 (112)	105 (111)	100 (104)	96 (99)
Swedish export market	1.6 (1.4)	1.2 (2.2)	5.3 (5.7)	6.6 (6.9)

Note. The export market aims to measure demand for imports in the countries to which Sweden exports. This is calculated by aggregating the imports of 32 countries and covers around 85 per cent of the Swedish export market. The weights comprise the respective country's share of Swedish export of goods. 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, OECD and the Riksbank

Table 5. GDP by expenditure

Annual percentage change, unless otherwise stated

	2012	2013	2014	2015
Private consumption	1.5 (1.5)	2.5 (2.1)	3.2 (3.0)	3.3 (3.3)
Public consumption	0.7 (0.8)	1.0 (1.1)	0.7 (0.7)	1.1 (1.1)
Gross fixed capital formation	3.2 (3.4)	-3.6 (0.1)	5.1 (5.0)	7.5 (6.9)
Inventory investment*	-1.1 (-1.1)	0.3 (0.0)	-0.1 (0.2)	0.0 (0.0)
Exports	0.8 (0.7)	-0.8 (0.9)	4.5 (5.1)	6.6 (7.0)
Imports	0.0 (-0.1)	-2.0 (0.9)	4.7 (5.9)	6.9 (7.4)
GDP	0.7 (0.8)	1.5 (1.4)	2.8 (2.7)	3.6 (3.5)
GDP, calendar-adjusted	1.1 (1.2)	1.6 (1.4)	2.9 (2.9)	3.3 (3.2)
Final figure for domestic demand*	1.5 (1.6)	0.8 (1.3)	2.6 (2.6)	3.3 (3.2)
Net exports*	0.4 (0.4)	0.4 (0.1)	0.2 (0.0)	0.3 (0.2)
Current account (NA), per cent of GDP	6.7 (7.0)	6.4 (6.9)	6.3 (6.6)	6.2 (6.4)

*Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank

Table 6. Production and employment

Annual percentage change, unless otherwise stated

	2012	2013	2014	2015
Population, aged 16-64	0.1 (0.1)	0.2 (0.2)	0.4 (0.2)	0.5 (0.2)
Potential hours worked	0.5 (0.5)	0.5 (0.5)	0.6 (0.5)	0.6 (0.4)
GDP, calendar-adjusted	1.1 (1.2)	1.6 (1.4)	2.9 (2.9)	3.3 (3.2)
Number of hours worked, calendar-adjusted	0.6 (0.6)	-0.2 (0.4)	1.4 (1.0)	1.3 (1.0)
Employed, aged 15-74	0.6 (0.6)	0.7 (0.4)	0.7 (0.7)	1.2 (1.3)
Labour force, aged 15-74	0.8 (0.8)	1.0 (0.7)	0.5 (0.3)	0.4 (0.3)
Unemployment, aged 15-74 *	8.0 (8.0)	8.2 (8.2)	8.1 (7.8)	7.3 (6.8)

* 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 unit labour cost for the economy as a whole

Annual percentage change, calendar-adjusted data unless otherwise stated

	2012	2013	2014	2015
Hourly wage, NMO	3.1 (3.1)	2.8 (2.8)	2.9 (3.1)	3.2 (3.5)
Hourly wage, NA	3.2 (3.2)	3.2 (3.0)	3.1 (3.4)	3.5 (3.7)
Employer's contribution*	0.2 (-0.2)	0.0 (-0.1)	0.0 (0.0)	0.0 (0.0)
Hourly labour cost, NA	3.4 (3.0)	3.2 (3.0)	3.1 (3.4)	3.5 (3.7)
Productivity	0.5 (0.6)	1.7 (1.0)	1.4 (1.9)	2.0 (2.2)
Unit labour cost	2.9 (2.4)	1.4 (1.9)	1.7 (1.5)	1.4 (1.5)

* 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, collective 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 8. Alternative scenario: lower commodity prices

Annual percentage change, unless otherwise stated, annual average

	2013	2014	2015
GDP abroad	1.0 (1.0)	2.0 (2.4)	3.1 (2.9)
Policy rate abroad, per cent	0.2 (0.2)	-0.1 (0.2)	0.0 (0.5)
Inflation abroad	2.0 (2.0)	1.7 (2.1)	1.9 (2.3)
CPIF	0.9 (0.9)	1.2 (1.4)	1.8 (1.9)
CPI	0.0 (0.1)	0.8 (1.3)	2.4 (2.6)
Exchange rate, KIX, 1992-11-18 = 100	103.3 (103.2)	103.8 (102.3)	102.3 (101.1)
GDP-growth	1.5 (1.6)	2.3 (2.9)	3.5 (3.3)
Hours gap, per cent	-1.7 (-1.7)	-1.2 (-0.9)	-0.4 (-0.2)
Unemployment, aged 15-74*	8.2 (8.2)	8.1 (8.1)	7.3 (7.3)
Repo rate, per cent	1.0 (1.0)	0.7 (1.0)	1.5 (1.9)

* Per cent of the labour force

Note. Main scenario forecast in brackets. CPIF is the CPI with a fixed mortgage rate. Asterisk, note and sources relate to Tables 8-13.

Sources: Statistics Sweden and the Riksbank

Table 9. Alternative scenario: lower commodity prices and more expansionary monetary

Annual percentage change, unless otherwise stated, annual average

	2013	2014	2015
CPIF	0.9 (0.9)	1.2 (1.4)	1.8 (1.9)
CPI	0.0 (0.1)	0.8 (1.3)	2.6 (2.6)
Hours gap, per cent	-1.7 (-1.7)	-1.1 (-0.9)	-0.3 (-0.2)
Repo rate, per cent	0.9 (1.0)	0.5 (1.0)	1.5 (1.9)

Table 10. Alternative scenario: stronger exchange rate, expected to last

Annual percentage change, unless otherwise stated, annual average

	2013	2014	2015
Exchange rate, KIX, 1992-11-18 = 100	102.2 (103.2)	99.4 (102.3)	100.4 (101.1)
CPIF	0.9 (0.9)	1.1 (1.4)	1.9 (1.9)
CPI	0.0 (0.1)	0.7 (1.3)	2.7 (2.6)
Hours gap, per cent	-1.7 (-1.7)	-1.3 (-0.9)	-0.4 (-0.2)
Unemployment, aged 15-74*	8.2 (8.2)	8.2 (8.1)	7.4 (7.3)
Repo rate, per cent	1.0 (1.0)	0.6 (1.0)	1.7 (1.9)

Table 11. Alternative scenario, stronger exchange rate, expected to be temporary

Annual percentage change, unless otherwise stated, annual average

	2013	2014	2015
Exchange rate, KIX, 1992-11-18 = 100	102.2 (103.2)	99.5 (102.3)	100.7 (101.1)
CPIF	0.9 (0.9)	1.3 (1.4)	1.9 (1.9)
CPI	0.0 (0.1)	1.0 (1.3)	2.6 (2.6)
Hours gap, per cent	-1.7 (-1.7)	-1.1 (-0.9)	-0.3 (-0.2)
Unemployment, aged 15-74*	8.2 (8.2)	8.1 (8.1)	7.3 (7.3)
Repo rate, per cent	1.0 (1.0)	0.8 (1.0)	1.8 (1.9)

Table 12. Alternative scenario, lower repo rate

Annual percentage change, unless otherwise stated, annual average

	2013	2014	2015
Repo rate, per cent	0.9 (1.0)	0.9 (1.0)	1.9 (1.9)
GDP gap, per cent	-1.5 (-1.5)	-0.5 (-0.7)	0.5 (0.2)
Hours gap, per cent	-1.7 (-1.7)	-0.7 (-0.9)	-0.1 (-0.2)
Unemployment, aged 15-74*	8.2 (8.2)	8.0 (8.1)	7.2 (7.3)
CPI	0.0 (0.1)	1.4 (1.3)	2.8 (2.6)
CPIF	1.0 (0.9)	1.6 (1.4)	2.0 (1.9)

Table 13. Alternative scenario, higher repo rate

Annual percentage change, unless otherwise stated, annual average

	2013	2014	2015
Repo rate, per cent	1.1 (1.0)	1.2 (1.0)	1.9 (1.9)
GDP gap, per cent	-1.6 (-1.5)	-0.9 (-0.7)	0.0 (0.2)
Hours gap, per cent	-1.7 (-1.7)	-1.0 (-0.9)	-0.4 (-0.2)
Unemployment, aged 15-74*	8.2 (8.2)	8.2 (8.1)	7.4 (7.3)
CPI	0.1 (0.1)	1.3 (1.3)	2.4 (2.6)
CPIF	0.9 (0.9)	1.3 (1.4)	1.8 (1.9)

Articles 2011-2013⁴⁴

2011

- 2011 February** The effects of the financial crisis on the labour market – a comparison of Sweden, the euro area and the United States
- 2011 February** Lower policy rates in Sweden and abroad
- 2011 February** How does the Riksbank make forecasts for long-term market rates?
- 2011 February** The effects of Basel III on macroeconomic development
- 2011 July** The sustainable development of public debt?
- 2011 July** Low unemployment – a challenge
- 2011 July** Recent developments in inflation expectations
- 2011 October** Similarities and differences between the current situation and 2008-2009
- 2011 October** The debt crisis in Europe
- 2011 October** New round of collective bargaining in an uncertain economic climate

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

⁴⁴ A list of the articles published since 1993 can be found on the Riksbank's website www.riksbank.se.

Interest rate decisions 2009-2013⁴⁵

Date of meeting	Decision (percentage points)	Repo rate (per cent)	Monetary Policy Report
2009			
10 February	-1.00	1.00	February 2009
20 April	-0.50	0.50	Monetary Policy Update
1 July	-0.25	0.25	July 2009
2 September	0	0.25	Monetary Policy Update
21 October	0	0.25	October 2009
15 December	0	0.25	Monetary Policy Update
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

⁴⁵ 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

Annualised terms: Annualised terms means that the change between two periods following on from one another is converted into the same unit, the corresponding annual change. Recalculation in annualised terms 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 annualised 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, i.e. 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 expenditure 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.

ECB: The European Central Bank.

EFSF: European Financial Stability Facility. A rescue fund set up to safeguard financial stability in Europe by offering financial support to euro-area countries.

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, such as EFSF.

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

Executive Board of the Riksbank: The Executive Board governs the Riksbank and takes decisions concerning areas such as monetary policy. The ESM replaces the former financing mechanism, such as EFSF.

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% of Swedish export market. The weights are determined by the respective country's share of Swedish exports of goods.

Federal Reserve: The central bank of the United States.

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

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.

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.

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

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, i.e. the sum of wages, including for instance bonuses, employers' contributions, agreed collective charges and payroll-based taxes on output.

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

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

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.

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 (i.e. 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 Executive Board of the Riksbank decides on the repo rate as the level that the Riksbank wants to steer the overnight rate towards.

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 competitiveness weightetsed): 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.

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.

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