



Monetary Policy Report

October 2010

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 25 October 2010. The Report is available on the Riksbank's website, www.riksbank.se. From this address a printed version of the report can be ordered free of charge or the report can be downloaded as a PDF file.

To subscribe to the Monetary Policy Report, please contact the Riksbank.

E-mail: kontorsservicecenter@riksbank.se

Address: Sveriges Riksbank, SE-103 37 Stockholm, Sweden

Telephone: +46 8 787 00 00

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

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

Monetary policy in Sweden

MONETARY POLICY TARGET²

- 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 has the intended impact.
- The Riksbank endeavours to ensure that its communication is open, factual, comprehensible and up-to-date. This makes it easier for economic agents to make good economic decisions. It also makes it easier to evaluate monetary policy.

DECISION-MAKING PROCESS

The Executive Board of the Riksbank usually holds six monetary policy meetings during a year, at which it makes decisions regarding the repo rate. In connection with three of these meetings, a Monetary Policy Report is published and in connection with the other three meetings, a Monetary Policy Update is published. Approximately two weeks after each monetary policy meeting the Riksbank publishes minutes from the meeting, in which it is possible to follow the discussion that led to the interest rate decision and to see the arguments made by the different Executive Board members.

PRESENTATION OF THE INTEREST RATE DECISION

The interest rate decision is presented in a press release at 9.30 a.m. on the day following the monetary policy meeting. The press release also states how the individual members of the Executive Board voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

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

Contents

- Monetary policy considerations – a summary 5
- CHAPTER 1 – The economic outlook and inflation prospects 7
 - Main revisions since the Monetary Policy Update in September 19
- CHAPTER 2 – Alternative scenarios and risks 20
 - Alternative scenarios for economic development 21
- CHAPTER 3 – The current state of the economy 27

- ARTICLES
 - Why higher growth in Sweden than in the eurozone and the United States? 39
 - Basel III - tougher rules for banks 44
 - The repo rate path and monetary policy expectations according to implied forward rates 51
 - The driving forces behind trends in the economy can be analysed using a production function 56

- Appendix 63
 - Tables 64
 - Outline of boxes published 2007–2010 68
 - Earlier interest rate decisions 69
 - Glossary 70

■ Monetary policy considerations

– a summary

■ Repo rate raised by 0.25 percentage points to 1.0 per cent

The Swedish economy is growing rapidly. On the other hand, the strength of the recovery in the United States and Europe remains uncertain. Inflationary pressures are low in Sweden, but are expected to increase as economic activity strengthens. In order to stabilise inflation close to the target of 2 per cent and attain normal levels of resource utilisation, the repo rate needs to be gradually raised. The Executive Board of the Riksbank has therefore decided to raise the repo rate by 0.25 of a percentage point to 1.0 per cent. However, due to the weak developments overseas, it is not deemed that the repo rate needs to be raised so much in the coming years.

■ Sweden's economy is growing rapidly

The Swedish economy is developing well. The global recovery has contributed to an increase in world trade, which benefits Swedish exports. A combination of strong public finances, a high level of household saving and optimism among households is creating the conditions for increasing consumption. The broad upswing in the Swedish economy is also contributing towards a rapid increase in employment.

At the same time, developments overseas remain uncertain. The recovery will take time in the United States, while the major fiscal policy tightening measures in several European countries are dampening growth in Europe. The slow recovery of these countries is leading to moderate inflationary pressures and low international interest rates.

■ Repo rate to be increased towards more normal levels

The Executive Board of the Riksbank has decided to raise the repo rate by 0.25 percentage points to 1.0 per cent. Even if inflationary pressures in the Swedish economy are presently low due to the weak economic climate abroad, low labour costs for Swedish companies and a strengthening of the Swedish krona, they are expected to increase in tandem with the strengthening of economic activity in Sweden. In order to stabilise inflation close to the target of 2 per cent and attain a normal level of resource utilisation, the repo rate gradually needs to be increased towards more normal levels. Moreover, households' debts have increased substantially in recent years. If debts continue to increase significantly faster than revenues over a longer period of time, there is a risk of imbalances building up in the Swedish economy.

■ Continued uncertainty abroad – repo rate path to be adjusted downwards

The repo rate forecast is adjusted downwards in relation to the September forecast. All in all, developments abroad, together with the low inflationary pressures prevailing in Sweden during the forecast period, argue against the need to raise the repo rate as rapidly in the coming years.

In October, the last of the three fixed-interest rate loans provided to the banks in 2009 matured. These loans have not been replaced by new loans. The phasing out of these loans is an important part of the normalisation of monetary policy.

As always, the forecasts made regarding the economy and monetary policy are based on the information currently available and new information further ahead may lead to changes in these forecasts. If international growth becomes weaker as a result of developments such as a slowdown of the recovery in the United States or a worsening of the fiscal policy problems in Europe, monetary policy may need to become more expansionary than in the main scenario. On the other hand, it cannot be ruled out that domestic demand in Sweden may be stronger than expected, in which case the interest rate may need to be increased further in the future.

CHAPTER 1 – The economic outlook and inflation prospects

Swedish GDP is recovering more quickly than GDP in the eurozone and the United States. Unlike many other countries, the situation in the labour market is also improving relatively quickly in Sweden. As the labour market situation improves and the rate of wage increase rises, inflationary pressures in the Swedish economy will also increase. To stabilise inflation close to our target of 2 per cent and, at the same time, attain a normal level of resource utilisation, the Riksbank's assessment is therefore that it is appropriate to continue the normalisation of

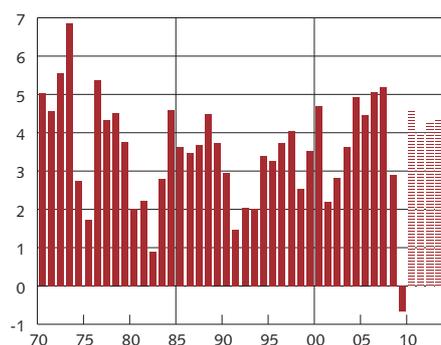
monetary policy that was initiated in the summer. The forecasts in this report are based on an increase of the repo rate to 1 per cent in October. However, the low level of resource utilisation and the low inflationary pressures justify the repo rate being lower than normal throughout the forecast period. As inflationary pressure is expected to be lower than was previously forecast, the Riksbank's judgement is that the repo rate does not need to be raised as much in the coming years. The repo rate path has been adjusted down slightly in relation to September's path.

Summary – Strong growth in Sweden despite slow international recovery

It is becoming increasingly clear that the Swedish economy is developing strongly. Both National Accounts figures and confidence indicators point to the economy continuing to grow rapidly. Sweden is also one of few countries in the OECD area where the labour market has clearly begun a recovery. This is in sharp contrast to developments in the United States and parts of the eurozone, where the pace of the recovery is slow. The stronger growth in Sweden has also led to an appreciation in the krona recently.

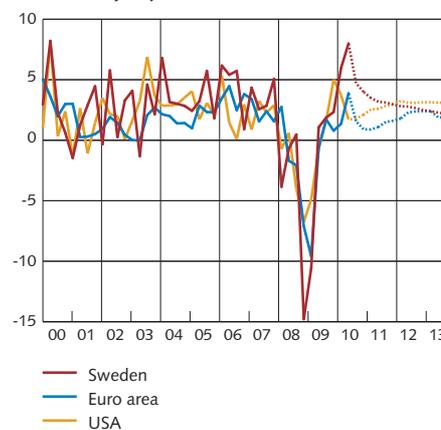
Despite developments in the United States and the eurozone being weak, the international recovery as a whole is expected to continue during the forecast period. The growth economies in, for instance, Asia, which were not impacted as severely by the financial crisis, are continuing to grow rapidly. All in all, world growth is expected to be just over 4 per cent a year during the period 2010-2013, which is a high figure from an historical perspective (see Figure 1:1 and Table A4). However, growth in the United States and the eurozone countries is expected to be lower than this (see Figure 1:2). The recovery has until now received the support of expansionary economic policy. But many countries will need to introduce fiscal policy tightening, which will dampen growth in the coming period. Inflation is expected to be moderate abroad during the coming years as a result of low resource utilisation and low cost pressures (see Figure 1:3).

Figure 1:1. World GDP Annual percentage change



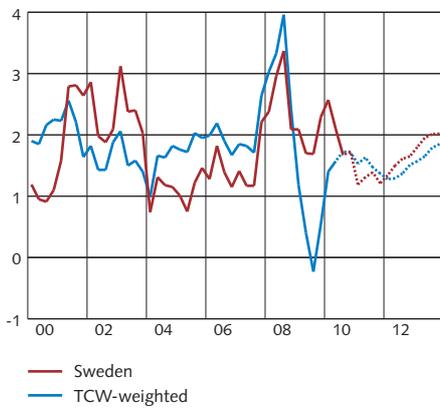
Note. Striped bars represent the Riksbank's forecast. Sources: IMF and the Riksbank

Figure 1:2. Development of GDP in different regions and countries Quarterly changes in per cent, annual rate, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecast. Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

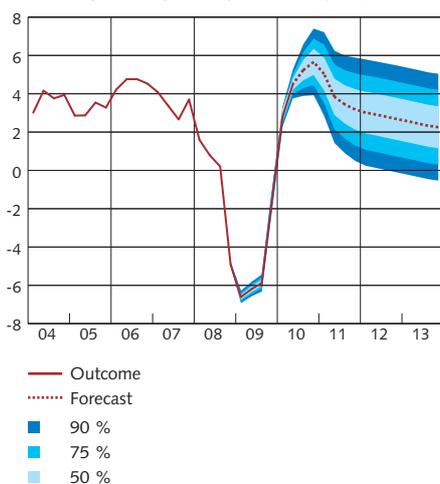
Figure 1:3. Consumer prices
Annual percentage change, seasonally-adjusted data



Note: In Sweden's case this refers to CPIF inflation. TCW-weighted inflation refers to CPI and HICP. Broken lines represent the Riksbank's forecast.

Sources: National sources and the Riksbank

Figure 1:4. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



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

Sources: Statistics Sweden and the Riksbank

But there is still considerable uncertainty. This uncertainty is underlined by the imbalances in certain parts of the world. In some countries, for instance, the United States, there are large savings deficits which correspond to large surpluses in other countries, such as China. Linked to this is the risk of substantial exchange rate fluctuations. There is a possibility of renewed concern over public finances in the eurozone arising at the same time as there is a risk of a second downswing in the US economy. A scenario with weaker international growth than in the main scenario is described in Chapter 2 of this report.

The Swedish economy is thus expected to grow more quickly than those in many other countries, mainly this year and next year (see Figure 1:4). The global economic downturn impacted severely on the export-dependent Swedish economy. Strong growth in the emerging economies has contributed to the recovery of world trade to around the same level as prior to the crisis, and Sweden's export market is thus expected to grow by around 10 per cent this year. This is expected to lead to a rapid rate of increase in Swedish GDP over the coming year, which will then slow down gradually over the remainder of the forecast period.

Another reason for the relatively rapid growth of the Swedish economy is the strong public finances, which mean that Sweden, unlike many other countries, will not need to implement any fiscal policy tightening. In addition, households have a relatively high level of saving to start with, and are relatively optimistic about the future. Altogether, this indicates that the Swedish economy will grow more quickly than, for instance, the economies in the eurozone and the United States, particularly this year and next year (see the article "Why higher growth in Sweden than in the Eurozone and the United States?"). Another difference is that there are problems in the bank sector some countries, including the United States, the United Kingdom and the eurozone. The banks in Sweden are judged to be in better condition (see the article "Basel III – tougher rules for banks").

Many of the real economic indicators for the Swedish economy are now at very high levels. At the same time, GDP outcomes have been surprisingly high, and there is a risk that the strength of the future recovery has also been underestimated. A scenario with a faster increase in domestic demand in Sweden is described in Chapter 2.

The overall assessment of resource utilisation is that it is still lower than normal, but that it will successively increase towards normal levels over the coming years. This will gradually have an impact on inflation. Inflation measured as the CPIF is expected to continue to fall slightly over the coming year, before increasing to reach 2 per cent at the beginning of

2013 (see Figure 1:5). The low inflationary pressures in the short term are due to the strengthening of the Swedish krona and the fall in companies' unit labour costs.

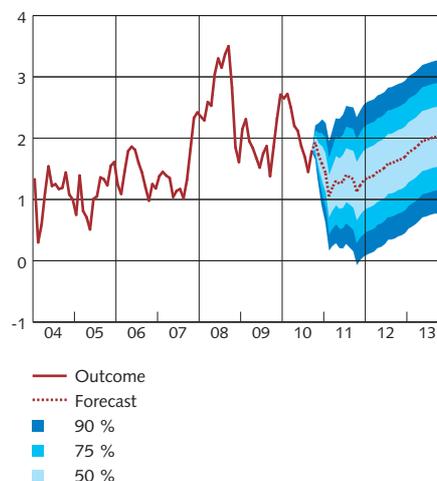
To stabilise inflation close to our target of 2 per cent and, at the same time, attain a normal level of resource utilisation, the Riksbank's assessment is that it is appropriate to continue the normalisation of monetary policy that was initiated in the summer. The forecasts in this report are based on an increase of the repo rate to 1 per cent in October. However, the low level of resource utilisation and the low inflationary pressures justify the repo rate being lower than normal throughout the entire forecast period (see Figure 1:6). When resource utilisation and inflationary pressures increase, the repo rate will gradually be raised to more normal levels. The increases in the repo rate will lead to increases in mortgage rates, which means that CPI inflation will be higher than CPIF inflation. CPI inflation is expected to temporarily overshoot the inflation target of 2 per cent towards in the latter part of the forecast period (see Figure 1:7).

As the world economy recovers monetary policy abroad will also begin to be normalised. However, the repo rate in Sweden will be raised faster than policy rates abroad, as developments in the real economy are stronger in Sweden. The levels of the short and long market rates indicate that expectations of future policy rates are low both in Sweden and abroad (see Figures 1:8 and 1:9): There are several possible reasons for this. One is that market agents attach great importance to the risk of a new downturn in the US economy. Another is that the quantitative easing (measures to improve the supply of credit) by central banks around the world has pushed down interest rates on loans with longer maturities. An article illustrating among other things the effects on the Swedish economy of lower policy rates abroad than assumed in the main scenario is included in this report. One insight from this article is that lower policy rates abroad tend to strengthen the krona rate, which results in lower import prices and inflation, for instance.

■ ■ Uncertain recovery in the United States

After a year of relatively strong recovery – driven by substantial stimulation from economic policy – the growth rate in the US economy has slowed down somewhat. There is still considerable uncertainty regarding future economic developments. Different measures of the economic uncertainty show that it is declining, but that it is still above historically normal levels. Moreover, unemployment remains at a high level (see Figure 1:10). The situation in the housing market also remains uncertain.

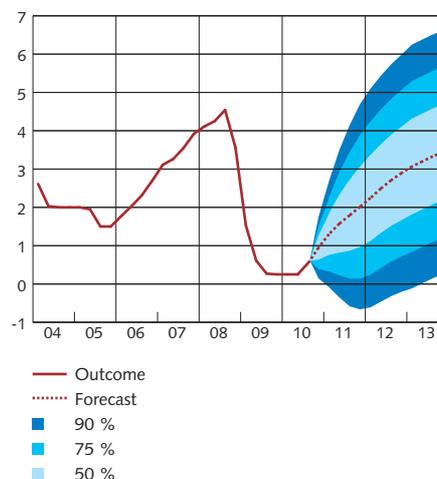
Figure 1:5. CPIF with uncertainty bands
Annual percentage change



Note. The uncertainty bands are based on the Riksbank's forecast errors for the CPIX during the period 1999 until the introduction of published CPIF forecasts in 2008. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

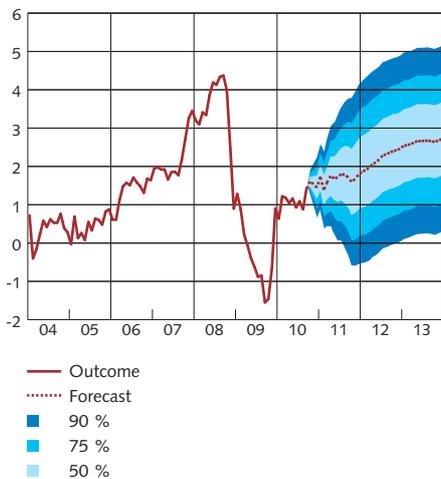
Figure 1:6. Repo rate with uncertainty bands
Per cent, quarterly averages



Note. The uncertainty bands are based on risk-adjusted market rates forecasting errors for the period 1999 until the Riksbank began to publish forecasts for the repo rate in 2007. This uncertainty band does not take into account the fact that there may be a lower bound for the repo rate. Broken lines represent the Riksbank's forecast.

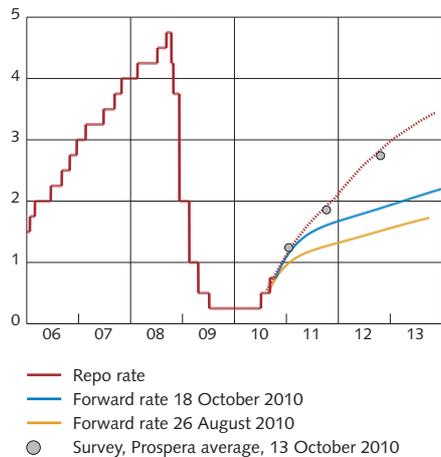
Source: The Riksbank

Figure 1:7. CPI with uncertainty bands
Annual percentage change



Note. The uncertainty bands are based on the Riksbank's forecast errors. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 1:8. Monetary policy expectations in Sweden according to money market participants
Per cent



Note. Forward rates have been adjusted for risk premiums and describe the expected overnight rate. Broken lines represent the Riksbank's forecast.

Sources: Reuters EcoWin, TNS SIFO Prospera and the Riksbank

The fiscal policy conditions are a problem. The large budget deficit at the start limit the scope for fiscal policy action. It is assumed in the forecast that fiscal policy tightening will contribute to slowing down GDP growth in the coming years.

Nevertheless, we expect to see a recovery in the US economy. Private consumption has increased for four quarters in a row, and monthly statistics indicate that the recovery continued during the third quarter. Another positive factor is the rapidly rising profit margins for companies, which mean that there is scope for companies to both increase the number of employees and increase their investments in the coming period. It is therefore assumed in the forecast that unemployment will fall during the forecast period. Moreover, house prices and housing construction are expected to begin to slowly increase in the coming period. On top of this, monetary policy is expected to be very expansionary as a result of the low resource utilisation and low underlying inflation. The policy rate is expected to remain at a very low level until the end of next year. However, resource utilisation and inflation are expected to rise gradually and the policy rate is expected to be raised in line with historical patterns between policy rates and macroeconomic developments.

GDP growth expressed as a quarterly change calculated at an annual rate was only just over 1.5 per cent during the second quarter, but is expected to rise gradually and amount to around 3 per cent in 2012 and 2013 (see Figure 1:2). This entails a much lower growth than is normal after a severe recession, but recoveries after recessions caused by financial crises and adjustments in the housing market tend to take an unusually long time³.

Low wage increases together with high productivity growth have contributed to a fall in unit labour costs. This has in turn contributed to a low underlying inflation rate (see Figure 1:11). Inflation is expected to remain low in the coming period, as a result of the low resource utilisation and the low cost pressures, although it will gradually rise towards the end of the forecast period.

■ ■ Strained public finances subdue growth in several european countries

The recovery in the eurozone is expected to continue in line with the assessment in the September Monetary Policy Update. However, the pace will vary from country to country. The German economy is growing the fastest among the large eurozone economies (see Figure 3:12).

Growth prospects in the euro are being subdued by public finance problems and the need for fiscal policy tightening in the coming years (see Figure 1:12). All in all, GDP in the eurozone is expected to grow by 1.6 per cent this year and by 1.8 per cent on average over the coming three years (see Figure 1:13).

³ See, for instance, C.M. Reinhart and K.S. Rogoff, "The Aftermath of Financial Crises", *American Economic Review*, 99(2) pp 466-477, 2009.

This is a relatively modest growth rate, which also indicates that employment will probably remain high for some time to come. GDP in the Eurozone will not return to its pre-crisis level until the middle of 2012 (see Figure 1:13).

Despite the deep recession in the economy, inflation has recently been relatively high in the eurozone. This is partly due to the rise in energy prices. As in the United States, underlying inflation is low. Moreover, it has fallen over the past year (see Figure 1:14). This is mainly due to low resource utilisation. Over the coming years the rate of inflation in the eurozone is expected to amount on average to 1.5 per cent (see Table A4).

Growth in the United Kingdom is expected to be weaker during the second half of the year, compared with the first half. However, in the longer term growth is expected to increase. Gradually stronger growth abroad and the weak sterling will benefit exports in the coming period. The Bank of England's expansionary monetary policy will also contribute to this. However, substantial fiscal policy tightening in the coming years points to growth on the whole being relatively moderate.

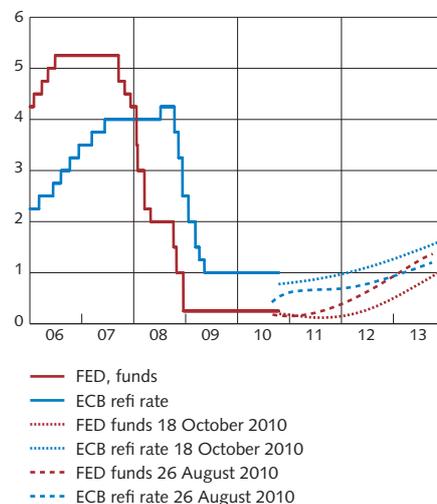
■ ■ Good growth in the Nordic countries

Developments in the other Nordic countries have significance for Sweden's economy. The Nordic countries together account for around one quarter of Sweden's export market. The GDP outcome for the second quarter in Denmark was surprisingly strong and growth in 2010 is expected to be higher than was predicted in September. However, in the longer run the fiscal policy tightening package decided in May could have a dampening effect on growth. In Norway, too, the recovery is expected to continue, following a downswing at the beginning of the year. The very strong public finances in Norway also increase the scope for fiscal policy action. The Finnish economy showed rapid growth in the second quarter and, like the Swedish economy, is expected to continue to develop strongly in the coming period, driven by rising export demand.

■ ■ Strong developments in growth economies

The growth economies in, for instance, Asia are also expected to be the ones that grow most quickly. There was a slowdown in China and other Asian economies during the summer, after the very strong development during the first half of 2010. However, growth is expected to be good in most Asian economies in the coming period.

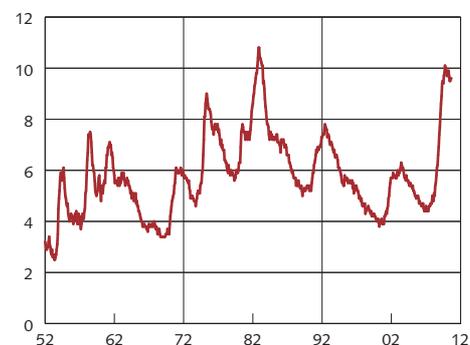
Figure 1:9. Monetary policy expectations in the euro area and the USA
Per cent



Note. Forward rates have been adjusted for risk premiums and describe the expected overnight rate, which is not always equivalent with the official policy rate.

Sources: Reuters EcoWin and the Riksbank

Figure 1:10. Unemployment in the USA
Per cent



Source: U.S. Bureau of Labor Statistics

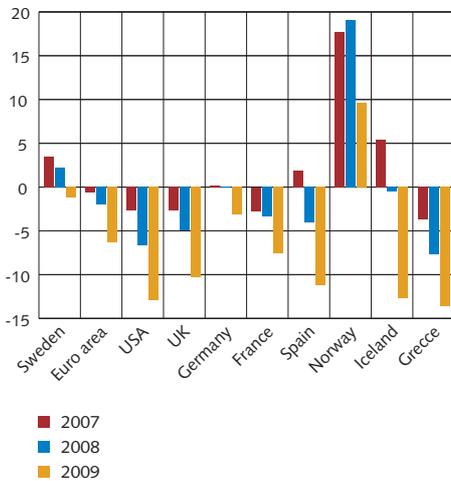
Figure 1:11. Unit labour costs and core inflation in the USA
Annual percentage change



Note. Core inflation measured as the CPI excluding energy and food.

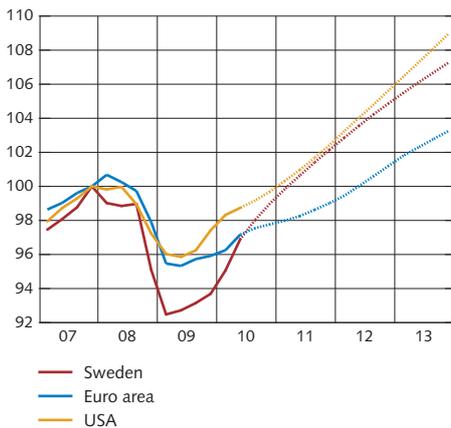
Source: Bureau of Labor Statistics

Figure 1:12. General government financial balance
Percentage of GDP



Sources: IMF and Statistics Sweden

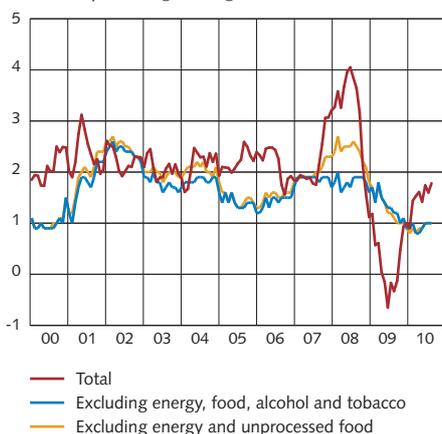
Figure 1:13. Comparison of recovery in Sweden, the euro area and the USA
GDP level, index 2007 quarter 4 = 100



Note. The quarter prior to the recession breaking out in the USA = 100. Broken lines represent the Riksbank's forecast.

Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

Figure 1:14. HICP in the euro area
Annual percentage change



Source: Eurostat

The Brazilian economy grew rapidly during the first half of 2010, and this good development is expected to continue during the forecast period. The Russian economy, which is strongly dependent on commodity prices, has recovered as the oil price has risen, and growth is expected to be roughly the same next year as this year.

■ ■ Low but slowly rising policy rates abroad

As a result of low resource utilization and low inflationary pressures, policy rates are very low in, for instance, the United States and the Eurozone, but as economic activity improves and inflation increases, the policy rates in these countries will be raised. However, the forecast is for resource utilization and inflation to remain lower than normal in the eurozone and the United States towards the end of the forecast period. And at this point in time the policy rates in these areas are also expected to be relatively low.

The assessment in the main scenario regarding policy rates abroad is based on historical patterns concerning policy rates, inflation and resource utilization. Policy rates abroad are expected to coincide with market pricing, as expressed in implied forward rates, over the next year or so. However, market pricing in the longer run indicates that they are expecting lower policy rates abroad than the Riksbank has forecast. An article illustrating the effects on the Swedish economy of lower policy rates abroad than are forecast by the Riksbank and in line with implied forward rates.

■ ■ Sweden's economy growing rapidly

The recovery in Sweden is proceeding faster than that in many other countries. National Accounts figures show that Swedish GDP grew 4.6 per cent in the second quarter of this year, compared with the corresponding quarter last year (see Figure 1:15). This is stronger than according to the quick statistics published at the beginning of August. The upturn is broad and all demand components in the balance of resources are rising (see Figure 1:16). Confidence indicators and other monthly information also give clear signals that Swedish GDP will continue to grow quickly during the remainder of the year (see Figures 3:15 and 3:16 in Chapter 3).

The conditions for relatively strong growth over the coming years look good. The global economic downturn of 2008 and 2009 impacted severely on the export-dependent Swedish economy. But now that world trade has picked up again, the Swedish economy is expected to grow faster in the coming period than many other countries' economies. Another reason for the relatively rapid growth of the Swedish economy is the strong public finances, which mean that Sweden, unlike many other countries, will not need to implement any fiscal policy tightening. Another factor is that households have a relatively high level of saving, which provides scope for increased consumption.

Altogether, this indicates that the Swedish economy will develop more strongly than, for instance, the economies in the eurozone and the United States, particularly this year and next year (see also the article “Why higher growth in Sweden than in the eurozone and the United States?”). At the end of the forecast period the Swedish economy is expected to grow at around the same rate as those in other countries.

Swedish GDP growth is expected to amount to almost 5 per cent in 2010 and then to gradually fall back to around 2.5 per cent at the end of the forecast period (see Figure 1:15 and Table A5). The strong GDP growth this year is partly connected with the build-up of stocks by companies now that production has started to increase.

However, the level of GDP is still relatively low. Although Swedish GDP growth is expected to be high in 2010, GDP will not return to its pre-crisis level until early 2011 (see Figure 1:13). The fact that the recovery will take some time is linked to the large fall in GDP in 2008 and 2009⁴.

■ ■ Krona continuing to strengthen

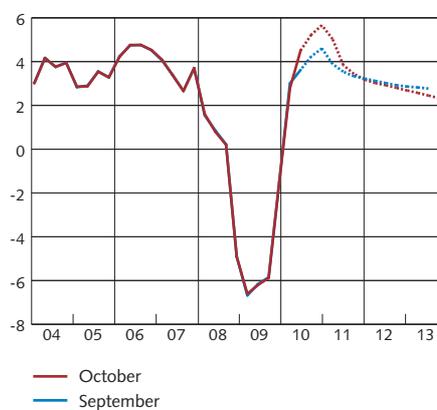
During the summer and in the early autumn the Swedish krona strengthened substantially. It has strengthened against several larger currencies to around the level that prevailed prior to the outbreak of the financial crisis in autumn 2008 (see Figure 3:3). This also applies to the trade-weighted TCW index (see Figure 1:17). This strengthening has taken place as incoming data have shown that Sweden's economy is developing strongly in relation to the rest of the world.

Several factors indicate that the krona will continue to strengthen slightly in the coming years. Sweden has a large surplus on its current account and GDP growth in Sweden is expected to be higher than in other countries (see Figure 1:2). A higher Swedish policy rate compared with other countries – which is the result of the expected stronger economic developments – will also contribute (see Figure 1:18).

■ ■ Exports growing apace with Sweden's export markets

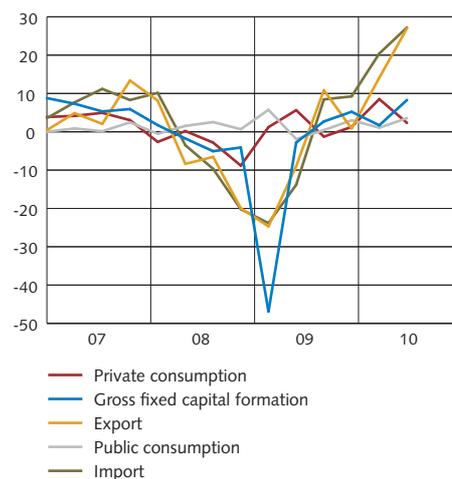
Exports continued to increase rapidly during the second quarter of 2010. During the financial crisis it was mainly exports of goods that were hit hard, while exports of services did not fall as much. Exports of goods now account for the largest increase. This is in line with developments in world trade, with goods that have increased strongly and are up at around their pre-crisis levels (see Figure 3:5). Swedish exports still have some way to go before they reach their pre-crisis level. This year the Swedish export market and Swedish exports are expected to grow by more than 10 per cent. After this, the rate of growth in Swedish exports will slow down, and will amount to almost 6 per cent in 2013 (see Figure 1:19).

Figure 1:15. GDP
Annual percentage change, seasonally-adjusted data



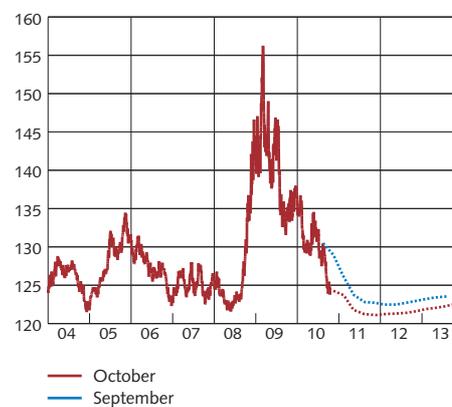
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 1:16. GDP by expenditure
Quarterly changes in per cent, annual rate, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 1:17. TCW-weighted exchange rate
Index, 18.11.92 = 100

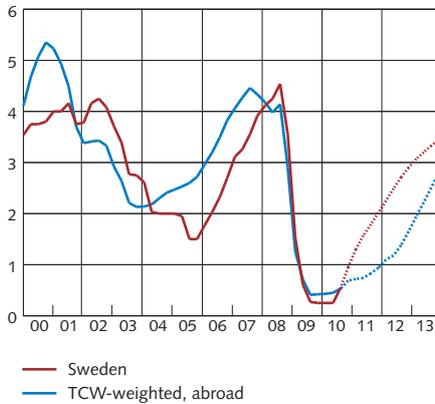


Note. Outcome data are daily rates and forecasts are quarterly averages. Broken lines represent the Riksbank's forecast.

Source: The Riksbank

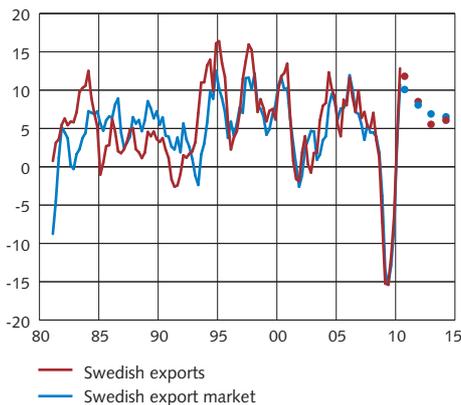
⁴ However, the recovery has been much quicker than expected, compared for instance with the forecasts made last year. Moreover, the recovery in Sweden is proceeding faster than that in many other countries.

Figure 1:18. Policy rate
Per cent, quarterly changes



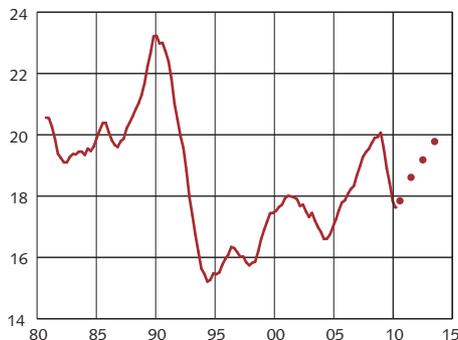
Note: Broken lines represent the Riksbank's forecast.
Sources: National sources and the Riksbank

Figure 1:19. Swedish exports and the world market for Swedish exports
Annual percentage change



Note. The points refer to the Riksbank's forecast for the whole year.
Sources: Statistics Sweden and the Riksbank

Figure 1:20. Investment ratio
Per cent of GDP, current prices



Note. Four-quarter moving average. The points refer to the Riksbank's forecast for the whole year.
Source: Statistics Sweden and the Riksbank

Imports have also increased rapidly during the first half of 2010. The main increase is in imports of goods, while imports of services have been weaker. During the forecast period, imports are expected to continue to increase as domestic demand and exports increase.

■■ Investments increasing from a low level

The large decline in demand and the ensuing fall in capacity utilization resulted in an historically-heavy fall in investment in 2009. However, investment began to increase during early 2010, albeit from a very low level. Total investment is expected to increase rapidly in the near future.

Business sector investment is expected to grow relatively slowly this year. Capacity utilisation in industry, which fell to all-time low levels in autumn 2008, has now shown a rapid upturn but is still at a low level. The assessment is thus that companies do not at present need to expand their production capacity. However, as production increases, capacity utilisation will rise and thus business sector investment will increase at a faster rate. Housing investment, which increased substantially at the beginning of the year, is continuing to rise. Low interest rates and high demand in relation to supply indicate that investment in housing will rise over the coming years. However, public sector investment, which increased rapidly in 2009, is expected to fall in 2010 and then to grow at a more normal rate.

This year, total investment is expected to increase by 5.6 per cent. After this it will increase by an average of 6 per cent a year in 2011 and 2013 (see Table A5). Investment as a share of GDP is expected to increase during the forecast period, and to reach the same level as before the crisis towards the end of the period (see Figure 1:20).

■■ Household consumption continuing to increase

Household consumption did not fall as heavily as exports and investments during the financial crisis (see Figure 1:16). This is linked to the crisis mainly having affected the Swedish economy through falling demand from abroad. The fact that consumption did fall at all can be mainly explained by households increasing their savings when there was uncertainty over the future (see Figure 1:21).

The uncertainty among households has now declined and consumer confidence has been at a very high level for some time now (see Figure 1:22). The fact that households are optimistic at the same time as their savings are at a high level means that it is possible for them to reduce their saving and continue consuming at a good rate in the coming years. As the labour market improves during the forecast period, households' incomes will improve at an increasingly rapid rate (see Figure 1:21). This year consumption is expected to increase by 3.5 per cent and over the coming years by around 2 per cent a year.

Public sector savings surplus

The Riksbank's fiscal policy forecasts are based on what can be regarded as a normal historical development in fiscal policy over an economic cycle. During the period 2001-2008, the financial balance in the public sector was on average higher than the target of a 1 per cent surplus seen over an economic cycle. The financial balance was negative in 2009 but is expected to be positive this year (see Table A3). Compared with most other OECD countries, Sweden's public finances are very strong.

As the economic situation improves and tax income rises, the financial balance will further strengthen. The Government has proposed expenditure and income changes of SEK 13 billion for 2011 in its Budget Bill, which is in line with the Riksbank's earlier assessments. All in all, public finances are expected to show a surplus of more than 1 per cent of GDP in 2011. The Riksbank's assessment is that the Government will propose expenditure and income changes in 2012 and 2013 amounting to around SEK 20 billion.

Steady improvement in the labour market

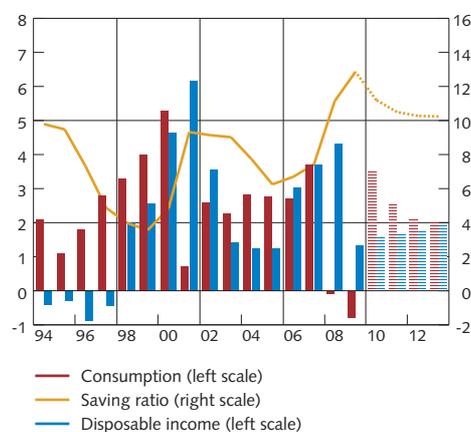
Unlike many other countries, in Sweden there is a clear recovery in the labour market. Employment and the number of hours worked have increased since autumn 2009 (see Figures 1:23 and 1:24). At the same time, unemployment is continuing to fall (see Figure 1:25). The upturn in employment has a broad base. In the manufacturing sector employment is now increasing and companies are planning for continuing new recruitment in the coming period. Employment will continue to increase in the services sector, which came through the crisis much better, during the past year. As economic activity improves, the recovery in the labour market will continue. The number of hours worked and the number of employed will rise and unemployment will decline.

The labour supply has increased during the crisis, even though employment has fallen. The assessment is that the reforms in the unemployment insurance system and sickness insurance system, as well as tax deductions for the employed have increased the incentives to remain in the labour force. These measures, together with a better growth in the economy, are expected to lead to the labour supply increasing further during the forecast period. Unemployment is expected to fall back over the coming years, and at the end of the forecast period to amount to just over 6.5 per cent (see Figure 1.25 and Table A6).

Resource utilisation will rise gradually

Monetary policy normally aims to attain an appropriate balance between on the one hand holding inflation close to the target of 2 per cent and on the other hand stabilising the real economy around a sustainable level. However, there is no simple method of measuring to what extent the productive resources of the economy, capital and labour, are used

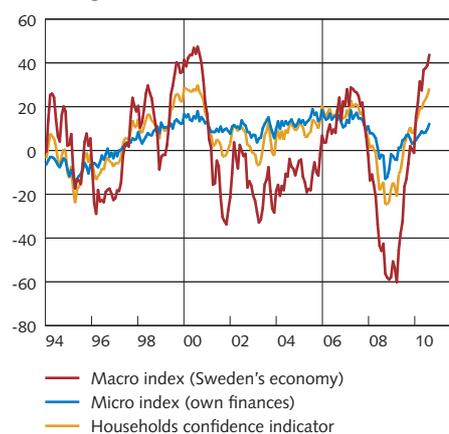
Figure 1:21. Households' disposable incomes, consumption and saving ratio
Annual percentage change, fixed prices and percentage of disposable income



Note. Broken lines and striped bars represent the Riksbank's forecast.

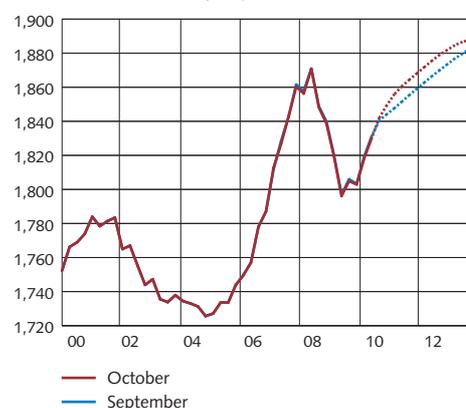
Sources: Statistics Sweden and the Riksbank

Figure 1:22. Confidence indicators for households
Net figures



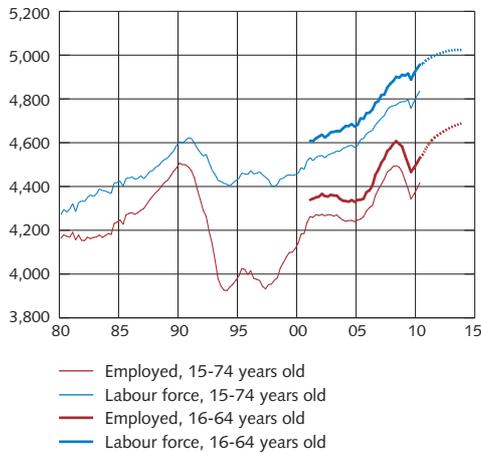
Source: National Institute of Economic Research

Figure 1:23. Number of hours worked
Millions, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

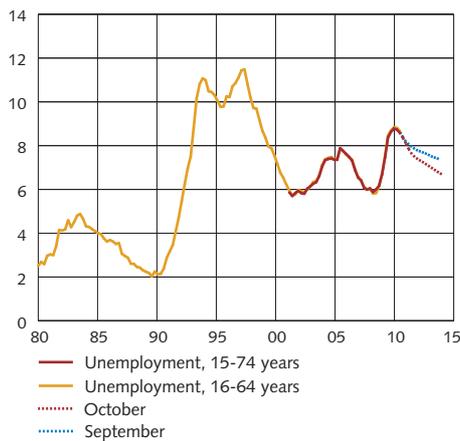
Figure 1:24. Labour force and number of employed
Thousands, seasonally-adjusted data



Note. Pre-1987 data has been spliced by the Riksbank. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

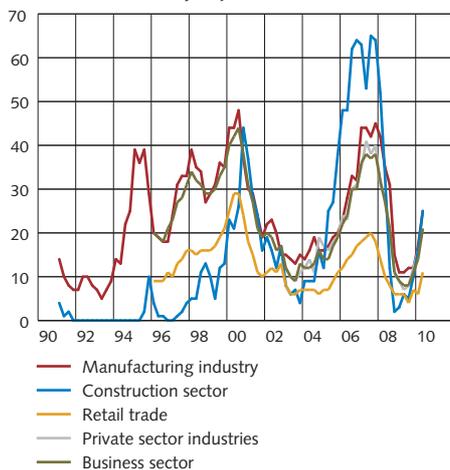
Figure 1:25. Unemployment
Percentage of the labour force, seasonally-adjusted data



Note. Pre-1987 data has been spliced by the Riksbank. Broken lines represent the Riksbank's forecast, 15-74 years.

Sources: Statistics Sweden and the Riksbank

Figure 1:26. Proportion of companies reporting a shortage of labour
Per cent, seasonally-adjusted data



Source: National Institute of Economic Research

in relation to what is sustainable in the long term. The Riksbank has chosen to take a broad approach in its analysis of resource utilisation and therefore uses a number of different indicators and statistical methods to assess how resource utilisation will develop over the next few years. As resource utilisation is not directly measurable, assessments are uncertain, both with regard to the current situation and to developments further ahead. In this report the Riksbank has supplemented the analysis of resource utilisation with a measure based on a production function, which is described in greater detail in an article.

The positive developments on the labour market, with a rising employment rate, point to an increase in resource utilisation. The National Institute of Economic Research's Business Tendency Survey shows that both the number of companies reporting a labour shortage and capacity utilization in the manufacturing sector have risen rapidly (see Figures 1:26 and 3:19). In certain branches, such as the construction sector, the shortage of labour has risen particularly quickly and companies are expressing concern over recruitment problems. When asked what the main limiting factors to production were, a majority of the companies in most branches stated low demand, but the number of companies giving this response has declined. The Riksbank's resource utilisation indicator that summarises information from surveys and other labour market data shows that resource utilisation is lower than normal, but that it is now rising relatively quickly (see Figure 1:27)⁵. The surprisingly strong outcome for GDP in the second quarter also points to resource utilisation now being higher than was assumed in the September Monetary Policy Update.

Over the coming years GDP, the number of hours worked and employment are expected to increase, and to approach their estimated potential levels. This means that resource utilisation is expected to continue rising (see Figures 1:27 and 1:28). Towards the end of the forecast period all of the gaps showing the difference between actual and potential levels will be closed or weakly positive. Other indicators that point to resource utilisation rising during the forecast period are, for instance, that unemployment is expected to fall relatively quickly in the coming period and the employment rate is expected to continue rising (see Figures 1:29 and 1:25). The overall picture is that resource utilisation will normalise during the forecast period as the recovery in economic activity proceeds. Compared with the assessment in September, resource utilisation is now expected to be higher throughout the forecast period.

■ ■ Low but rising rate of wage increase

The improved labour market situation during the forecast period is expected to lead to wages increasing faster over the coming year partly as a result of wage increases rising over and above the central agreements (wage drift) increase.

⁵ For a description of this indicator, see C. Nyman, "An indicator of resource utilisation", *Economic Commentary* no. 4, 2010, Sveriges Riksbank.

The Riksbank's company interviews published in September provide support for this assessment⁶. More companies now believe that wage drift will increase over the coming twelve months than did so in the previous survey published in May.

The rate of increase in unit labour costs is expected to rise during the forecast period. Labour productivity has risen faster in recent quarters than labour costs per hour, which has meant that unit labour costs have fallen. However, the rate of increase in productivity is expected to slow down during the forecast period, while the rate of increase in wages increases rises (see Figure 1:30).

■ ■ Rising inflation towards the end of the forecast period

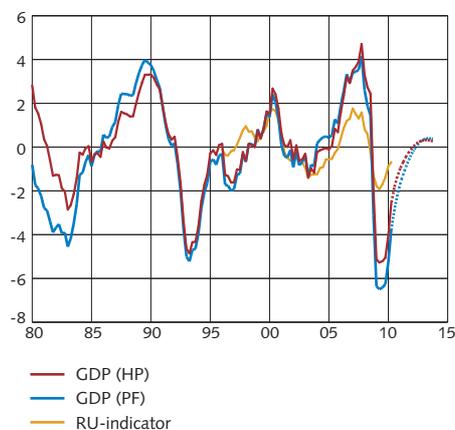
Underlying inflation measured as the CPIF, in which households' mortgage expenditure is held constant, has fallen over the past year (see Figure 1:31). This is linked to the low rate of increase in labour costs and to the stronger krona, which together have led to a decline in companies' costs. During the forecast period the labour market situation is expected to improve and the rate of wage increase to rise, which will contribute to an increase in inflationary pressures.

CPI inflation is expected to rise from the current level of almost 1.5 per cent to a peak of 2.7 per cent towards the end of 2013 (see Figure 1:31). The rising rate of increase in the CPI is partly due to households' mortgage rates increasing when the Riksbank raises the repo rate. CPIF inflation, on the other hand, is expected to rise more moderately and amount to around 2 per cent towards the end of the forecast period. In the longer run, when the repo rate has reached more normal levels, CPI inflation is also expected to be around 2 per cent.

Energy prices will rise during the years ahead. According to forward pricing in the oil market, the oil price will rise gradually from the current level of just under 80 dollars a barrel to just under 90 dollars a barrel at the end of the forecast period. Electricity prices are also expected to rise in line with forward pricing on the electricity market. The rate of increase in the CPIF excluding energy will thus be slightly lower than the rate of increase in the CPIF during the greater part of the forecast period (see Figure 1:31).

Over the past year, HICP inflation has been higher in Sweden than in the eurozone. One important reason for this is that the krona weakened substantially as a result of the crisis. Now that the krona has strengthened, inflation is instead expected to be lower in Sweden than in the eurozone over the coming year (see Figure 1:32).

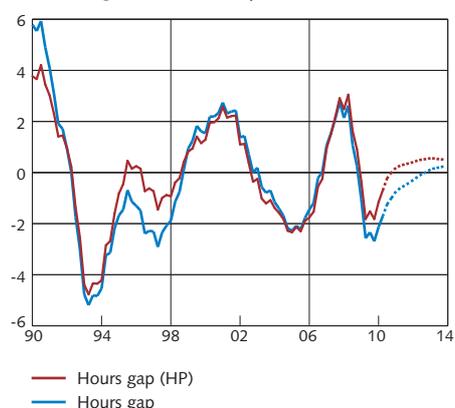
Figure 1:27. Output gap and RU-indicator
Percentage deviation from potential level



Note. GDP gap (HP) refers to the deviation from trend in GDP calculated with a Hodrick Prescott filter. The GDP gap (PF) refers to the deviation from trend in GDP calculated with a production function. The RU-indicator is normalized so that the mean value is zero and the standard deviation is 1. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 1:28. Hours gap
Percentage deviation from potential level



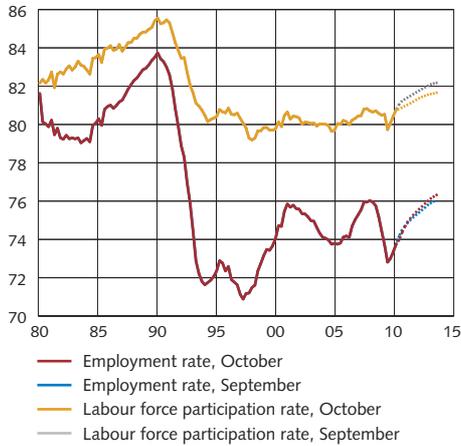
Note. The hours gap (HP) refers to the deviation from trend in the number of hours worked calculated with a Hodrick Prescott filter. The hours gap refers to the deviation in the number of hours worked from the Riksbank's assumed trend for the number of hours worked. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

⁶ See the document "The Riksbank's company interviews in September 2010", on the Riksbank's website www.riksbank.se under the heading Press & published/Reports.

Figure 1:29. Employment and labour force participation rates

Employment and labour force as a percentage of the population, 16-64 year, seasonally-adjusted data

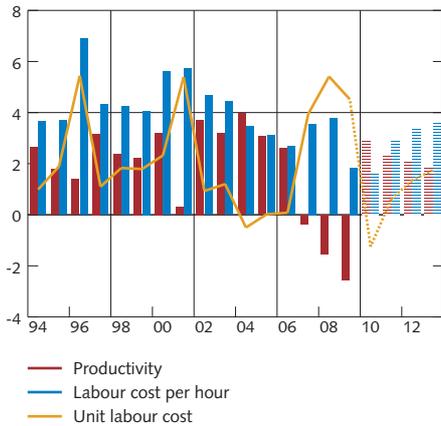


Note. Pre-1987 data has been spliced by the Riksbank. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 1:30. Unit labour costs for the economy as a whole

Annual percentage change

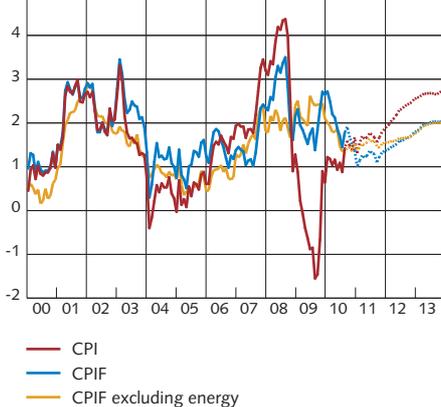


Note. Broken lines and striped bars represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 1:31. CPI, CPIF and CPIF excluding energy

Annual percentage change



Note. CPIF is CPI with a fixed mortgage interest rate. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Repo rate will increase as economic activity recovers

The forecasts in this report are based on an increase of the repo rate to 1 per cent in October (see Figure 1:33). GDP is now growing quickly and resource utilization is rising. Moreover, households' debts have increased substantially in recent years. If the increase in debts in relation to incomes continues over a long period of time, there is a risk of imbalances building up in the Swedish economy. To stabilise inflation close to our target of 2 per cent and, at the same time, attain a normal level of resource utilisation, the Riksbank's assessment is that it is appropriate to continue the normalisation of monetary policy that was initiated in the summer.

However, the current low level of resource utilisation and the low inflationary pressures justify the repo rate being lower than normal over the coming three years. As resource utilisation rises towards more normal levels and inflationary pressures increase again, the repo rate will be gradually raised. The forecast entails the real repo rate, which is currently negative, rising to just over 1 per cent at the end of 2012 (see Figure 1:34).

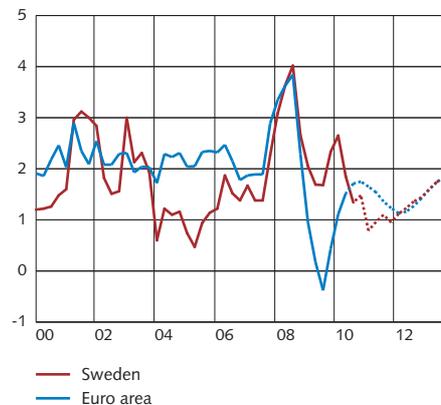
Another element in the normalisation of monetary policy is that all of the fixed-interest rate loans granted in 2009, to a total SEK 295 billion, have matured. The overnight market is functioning as it should and the maturities have not led to any major disruptions in the financial system as a whole.

Compared with the assessment made in September, the forecast for the repo rate is slightly lower (see Figure 1:33). Real economic developments in Sweden are expected to be stronger now than was forecast in September. This indicates a higher forecast for the repo rate. At the same time, the weak developments abroad mean that policy rates in other countries will be lower, which points to a lower interest rate in Sweden, too. In addition, the strong developments in Sweden have meant that the krona has strengthened more than anticipated. All in all, this is judged to mean that inflation will be slightly lower and that the repo rate needs to be raised slightly more slowly during the forecast period than we judged in September. The forecast for the real repo rate has also been adjusted down slightly (see Figure 1:34).

Main revisions since the Monetary Policy Update in September

- The forecast for GDP growth in Sweden has been revised up this year as a result of stronger outcomes and indicators.
- The forecasts for growth in the number of hours worked and for employment in Sweden have been adjusted upwards for the forecast period.
- The forecast for resource utilisation has been revised up slightly for the whole forecast period.
- The forecast for unemployment in Sweden has been adjusted down for the whole forecast period.
- The forecast for the rate of wage increase in Sweden has been revised down this year as a result of outcomes, but a better labour market situation justifies an upward revision to the forecast further ahead.
- The forecast for inflation has been revised down from 2011 onwards, as a result of higher productivity growth and a stronger krona.
- The forecasts for the repo rate and policy rates abroad have been adjusted downwards.

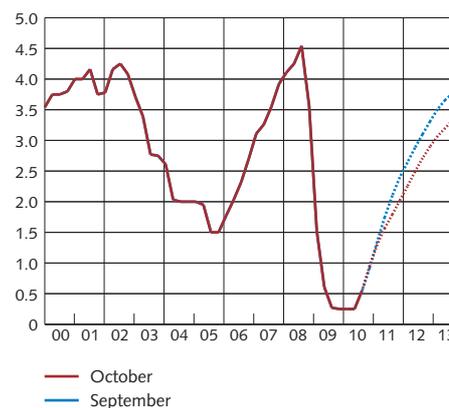
Figure 1:32. HICP in the euro area and in Sweden
Annual percentage change, quarterly data



Note. HICP is the Harmonised Index for Consumer Prices and is used to compare inflation rates in Europe. Its composition is similar to the CPIF.

Sources: Eurostat, Statistics Sweden and the Riksbank

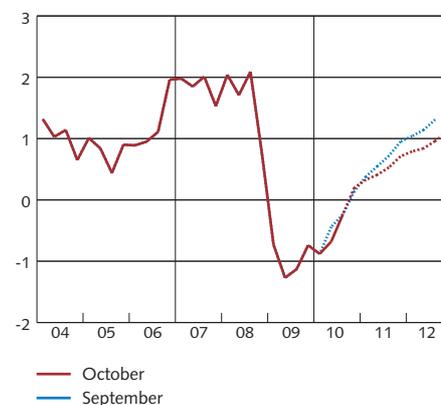
Figure 1:33. Repo rate
Per cent, quarterly averages



Note. Broken lines represent the Riksbank's forecast.

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. Broken lines represent the Riksbank's forecast.

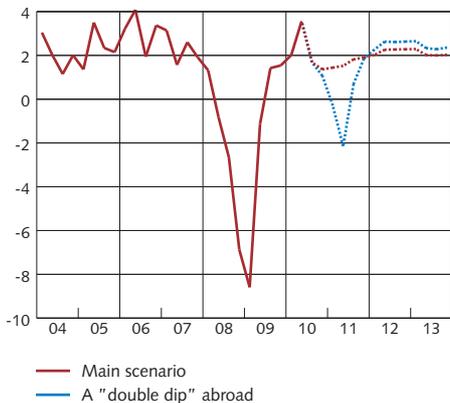
Source: The Riksbank

CHAPTER 2 – Alternative scenarios and risks

The rate of growth of the Swedish economy is currently high and the recovery is proceeding more rapidly than expected. With a gradual increase in the repo rate, resource utilisation is expected to be around the normal level at the end of the forecast period, at the same time as inflation will be close to 2 per cent. This presupposes, among other things, that international development continues as expected. A weakening of the US housing market would lead to renewed problems for the banking sector and to increased pessimism

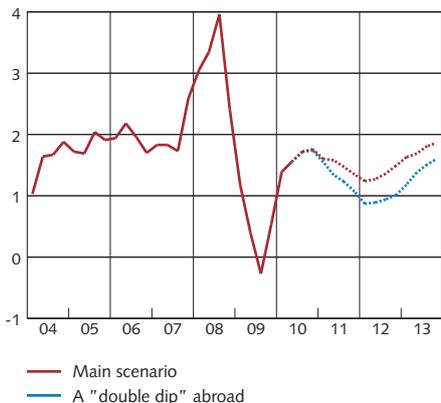
among households in the United States. Such, weaker development in the United States would then spread to Europe and the rest of the world via foreign trade. Such a scenario would entail the need to set the repo rate at a lower level than in the main scenario to prevent resource utilisation and inflation becoming too low. It is also possible that the upturn in the Swedish economy will be stronger than forecast in the main scenario. In such a scenario, there would instead be a need to raise the repo rate more rapidly.

Figure 2:1. GDP abroad
TCW-weighted, quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



Note. Broken lines represent the Riksbank's forecast.
Sources: National sources and the Riksbank

Figure 2:2. CPI abroad
TCW-weighted, annual percentage change



Note. Broken lines represent the Riksbank's forecast.
Sources: National sources and the Riksbank

Forecasts of future economic developments are always uncertain. There are a number of circumstances that could change the future course of economic development and thus justify a different direction for monetary policy than the one described in the main scenario. In this Chapter, the Riksbank presents two alternative scenarios for the development of the economy that differ from the main scenario. The aim of the scenarios is to highlight the uncertainty that prevails regarding future developments and the risks that are regarded as being particularly important at present. There are, of course, also a number of other uncertainty factors. These are reflected in the uncertainty bands around the forecast illustrated in Figure 1:4–1:7 in Chapter 1.

In the first alternative scenario a new dip occurs in economic activity abroad; i.e. there is a double dip. The development of the US housing market is assumed to be weaker than expected, which leads to renewed problems for the banking sector and increased pessimism among the households. Unemployment becomes entrenched at a high level and income growth slows down. The weaker development in the United States spreads to Europe and the rest of the world, partly through international trade. International growth and demand are thus weaker than in the main scenario. This results in both resource utilisation and inflation in Sweden being weaker. Monetary policy therefore becomes more expansionary than in the main scenario.

The second alternative scenario illustrates a more rapid and stronger upturn in the Swedish economy than assumed in the main scenario. The upturn is driven by increased optimism about the future which leads to an increase in the demand for consumer and investment goods. The labour market and productivity strengthen at a faster rate, which among other things leads to higher wages. All in all, this entails an increase in resource utilisation and rising inflation. The repo rate is thus increased slightly more rapidly than in the main scenario.

The chapter then goes on to describe the effects of two alternative courses of action for monetary policy. In a first scenario, the repo rate is increased more rapidly than in the forecast. The repo

rate is increased by 0.5 percentage points at each of the monetary policy meetings in October, December and February. In the second scenario, the repo rate is held at the current level until the end of the first quarter of 2011, and increases do not begin until the second quarter of 2011. In addition, there is a presentation of an illustrative calculation from the Riksbank's general equilibrium model ("Ramses") in which it is assumed that monetary policy in Sweden and abroad will develop in line with the so-called implied forward rates (see the article "The repo rate path and monetary policy expectations according to implied forward rates").

Alternative scenarios for economic development

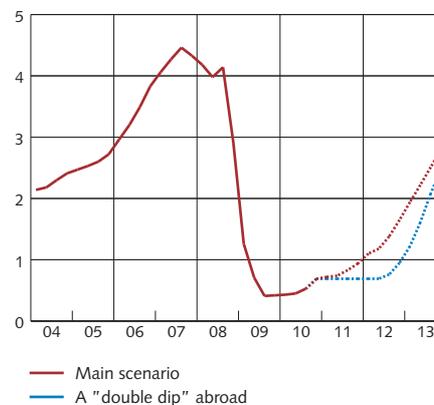
■ ■ A double dip abroad

In the United States, the development of the housing market has been weaker than expected in recent months. Sales of both new and old housing have fallen and the time that it takes to sell housing has continued to increase. If the housing market in the United States continues to develop weakly, this could lead to problems for the US banking sector and increased pessimism among the households, which in turn would lead to the risk of unemployment becoming entrenched at a high level.

Even weaker development in the United States would spread to Europe and the rest of the world through a fall in import demand after a quarter or so. The experience gained in recent years also indicates that financial unease can spread very quickly and have a major impact on confidence. As the situation is already strained in many countries, this could bring the upturn to a halt followed by a turnaround into a downturn in Europe too.

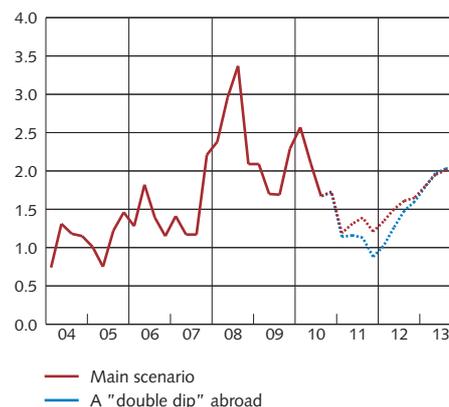
Resource utilisation and inflationary pressures are already low in many countries. There has been a downward trend in underlying inflation in the United States, for example, where it is now at its lowest level since the 1960s. In the eurozone too, the level of underlying inflation fell in 2009. A downward move in GDP growth abroad would further weaken the situation on the labour market and reduce inflationary pressures even more. In such a case, central banks abroad would choose to retain low policy rates for a longer period than assumed in the main scenario. As many countries already have problems with high central government debts and large budget deficits there would be limited opportunities to stimulate the economy using fiscal policy measures in several countries, which would add to the pressure to conduct an expansionary monetary policy. It is therefore not inconceivable that the central banks could take additional unconventional measures.

Figure 2:3. Interest rate abroad
TCW-weighted, per cent, quarterly averages



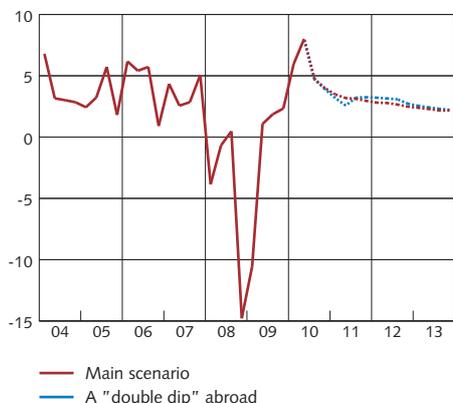
Note. Broken lines represent the Riksbank's forecast.
Sources: National sources and the Riksbank

Figure 2:4. CPIF
Annual percentage change, quarterly averages



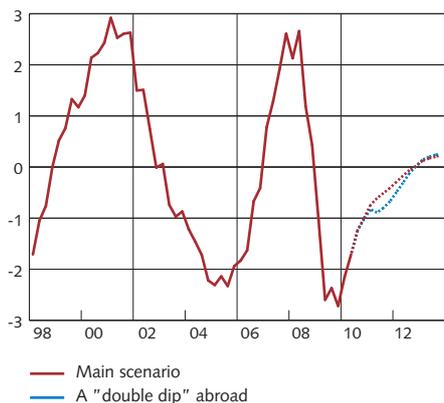
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:5. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:6. Hours gap
Percentage deviation from potential level



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

All in all, it is assumed that GDP growth among Sweden's most important trading partners (TCW weighted) will be approximately 1.4 percentage points lower than in the main scenario in 2011 and 0.2 percentage points lower in 2012. CPI inflation and policy rates abroad will be around 0.2 percentage points lower than in the main scenario in 2011. In the following year, the effects will be somewhat greater; CPI inflation will then be approximately 0.4 percentage points lower than in the main scenario and policy rates around 0.5 percentage points lower. Figures 2:1, 2:2 and 2:3 show the development of international GDP, CPI and policy rates in both the main scenario and the alternative scenario, while Table A8 presents annual averages.

International policy rates mainly affect the Swedish economy through their impact on the exchange rate. In the event that international policy rates are lower than the repo rate, the exchange rate will adapt such that the possibility of arbitrage is prevented. However, as the repo rate is also lowered in this scenario the effect on the exchange rate will be relatively moderate. The exchange rate will strengthen somewhat in 2011 but then weaken slightly (see Table A8). The exchange rate will in turn affect the Swedish economy by influencing import and export prices.

In a similar international scenario in the Monetary Policy Report of July 2010, the exchange rate weakened significantly. This was due to the assumption that investors' interest in retaining assets in Swedish krona declines in periods of financial unrest. In this international scenario, however, it is assumed that this will not happen. Interest in investing in Swedish assets instead increases somewhat initially as a result of the comparatively high interest rate in Sweden, which strengthens the exchange rate slightly. The main reasons for this are that there is now a much lower risk of further problems in the Baltic countries and that in many respects the Swedish economy is sound in an international comparison.

Inflation is affected by both price increases for domestic goods and those for imported goods. It can be said that the prices of imported goods are composed partly of the prices of foreign goods and partly of the level of the exchange rate. When inflation decreases abroad, the prices of imported goods also decrease. This, together with the fact that the level of the exchange rate is practically unchanged, means that CPIF and CPI inflation will be lower than in the main scenario. They will be approximately 0.2 and 0.5 percentage points respectively lower than in the main scenario in both 2011 and 2012 (see table A8 and Figure 2:4).

When GDP growth abroad slows down, the demand for Swedish goods declines and exports fall. The development of GDP is therefore weaker than in the main scenario. The lower level of demand also weakens the situation on the labour market. In 2011, the rate of

GDP growth and the hours gap will be around 0.2 per cent lower than in the main scenario (see Table A8). When international growth gathers momentum again in 2012, the demand for Swedish goods will increase and so will GDP growth. The development of the rate of GDP growth and of the hours gap is shown in Figures 2:5 and 2:6. In this scenario, it is assumed that contagion from abroad will primarily take place through trade. In the event that there are other effects, for example increased financial unease, these will increase the overall negative impact. The effects on the Swedish economy in this scenario are probably also a reasonable estimate of what would happen if the international recovery takes longer than forecast in the main scenario.

The lower level of resource utilisation and the lower inflationary pressures in the alternative scenario justify the repo rate following a more expansionary path than in the main scenario. In 2011, the repo rate will be approximately 0.4 percentage points lower than in the main scenario and in 2012 it will be around 0.7 percentage points lower (see Table A8). The development of the repo rate is shown in Figure 2:7.

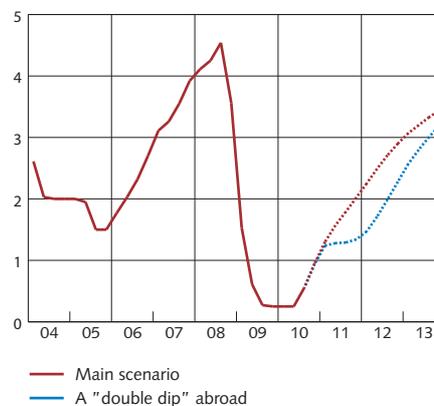
■ ■ More rapid upturn in the Swedish economy

The high level of domestic demand has increased further recently. The outcome for GDP was higher than expected in the second quarter of this year. The growth rate for investment was also better than expected in the second quarter and the growth rate for consumption has been relatively high during the first six months of 2010.

The traditional pattern in an upturn is that activity on the labour increases with a certain time lag; that is production gathers momentum first and then the situation on the labour market improves after a while. At present, however, the upturn in production and the upturn in employment are taking place more or less in parallel. The company interviews that the Riksbank conducted in September 2010 indicate that there are already signs of a shortage of labour in certain sectors. Normally, a high demand for labour leads to a higher rate of wage increases. Productivity has picked up as a result of the strong growth in demand. Productivity growth is particularly strong in the manufacturing industry.

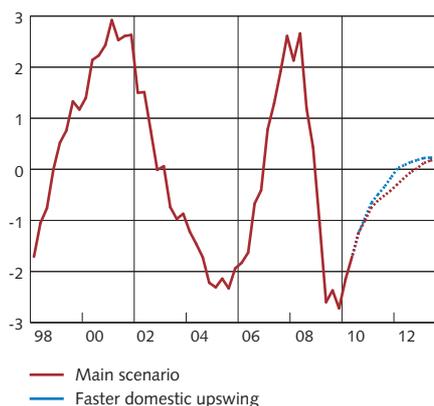
According to current statistics, the rapid growth of GDP is driven by strong growth in consumption and investment, a relatively high rate of growth in productivity and an improvement in the development of the labour market. However, in contrast to previous upturns, it does not appear that net exports are a driving force. Although exports have increased significantly, imports have increased as much or more as a result of a considerable import content in consumption and investment. Domestic demand thus plays a more important role in this upturn than in previous upturns.

Figure 2:7. Repo rate
Per cent, quarterly averages



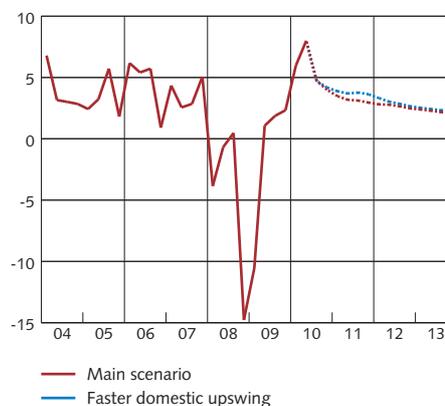
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:8. Hours gap
Percentage deviation from potential level



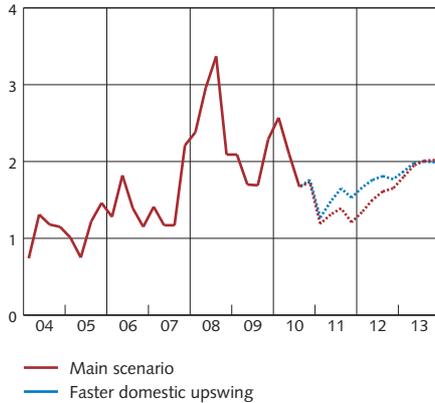
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

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



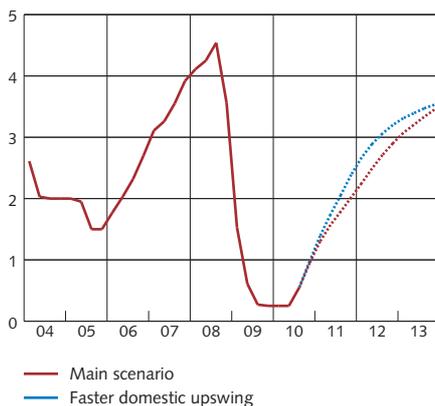
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:10. CPIF
Annual percentage change, quarterly averages



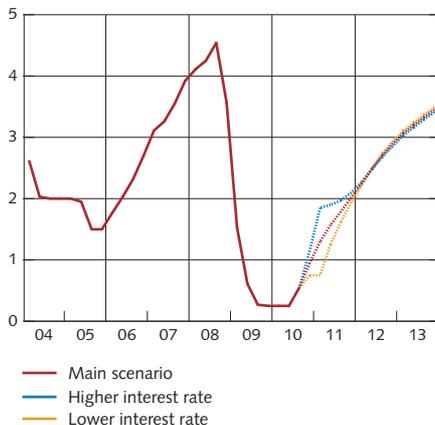
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

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



Note. Broken lines represent the Riksbank's forecast.
Source: The Riksbank

Figure 2:12. Repo rate assumptions
Per cent, quarterly averages



Note. Broken lines represent the Riksbank's forecast.
Source: The Riksbank

The driving forces in the scenario are increased optimism about the future and a stronger development in productivity which are leading to an increase in the demand for consumer and investment goods. The labour market improves even faster than in the main scenario, which leads to higher wages. It is assumed that the driving forces will primarily materialise in 2011. The rate of growth in consumption will then be approximately 0.8 percentage points higher than in the main scenario, while the rate of growth in investment will be approximately 2.3 percentage points higher. The growth in labour productivity will be around 0.2 percentage points higher. An increased demand for labour together with higher productivity will push up labour costs per hour and nominal wages by approximately 0.6 percentage points above the level in the main scenario. The rates of growth of consumption, investment, labour productivity and labour costs per hour are shown in Table A9.

It is assumed that there will be an increase in the optimism of the households and their willingness to consume. The companies will increase their demand for investment goods. This will increase production and the demand for labour. The higher demand for consumer and investment goods will thus increase employment and the number of hours worked. The hours gap will be approximately 0.2 percentage points higher than in the main scenario in 2011 and 2012 (see Figure 2:8 and Table A9). The effect will be no higher than this is because a more rapid development of wages tends to reduce the companies' demand for labour. The rapid development of wages and the higher level of employment also give households scope for increased consumption.

Total production or GDP are largely determined by labour productivity and the number of hours worked. The capital stock increases when investment increases, which tends to have a positive effect on labour productivity. An increase in the pace of technological development also has a positive impact on labour productivity. This, together with an increase in the number of hours worked, drives up the growth of GDP. The increase will be approximately 0.3 percentage points higher than in the main scenario in 2011 and 2012 (see Figure 2:9 and Table A9).

The companies normally set prices as a supplement over and above production costs. These costs mainly consist of wage costs, but interest costs also play a part. Productivity also affects a company's costs. Higher wages therefore tend to push up prices while higher productivity, on the other hand, tends to squeeze them. In the scenario, the companies' margins or price supplements are unchanged. All in all, prices, and therefore inflation, will increase (see Figure 2:10). During 2011 and 2012, both CPI and CPIF inflation will be between 0.2 and 0.3 percentage points higher than in the main scenario (see Table A9).

The increased inflationary pressures and the higher level of resource utilisation in this alternative scenario are reasons for raising the repo rate. During 2011 and 2012, the repo rate will be on average 0.3 percentage points higher than in the main scenario (see Table A9 and Figure 2:11). As the repo rate increases somewhat more than inflation the real interest rate will be higher than in the main scenario, that is monetary policy will be more contractionary.

Alternative scenarios for the repo rate

This section describes how the development of the economy could be affected if the Riksbank were to conduct a different monetary policy than the one assumed in the main scenario. This is done by means of two alternative paths for the repo rate, which are intended to illustrate how economic developments can be affected if the Riksbank sets the repo rate higher, or lower, than in the main scenario. The scenarios represent relatively mechanical illustrative calculations performed using Ramses, the Riksbank's general equilibrium model.

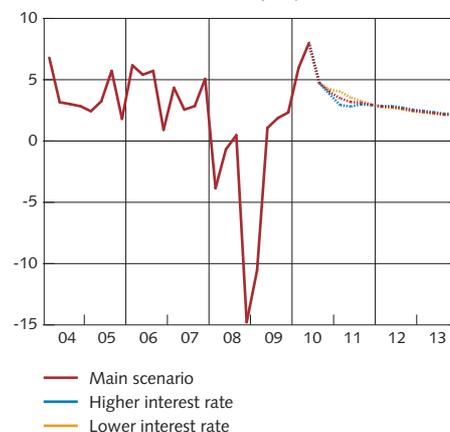
In the first scenario the Riksbank conducts a less expansionary monetary policy by raising the repo rate by 0.5 percentage points at each of the monetary policy meetings in October, December and February. From the second quarter of 2011, the repo rate gradually approaches the repo rate path in the main scenario (see Figure 2:12 and Table A10).

The higher repo-rate level has the effect that household consumption declines and companies are more restrictive in their investments than in the main scenario. The exchange rate also strengthens more than in the main scenario, which dampens exports. The lower exports and lower domestic demand slow down GDP growth (see Figure 2:13), which leads to a decline in demand for capital and labour. Resource utilisation therefore decreases in relation to the level in the main scenario (see Figures 2:14, 2:15 and 2:16). Wages are therefore also lower than in the main scenario. This will result in lower company costs and lower CPI inflation (see Figure 2:17). CPI inflation will also be lower in the long term (see Figure 2:18). In the short term, however, the higher repo rate will lead to an increase in the households' mortgage rates, which will push up CPI inflation.

In the second scenario, the Riksbank instead conducts a more expansionary monetary policy, where the repo rate remains at 0.75 per cent until the end of the first quarter of 2011. The Riksbank does not begin to increase the repo rate until the second quarter of 2011, and it is back in line with the repo-rate path in the main scenario at the beginning of 2012 (see Figure 2:12 and Table A11).

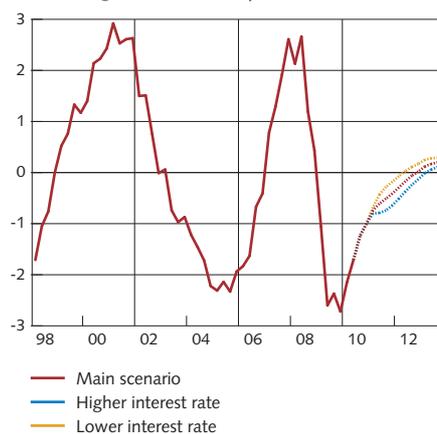
The lower repo rate stimulates GDP growth (see Figure 2:13). Compared with the main scenario, the lower repo rate encourages

Figure 2:13. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



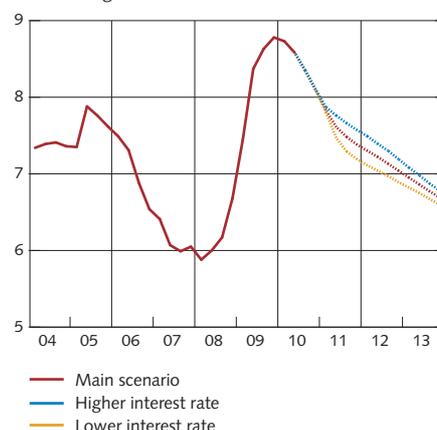
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:14. Hours gap
Percentage deviation from potential level



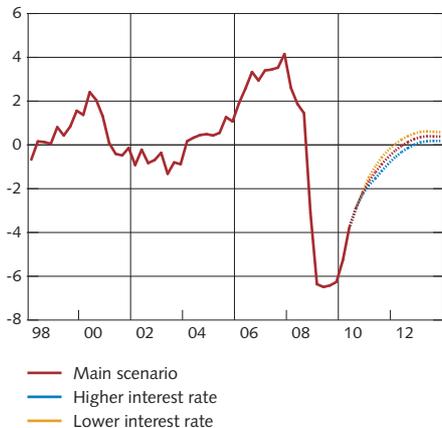
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:15. Unemployment
Percentage of labour force



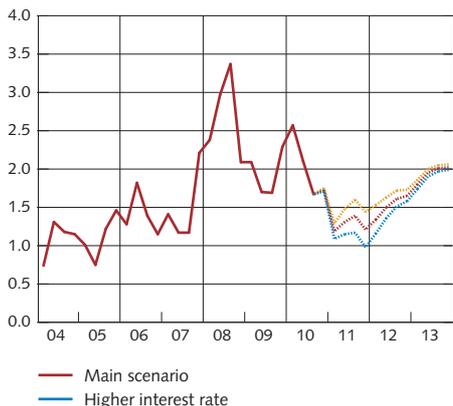
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:16. Output gap (GDP)
Percentage deviation from potential level



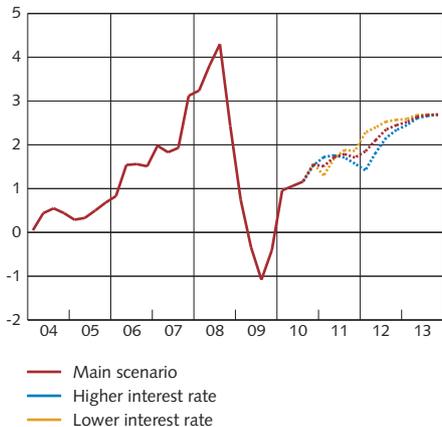
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:17. CPIF
Annual percentage change, quarterly averages



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 2:18. CPI
Annual percentage change, quarterly averages



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

households and companies to consume and invest more. This in turn leads to an increase in resource utilisation (see Figures 2:14, 2:15 and 2:16). The increased demand means that production will grow more quickly than in the main scenario and will push up the demand for labour. Wages will rise more quickly, which will increase production costs. Companies will allow the higher costs to have an impact in the consumer channel and CPIF inflation will therefore be higher than in the main scenario (see Figure 2:17). However, it is not only higher domestic production costs that contribute to the higher rate of inflation. The lower repo rate will also lead to a weakening of the exchange rate compared to the main scenario, which will lead to higher inflationary pressures via higher import prices. CPI inflation will also be higher in the long term (see Figure 2:18). In the short-term, however, it will be lower as the lower repo rate will reduce the households' mortgage rates, thus keeping CPI inflation down.

The Riksbank conducts what is known as flexible inflation targeting. This means that the Riksbank, in addition to stabilising inflation around the inflation target, also strives to stabilise resource utilisation around a level that is sustainable in the long term. There are, however, no simple and unassailable criteria that can be used to determine which monetary policy provides the best economic outcome. For example, the Riksbank's final assessment of resource utilisation does not reflect a specific gap (for hours, employment, unemployment or production) but is an overall assessment that is often expressed as "higher than normal", "normal" or "lower than normal" (see also the discussion of resource utilisation in Chapter 1). The Riksbank may also, in certain situations, need to take account of other factors than inflation and resource utilisation in its repo-rate decisions (see "Monetary Policy in Sweden" 2010). In the main scenario, monetary policy is judged to be well-balanced.

Although CPI inflation is slightly above the target of 2 per cent, this is reasonable given the deep recession we are now recovering from. This has required large variations in the repo rate, which has a substantial effect on households' mortgage rates, which are included in the CPI. CPI inflation will therefore be higher than underlying inflation for a period of time. At the end of the forecast period underlying inflation will be close to 2 per cent, which indicates inflationary pressures acceptable in the long term. Resource utilization will rise to normal levels during the forecast period, some measures rising quickly and others slowly.

CHAPTER 3 – The current state of the economy

This chapter includes a report on information received since the Monetary Policy Update was published in September and the Riksbank's assessment of economic prospects in the coming quarters. GDP in Sweden is now the fastest-growing in the EU, at the same time as the labour market is continuing to improve. Both government finances and GDP are developing better than in a number of other countries. This has contributed towards the strengthening of the Swedish krona since the summer, which has now returned to the levels prevailing before the financial crisis. Recently, the krona has also appreciated at a rate above that forecast in the Monetary Policy Update in September.

Global development continues to be divided – for example, growth is high in parts of Asia and South America, while it is weak in parts of Europe. As regards the US economy, uncertainty continues to be great. GDP growth in the United States has dampened and the development of the US labour market has been weak.

During the autumn, the financial markets have continued to be characterised by concern over the sustainability of government finances in highly indebted European countries, even if this concern has been less acute than it was in the spring. As a consequence of the uncertainty surrounding economic development and the weak government finances in many countries, monetary policy expectations are low abroad.

Policy rate expected to be raised in Sweden

The raising by the Riksbank of the repo rate to 0.75 per cent in September was expected and the decision only led to minor movements in market interest rates. Since the publication of the most recent Monetary Policy Update, monetary policy expectations have shifted upwards, in terms of the market's pricing of forward rates. Two further interest rate increases of 0.25 percentage points have been included in the market's pricing during the autumn. Later on in the forecast period, forward rates are still below the Riksbank's repo rate path. However, according to surveys, monetary policy expectations are higher than indicated by forward rates (see Figure 1:8).

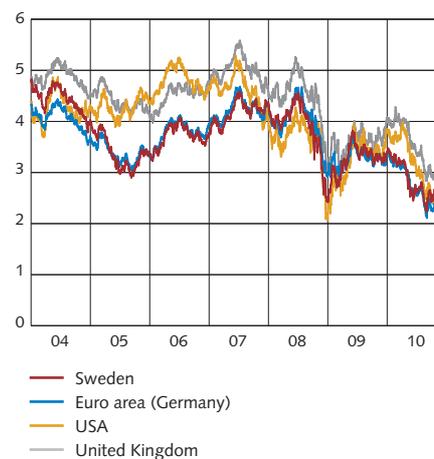
At the same time as forward rates have increased, both short-term and long-term government bond rates have increased since September. The two-year government bond rate decreased during the summer in line with international developments, but showed an upturn again in conjunction with the interest rate raise and the faintly positive economic data from the United States. The ten-year rate shows the same pattern (see Figure 3:1).

The increase in interest rates during the autumn has been greater in Sweden than abroad, which is probably an effect of the strong Swedish economic statistics. Interest rates for longer-term inflation-indexed bonds in Sweden have declined, which, together with rising nominal interest rates, has contributed to higher break-even inflation over the period.⁷

Interest rate rises expected to take longer abroad

Due to the remaining unease over economic development and weak government finances in many countries, monetary policy expectations are generally low abroad (see Figure 1:9). Policy rates are expected to remain low in the United Kingdom and United States for a long period of

Figure 3:1. Government bond rates
Percent

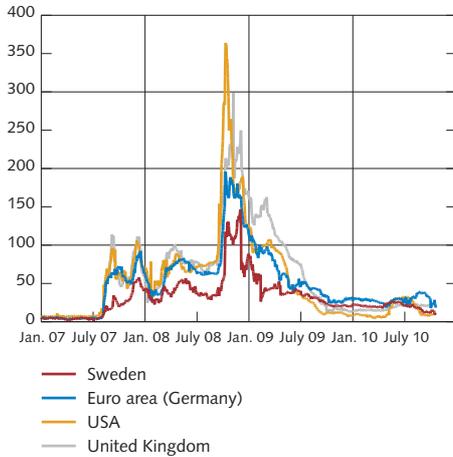


Note. Government bonds with approximately 10 years left to maturity

Source: Reuters EcoWin

⁷ Break-even inflation is normally calculated as the difference between nominal and real interest rates with the same maturity.

Figure 3:2. Difference between interbank rates and expected monetary policy (Basis spread)
Basis points



Note. The spread is calculated as the difference between the three-month interbank rate and the three-month overnight indexed swap.

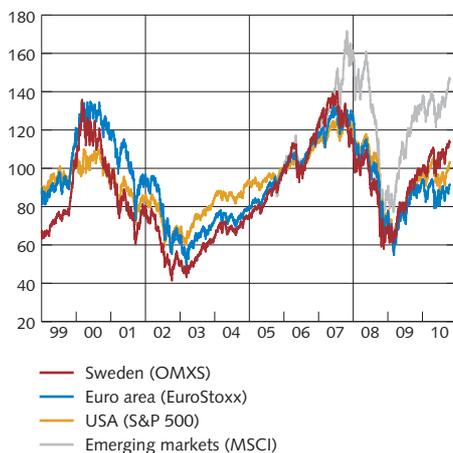
Sources: Reuters EcoWin and the Riksbank

Figure 3:3. Exchange rates
SEK per euro and dollar



Source: The Riksbank

Figure 3:4. Stock market movements
Index, 3-1-2006 = 100



Source: Reuters EcoWin

time to come, and the US central bank, the Federal Reserve has signalled its preparedness to undertake further extraordinary measures. In the eurozone, an initial increase of the policy rate (the REFI rate) is not expected for at least one year. The major fixed-interest rate loans offered by the ECB since 2009 to the European banks have decreased in extent, which has contributed towards a rise in the shortest interest rate, Eonia. Expectations of the policy rate's level in the longer term have also increased slightly since September (see Figure 1:9). At the same time, the ECB's purchases of government bonds increased during the autumn, which was connected with increased unease over the development of the Irish and Portuguese economies.

■ ■ Higher money market rates after interest rate raises and maturity of loans

The three fixed interest-rate loans in a total amount of SEK 295.3 billion provided by the Riksbank to the banks during 2009 have matured during the summer and autumn. With this, the Riksbank has largely wound up the extraordinary measures it implemented during the financial crisis. Variable-rate loans in a lesser amount will fall due later in the year and at the start of January. In that surplus liquidity in the banking system has been reduced and has returned to more normal levels, market interest rates for the banks' liquidity management have also risen slightly. As the banks have now largely returned to managing their liquidity themselves on the overnight market, a transition period, with increased volatility in interbank rates with very short durations is being experienced. The difference between the interbank rate and the expected three-month policy rate, the basis spread, has decreased somewhat during the summer (see Figure 3:2). The basis spread in the United States and the euro zone has shrunk during August and September.

■ ■ Swedish krona returns to pre-crisis levels

The Swedish krona has strengthened over the summer and, in trade-weighted terms, is now back on the levels prevailing before the crisis (see Figure 3:3). Fundamental factors have contributed towards this strengthening of the krona. Swedish public finances are stronger and GDP growth is higher than in a number of other countries. The expected higher Swedish policy rate relative to other countries has also contributed to a stronger krona rate. At the same time, the uncertain economic prospects and low expected policy rate in the United States have led to a weakening of the US dollar against several other major currencies.

■ ■ Increases on the stock exchanges

The Swedish stock market has risen significantly during the year, while many European stock market indices have fallen since the start of the year (see Figure 3:4). Among other factors, developments on the stock markets depend upon positive reports from Swedish companies. Stock market volatility has fallen to the low levels prevailing before the financial crisis broke out in the autumn of 2008.

■ ■ International economic activity – more normal rate of recovery

The recovery of the world economy is continuing, albeit at a somewhat more normal rate. In recent months, world trade has not grown as rapidly as it did earlier in the year. Just as in the last 10 years, trading volumes have increased significantly more rapidly in emerging economies than in developed economies. Levels in both cases have now largely recovered after the major decline in 2008 (see Figure 3:5). Indicators such as the purchasing managers index and order intake have now dampened somewhat, although this has been from high levels, and unemployment in the developed economies has now stabilised or is decreasing slowly from a high level.

■ ■ Asia – growth at a calmer pace

Published statistics from China now indicate more stable development after the slowdown occurring in the second quarter. Industrial production grew slightly more rapidly in August than in July and the purchasing managers index for the manufacturing sector rose in August and September. There was a clear decline in exports in August, compared with July, but this was probably partially the effect of the abolition of tax rebates for export goods. During 2010, GDP growth in China and India has recovered after the downturn in 2008 and 2009 (see Figure 3:6).

Japan's GDP growth for the second quarter was revised upwards significantly, from 0.4 per cent to 1.5 per cent on an annual rate. However, confidence indicators weakened somewhat in Japan, and there is concern that the strong yen will have a negative impact upon exports. In September, the Japanese central bank intervened on the foreign exchange market for the first time since 2004, with the aim of weakening the yen.

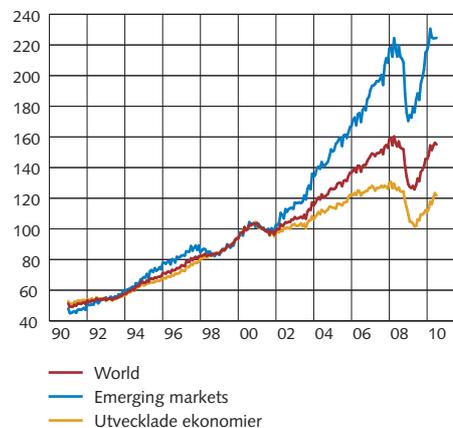
■ ■ Russia and Brazil also growing at stable rates

GDP in Brazil also continued to increase rapidly during the year's second quarter. GDP growth so far this year is approximately 9 per cent (see Figure 3:6). Inflation was 4.5 per cent in August, in line with the inflation target. The rate of inflation has decreased in recent months at the same rate as the country's central bank has raised the policy rate. Russia has also experienced positive growth for two quarters after having experienced negative growth for the whole of 2009. In August, inflation, which had been steadily decreasing since the end of 2008, increased due to higher food prices. It now amounts to 6.1 per cent in terms of CPI.

■ ■ United States – uncertainty continues to be great

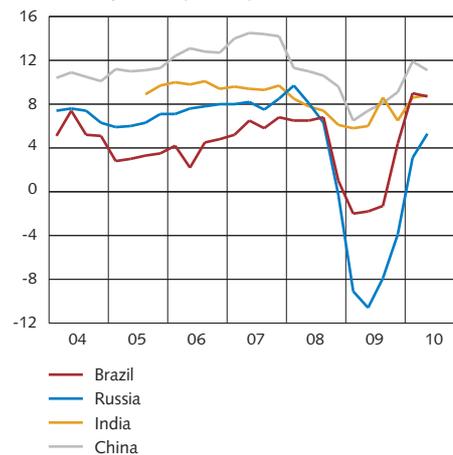
In the United States, GDP growth in the second quarter of this year was 1.7 per cent calculated as an annual rate (see Figure 3:7). Both consumption and investment have started to increase. Uncertainty over the continued development of the US economy is great. According to the purchasing managers index, companies' expectations fell for the manufacturing sector in September, at the same time as they increased

Figure 3:5. World trade volume
World Trade Monitor index, 2000 = 100
seasonally adjusted data



Source: Netherlands Bureau for Economic Policy Analysis

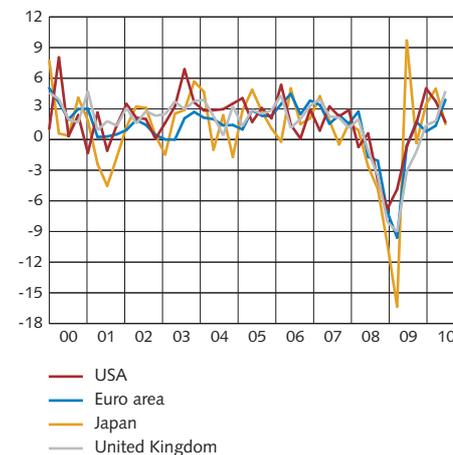
Figure 3:6. GDP in the BRIC countries
Annual percentage change



Note. BRIC stands for Brazil, Russia, India and China.

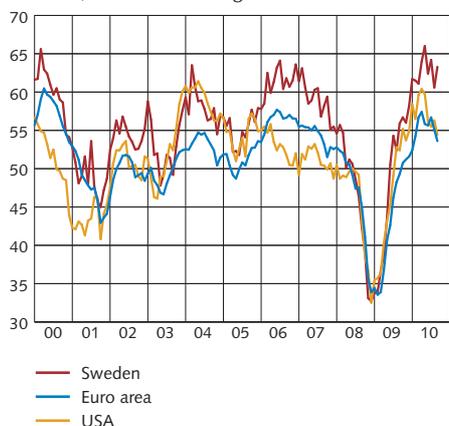
Sources: IMF and National Bureau of Statistics of China

Figure 3:7. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



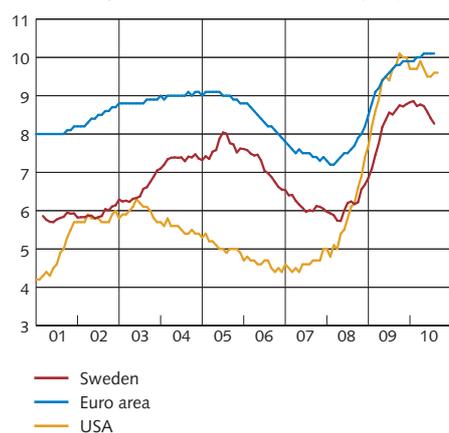
Sources: Bureau of Economic Analysis, Cabinet Office Japan, Eurostat och Office and National Statistics UK

Figure 3:8. Purchasing manager's index, manufacturing sector
Index, over 50 indicates growth



Sources: Institute for Supply Management, Markit Economics and Swedbank

Figure 3:9. Unemployment
Percentage of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics, Eurostat and Statistics Sweden

Figure 3:10. Consumer prices
Annual percentage change



Sources: Bureau of Labor Statistics, Eurostat and OECD

for the service sector (see Figure 3:8). The index currently remains on a level indicating continued positive growth. The same pattern applies for new orders – they are increasing in the service sector, but decreasing in the manufacturing sector. Export growth dampened in August. The most recent statistics indicate that the housing market declined to a greater extent than expected after government subsidies for housing purchases were discontinued. Sales of both new and old housing decreased in July and only increased marginally in August. The time taken to sell residential properties increased in July, before decreasing marginally in August. The level of housing construction and granted planning permission continues to be low.

Uncertainty is also great as regards the future fiscal stance. Together with lower economic growth, previously-implemented fiscal policy stimulation measures have contributed to a rapid deterioration of public finances. The budget deficit in the public economy as a whole, as a proportion of GDP, increased slightly in the second quarter of this year, to just above 11 per cent. This is only a marginally lower level than the peak of just above 12 per cent seen in the spring of 2009.

■ ■ Continued weak US labour market

Employment throughout the US economy decreased in August and September. In the private sector, employment only increased marginally. Unemployment thus remains on a high level, with the risk being that it will become entrenched at this level (see Figure 3:9). Long-term unemployment showed a clear decline in August and September, but remains on a very high level, historically. At the same time, companies have the financial scope to increase new recruitment or investment. The interest rates faced by companies are very low, in a historical perspective. Companies' profits have continued to increase, forming a relatively high proportion of GDP during the second quarter, which is positive for growth prospects. In addition to the factors mentioned above, the development of the housing market and the future direction of fiscal policy will probably have significance for the development of the labour market.

Despite the high level of unemployment, households have continued to increase consumption, which rose clearly in July and August. It is also positive that increasing numbers of households can once again afford to buy homes, due to the lower housing prices and all-time low mortgage rates. Together with the low rate of inflation, this has increased households' scope for consumption. However, according to the University of Michigan index, consumer confidence fell in September, and it remains uncertain to which degree households will choose to spend or save in the period ahead. This will also depend upon the development of the housing market and the direction of fiscal policy in the period ahead.

Low unit labour costs are contributing towards decreasing inflation. In September, CPI inflation amounted to 1.1 per cent (see Figure 3:10). Underlying CPI inflation, adjusted for energy and food prices, decreased to 0.8 per cent (see Figure 3:11).

■ ■ The eurozone – dampening after strong second quarter

Growth in the eurozone was unexpectedly strong during the second quarter. Both strong exports and strong domestic demand contributed towards the increase of GDP growth to 3.9 per cent on an annual rate (see Figure 3:7). Investments in particular, as well as consumption, contributed positively towards growth. The stronger level of domestic demand also pushed imports up. At the same time, it is apparent that parts of the eurozone are continuing to benefit from higher demand from emerging economies and from the upturn in global trade. Germany experienced rapid growth in the second quarter, while growth rates in France, Italy and Spain were below the average rate for the eurozone (see Figure 3:12). In all countries in the eurozone, GDP is still on a lower level than prevailed before the crisis.

For the eurozone as a whole, there is reason to believe that the higher level of domestic demand during the second quarter was partly temporary and that the growth rate will dampen during the year's second half. For example, cold weather during the first quarter probably contributed towards delaying housing investments, which then pushed up the increase of investments during the second quarter. Furthermore, consumption in Spain in the third quarter was probably affected by planned VAT increases. Industrial production for the eurozone as a whole has recovered since the spring of 2009, but remains on a lower level than prevailed before the crisis. Following some slowdown during the summer, industrial production increased again in August. However, in recent months, orders have fallen off slightly. Indicators of expectations such as the purchasing managers index are continuing to indicate growth, at the same time as they point to a dampening of the rate during the second six months (see Figure 3:9).

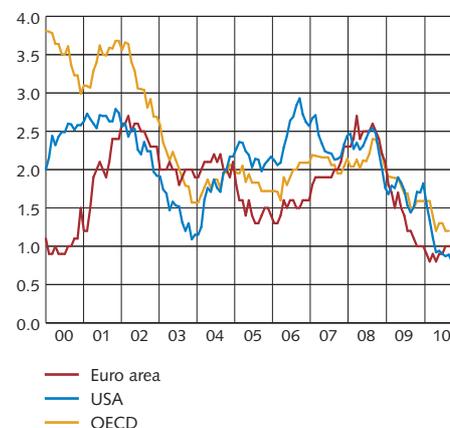
■ ■ Fiscal policy tightening started in eurozone

A couple of euro countries have already started tightening their fiscal policies through such measures as increased VAT rates, which are expected to have a dampening effect on demand. It is deemed possible to tighten fiscal policy in the euro area smoothly, even if there is a risk that the measures proposed will not be considered sufficient or credible. For example, different measures of risk, such as CDS premiums and the rate differential towards Germany, increased for Ireland and Portugal during the autumn (see Figure 3:13). In Ireland's case, concern over public finances has increased at the same rate as the government has provided new support measures to the banking system. However, both countries have succeeded in issuing government bonds, albeit at higher interest rates than during the summer. Even Greece has issued treasury bills, as planned.

■ ■ Unchanged unemployment in the eurozone

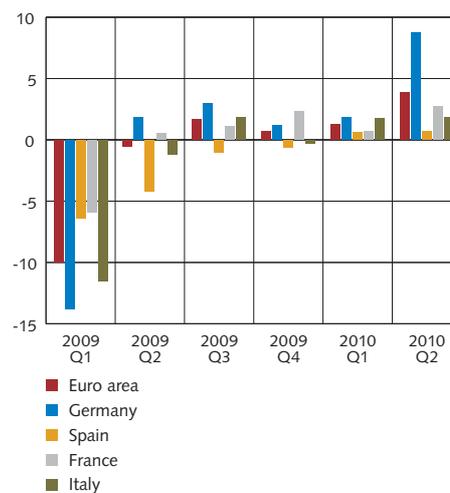
For the eurozone as a whole, unemployment has been close to 10 per cent in the last six months (see Figure 3:9). In Germany, unemployment did not increase particularly greatly during the crisis and is now lower than historical relationships with GDP would indicate. One possible reason for

Figure 3:11. Consumer prices excluding energy and food
Annual percentage change



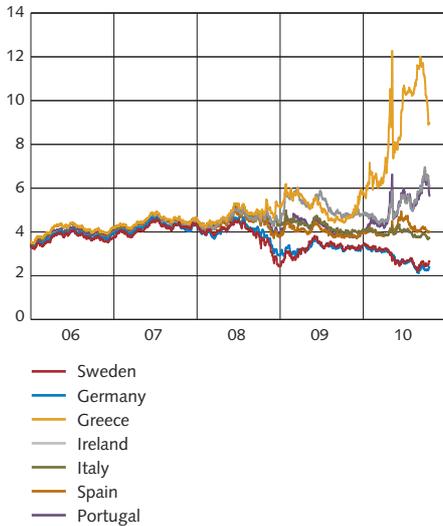
Sources: Bureau of Labor Statistics, Eurostat and OECD

Figure 3:12. GDP growth in the euro area's largest economies
Quarterly growth in per cent calculated as an annual rate



Source: Eurostat

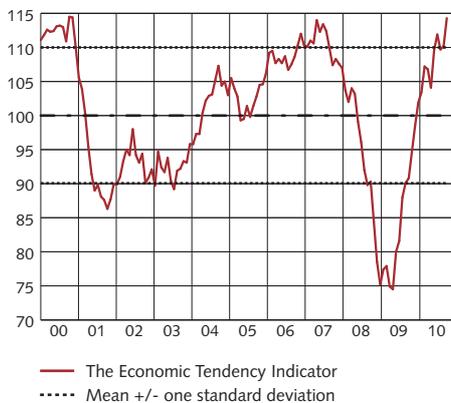
Figure 3:13. Government bond rates in various countries
Per cent



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

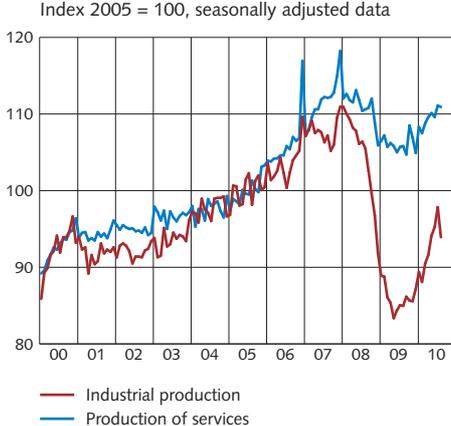
Source: Reuters EcoWin

Figure 3:14. The Economic Tendency Indicator
Index, mean = 100, standard deviation = 10



Source: National Institute of Economic Research

Figure 3:15. Industrial production and the production of services
Index 2005 = 100, seasonally adjusted data



Source: Statistics Sweden

this is the public support measures, which were intended to encourage companies to retain their personnel during the crisis by reducing working hours instead. Another is the labour market reforms that Germany implemented in 2003–2005, which have benefitted development. In September, unemployment in Germany reached 7.5 per cent after having successively decreased over the previous year. This has probably contributed towards the increased consumer confidence in Germany, which now lies above the historical average.

Resource utilisation continues to be low, which is expected to dampen the rate of price increases in the period ahead. The rate of inflation in the eurozone was 1.8 per cent in September and is expected to remain at over 1.5 per cent until the end of the year (see Figure 3:10). If energy and certain foodstuffs are excluded, the rate of inflation is low. In recent months, it has been close to 1 per cent (see Figure 3:11).

■ ■ The rest of Europe – continued economic recovery

In the United Kingdom, GDP increased by 4.7 per cent on an annual rate during the second quarter (see Figure 3:7). This increase was largely due to increased consumption among households and the increased build-up of stocks. However, the development of several parts of the economy has been weak in recent months. For example, industrial production has remained largely unchanged in recent months. Companies' optimism has also dampened somewhat after having increased strongly at the start of last year. Household optimism has dampened noticeably since the start of the present year. One probable contributory cause is the weak development of the labour market. Unemployment has remained largely unchanged at just below 8 per cent since the start of last year. The weak development of the housing market may also have contributed, as house prices have started to decrease again, according to the Halifax House Price Index. In August, house prices were approximately 20 per cent lower than the pre-crisis peak. At the same time, inflation has been above 3 per cent the entire year, which is largely due to increased VAT and a weak exchange rate.

In Norway, GDP for the mainland economy increased by just over 2 per cent on an annual rate during the second quarter. Industrial investments and exports outside the oil sector contributed to this increase. However, growth in the economy as a whole, i.e. including income from the oil industry, was only 0.3 per cent on an annual rate. In recent months, the rate of CPI inflation has been just below 2 per cent, reaching 1.7 per cent in September. In Denmark, the economic recovery is continuing, with GDP increasing surprisingly rapidly, almost 4 per cent on an annual rate during the second quarter. The strong development of exports, combined with increased public consumption and an increased contribution from stocks, contributed towards this growth. The rate of CPI inflation was 2.6 per cent in September. In Finland, which is part of the eurozone, GDP increased by 7.8 per cent on an annual rate during the second quarter. Housing investments and exports contributed to this increase. The rate of inflation was 1.4 per cent in September.

■ ■ Strong growth in Sweden

Compared with the first quarter, GDP in Sweden increased in the second quarter of the year by almost 8 per cent, calculated as an annual rate. Compared with the second quarter of the previous year, GDP increased by 4.6 per cent (calendar-adjusted). This was a clearly stronger result than was reported in the preliminary National Accounts figures available prior to the monetary policy meeting in September. Statistics Sweden has revised the quarterly change in GDP upwards by almost 4 percentage points on an annual rate, which is the most extensive revision since the preliminary version of GDP started to be published in 1996. Stockbuilding and public consumption, above all, developed more strongly than reported in the preliminary version.

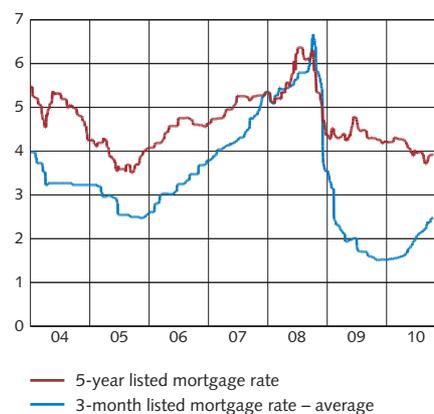
For the third quarter, there exists information from business tendency surveys and purchasing managers indices for all three months, while monthly outcomes in the form of hard data, such as goods and services production, are available for the two first months. All of these indicators point to continued strong growth during the second six months of 2010.

■ ■ GDP growth stronger than normal over the short term

According to the National Institute of Economic Research's Economic Tendency Survey, the state of the Swedish economy is "much stronger than normal", which should be interpreted as meaning that GDP growth is higher than normal.⁸ The indicator is clearly above the historic average and, since the end of 2009, has been on a level indicating that the mood of companies and households is brighter than normal (see Figure 3:14). Industrial production has increased rapidly since the start of the year, but decreased again relatively rapidly in August. Industrial production remains on a lower level compared with 2008, before the crisis. The production of services has also continued its recovery in recent months. During the crisis, production decreased significantly more in the manufacturing sector than in the services sector (see Figure 3:15).

The results from the Riksbank's company interviews in September match the picture painted by other indicators.⁹ The general view presented by companies of economic activity is that it has continued to strengthen on a broad front. Most companies expect economic activity to improve further over the next six month period, albeit at a somewhat decreasing rate. However, many companies still feel uncertain of the strength of the upturn. All in all, newly-received information for the Swedish economy indicates continued strong growth during the second half of 2010. GDP growth for the whole year 2010 is expected to be 4.8 per cent, an upwards revision of 0.7 per cent compared with September's forecast.

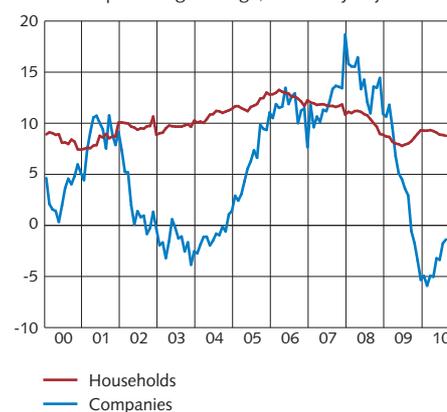
Figure 3:16. Mortgage rates in Sweden
Per cent



Note. Listed mortgages, average of the rates that Nordea, SBAB, SEB, Spintab and Stadshypotek publish in newspapers etc.

Sources: Nordea, Reuters EcoWin, SBAB, Statistics Sweden, SEB, Spintab, Stadshypotek and the Riksbank

Figure 3:17. Bank lending to companies and households
Annual percentage change, seasonally adjusted data



Source: Statistics Sweden

⁸ For a discussion of the connection between the business tendency survey and GDP growth in Sweden, see the box "Business tendency survey summarises companies' and households' view of the economy" in *Swedish Economy*, March 2007, National Institute of Economic Research.

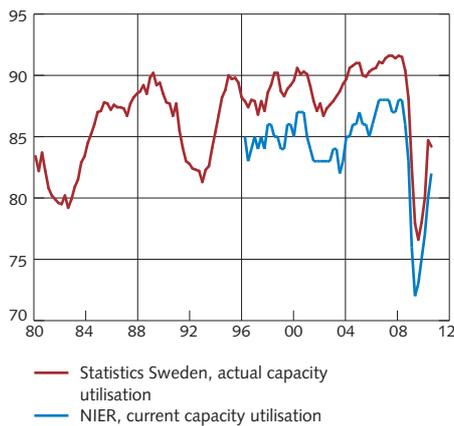
⁹ See the document "The Riksbank's company interviews in September 2010", on the Riksbank's website www.riksbank.se under the heading Press & published/Reports.

Figure 3:18. Gross fixed capital formation
Annual percentage change



Source: Statistics Sweden

Figure 3:19. Capacity utilisation in industry
Per cent, seasonally adjusted data



Sources: National Institute of Economic Research and Statistics Sweden

■ ■ Optimistic households are continuing to increase consumption

Household consumption continued to increase rapidly in the second quarter of this year. The increase was over a broad front but increased car sales provided a particularly large contribution to growth. The consumption of durables and services also increased strongly. In contrast, the consumption of non-durables developed weakly. The retail sales index also indicates that households' consumption of retail goods has increased at a somewhat slower pace during the late summer. The number of new cars registered by households, which decreased sharply during the financial crisis, has increased strongly over the last year. During the third quarter of the year, the registration of new cars was 50 per cent higher than in the equivalent period of the previous year. Furthermore, according to the business tendency survey, households have become increasingly optimistic about their own financial situation and the Swedish economy. Household confidence indicators rose during September to the highest level in 10 years. The mood of households is thereby brighter than it has been in a long time, according to the indicator.

■ ■ The rate of lending to households continues to be high

The variable mortgage rates paid by households have increased during the summer and autumn, which reflects both previously implemented repo rate increases and expectations of future increases during the year. In contrast, fixed-rate mortgages with longer terms have decreased slightly since the spring (see Figure 3:16). This is a consequence of the relatively great decrease of government bond rates and mortgage bond rates over large parts of this period, which has entailed lower financing costs for mortgage institutions. According to the Business Tendency Survey, household expectations of future variable mortgage rates will increase in line with the Riksbank's interest rate path until 2012. Mortgage rates are subsequently expected to increase at a slower rate than the interest rate path.

The rate of lending to households remains high, but has decreased slightly since the start of the year (see Figure 3:17). Prices of tenant-owners' rights increased in August, but seasonal variations are often great during the summer months and the housing market, on average, showed stable development over the summer, with a standstill in prices of tenant-owners' rights and a minor upswing in prices of detached houses. During the autumn, Finansinspektionen introduced a limit on lending for mortgages entailing that households may only borrow up to 85 per cent of their home's value. As yet, it is too early to draw any conclusions regarding any effects of this on housing prices and lending to households.

■ ■ Stronger public finances and continued increased public consumption

In the National Accounts for September, outcome for public sector consumption was revised upwards for the first six months of 2010. Certain temporary factors, such as defence spending, for example, pushed up consumption. Other factors were of less transient nature, such as increased purchases of services within healthcare, schools and welfare from private care providers. The forecast for public consumption in 2010 has been revised upwards by 0.6 percentage points.

The financial balance in the public sector was SEK 30 million in the first six months of 2010. As a proportion of GDP, this is an improvement of approximately 1 percentage point, compared with the first six months of 2009. This improvement primarily originates from stronger outcomes for income taxes and social security charges. This is in line with the strong development of the number of hours worked in the economy as a whole. Even if unemployment is still high, expenditure for unemployment benefit has stabilised. At the same time, expenses related to illness have continued to decrease. For the whole year 2010, general government net lending as a share of GDP is expected to be positive and to amount to 0.4 per cent.

■■ Investments are increasing

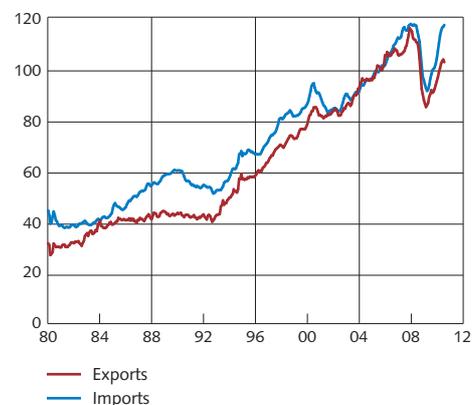
Gross fixed capital formation has increased since the severe decline in the autumn of 2008, and has increased by an average of around 3 per cent, measured as an annual percentage change, during the first six months of 2010. Housing investments have been the primary contributors to this growth. However, investments in the business sector excluding housing, measured as the annual percentage change, also increased for the first time since the end of 2008. Public investments fell substantially during the second quarter (see Figure 3:18). The main part of this decline has been in local government investment, among other reasons because several major building projects have been completed with no new projects being initiated. The level of investment in municipalities in 2009 was somewhat higher than normal, so the decline taking place so far this year is a return to more normal levels.

Total investments are expected to continue to increase during the second six months of the year. This growth is primarily being driven by housing investments, in which both conversions and new construction, primarily of apartment buildings, are showing strong development. Investments are also expected to increase rapidly in the business sector (excluding housing). According to Statistics Sweden's investment survey, the business sector's investment plans indicate an increase of investments in 2010, compared with the previous year. The Riksbank's company survey presents the view that manufacturing investment will increase, albeit at a slow pace, over the coming six months. In general, these investments concern the replacement of worn-out capital, rather than new investments. Capacity utilisation within the manufacturing industry has increased, even if it is still on a historically low level (see Figure 3:19). This suggests continued increased investments in the manufacturing industry, although at a moderate rate. All in all, total investments are expected to increase by 5.6 per cent in 2010, which is an upwards revision of approximately 0.6 percentage points, compared with the forecast in September.

■■ Companies have access to funding

The interest rates paid by companies for corporate certificates and borrowing from Swedish banks, for example, have risen during the autumn. This development has been driven by the raising of the repo rate by the Riksbank. The banks' lending to companies is not decreasing to the same extent as previously during the year, and several companies have had the opportunity to issue debt securities over the most recent year (see Figure 3:17). All in all, this suggests that companies have access to the funding they require.

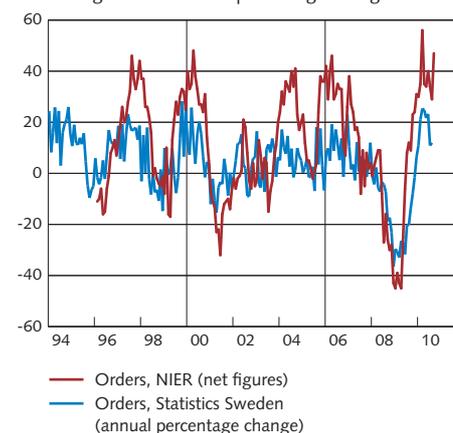
Figure 3:20. Foreign trade with goods in fixed prices
Index, 2005 = 100, seasonally-adjusted data



Note. Three-month moving average. Fixed prices calculated by the Riksbank.

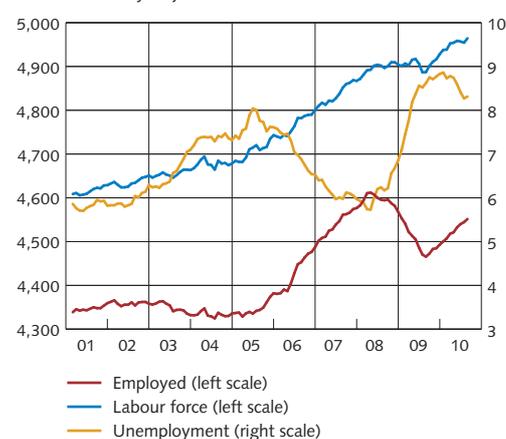
Sources: Statistics Sweden and the Riksbank

Figure 3:21. New export orders
Net figures and annual percentage change



Sources: National Institute of Economic Research and Statistics Sweden

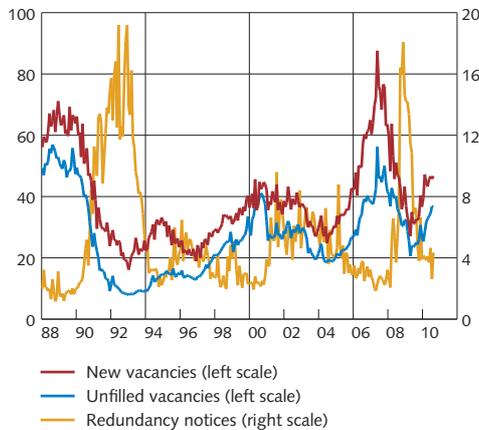
Figure 3:22. Employment, labour force and unemployment
Thousands and percentage of the labour force, seasonally-adjusted data



Note. Three-month moving averages.

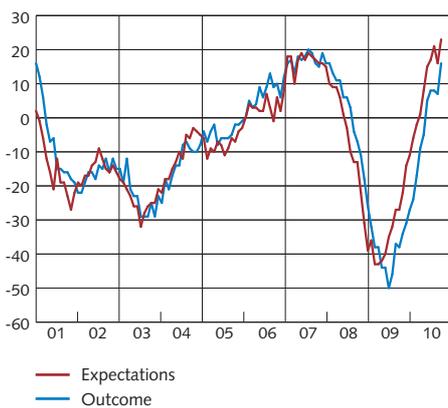
Sources: Statistics Sweden and the Riksbank

Figure 3:23. New and unfilled vacant jobs and redundancy notices
Thousands, seasonally adjusted data



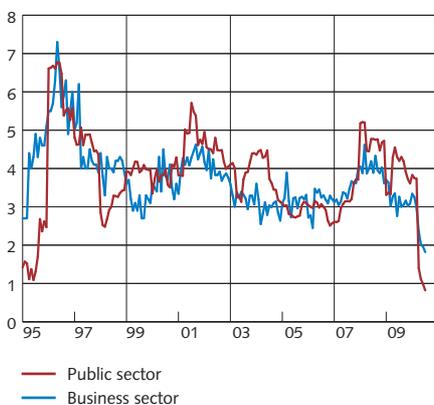
Source: Employment service and the Riksbank

Figure 3:24. Employees in the business sector, expectations and outcome
Seasonally adjusted net figures



Sources: 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

■ ■ Exports continuing to rise

Swedish exports increased unexpectedly rapidly during the second quarter of 2010. Exports of motor vehicles and fabricated metal products were responsible for the greatest increase. Imports also increased strongly during the second quarter. The largest increases among imported goods were in telecommunication products, metals and motor vehicles. Overseas trade has increased heavily over the last year and monthly statistics on Swedish foreign trade in goods indicate a continuing increase in both exports and imports in 2010 (see Figure 3:20). While, according to Statistics Sweden, export orders are undoubtedly increasing at a somewhat slower rate than previously, the Business Tendency Survey indicates that export orders increased in September. All in all, the statistics indicate that exports will continue to increase comparatively rapidly (see Figure 3:21).

■ ■ Labour market recovering rapidly

The Swedish labour market has coped surprisingly well with the crisis, view in light of historical connections between employment and GDP. Since the end of 2009, the recovery has taken place rapidly through the increase of employment and the number of hours worked. The increase in unemployment also slowed down at a surprisingly early stage (see Figure 3:22).

Since the Monetary Policy Update was published in September, the outcomes from the labour force surveys for July and August have been published. These indicate that the number of unemployed has developed in line with the Riksbank's assessment, while the rise in employment has been somewhat more modest. The National Accounts' outcome for the number of hours worked in the second quarter was revised upwards by Statistics Sweden in accordance with the significantly stronger statistics, which also formed the basis of the Riksbank's forecast in September. As GDP, on the other hand, showed an unexpectedly strong increase in the second quarter, productivity recovered significantly more rapidly in September than the Riksbank had assessed.

Outcomes and indicators thus point to the continued improvement of the situation on the labour market. Statistics from the Public Employment Service indicate that demand for labour is increasing, even if the rate of increase has dampened somewhat in recent months (see Figure 3:23). The number of redundancy notices has returned to the level prevailing at the start of 2008. According to the National Institute of Economic Research's Business Tendency Survey, companies are planning to continue recruiting (see Figure 3:24). Recruitment plans are positive in both private services companies and manufacturing companies, while the retail sector expects an unchanged employment level in the months ahead. Construction activity is rapidly strengthening and, at present, approximately 40 per cent of construction companies report that it is labour shortages that are primarily hindering them from increasing production. The same picture is presented by the Riksbank's own company interviews, in which several construction companies report unease over possible recruitment problems, for example in conjunction with the retirement of employees.

■ ■ Slowdown in rate of wage increases during second quarter of the year

Since the Monetary Policy Update was published in September, preliminary wage outcomes based on short-term wage statistics from the National Mediation Office have been published for July this year. These indicate that wages in the economy as a whole increased by an average of 1.7 per cent measured as an annual percentage change during the period April–July, compared with a preliminary rate of wage increases of 3.4 per cent during the first quarter of the year. These preliminary statistics will undoubtedly be revised upwards after the conclusion of local wage negotiations, but this still suggests a significant slowdown in the rate of wage increases.¹⁰ The slowdown in the rate of wage increases is partly due to the levels of the new wage agreements signed this year.

Wage outcomes for the public sector for recent months are below the outcomes for the business sector (see Figure 3:25). One reason for this is that wage reviews for certain groups of local government employees have not been conducted as yet, meaning that relatively extensive retroactive wage payments for these groups can be expected to be included in the statistics. So far this year, wage outcomes in the manufacturing sector and the rest of the business sector have been higher than outcomes in the building sector. Local pay reviews in the manufacturing sector were postponed in conjunction with the crisis agreements of 2009, meaning that, for a period of this year, the outcome of the wage bargaining rounds in the manufacturing sector will be significantly higher than the levels in the trade union agreements. The rate of wage increases in the economy as a whole for the whole year of 2010 is deemed to be 2.5 per cent as an annual percentage change, which is a small downwards revision compared with the forecast issued in September.

■ ■ Slower growth in hourly wages so far this year, according to the national accounts

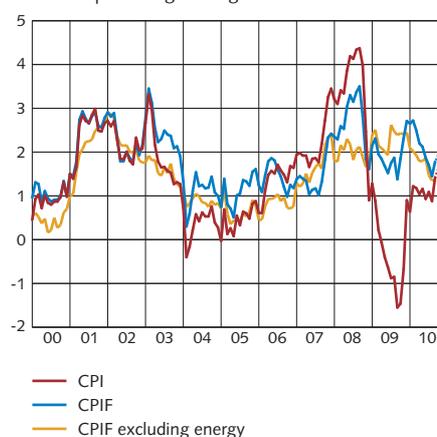
The National Accounts' payroll expenses for the second quarter of the year have also been published since the Monetary Policy Update in September. The outcome so far this year implies that the rate of growth of wages per hour worked in the economy as a whole, according to this statistic, has been significantly slower than it was according to short-term wage statistics. One explanation for this may be that payments of bonuses and other wage benefits were reduced as a consequence of the financial crisis. Another reason may be that the local crisis agreements signed in the manufacturing sector in 2009 ended this year.¹¹

During the first six months of the year, productivity increased by approximately 2.7 per cent, measured as an annual percentage change, which is the highest level of growth since the first six months of 2006. It

¹⁰ The first preliminary outcome of the wage bargaining rounds in May, June and July was the lowest since the Riksbank started processing this statistic in January 2000. For more information on revisions in short-term wage statistics, see T. Aranki and K. Friberg, "Analysis of revisions in short-term wage statistics", *Economic Commentaries* no. 3, 2010, Sveriges Riksbank.

¹¹ These agreements were formulated to allow working hours to be reduced to a greater degree than wages in the local agreements. Wages per hour worked thus increased. When these agreements expire, the effect may thus be the opposite, i.e. hourly wages will decline again. The crisis agreements applied until as late as 31 March of this year. Even though postponed local pay reviews have been paid out this year for employees within the manufacturing sector, hourly wages in this sector have fallen so far this year, according to the National Accounts.

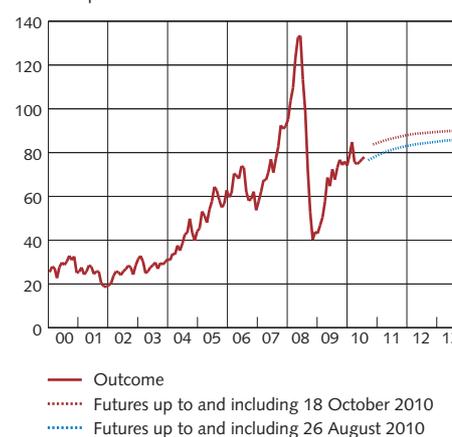
Figure 3:26. CPI, CPIF and CPIF excluding energy
Annual percentage change



Note. CPIF is CPI with a fixed mortgage interest rate. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

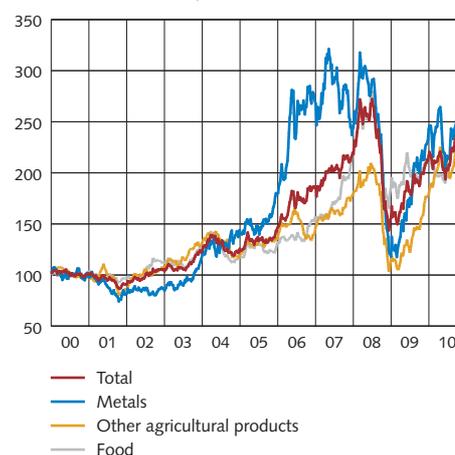
Figure 3:27. Oil price, Brent crude
USD per barrel



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

Sources: Intercontinental exchange and the Riksbank

Figure 3:28. Commodity prices
Index 2000 = 100, USD



Source: The Economist

is expected that productivity will develop significantly more strongly than labour costs per hour during the full year 2010, entailing a decline of just above one per cent in the growth rate of unit labour costs.

■ ■ Slightly increased inflation expectations

The National Institute of Economic Research's investigation of household inflation expectations one year ahead indicates that these increased from 2.0 per cent in August to 2.2 per cent in September. Prospera's investigation indicates that all participants' inflation expectations one year ahead increased from 1.5 per cent in June to 1.7 per cent in September. Inflation expectations two and five years ahead are unchanged at 2.0 per cent and 2.2 per cent, respectively. Prospera's monthly investigation of the money market's inflation expectations from October indicates that these are unchanged at 1.6 per cent one year ahead, but that, compared with September, they have increased marginally to 2.0 per cent two and five years ahead.

■ ■ Low inflationary pressure

In the most recent outcome for September, CPI inflation increased by 1.4 per cent compared with the same month last year (see Figure 3:26). The annual rate of change in average mortgage rates is still negative, which contributes towards CPI inflation being lower when the effects of these are excluded from inflation. CPIF inflation amounted to 1.8 per cent in September. As the repo rate has increased slightly during the autumn, contributing towards an increase in mortgage rates, the annual rate of change in household interest expenses is now expected to become positive and to contribute towards the CPI rising faster than the CPIF next year. The outcome in September for CPI and CPIF was higher than forecast in the Monetary Policy Update, primarily because energy prices increased by a higher degree than expected.

CPIF excluding energy, which is another measure of underlying inflation, increased by 1.4 per cent in September (see Figure 3:26). The most recent outcome was also higher than forecast in September, as several subgroups of this measure of inflation increased more than expected. CPIF excluding energy is expected to continue to increase relatively slowly during the rest of the year.

Forward prices for oil and electricity are now on a higher level than they were when the Monetary Policy Update was published in September (see figure 3:27). Commodity prices (metals, food and other agricultural products) have increased in recent months (see Figure 3:28), but, as the Swedish krona has simultaneously appreciated, commodity prices expressed in Swedish kronor have not increased quite as rapidly.

The appreciation of the krona and low cost pressure are contributory factors to the comparatively low level of the underlying rate of inflation. This is also supported by the result of the Riksbank's company interviews, which shows that companies expect moderate price increases in the period ahead.

Why higher growth in Sweden than in the eurozone and the United States?

In an international perspective Sweden is experiencing strong growth. The rate of growth is currently higher in Sweden than in the eurozone and the United States, and the Riksbank's forecast is that this will continue next year. This article aims to highlight some of the factors that explain Sweden's relatively high growth now and over the coming period. These factors relate to global trade and Sweden's exports, the high level of household saving in combination with Sweden's strong public finances and the development of the housing market.

Background: GDP development in Sweden, the eurozone and the United States

In the 1970s and 1980s, Sweden's economy grew slowly in relation to the economies of Sweden's largest trading partners. However, in the 10 years preceding the start of the financial crisis, GDP growth in Sweden was higher than in both the eurozone and the United States (see Figure B1). This difference was particularly evident in comparison with the eurozone. This meant that for a considerable period of time growth was significantly higher in Sweden than in its largest trading partners (measured using TCW weights).¹² In connection with the financial crisis, GDP fell more in Sweden than in the eurozone and the United States, but has recovered strongly recently.

At present, the rate of growth is more rapid in Sweden than in the eurozone and the United States. This more rapid rate of growth is also expected to continue in 2011 (see Figure 1:2). This article will not attempt to provide a comprehensive description of the differences between the preconditions for growth in these countries and regions; the aim instead is to highlight a number of central factors. These factors relate to global trade and Sweden's exports, the high level of household saving in combination with Sweden's strong public finances and the development of the housing market.

It should be pointed out that the factors discussed in this article will decline in importance in the longer term, which is also reflected in the more similar rate of growth in Sweden, the eurozone and the United States towards the end of the forecast horizon (see Figure 1:2).

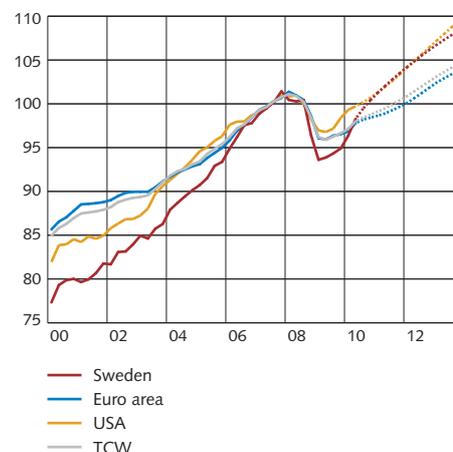
The upturn in global trade will benefit Sweden in the recovery phase

A very dramatic fall in global trade occurred in connection with the financial crisis (see Figure B2). This had a major impact on a small, open economy such as Sweden. Sweden's export market, which reflects imports in those countries that Sweden trades most with, took a heavy fall. This had an immediate impact on Swedish exports, which fell by over 15 per cent (see Figure B2).

The major fall in global trade in connection with the financial crisis also hit exports in the eurozone and the United States; exports in these areas fell by approximately the same amount as in Sweden (see Figure B3).

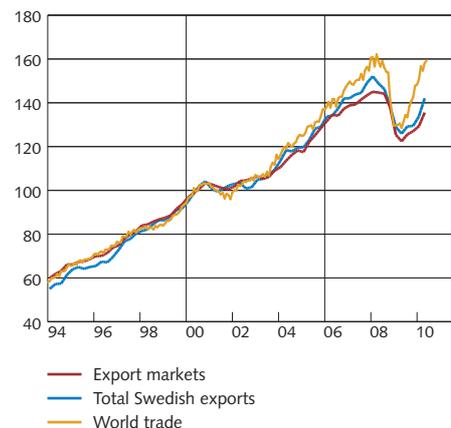
¹² The eurozone's share constitutes over 50 per cent, which explains the similarities between TCW-weighted GDP and the eurozone's GDP

Figure B1. GDP in Sweden and the world
Logarithmised index, 2007 = 100



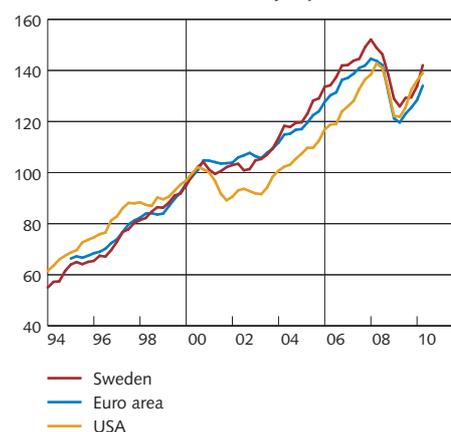
Note. Broken lines represent the Riksbank's forecast.
Sources: Bureau of Economic Analysis, Eurostat and the Riksbank

Figure B2. Volume of world trade, export markets and Swedish exports
Index 2000 = 100, seasonally adjusted data



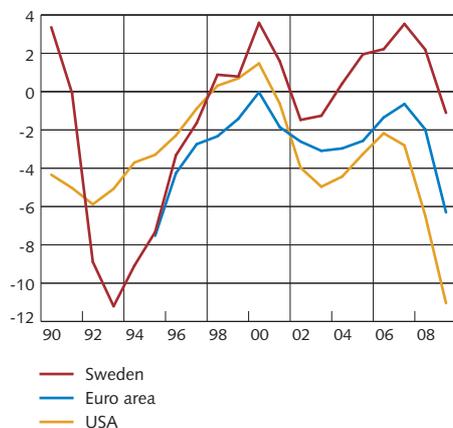
Sources: Netherlands Bureau of Economic Analysis, Statistics Sweden and the Riksbank

Figure B3. Export volumes in Sweden, the euro area and the USA
Index 2000 = 100, seasonally adjusted data



Sources: Bureau of Economic Analysis, Eurostat and Statistics Sweden

Figure B4. General government net lending in Sweden, the euro area and the USA
Percentage of GDP



Source: OECD

However, the higher export share meant that a small, open economy like Sweden was hit particularly hard.

In addition, a significant part of the fall in global trade consisted of reduced trading in investment goods and non-durables such as cars. It was easy to postpone the purchase of these goods when the financial crisis began.¹³ Such goods represent a large share of Sweden's exports. One could therefore say that Sweden suffered an extra adverse effect during the crisis due to the mix of goods in its exports.

Similarly, the strong upturn in global trade is now benefiting Sweden more than many other countries due to its high export share. Furthermore, the composition of Sweden's exports is no longer a disadvantage but rather an advantage. The current upturn in global trade is largely driven by the demand for exactly the types of products for which demand fell most during the crisis. As it was easy to postpone the purchase of these products it is also easy to take up these purchases again. However, Swedish exports have not grown at the same rate as global trade as it is mostly the emerging economies in Asia that account for the greatest increase in imports and the predominant regions for Sweden's export market are still Europe and the United States.

All-in-all, the development of global trade and the export markets has led to a strong recovery in Swedish exports and it is expected that growth will be particularly strong this year and next year. To some extent, the recovery of Swedish exports has also benefited from the tangible weakening of the Swedish krona in connection with the crisis (see Figure 1:17).

The significance of exports for Sweden's higher growth in relation to the United States and the eurozone is most relevant in explaining the differences in GDP recently and in the short-term forecast. The krona has strengthened significantly over the last 12 months and is now back to the levels that prevailed before the financial crisis. The Riksbank's assessment is that the krona will continue to strengthen. In the long term, the assessment is therefore that exports will increase in line with or somewhat more slowly than Sweden's export market (see Figure 1:19).

Very strong public finances in Sweden...

In contrast to the situation in the eurozone and the United States, there was a significant surplus in public finances in Sweden when the financial crisis began. In both the eurozone and the United States, public finances were in deficit by an average of 2 per cent of GDP during the 10 years leading up to the crisis. The corresponding figure for Sweden was a surplus of over 1 per cent; in line with the so-called surplus target.¹⁴ In other words, the initial position for public finances differed considerably.

¹³ For this reason these goods are sometimes referred to as "postponables".

¹⁴ The surplus target is that the public sector financial balance should be on average plus one per cent over an economic cycle.

Despite the severe downturn, the public sector financial balance fell to only -1 per cent of GDP in Sweden in 2009, which is a much smaller fall than in the eurozone and the United States (see Figure B4). The substantial deterioration in the public sector financial balance in the eurozone and the United States was the result of automatic stabilisers linked to the downturn and of extensive fiscal policy stimulation measures.

At the end of the 1990s, central government debt in the eurozone was at approximately the same level as in Sweden. After this, partly as a result of the surplus target for public finances, there was a trend decrease of the debt in Sweden that was not matched by a similar decrease in the eurozone or in the United States. When the crisis broke out, the level of central government debt began to increase dramatically in both the eurozone and the United States (see Figure B5).

It should be pointed out that, in turn, there are major differences between the countries in the eurozone with regard to the state of public finances. It was above all in countries such as Greece, Ireland, Italy, Portugal and Spain that major sovereign-debt problems arose during the crisis. During 2010, there was a lot of concern about how these countries would deal with their fiscal policy problems, which among others things has resulted in substantial increases in government bond rates (see Figure 3:13). These high bond rates are adding to the problems relating to sovereign debt in that they entail increased interest expenditure.

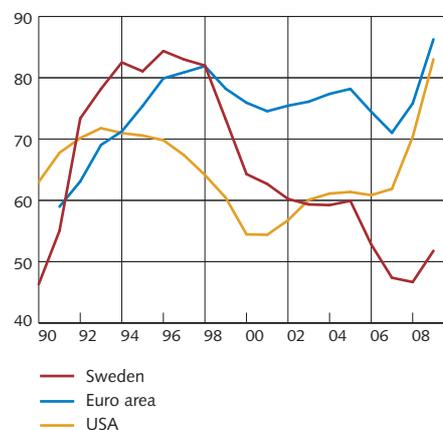
All-in-all, the factors mentioned above mean that the need for fiscal policy restraint is much more limited in Sweden than in the eurozone and the United States. The Riksbank, like the Ministry of Finance and the National Institute of Economic Research, sees no need for fiscal policy restraint in Sweden in the years immediately ahead.

...in combination with a high level of household saving

One of the strengths of the Swedish economy compared to the eurozone and the United States is the combination of a high level of household saving and strong public finances. In Sweden, there has been a strong trend increase in saving over the last 10 years, which is in contrast with the situation in many other countries. This has not been the case in Germany, for example, a country where household saving has traditionally been high but which today has a saving ratio in the same range as Sweden. In Germany, total private consumption has not increased at all over the last 10 years, which together with moderate increases in disposable incomes has led to a marginally increasing saving ratio (see Figure B6). Household saving in the United States declined more or less continuously over the 15 years leading up to the financial crisis, when it began to increase. In the countries in the eurozone where public finances have weakened most, such as Spain and Ireland, there has been a dramatic increase in household saving in a short time (see Figure B6).

An important question in this context is: What is a high level of household saving really due to? The Riksbank's assessment is that a large part of the increase in saving in Sweden in connection with the financial

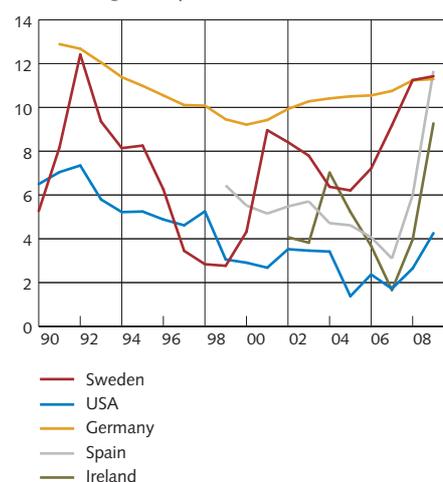
Figure B5. Development of central government debt in Sweden, the euro area and the USA
Percentage of GDP



Note. Public gross debt.

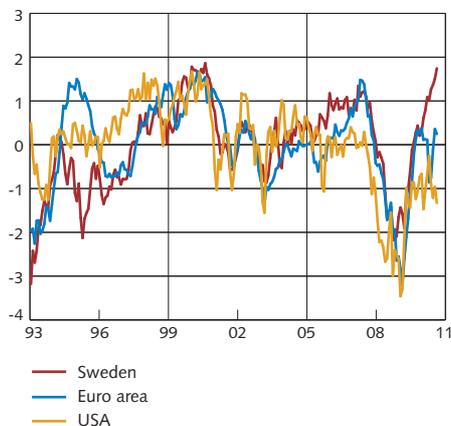
Source: OECD

Figure B6. Households' saving ratio in various countries
Percentage of disposable income



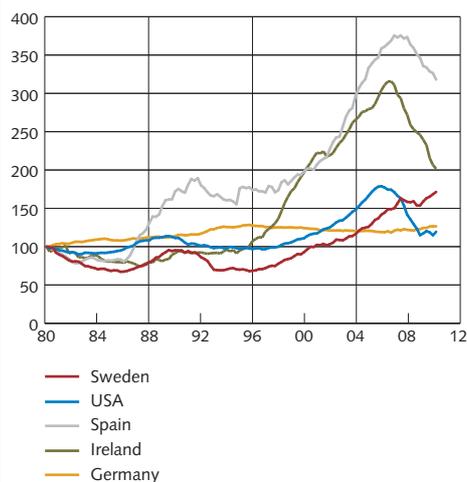
Sources: National statistical authorities and the OECD

Figure B7. Consumer confidence in Sweden, the euro area and the USA
Number of standard deviations from mean value



Sources: The Conference Board, DG ECFIN and National Institute of Economic Research

Figure B8. Real house prices in various countries
Index, 1980 = 100



Sources: BIS, Reuters EcoWin and the Riksbank

crisis is so-called precautionary saving. Greater uncertainty about future incomes has led the households to increase their saving. Over the last 12 months, there has been a significant increase in consumer confidence in Sweden, even in comparison with the eurozone and the United States, which is a sign that uncertainty is declining among the households (see Figure B7). The major deficits in public finances in many countries are generating further uncertainty about future incomes, which will probably push up precautionary saving among the households in these countries. In this respect, Sweden differs from, for example, the eurozone and the United States. This is an additional factor that indicates that the preconditions for a reduction in saving appear to be better in Sweden than in the eurozone and the United States.

It is thus the combination of sound central government finances and a high level of household saving that represents a strength of the Swedish economy in an international comparison. Relatively high increases in disposable incomes in combination with goods scope to reduce saving enable a high rate of growth in private consumption. The preconditions for this are weaker in the eurozone and the United States, which means that private consumption has the potential to grow more rapidly in Sweden than in these regions this year and next year.

Developments on the housing market – a low level of housing construction in Sweden means that major price falls are unlikely

House prices in Sweden have recovered following a slight downturn in connection with the financial crisis and are now at a higher level than before the crisis began. In this respect the situation in Sweden differs radically from that in the United States and some countries in the eurozone, such as Spain and Ireland (see Figure B8). This is also reflected in the figures for housing investment, which increased substantially before the crisis but then fell back in these countries (see Figure B9). Following the dramatic fall in the early 1990s, housing investment recovered slowly in Sweden but declined somewhat in connection with the financial crisis. Recently, however, investment has increased once again.

Major structural problems have arisen in the economies of those countries hit by a "boom-bust" cycle on the housing market, such as Spain, Ireland and the United States, and this has been reflected in a substantial weakening of public finances. Although countries such as Germany have not experienced this development of the housing market, it has still had an impact on the development of the eurozone as a whole.

In the United States, there are still very clear traces of the weak development of the housing market. Housing investment has fallen substantially, which has led to structural problems, for example when there is a need to move production factors in the form of capital and labour from the housing sector. This has probably restricted the development of the labour market, which has been surprisingly weak given the development of GDP.

The relatively stable development of the housing market in Sweden is thus one of the reasons why it has been possible to avoid structural problems in the Swedish economy. The "boom-bust" cycles that have been observed in other parts of the world have been characterised by an increased demand for housing that has been met by a dramatic increase in housing investment. The subsequent decline in demand has led to a surplus of housing and substantial falls in housing prices. A substantial increase in housing investment to high levels could therefore pose a risk to the Swedish economy. In international and historical terms, however, housing investment is at a low level in Sweden.

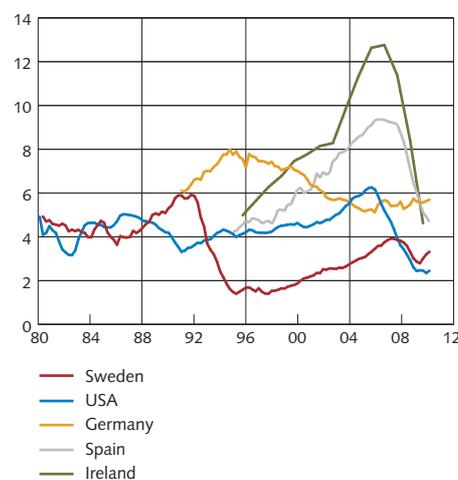
All-in-all, the fact that Sweden has not been hit by a declining housing market, and the accompanying structural problems, means that the situation looks much more stable than in many other countries in the eurozone and in the United States. This is an additional factor that indicates that economic growth will be higher in Sweden over the next few years than in the eurozone and the United States.

Summary

The forecast in this Monetary Policy Report is that GDP growth will be higher in Sweden this year and next year than in the eurozone and the United States. This article has aimed to highlight some of the explanatory factors that. These factors relate to global trade and Sweden's exports, the high level of household saving in combination with Sweden's strong public finances and the development of the housing market. There are, however, other factors that may be highlighted. One such factor is the stability of the Swedish banking sector. In contrast to the situation in the eurozone and the United States, the Swedish banks have been able to avoid major loan losses, which makes it easier for the banks to lend to households and companies, and therefore facilitates the recovery from the crisis.

In the longer term, the assessment is that the US housing market will improve and that public finances in the eurozone will stabilise. It is also expected that differences in the growth of consumption in Sweden on the one hand and the eurozone and the United States on the other will even out. Sweden's exports will grow in line with, or somewhat more slowly than, the export market. It is therefore primarily in the short term that GDP growth in Sweden is higher than that in euro area and the United States (see Tables A4 and A5).

Figure B9. Housing investments
Per cent of GDP, current prices



Sources: National statistical authorities and the Riksbank

■ Basel III - tougher rules for banks

The Basel Committee recently presented a new regulatory framework for banks, the so-called Basel III. Essentially, it covers new and tougher rules for capital and liquidity in the banking sector. These more stringent rules are aimed at strengthening banks' capacity to absorb risks and reduce the risk of new banking crises arising in the future. This box presents Basel III, together with the findings of two studies regarding the macroeconomic consequences of the more stringent regulations. The new regulations entail that the banks must maintain more and considerably better capital and that rules covering banks' liquidity will be introduced. The main message of this box is that the Swedish banks are well-capitalised and are already complying with the new regulatory framework, in all essentials. Consequently, the implications of the new regulations for both the macroeconomy and monetary policy in Sweden will be minor.

The financial crisis exposed a series of shortcomings in existing regulations and in the supervision of the financial sector, as well as in financial companies' ability to bear and manage risks. Above all, this was a matter of the banks having neither sufficient high-quality capital to cover the losses in their operations nor sufficiently extensive liquidity buffers to manage their funding in a period in which confidence in the banks was being questioned and several financial markets had collapsed. In addition, supervision and regulation previously paid too little attention to systemic risks. This means that supervision and regulation were excessively focused on ensuring that individual financial companies were sufficiently capitalised and resilient. However, this was not enough to capture the overall risks that had built up in the system as a whole. In September 2009, the Basel Committee¹⁵ therefore initiated extensive efforts to strengthen capital requirements for banks, to introduce minimum liquidity requirements for banks, and to formulate new regulatory tools to manage systemic risks.

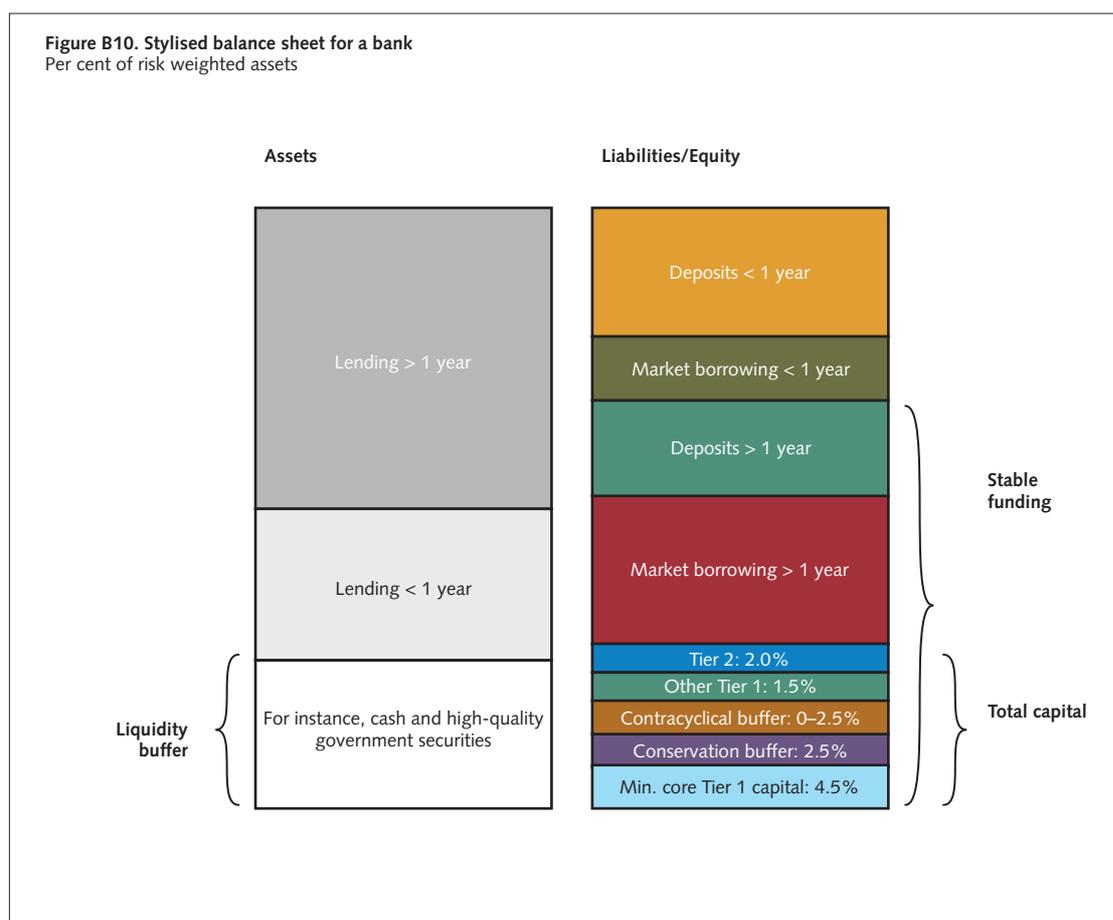
Basel III, what is currently being implemented?

In September of this year, the Basel Committee reached agreement on the principles by which the new, more stringent minimum regulations for banks' liquidity should be formulated, as well as a timetable for the introduction of the new regulations. The new regulations will be phased in gradually. The new, more stringent capital requirements will be introduced successively, starting in January 2013, and are to have been fully introduced by January 2019. The start of the introduction of the liquidity regulations is planned for 2015, and these are to have been fully introduced by 2018.

The capital requirements in Basel III specify the minimum requirement for how much capital of various types banks must retain in order to cover risks in their assets. The banks' capital consists of the capital base, which is divided into Tier 1 capital and Tier 2 capital – see the stylised balance sheet for a bank in Figure B10. Tier 1 capital is largely to consist of core Tier

¹⁵ The Basel Committee on Banking Supervision is a committee under the Bank for International Settlements (BIS) which, among other tasks, develops international standards for the regulation and supervision of banks. The BIS has no mandate to introduce regulations, but coordinates the regulatory frameworks of the 27 participating countries, including Sweden.

1 capital, i.e. common equity and retained profits. This kind of capital has the best ability to cover losses. Tier 1 capital can also, to a lesser extent, consist of borrowed capital such as subordinated loans and hybrid capital.¹⁶ Tier 2 capital forms a lesser portion of the capital base and is permitted to be of a lower quality.¹⁷ The capital requirements are stated as percentage ratios of the bank's risk-weighted assets. The risk-weighted assets state how much of the nominal value of the banks' various assets are to be covered by capital. Consequently, each asset is allocated a risk-weighting. Assets with low risk, such as cash and government bonds with a high level of credit quality, are assigned low risk weightings, while assets with high risk, such as lending to companies with low creditworthiness and unsecured lending to households, are assigned high risk weightings. The amount of the capital of various kinds that the banks are to retain is then determined by multiplying the bank's risk-weighted assets by the capital cover ratios specified by Basel III.



¹⁶ Subordinated loans have low priority in the event of bankruptcy. Hybrid capital is a cross between share capital (with subordinated priority in the event of bankruptcy) and borrowed capital (in which the annual determined return is tax deductible).

¹⁷ For example, Tier 2 capital may consist of preference shares and subordinated loans.

Regulations for capital

Agreement has now been reached on most parts of the regulatory framework for Basel III, with the only matter remaining being reaching agreement on a few minor details. One important question that remains is which further requirements should be made of the world's systematically-important banks. At present, it is possible to state that capital requirements will be strengthened by:

- Increasing the minimum requirement of the amount of capital to be retained by banks in the form of core Tier 1 capital from 2 to 4.5 per cent of the bank's risk-weighted assets.
- Increasing the minimum requirement of the total amount of capital banks are to retain in the form of Tier 1 capital from 4 to 6 per cent of the bank's risk-weighted assets – however, the minimum requirement of the total amount of Tier 1 and Tier 2 capital banks are to retain remains unchanged at 8 per cent of risk-weighted assets.
- Introducing a conservation buffer for capital of 2.5 per cent. This is to be maintained in the form of common equity and is to be added to the minimum requirement for core Tier 1 capital. In practice, this means that the requirement for the amount of capital banks are to retain in the form of core Tier 1 capital will be increased to 7 per cent after the conservation buffer has been fully phased in in 2019. The intention of this conservation buffer is to ensure that the banks maintain a buffer of high-quality capital that they will be able to use to cover losses in less prosperous times. The banks may use this conservation buffer to cover losses in less prosperous times, but the more the bank utilises this buffer, the greater the limitations will be on the bank's possibilities of distributing its profits.
- Introducing a contracyclical capital buffer that can vary between 0 and 2.5 per cent. This should consist of core Tier 1 capital or other high quality capital that can cover losses. National supervisory authorities will be provided with the possibility to expand the conservation buffer with this contracyclical buffer in times of particularly high credit growth which may lead to the build-up of overall risks in the financial system. This means that the requirement for the amount of core Tier 1 capital banks are to retain in total may amount to 9.5 per cent in periods of strong credit expansion.
- Introducing, alongside the risk-based capital adequacy requirements, a minimum requirement for gross solvency in banks. This measurement specifies the amount of capital in relation to the bank's total assets, including off-balance sheet commitments and regardless of risk. The intention of this measurement is that it should form a complement to the risk-based capital adequacy requirements and ensure that the banks do not underestimate risks. During an assessment period running from 2013 until the end of 2017, for the banks' gross solvency shall be at least 3 per cent of each bank's total assets. During the first six months of 2017, adjustments may be made to the definition of the measure, before the measure is given its final formulation from the start of 2018.

The minimum requirements for the composition of the banks' capital bases is summarised in Table B1.

Table B1. Minimum requirements for the composition of banks' capital bases under Basel III

	Core Tier 1 capital	Tier 1 capital	Total capital (Tier 1 and Tier 2)
Minimum	4.5%	6.0%	8.0%
Conservation buffer	2.5%		
Minimum conservation buffer	7.0%	8.5%	10.5%
Contracyclical buffer	0–2.5%		

Regulations for liquidity

A global minimum standard for banks' liquidity management can be justified as, among other revelations, the crisis showed that the banks were taking excessive liquidity risks. Above all, the banks had insufficient liquidity buffers, together with poor matching of the durations of assets and liabilities. The result of this was that even well-capitalised banks encountered liquidity problems when important sources of funding dried up. The Basel Committee addresses these problems by introducing two quantitative requirements for banks' liquid funds:

- The Liquidity Coverage Ratio (LCR) is directed at the banks' asset side and requires the banks to have a sufficiently strong buffer of liquid assets in the form of cash, government securities and, to a certain extent, even mortgage bonds to survive major financing problems for 30 days. This means that the reserves of highly liquid assets during such a period shall be greater than the net outflow from the bank.
- The second quantitative liquidity requirement – the Net Stable Funding Ratio (NSFR) – is aimed at attaining a better balance in the maturity structure between the banks' assets and liabilities by requiring that the assets should be funded to a greater degree by stable and long-term funding. This minimum requirement specifies that the available stable funding shall be greater than the need for stable funding in each bank. "Available stable funding" is defined as own capital and the borrowing that is deemed to be a reliable source of funding for a bank finding itself in a strained situation over a period of one year. "The need for stable funding" is derived from the bank's liquidity risk-weighted assets. Each asset is assigned a liquidity risk weighting according to a fixed classification. Liquid assets such as cash, money market instruments and securities with remaining durations of less than a year are assigned the liquidity risk weighting of zero, while other, less liquid assets are assigned higher liquidity risk weightings and, consequently, must also be covered by stable long-term funding.

The Liquidity Coverage Ratio is to be introduced with effect from 1 January 2015. The formulation of the Net Stable Funding Ratio, requires further studies. The Basel Committee will evaluate its effects before any such minimum standard can be introduced with effect from 2018.

Implications for the macroeconomy

From a monetary policy perspective, it is important to evaluate both whether the transition from the old Basel II regulations to the new Basel III regulations will have any short-term macroeconomic effects, and what long-term consequences the new Basel III regulations will have.

Short-term effects

In the evaluation of the short-term macroeconomic effects, it is natural to ask whether requirements for more and better capital in combination with more stringent liquidity requirements will lead to increased costs for the banks. If this occurs, the banks have the opportunity to manage the interest costs in a number of ways, as they do with any form of cost increase. For example, they can alter their operations and balance sheet structures, or by passing the costs along to their customers through increased interest rate margins, i.e. a greater margin between lending rates and the banks' funding costs. Will this, in turn, result in reduced lending and lower GDP growth?

A group working under the Basel Committee and the Financial Stability Board (FSB), called the Macroeconomic Assessment Group (MAG), has attempted to answer these questions.¹⁸ They find that stricter capital adequacy requirements may lead to a marginal increase in the banks' interest rate margins and that credit volumes and GDP may decline somewhat. Stronger requirements regarding liquid assets may also lead to marginally higher interest rate margins for banks, smaller credit volumes and slightly lower GDP. The study also finds that the macroeconomic effects can be mitigated, partly by allowing monetary policy to react to the increased interest rate margins and smaller credit volumes that stem from the new regulations, and partly by phasing in the regulations over a longer period of time.

¹⁸ See the report "Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements", August 2010, BIS.

Sweden did not participate in this study.¹⁹ However, the Riksbank is currently conducting its own MAG study on the basis of Swedish data. The results indicate that the effects of the stricter Basel III regulations on the Swedish banking system and the Swedish economy are in line with, or even less than, the effects noted for other countries. Two of the reasons for this are that the Swedish banks are well capitalised in an international perspective and that they have already begun the adjustment needed to meet the tighter capital and liquidity requirements. An account of the effects of the new Basel III regulations on the Swedish banks will be given in the Riksbank's Financial Stability Report 2010:2, which will be published in early December.

Effects in the long term

When evaluating the macroeconomic effects in the long term, the economic benefits of the tighter regulations should be weighed against the economic costs. One aim of the tighter regulations is to reduce the likelihood that financial crises will occur – and to reduce the consequences of these crises on the real economy if they do nevertheless occur. International experience shows that financial crises have effects on the real economy in that they have a negative impact on GDP when they occur. As far as monetary policy is concerned, it will be important to study whether the stricter regulations reduce the likelihood of financial crises occurring and whether they affect GDP in the long term. It is not obvious in advance what effects tighter regulations for capital adequacy and liquidity will have on the real economy in the long term. It is quite conceivable that tighter financial regulation will result in fewer financial crises but that the banks' interest rate margins and the prices of other financial intermediaries will increase so much that the economy's total production will be lower. Society may nevertheless be willing to bear the costs of tighter financial regulation if this provides insurance against future financial crises. It is also conceivable that tighter financial regulation will result in both fewer financial crises and in higher total production in the long term. One explanation of this may be that the allocation of capital will be conducted more efficiently in a stable economic environment with robust banks.

A group working under the Basel Committee has studied the Long-term Economic Impact (LEI) of the new Basel III regulations.²⁰ This study attempts to quantify what the economic benefits and costs of the new Basel III regulations will be in the long term by comparing the state of the economy prior to the introduction of the Basel III regulations with the state of the economy following the introduction of the regulations. The group finds that the economic net effects of the stricter regulations on capital adequacy and liquidity are positive. The effects are estimated to be in the range of a 0 to 2 per cent higher level of GDP in the new state of the economy following the introduction of the Basel III

¹⁹ The countries that participated in the BIS study were Australia, Brazil, Canada, China, India, Japan, Korea, Mexico, Russia, the United Kingdom, the United States and the eurozone countries.

²⁰ See the report "Assessing the long-term economic impact of stronger capital and liquidity requirements", August 2010, BIS. The same countries that participated in the MAG study participated in this study.

regulations compared to the GDP level that would apply in the case of an unchanged trend for GDP.

One aspect that deserves attention is that both the MAG and LEI reports perform calculations under the assumption that the return requirements of shareholders will remain unchanged even after the stricter capital and liquidity regulations are introduced. The new regulations will reduce risks in individual banks and the banking system as a whole, which would justify a downward adjustment in the shareholders' return requirements. When this is not done, the calculations will show greater macroeconomic effects than would have been the case if the shareholders acted on the basis of a risk-adjusted return requirement. A downward adjustment of the return requirement due to the lower level of risk would create scope for the banks to use profits to a greater extent to meet the costs stemming from the new regulations, rather than passing on the costs to the customers by increasing their interest rate margins. However, it is perhaps reassuring that the calculations indicate that the effects on interest rate margins will be limited, even if the return requirements are not adjusted downwards, despite the fact that the regulations have also led to lower risks.

Overall assessment – small macroeconomic effects

All in all, the studies conducted indicate that the macroeconomic consequences of Basel III will be limited. However, even though the effects are limited, the calculations are conservative and lead to greater effects than would have been the case if they took into account that the risk-adjusted return requirement for banks decreases when risks in individual banks and the banking system as a whole are reduced. Sweden has not been involved in these studies but there are many indications that the macroeconomic effects will be limited in Sweden too, and possibly even more limited than in many other countries. This has to do with the fact that the Swedish banks are relatively well capitalised and will therefore probably not be affected very much by the tighter capital and liquidity requirements.

■ The repo rate path and monetary policy expectations according to implied forward rates

Sweden is a small, open economy and is thus affected to a great extent by what happens in the surrounding world. One important variable in this context is the exchange rate, as it affects prices of both imported and exported goods. The exchange rate thus affects both aggregate demand and inflation. Developments in the exchange rate are linked to the difference between interest rates in Sweden and those in other countries. The forecasting work therefore includes an assessment not only of developments in Swedish interest rates, but also those in foreign interest rates.

Difficult to measure monetary policy expectations

Using certain assumptions, expectations of future interest rates and monetary policy can be calculated on the basis of prices of derivatives in the money market. The forecasts for interest rates in other countries take into account information from these implied forward rates as well as from surveys and model analyses.

Calculating monetary policy expectations on the basis of implied forward rates is difficult. This is partly because forward rates also include risk premiums, which means that the measure does not solely reflect expectations of the future policy rate.

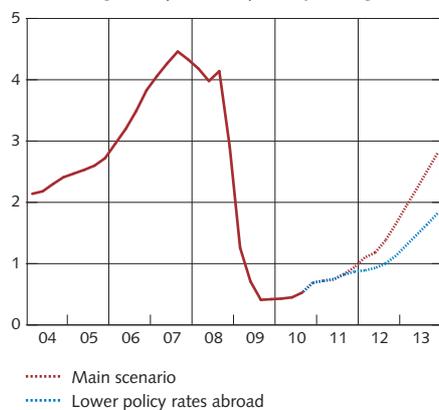
Another means of measuring monetary policy expectations is to use surveys. These have the advantage that they give estimates of market agents' expectations of the future interest rate without having to take forward premiums into account. In times of financial turmoil, forward premiums often vary substantially. Expectations based on surveys may therefore be a more robust measure of monetary policy expectations during such periods. However, surveys are not without their problems, either. For instance, the statistical sample is often fairly small and the surveys are not carried out very often.²¹

Forward rates and surveys thus have different advantages and disadvantages as measures of monetary policy expectations and one should therefore not rely solely on one of these measures. The currently large difference between forward rates and survey responses also illustrates the uncertainty and the difficulties in measuring monetary policy expectations at present (see Figure 1:8).

At the moment, short and long market rates as well as implied forward rates are very low in many of the countries around us. In the Eurozone, an initial increase of the policy rate is not expected for at least one year. The policy rates in the United Kingdom and the United States are also expected to remain low for a long time to come. One possible interpretation of this is that market participants believe that the probability of a "double dip" abroad is high (see the alternative scenario with a "double dip" abroad in Chapter 2) and therefore have a much more gloomy view of GDP growth and inflation than is described in the international outlook in this Monetary Policy Report. Another possibility is that the crisis in certain countries has subdued the future growth potential

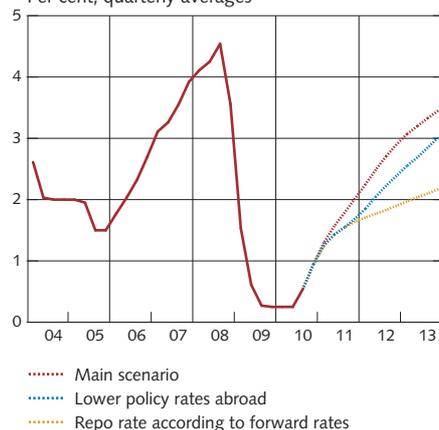
²¹ See also J. Alsterlind and H. Dillén, "Monetary policy expectations and forward premia", *Economic Review*, 2005:2, Sveriges Riksbank.

Figure B11. Policy rates abroad
TCW-weighted, per cent, quarterly averages



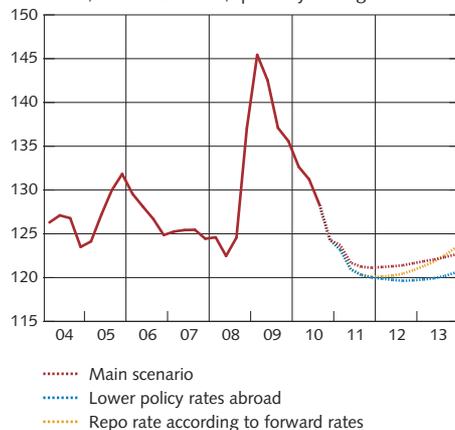
Note. Broken lines represent the Riksbank's forecast.
Source: The respective central banks

Figure B12. Repo rate
Per cent, quarterly averages



Note. Broken lines represent the Riksbank's forecast.
Source: The Riksbank

Figure B13. TCW-weighted exchange rate
Index, 18.11.92 = 100, quarterly averages



Note. Broken lines represent the Riksbank's forecast.
Source: The Riksbank

or led to an increase in precautionary saving, which in turn reduces the economies' so-called neutral equilibrium interest rate. It may also be the case that the market believes in a combination of a "double dip" and a lower neutral equilibrium rate. A further possibility is that the measures to facilitate the supply of credit implemented by central banks around the world have pushed down interest rates for longer maturities more than is justified by lower expectations of future policy rates. In this context it may also play a role that there has recently been considerable demand for safe assets such as government bonds in countries with relatively sound public finances (what is known as a flight to quality). If this is what lies behind the low long-term interest rates, implied forward rates may provide a picture of expectations of future interest rates that is more difficult to interpret.

The Riksbank's forecast for policy rates abroad is currently higher than implied forward rates at longer horizons, as shown in Figure B11, where the blue line shows the forward rates. There are several reasons for this. First and foremost, the probability of a "double dip" in the Riksbank's main scenario is low. It is also difficult, on the basis of current information, to draw the conclusion that the neutral equilibrium interest rate has become much lower. More data is required before it is possible to comment on this with any great certainty. A further reason is that normal historical patterns for interest rates (for instance, Taylor rules of various types) indicate that interest rates should be much higher than is indicated by the implied forward rates. Finally, other measures of monetary policy expectations, such as surveys, point to higher interest rates. In these comparisons, the implied forward rates appear to be exceptionally low. It is assumed in the main scenario that the implied forward rates in Sweden and abroad will gradually adjust to the Riksbank's forecast.

To summarize, it is difficult at present to assess developments in interest rates abroad and several different scenarios appear reasonable. We show below an example where policy rates are assumed to develop in line with implied forward rates in Sweden and abroad. The effects on the Swedish economy are illustrated the Riksbank's general equilibrium model Ramses.²²

An example using a general equilibrium model

How are monetary policy in Sweden and economic developments affected by interest rates in other countries being lower than has been assumed in the main scenario? This is illustrated with an example where interest rates abroad develop in accordance with the implied forward rates as they were at the end of September.²³ These are shown in Table B2. The forecasts in the main scenario are given in brackets. During the forecast period

²² For a description of Ramses see L. Christiano, M. Trabandt and K. Walentin, "Introducing Financial Frictions and Unemployment into a Small Open Economy Model", Working Paper no. 214, 2007, Sveriges Riksbank.

²³ A conceptual problem with the analysis is that it is not possible for the model to contain any difference between market interest rate expectations and the interest rate expectations of the agents in the model. This is a problem not just for general equilibrium models like Ramses, but also applies to various types of statistical models, where expectations are not explicitly shown at all. This problem does not apply to the forecast in the main scenario in the same way, as it is not a pure model forecast. The Riksbank is currently working on developing methods that will take this into account in a consistent way in economic models.

2011–2013 forward rates abroad are on average around 0.4 percentage points lower than the forecast in the main scenario. To isolate the effects of lower interest rates abroad, GDP and inflation abroad are assumed to develop in line with the Riksbank's main scenario.

Table B2. Example with lower policy rates abroad
Annual percentage change unless otherwise specified

	2009	2010	2011	2012	2013
Policy rates abroad, per cent	0.7	0.5 (0.5)	0.8 (0.8)	1.0 (1.3)	1.6 (2.4)
Repo rate, per cent	0.7	0.5 (0.5)	1.5 (1.7)	2.1 (2.6)	2.8 (3.3)
TCW-weighted exchange rate, Index, 18.11.92 = 100	140.2	129.1(129.1)	121.1(121.9)	119.7(121.4)	120.1(122.2)
CPIF	1.9	2.0 (2.0)	1.0 (1.3)	1.1 (1.5)	1.7 (1.9)
CPI	-0.3	1.2 (1.2)	1.3 (1.7)	1.6 (2.2)	2.4 (2.6)
Hours gap, per cent	-2.2	-1.5 (-1.5)	-0.6 (-0.6)	-0.2 (-0.1)	0.0 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.6 (7.6)	7.2 (7.2)	6.9 (6.8)
GDP, calendar-adjusted	-5.1	4.6 (4.6)	3.8 (3.9)	2.9 (2.9)	2.4 (2.4)

Note. Main scenario's forecast in brackets. TCW-weighted foreign interest rates.

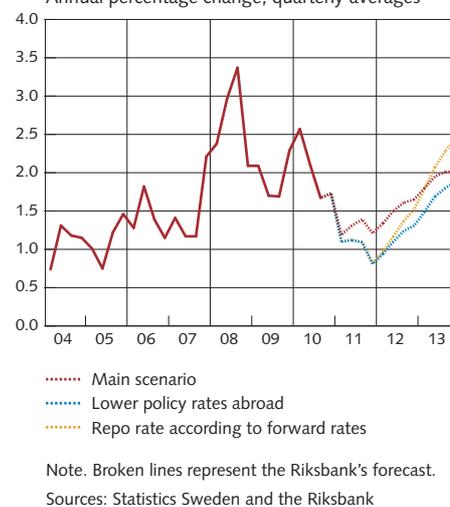
Sources: National sources, Statistics Sweden and the Riksbank

Interest rates abroad affect the Swedish economy in the model through what is known as an interest rate parity condition. More specifically, interest rate parity entails the differences between the Swedish interest rate and interest rates abroad corresponding to changes in the exchange rate. If the interest rates abroad are lower, the exchange rate is strengthened in the short term and then weakens gradually in the long term in line with the interest rate differences. But during the whole period with a lower interest rate abroad, the level of the exchange rate will be stronger than otherwise. This means that the expected return on interest-bearing assets will be the same in Sweden as it is abroad. In other words, the expected rate of depreciation over, say, five years, will roughly correspond to the interest rate difference between a Swedish five-year interest rate and a foreign five-year interest rate.

However, the stronger exchange rate has effects on the Swedish economy, so that the interest rate in Sweden is also affected; exactly how it is affected depends on the monetary policy reaction function in the model. Despite the fact that the interest rate abroad according to forward rates does not begin to deviate from the forecast in the main scenario until the fourth quarter of 2011, the Swedish economy is affected right from the first quarter of 2011. This is because households and companies in the model predict the developments in the interest rate abroad and therefore react to future changes now. The repo rate is therefore lower as early as in 2011 (see the blue line in Figure B12).²⁴

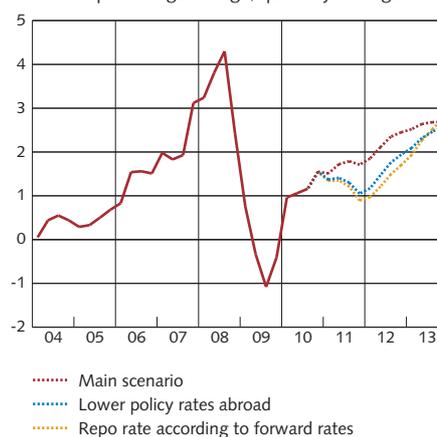
As explained above, the positive interest rate difference which gradually arises between the repo rate and the interest rate abroad leads to a strengthening of the krona (see the blue line in Figure B13). Imported goods thus become cheaper. Inflation, which is a weighted average

Figure B14. CPIF
Annual percentage change, quarterly averages



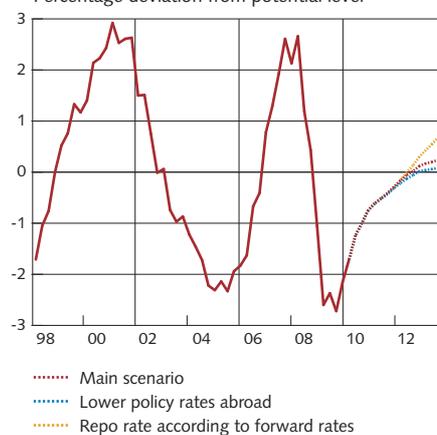
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure B15. CPI
Annual percentage change, quarterly averages



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

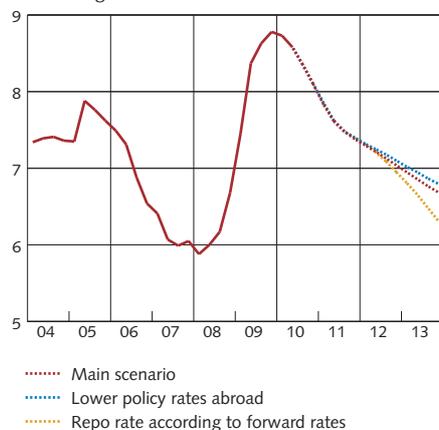
Figure B16. Hours gap
Percentage deviation from potential level



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

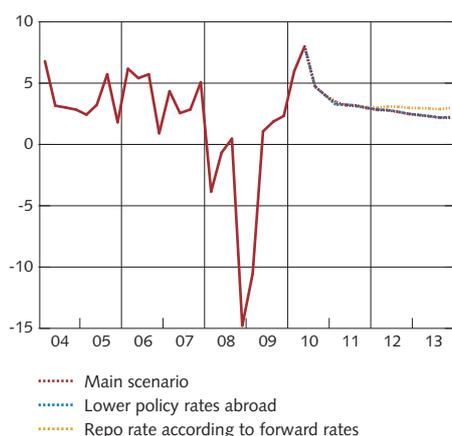
²⁴ This is a consequence of the assumption of so-called rational expectations. Whether or not this assumption is a good description of reality is a matter for discussion.

Figure B17. Unemployment
Percentage of labour force



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure B18. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

between the prices of imported goods and the prices of domestic goods, is thus lower. In quantitative terms both CPIF and CPI inflation are around 0.3 percentage points lower than in the main scenario during the forecast period (see Table B2 and the blue line in Figures B14 and B15).

The lower price pressure causes a more expansionary monetary policy. The repo rate is therefore raised at a slower pace throughout the forecast period. It is on average around 0.4 percentage points lower than in the main scenario (see Table B2 and the blue line in Figure B12). However, monetary policy is not able to fully counteract the slowdown in inflation. The more expansionary monetary policy pushes up demand in the economy, but this is partly counteracted by the stronger exchange rate, which means that Swedish exports become more expensive. The hours gap, unemployment and GDP growth are therefore more or less unchanged, compared with the main scenario (see the blue line in Figures B16, B17 and B18).

Short and long rates and implied forward rates are not only low in many countries abroad; they are also low in Sweden. The yellow line in Figure B12 shows forward rates in Sweden at the end of September. On average, the implied forward rates are around 0.7 percentage points below the repo rate in the Riksbank's main scenario (see Table B3).

Table B3. Example with repo rate according to market expectations
Annual percentage change unless otherwise specified

	2009	2010	2011	2012	2013
Policy rates abroad, per cent	0.7	0.5 (0.5)	0.8 (0.8)	1.0 (1.3)	1.6 (2.4)
Repo rate, per cent	0.7	0.5 (0.5)	1.5 (1.7)	1.8 (2.6)	2.1 (3.3)
TCW-weighted exchange rate, Index, 18.11.92 = 100	140.2	129.1(129.1)	121.1(121.9)	120.4(121.4)	122.2(122.2)
CPIF	1.9	2.0 (2.0)	1.0 (1.3)	1.3 (1.5)	2.1 (1.9)
CPI	-0.3	1.2 (1.2)	1.2 (1.7)	1.3 (2.2)	2.4 (2.6)
Hours gap, per cent	-2.2	-1.5 (-1.5)	-0.6 (-0.6)	-0.1 (-0.1)	0.5 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.6 (7.6)	7.1 (7.2)	6.6 (6.8)
GDP, calendar-adjusted	-5.1	4.6 (4.6)	3.8 (3.9)	3.1 (2.9)	3.0 (2.4)

Note. Main scenario's forecast in brackets. TCW-weighted foreign interest rates.

Sources: National sources, Statistics Sweden and the Riksbank

Swedish forward rates are also below the repo rate implied by the model's monetary policy reaction function when interest rates abroad develop in line with forward rates, see the yellow line compared with the blue line in Figure B12. It may therefore be interesting to also illustrate the effects in an example in which both the repo rate and the interest rates abroad follow forward rates. The yellow line in Figures B12–B18 illustrates this example. The difference between the yellow and blue lines thus illustrates the effects, according to the model, of a more expansionary monetary policy in Sweden.

A more expansionary monetary policy stimulates demand. Compared with the example "lower policy rates abroad" (the blue line), the lower repo rate contributes to an increase in household consumption and corporate investments. The increased demand means that production will

grow more quickly and push up the demand for labour. The hours gap in this example is almost one per cent above its normal level at the end of the forecast period (see Figure B16) and unemployment is lower (see Figure B17).

The increased demand for labour pushes up wages, which increases production costs. Companies will pass on the higher costs to the consumers and CPIF inflation will therefore be higher than in the example “lower policy rates abroad” (see Figure B14). At the end of the forecast period CPIF inflation is around 2.5 per cent. The lower repo rate reduces households’ mortgage rates, which holds down CPI inflation. CPI inflation will then be slightly lower than in the example “lower policy rates abroad” (see Figure B15). The exchange rate becomes weaker in the long run in this example, which is linked to the inflation rate in Sweden being higher than those abroad (see Figure B13).

Summary

This example has illustrated the effects of lower policy rates in Sweden and abroad. If policy rates abroad were to develop in line with implied forward rates, this would justify a lower repo rate path and a stronger krona than in the main scenario, but the development in the real economy would be roughly the same. However, if the Swedish policy rate were also to develop in line with forward rates, both resource utilisation and inflation would be too high at the end of the forecast period.

It is worth pointing out that the results from the example are relatively uncertain. The interest rate parity condition has relatively limited support in empirical research. Moreover, models with rational expectations like Ramses cannot formally explain deviations from market expectations, and one must therefore interpret the results with caution. Model calculations of this type are a valuable support in forecasting and policy work, but they always need to be supplemented with expert assessments.

■ The driving forces behind trends in the economy can be analysed using a production function

In this report, the Riksbank complements the analysis of resource utilisation with a production function approach. This approach includes an explicit assessment of potential employment and the potential number of hours worked. The method makes it easier to understand the driving forces behind trends in the economy. For example, potential labour force participation is expected to increase in the period ahead, as a consequence of both demographic factors and economic policy. The production function is one of several approaches that the Riksbank will use in its analysis of resource utilisation in the future. However, the Riksbank will continue to adopt a broad approach and therefore study a number of different indicators that will be weighed together with other information to form an overall assessment of resource utilisation.

The Riksbank conducts a policy of flexible inflation targeting. This means that the repo rate is normally set with the aim of attaining an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy, for example in terms of production and employment. A high rate of growth and full employment are not targets for monetary policy because monetary policy cannot increase economic growth or employment in a lasting way by being systematically expansionary. The best that monetary policy can do – apart from stabilising inflation around the inflation target – is to attempt to reduce the fluctuations in the real economy; that is to strive to stabilise production and employment around development paths that are sustainable in the long term.

A measure of resource utilisation is often used as an overall picture of the development of the real economy. This attempts to measure to what extent the productive resources of the economy – labour and capital – are used in relation to what is sustainable. However, resource utilisation cannot be observed directly but must be estimated using a statistical or econometric method, or studied on the basis of various surveys.

The Riksbank has chosen to adopt a broad approach to the analysis of resource utilisation and presents a number of different indicators of resource utilisation in its Monetary Policy Reports and Monetary Policy Updates. Some of these indicators come from surveys in which the respondents are asked about the current situation or future prospects in their companies. Other indicators, such as the employment rate or unemployment, can say something about how strained the situation is on the labour market as a whole. Another indicator is the production gap. This is used to try to estimate how total production relates to what can be assumed to be a normal level. On the basis of all these indicators and other information, the Riksbank makes an overall assessment of resource utilisation. There is no single measure that reflects this overall assessment. The Riksbank's final assessment of resource utilisation is instead qualitative in nature and is often expressed as "higher than normal", "normal" or "lower than normal".

In the case of measures such as how hours worked, employment or GDP deviate from their respective trends, the Riksbank has to date

primarily calculated the trends using the so-called HP filter.²⁵ However, this filter is associated with a number of problems. One such problem is that the method tends to allow the trend to end up close to the last outcome in the series filtered, which means that the estimate of resource utilisation always ends up relatively close to zero at the end of the estimate period. Another problem is that the filter is a purely statistical method that lacks economic links. This means that new outcomes for the series to be filtered affect the estimate of the trend in a rather mechanical way, so that the estimate of resource utilisation is also revised more or less mechanically. As it is a purely statistical filter it is also difficult to interpret the estimated trends in economic terms.

As a result of the problems associated with the HP filter and other more statistically-oriented methods, the Riksbank has chosen to complement the analysis with another method of calculating the trends. This method is usually called the production function approach and is used by many forecasters who attempt to determine what the situation is regarding resource utilisation.²⁶ One advantage of the new method is thus that it will facilitate comparisons with other forecasters. In addition, it will be possible to break down the trends from the production function approach into the contributions made by hours worked (and their components), capital services and total factor productivity.²⁷ This makes it easier to interpret and understand the assessments that lie behind the view of trend development.

The Riksbank's adoption of a production function approach to complement the analysis of resource utilisation does not mean, however, that this will be the only measure of resource utilisation that will be analysed in the future. Making exact estimates of resource utilisation is difficult, irrespective of the method used, and the Riksbank will continue to take a broad approach to the analysis of resource utilisation.

The production function approach

In the production function described here, production is determined by the production factors – capital and labour.²⁸ In addition, there is a measure of technological development that is usually referred to as total

25 The HP filter takes its name from the economists who made this method popular in economic applications, see R. J. Hodrick and E.C. Prescott, "Post-war U.S. Business Cycles: An Empirical Investigation", *Journal of Money, Credit and Banking*, Vol. 29(1), pp. 1-16, 1997. For a simple description, see the section on the Hodrick-Prescott filter in M. Apel, J. Hansen and H. Lindberg, "Potential production and production gap", *Economic Review*, 1996:3, Sveriges Riksbank.

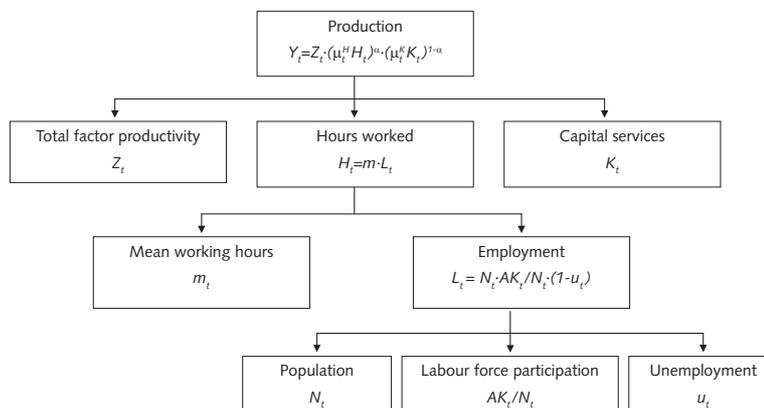
26 For a more detailed description of the production function approach see M. Apel, J. Hansen and H. Lindberg, "Potential production and production gap", *Sveriges Riksbank Economic Review*, 1996:3, Sveriges Riksbank. See also P-O. Beffy, et. al. "New OECD Methods for Supply-Side and Medium-Term Assessments: A Capital Services Approach", OECD, Economics Department Working Papers, No. 482, 2006 and C. Denis, "Calculating Potential Growth Rates and Output gaps – A Revised Production Function Approach", *European Economy*, Economic Papers, No. 247, 2006.

27 The term capital service is to be distinguished from the term capital stock. The capital stock measures the value of machinery, buildings, ICT capital and so on. When calculating capital services, one attempts to adjust the different types of capital on the basis of how productive they are. Normally, this means that highly-productive types of capital, e.g. ICT capital, are adjusted upwards in relation to other types. For a more detailed discussion see "Hours, capital and technology – what means most?", Appendix 6 of the Long-term Planning Commission Report 2008, SOU 2008:14.

28 Formally, it is only the capital services and the hours worked that are actually used for productive purposes that are included in the production function. In Figure 1 this is illustrated by the two parameters that measure the degree of utilisation of the production factors, μ_t^H and μ_t^K , which are both between 0 and 1. For example, if the capital is only used to 75 per cent of its full capacity then $\mu_t^K=0.75$. Similarly, if a person is employed and receives wages for 40 hours a week, but in practice is only used for 30 hours a week to produce goods, then $\mu_t^H=0.75$.

factor productivity (TFP). Hours worked can be broken down into average hours worked and the number of people employed, which in turn can be broken down further (see Figure B19).

Figure B19. Outline of the production function approach



The production function can be used to describe both actual and trend, or potential, production. Like most of the other institutions that use the production function approach, the Riksbank assumes that the actual and the potential capital services coincide.²⁹ This means that the difference between actual and potential production, the so-called production gap, is due to a TFP gap and an hours gap in the form of the deviations of employment and average hours worked from their potential levels. Employment can in turn be described on the basis of unemployment, labour force participation and population trends. Break downs, or decompositions, of this type make it simpler to interpret the driving forces behind the trend development of GDP, the number of hours worked and employment. For example, the assumption that unemployment can be lower in the long term will increase potential employment and thus the potential number of hours worked, which will increase potential production (see Figure B19).

It is difficult to assess technological development

Technological development is included in the production function as an important factor that determines both actual and potential production. On the basis of observed values for GDP, hours worked and the capital services, the production function can be used to calculate a so-called Solow-residual (see Figure B20).³⁰

We can see that the Solow-residual fluctuates considerably over time. For example, it fell dramatically in connection with the financial crisis. This is partly because the companies retained their personnel and their physical capital in the initial phase of the crisis. When production capacity is not used to the full, a falling Solow-residual will arise. To find actual technological development, TFP, all of the cyclical movements

²⁹ This simplifying assumption is made partly because it is notoriously difficult to measure capital stocks and calculate capital services.

³⁰ See R. M. Solow, "Technical Change and the Aggregate Production Function", *The Review of Economics and Statistics*, Vol. 39, No. 3, pp. 312-320, 1957. For an application see "Hours, capital and technology – what means most?", Appendix 6 of the Long-term Planning Commission Report, 2008, SOU 2008:14.

that stem from variations in the utilisation of the production factors must therefore be filtered out.³¹ Like most of the other institutions that use the production function approach, the Riksbank currently does this using an HP filter.³²

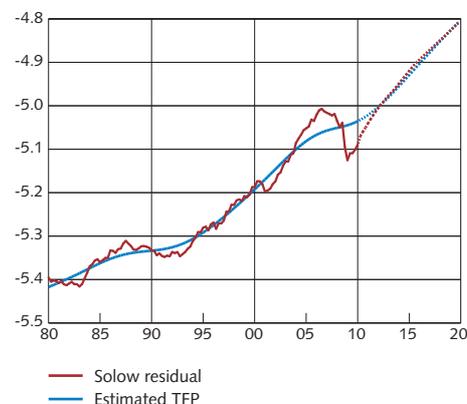
HP filtering the Solow-residual removes some of the fluctuations in the series, but this estimated TFP also fluctuates somewhat over an economic cycle and declined during the initial phase of the crisis (see Figure B20). This indicates that the HP filter is not completely successful in filtering out all the variations in the utilisation of the production factors. Moreover, the estimate of technological development will be revised every time the National Accounts are revised. As estimates of technological development are associated with problems of this type, estimates of the production gap will also be associated with the same problems. It may therefore be an advantage to attach a little greater importance to the development of the labour market when analysing resource utilisation.

Potential employment and potential numbers of hours worked are increasing

The potential level of the number of those employed and the number of hours worked is ultimately determined by changes in population trends and the composition of the population over time.³³ The younger and older age groups have both a lower mean level of labour force participation (due, for example, to the fact that they are studying or retired) and a lower level of average hours worked compared to the 25–54 age group. As labour force participation, unemployment and average hours worked vary between population groups, the number of hours worked will be affected by both the growth of the population as a whole and how the different population groups develop as a percentage of the population. The Riksbank therefore uses a disaggregated model that takes such demographic effects into account.³⁴

Potential employment and hours worked are also affected by economic policy. The main impact of economic policy is in terms of variations in labour force participation. Reforms in the educational, taxation and labour market fields such as the expansion of higher education, amended tax regulations and changes in social insurance schemes affect the level of participation in the labour force. Incentives to move into or out of the labour market are also governed, for example, by changes in the pension scheme. The assessment is that potential labour force participation will increase in the period ahead (see Figure B21). This is mainly because of lower income taxes for those in work and lower payment levels from the social insurance schemes, both factors that

Figure B20. Solow residual and estimated TFP
Index 1980 = 100



Note. TFP stands for total factor productivity. Broken lines represent the Riksbank's forecast.

Source: The Riksbank

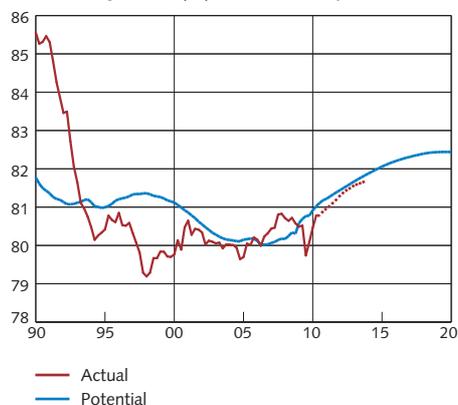
31 With the production function used in Figure B19, the Solow-residual will be $Z_t(\mu_t^L)^{\alpha}(\mu_t^K)^{1-\alpha}$, i.e. the degree of utilisation of labour and the degree of utilisation of capital are included in the measure.

32 Estimating TFP by HP filtering the Solow-residual is of course not an optimal solution given all the problems previously mentioned with regard to the HP filter. Work on finding a better method of estimating TFP is currently underway at the Riksbank.

33 The Riksbank uses the population forecasts produced by Statistics Sweden.

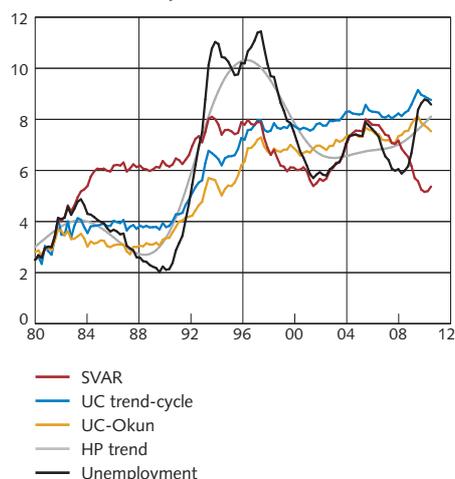
34 The model is described in "Hours, capital and technology – what means most?", Appendix 6 of the Long-term Planning Commission Report 2008, SOU 2008:14.

Figure B21. Labour force participation, actual and potential
Percentage of the population, 16–64 years old



Note. Broken lines represent the Riksbank's forecast
Sources: Statistics Sweden and the Riksbank

Figure B22. Actual unemployment and model assessments of long-term unemployment
Per cent of labour force



Note. SVAR is a structural VAR model. The model includes GDP and unemployment. Long-term unemployment is the level of unemployment that would have been observed in the absence of demand shocks. The cyclical variation has been filtered out of the HP trend.

Sources: Statistics Sweden and the Riksbank

increase the incentive to work.³⁵ It is also due to the fact that the trend towards a higher degree of labour force participation among older age groups is expected to continue.³⁶

Finally, the assessment of the level of long-term unemployment plays a central role in the analysis of resource utilisation on the labour market. Although there are sound arguments for saying that long-term unemployment can never be zero, it is difficult to determine exactly how high it is. The results of empirical studies vary greatly and there are wide uncertainty bands around the estimates (see Figure B22). However, most of the model estimates and assessments appear to agree on two points. First, that long-term unemployment was lower before the crisis of the 1990s than after and, second, that the labour market reforms implemented in the mid-2000s are reducing long-term unemployment.

The Riksbank assumes that long-term unemployment will continue to fall somewhat in the period ahead due to policy effects (see Figure B23). The two most important factors behind this are lower income taxes for those in work and the lower payment levels from the social insurance schemes.³⁷ In the latest crisis, the observed increase in unemployment was much smaller compared with historic links between GDP and activity on the labour market. The Riksbank's assessment is that the increase will not have any lasting effects on long-term unemployment.

All in all, this means that the potential number of hours worked will increase in the period ahead (see Figure B24). This is primarily due to an increase in potential labour force participation (see Figure B21). The fact that potential labour force participation will increase in the period ahead is due to both demographic factors and the effects of economic policy. If we add the contributions from the different gaps we will get a picture of the deviations of GDP, hours worked and employment from their respective trends. Compared to the gaps where trends are calculated using an HP filter, all of the gaps are currently at a lower level with the new method (see Figures 1:27 and 1:28 in the report).

A break down of potential GDP growth

One of the advantages of the production function approach is that, as has just been demonstrated, it makes it possible to break down production into its contributions from various underlying determining factors. The results from the production function described here show that potential GDP growth will decline somewhat in 2010 and 2011, which is linked to the low levels of investment. Potential GDP growth will then gradually

³⁵ For studies of the effects of these economic policy measures on labour force participation see H. Sacklén 2009, "Arbetsutbudseffekter av reformer på inkomstskatteområdet 2007-2009" (The effects of reforms in the field of income tax on the supply of labour 2007-2009) a report from the economics department at the Ministry of Finance 2009. See also the report of the Long-term Planning Commission (2008), SOU 2008:105 and "Yttrande om promemorior Ett förstärkt jobbskatteavdrag" ("Response to the memo A higher tax deduction for those in work"), Fi2009/6109).

³⁶ This trend is linked to an improvement in the general state of health and to a reformed pension system that makes it more profitable to carry on working.

³⁷ Views vary on the magnitude of the effects of economic policy on long-term unemployment, see for example A. Bassanini and R. Duval, "Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions", OECD Social, Employment and Migration Working Papers, No. 35, 2006, A. Forslund, "Den svenska arbetslösheten: en översikt" ("Swedish unemployment: a review"), Studies in Fiscal Policy 2008/4, Fiscal Policy Council, and H. Sacklén, "Arbetsutbudseffekter av reformer på inkomstskatteområdet 2007-2009" ("The effects of reforms in the field of income tax on the supply of labour 2007-2009"), report from the economics department of the Ministry of Finance 2009.

increase. Towards the end of the period, approximately 75 per cent of potential GDP growth will stem from technological development and the remainder primarily from an increase in the potential number of hours worked. The primary factor behind the increase in the potential number of hours worked is an increase in potential labour force participation (see Table B4).

Table B4. Decomposition of potential GDP growth
Annual percentage change

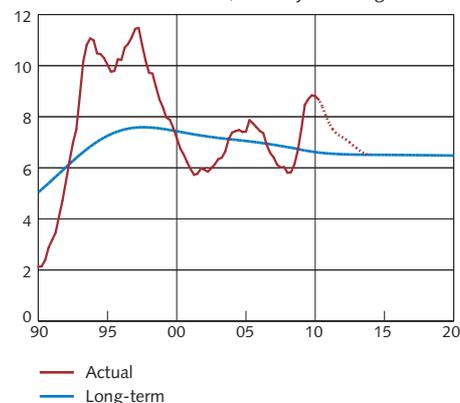
	2009	2010	2011	2012	2013
Potential production	1.8	1.6	1.4	1.7	2.0
Of which technology	0.5	0.8	1.1	1.4	1.6
Of which potential capital services	0.6	0.2	-0.1	0.1	0.3
Of which potential hours worked	0.8	0.7	0.4	0.2	0.2
Of which potential average working hours	-0.1	0.0	0.0	0.1	0.1
Of which population	0.5	0.3	0.1	0.0	-0.1
Of which potential labour force participation	0.3	0.3	0.2	0.2	0.2
Of which long-term unemployment	0.1	0.1	0.0	0.0	0.0

Source: The Riksbank

Conclusion

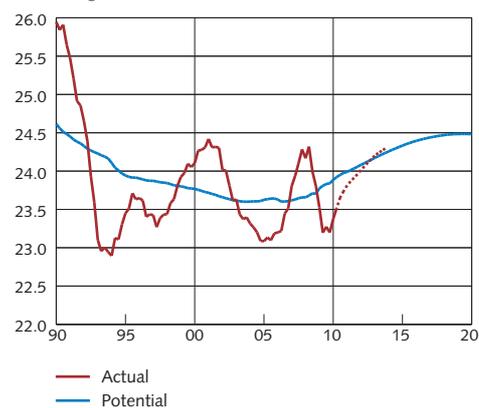
The Riksbank has complemented its analysis of resource utilisation with another method for the calculation of long-term, sustainable levels for GDP, the number of hours worked and employment. One advantage of using a so-called production function approach is that the various trends can be given an economic interpretation. Another advantage is that other forecasters use approximately the same method, which makes comparisons with these forecasters easier. The method does not mean, however, that the Riksbank has adopted a measure of resource utilisation that works in all situations and that can be used directly to draw conclusions concerning which monetary policy is most appropriate. The Riksbank will continue to take a broad approach to the analysis of resource utilisation in which various indicators and other information will play the same role as previously.

Figure B23. Actual and long-term unemployment
Per cent of labour force, 16–64 years of age



Note. Broken lines represent the Riksbank's forecast
Sources: Statistics Sweden and the Riksbank

Figure B24. Hours worked, actual and potential
Number of hours per capita and week, 16–64 years of age



Note. Broken lines represent the Riksbank's forecast
Sources: Statistics Sweden and the Riksbank

■ Appendix

- Tables
- Outline of articles published 2007–2010
- Previous interest rate decisions
- Glossary

Tables

The figures in parentheses show the forecast in the previous Monetary Policy Update (September 2010).

Table A1. Repo rate forecast

Per cent, quarterly averages

	2010 Q2	2010 Q3	2010 Q4	2011 Q4	2012 Q4	2013 Q4
Repo rate	0.25	0.55	1.0 (0.9)	2.0 (2.4)	2.9 (3.3)	3.4

Source: The Riksbank

Table A2. Inflation, annual average

Annual percentage change

	2009	2010	2011	2012	2013
CPI	-0.3	1.2 (1.1)	1.7 (1.9)	2.2 (2.5)	2.6
CPIF	1.9	2.0 (2.0)	1.3 (1.3)	1.5 (1.7)	1.9
CPIF excl. energy	2.3	1.7 (1.6)	1.5 (1.5)	1.6 (1.8)	1.9
HICP	1.9	1.8 (1.8)	1.0 (1.0)	1.3 (1.5)	1.7

Note. CPIF is CPI with fixed interest rate. HICP is an EU harmonised index of consumer prices which does not include household mortgage costs.

Sources: Statistics Sweden and the Riksbank

Table A3. Summary of financial forecasts

Annual average, per cent, unless otherwise specified

	2009	2010	2011	2012	2013
Repo rate	0.7	0.5 (0.5)	1.7 (1.9)	2.6 (3.0)	3.3
10-year rate	3.3	2.8 (2.8)	3.1 (3.1)	3.7 (3.8)	4.3
Exchange rate, TCW-index, 1992-11-18=100	140.2	129.1 (130.8)	121.9 (123.8)	121.4 (122.6)	122.2
General government net lending*	-1.2	0.4 (0.0)	1.4 (0.9)	1.6 (1.4)	1.2

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank

Table A4. International conditions

Annual percentage change

GDP	2009	2010	2011	2012	2013
Euro area (0,15)	-4.0	1.6 (1.5)	1.3 (1.3)	1.9 (1.9)	2.2
USA (0,20)	-2.6	2.7 (2.6)	2.4 (2.2)	3.0 (2.9)	3.1
Japan (0,06)	-5.2	2.9 (2.9)	1.3 (1.6)	1.6 (1.7)	1.8
OECD (0,57)	-3.4	2.7 (2.5)	2.2 (2.2)	2.6 (2.6)	2.7
TCW-weighted (0,49)	-3.8	1.9 (1.6)	1.7 (1.7)	2.0 (2.0)	2.2
World (1,00)	-0.7	4.6 (4.3)	4.0 (4.0)	4.3 (4.3)	4.4

Note. The international GDP weights adjusted for purchasing power in 2009, according to the IMF, are given in brackets.

CPI	2009	2010	2011	2012	2013
Euro area (HICP)	0.3	1.5 (1.4)	1.4 (1.3)	1.2 (1.4)	1.8
USA	-0.3	1.7 (1.6)	1.5 (1.5)	1.3 (1.6)	1.5
Japan	-1.4	-0.9 (-0.8)	-0.2 (-0.2)	0.2 (0.2)	0.6
TCW-weighted	0.5	1.6 (1.5)	1.5 (1.4)	1.3 (1.5)	1.7

	2009	2010	2011	2012	2013
Policy rates in the rest of the world, TCW-weighted	0.7	0.5 (0.5)	0.8 (0.9)	1.3 (1.9)	2.4
Crude oil price, USD/barrel Brent	62	79 (77)	86 (83)	89 (86)	90
Swedish export market	-13.1	10.0 (9.5)	8.0 (7.9)	6.9 (6.8)	6.4

Note. The Swedish export market index is calculated as a weighted average of the imports of the 15 countries which are the largest recipients of Swedish exports. They receive approximately 70 per cent of Swedish exports. The weight assigned to a country is its share of Swedish exports of goods.

Sources: Eurostat, IMF, Intercontinental Exchange, OECD and the Riksbank

Table A5. GDP by expenditure

Annual percentage change, unless otherwise specified

	2009	2010	2011	2012	2013
Private consumption	-0.8	3.5 (3.3)	2.6 (2.4)	2.1 (1.9)	2.0
Public consumption	1.7	1.8 (1.2)	0.9 (1.1)	0.5 (0.6)	0.7
Gross fixed capital formation	-16.0	5.6 (5.0)	8.4 (8.1)	5.4 (5.7)	5.1
Inventory investment*	-1.5	2.0 (1.6)	0.4 (0.3)	0.1 (0.1)	0.1
Exports	-12.4	11.7 (11.4)	8.5 (7.7)	5.5 (5.8)	5.8
Imports	-13.2	14.6 (14.1)	8.6 (8.3)	5.7 (5.9)	6.1
GDP	-5.1	4.8 (4.1)	3.8 (3.5)	2.5 (2.6)	2.4
GDP, calendar-adjusted	-5.1	4.6 (3.9)	3.9 (3.5)	2.9 (3.0)	2.4
Final figure for domestic demand*	-3.1	3.2 (2.9)	3.0 (2.9)	2.1 (2.2)	2.1
Net exports*	-0.5	-0.4 (-0.3)	0.5 (0.2)	0.2 (0.3)	0.2
Current account (NA), per cent of GDP	7.3	6.2 (5.9)	6.4 (5.9)	6.5 (5.9)	6.5

*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 A6. Production and employment

Annual percentage change, unless otherwise stated

	2009	2010	2011	2012	2013
Population, aged 16-64	0.7	0.4 (0.4)	0.1 (0.1)	0.0 (0.0)	-0.1
Potential hours worked	1.2	0.9 (0.9)	0.5 (0.5)	0.4 (0.4)	0.2
GDP, calendar-adjusted	-5.1	4.6 (3.9)	3.9 (3.5)	2.9 (3.0)	2.4
Number of hours worked, calendar-adjusted	-2.6	1.6 (1.5)	1.5 (1.1)	0.8 (0.8)	0.5
Employed, aged 15-74	-2.1	0.9 (1.0)	1.7 (1.5)	0.9 (0.7)	0.6
Labour force, aged 15-74	0.2	1.0 (1.2)	0.7 (0.8)	0.4 (0.4)	0.2
Unemployment, aged 15-74 *	8.3	8.4 (8.5)	7.6 (7.9)	7.2 (7.6)	6.8

* Per cent of labour force

Note. Potential hours refers to the long-term sustainable level for the number of hours worked.

Sources: Statistics Sweden and the Riksbank

Table A7. Wages and unit labour cost for the economy as a whole

Annual percentage change, calendar-adjusted data

	2009	2010	2011	2012	2013
Hourly wage, NMO	3.4	2.5 (2.6)	2.7 (2.7)	3.1 (3.1)	3.4
Hourly wage, NA	2.8	1.7 (1.9)	2.9 (2.9)	3.4 (3.3)	3.6
Employer's contribution*	-1.0	-0.1 (-0.1)	0.1 (0.1)	0.1 (0.1)	0.0
Hourly labour cost, NA	1.8	1.6 (1.8)	3.0 (2.9)	3.4 (3.3)	3.6
Productivity	-2.6	2.9 (2.3)	2.3 (2.4)	2.0 (2.2)	1.9
Unit labour cost	4.5	-1.2 (-0.5)	0.6 (0.5)	1.3 (1.1)	1.7

* 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 A8. Alternative scenario with a "double dip" abroad, annual average

Annual percentage change, unless otherwise stated

	2009	2010	2011	2012	2013
GDP abroad	-3.8	1.8 (1.9)	0.3 (1.7)	1.8 (2.0)	2.5 (2.2)
CPI abroad	0.5	1.6 (1.6)	1.3 (1.5)	0.9 (1.3)	1.4 (1.7)
Interest rate abroad, per cent	0.7	0.5 (0.5)	0.7 (0.8)	0.8 (1.3)	1.8 (2.4)
Exchange rate, TCW-index, 1992-11-18=100	140.2	129.1 (129.1)	121.6 (121.9)	121.8 (121.4)	123.3 (122.2)
CPIF	1.9	2.0 (2.0)	1.1 (1.3)	1.3 (1.5)	2.0 (1.9)
CPI	-0.3	1.2 (1.2)	1.2 (1.7)	1.7 (2.2)	2.8 (2.6)
GDP, calendar-adjusted	-5.1	4.6 (4.6)	3.7 (3.9)	3.1 (2.9)	2.6 (2.4)
Hours gap, per cent	-2.2	-1.5 (-1.5)	-0.8 (-0.6)	-0.2 (-0.1)	0.2 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.6 (7.6)	7.2 (7.2)	6.8 (6.8)
GDP gap, per cent	-6.4	-3.5 (-3.5)	-1.3 (-1.1)	0.1 (0.0)	0.7 (0.4)
Repo rate, per cent	0.7	0.5 (0.5)	1.3 (1.7)	1.9 (2.6)	2.9 (3.3)

Note. The main scenario's forecast in brackets. TCW-weighted international variables.

Sources: National sources, Statistics Sweden and the Riksbank

Table A9. Alternative scenario with faster domestic upswing, annual average
Annual percentage change, unless otherwise stated

	2009	2010	2011	2012	2013
Private consumption	-0.8	3.5 (3.5)	3.4 (2.6)	2.7 (2.1)	2.0 (2.0)
Gross fixed capital formation	-16.0	5.9 (5.6)	10.7 (8.4)	5.4 (5.4)	4.0 (5.1)
Productivity	-2.6	2.9 (2.9)	2.5 (2.3)	2.4 (2.0)	2.2 (1.9)
Hourly labour cost	1.8	1.6 (1.6)	3.6 (3.0)	4.2 (3.4)	3.8 (3.6)
Hours gap, per cent	-2.2	-1.5 (-1.5)	-0.4 (-0.6)	0.1 (-0.1)	0.2 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.4 (7.6)	6.8 (7.2)	6.7 (6.8)
GDP gap, per cent	-6.4	-3.5 (-3.5)	-0.7 (-1.1)	0.8 (0.0)	1.4 (0.4)
GDP, calendar-adjusted	-5.1	4.6 (4.6)	4.2 (3.9)	3.3 (2.9)	2.6 (2.4)
CPIF	1.9	2.0 (2.0)	1.5 (1.3)	1.8 (1.5)	2.0 (1.9)
CPI	-0.3	1.2 (1.2)	2.0 (1.7)	2.5 (2.2)	2.5 (2.6)
Repo rate, per cent	0.7	0.5 (0.5)	1.9 (1.7)	3.0 (2.6)	3.4 (3.3)

Note. The main scenario's forecast in brackets.
Sources: Statistics Sweden and the Riksbank

Table A10. Alternative scenario with higher repo rate, annual average
Annual percentage change, unless otherwise stated

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	2.0 (1.7)	2.6 (2.6)	3.2 (3.3)
GDP, calendar-adjusted	-5.1	4.5 (4.6)	3.6 (3.9)	2.8 (2.9)	2.5 (2.4)
Hours gap, per cent	-2.2	-1.5 (-1.5)	-0.7 (-0.6)	-0.3 (-0.1)	0.1 (0.2)
GDP, calendar-adjusted	-6.4	-3.5 (-3.5)	-1.4 (-1.1)	-0.3 (0.0)	0.2 (0.4)
Unemployment, per cent	8.3	8.4 (8.4)	7.7 (7.6)	7.3 (7.2)	6.9 (6.8)
CPIF	1.9	2.0 (2.0)	1.1 (1.3)	1.4 (1.5)	1.9 (1.9)
CPI	-0.3	1.2 (1.2)	1.7 (1.7)	1.9 (2.2)	2.6 (2.6)

Note. The main scenario's forecast in brackets.
Sources: Statistics Sweden and the Riksbank

Table A11. Alternative scenario with lower repo rate, annual average
Annual percentage change, unless otherwise stated

	2009	2010	2011	2012	2013
Repo rate, per cent	0,7	0,4 (0,5)	1,4 (1,7)	2,6 (2,6)	3,3 (3,3)
GDP, calendar-adjusted	-5,1	4,6 (4,6)	4,1 (3,9)	2,9 (2,9)	2,3 (2,4)
Hours gap, per cent	-2,2	-1,5 (-1,5)	-0,4 (-0,6)	0,1 (-0,1)	0,3 (0,2)
GDP, calendar-adjusted	-6,4	-3,5 (-3,5)	-0,8 (-1,1)	0,3 (0,0)	0,6 (0,4)
Unemployment, per cent	8,3	8,4 (8,4)	7,4 (7,6)	7,0 (7,2)	6,7 (6,8)
CPIF	1,9	2,0 (2,0)	1,5 (1,3)	1,7 (1,5)	2,0 (1,9)
CPI	-0,3	1,2 (1,2)	1,7 (1,7)	2,4 (2,2)	2,7 (2,6)

Note. The main scenario's forecast in brackets.
Sources: Statistics Sweden and the Riksbank

Outline of boxes published 2007–2010³⁸

2007

- 2007:1 Riksbank to publish its own forecast for the repo rate
- 2007:1 Material for assessing monetary policy 2004–2006
- 2007:1 Calculation method for uncertainty bands
- 2007:1 RAMSES – a tool for monetary policy analysis
- 2007:2 The effects of the abolition of property tax on housing prices and inflation
- 2007:2 Wage bargaining round indicates higher rates of wage increase
- 2007:2 Productivity drivers
- 2007:2 The matching of supply and demand in the labour market
- 2007:3 Households' inflation expectations
- 2007:3 The Riksbank's company survey
- 2007:3 Some lessons learned from earlier financial crises

2008

- 2008:1 Energy prices and Swedish inflation
- 2008:1 Rising food prices
- 2008:1 The Riksbank's company survey
- 2008:2 The rate of increase in the CPIX will be below the CPI for a long time
- 2008:2 How are measures of underlying inflation used in monetary policy analysis?
- 2008:2 The development of the real interest rate
- 2008:2 The Riksbank's company survey: economic activity slowing down and costs rising
- 2008:3 The development of the financial crisis in September and October
- 2008:3 Fiscal policy: assumptions and forecasts
- 2008:3 The Riksbank's company survey: rapid slowdown and widespread pessimism

2009

- 2009 February Monetary policy alternatives in times of financial crisis and concern over deflation
- 2009 February The financial crisis and the effects of monetary policy
- 2009 February The recent weakening of the krona
- 2009 February The Riksbank's company interviews in December 2008–January 2009
- 2009 July Monetary policy when the interest rate is close to zero
- 2009 July Differences in financial structure and crisis measures in various countries
- 2009 July Global imbalances, saving and demand in the wake of the crisis
- 2009 July The Riksbank's company interviews in May 2009
- 2009 October Evaluating different monetary policy alternatives
- 2009 October Unconventional measures and the risk of inflation
- 2009 October Exit strategies for unconventional measures
- 2009 October House prices in Sweden

2010

- 2010 February What is a normal level for the repo rate?
- 2010 February This year's wage bargaining is expected to result in low wage rises
- 2010 July Great need to strengthen public finances
- 2010 July Effects of a fall in housing prices
- 2010 July What form does the recovery of productivity usually take?
- 2010 July The CPI and measures of underlying inflation

³⁸ A list of the boxes published since 1993 can be found on our website www.riksbank.se.

Earlier interest rate decisions³⁹

Date of meeting	Repo rate (per cent)	Decision (percentage points)	Monetary Policy Report
2006			
19 January	1.75	+0.25	no report
22 February	2.00	+0.25	2006:1
27 April	2.00	0	no report
19 June	2.25	+0.25	2006:2
29 August	2.50	+0.25	no report
25 October	2.75	+0.25	2006:3
14 December	3.00	+0.25	no report
2007			
14 February	3.25	+0.25	2007:1
29 March	3.25	0	no report
3 May	3.25	0	no report
19 June	3.50	+0.25	2007:2
6 September	3.75	+0.25	no report
29 October	4.00	+0.25	2007:3
18 December	4.00	0	Monetary Policy Update
2008			
12 February	4.25	+0.25	2008:1
22 April	4.25	0	Monetary Policy Update
2 July	4.50	+0.25	2008:2
3 September	4.75	+0.25	Monetary Policy Update
8 October	4.25	-0.50	no report
22 October	3.75	-0.50	2008:3
3 December	2.00	-1.75	Monetary Policy Update
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	0.25	0	Monetary Policy Update
21 October	0.25	0	October 2009
15 December	0.25	0	Monetary Policy Update
2010			
10 February	0.25	0	February 2010
19 April	0.25	0	Monetary Policy Update
30 June	0.50	+0.25	July 2010
1 September	0.75	+0.25	Monetary Policy Update

³⁹ 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

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

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

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

Bond market: See fixed-income market.

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

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

Capacity utilisation: The degree to which production capacity is utilised, 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 surveys.

CPI: The consumer price index, CPI, 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.

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.

Export market: Intended as a measure of the demand for imports in the countries to which Sweden exports. Calculated by weighing together imports in the 15 countries which receive the major part of Swedish exports. Approximately 70% of Swedish exports are to these countries. The weights are determined by the respective country's share of Swedish exports of goods.

FED: The Federal Reserve Bank of the United States.

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

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.

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.

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.

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.

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.

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 interest rate that banks pay when they borrow money from the Riksbank.

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

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

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

Shortage rates: The proportion of firms reporting a shortage of staff.

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

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

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

STINA: Stockholm Tomnext 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.

Sub-prime loan: Mortgages granted to households with low or non-verifiable incomes.

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

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

TCW-weighted: An aggregate of, for instance, GDP, CPI or exchange rates in 20 countries that are important to Sweden's international transactions.

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 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.

Unit labour cost: Labour cost (see definition) per unit produced.

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

Sveriges Riksbank
SE-103 37 Stockholm

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

