



Monetary Policy Report

February 2011

Correction 24 March 2011

Due to errors in three figures (1:10, 1:17 and 2:12) and an updated table heading (Table 12), we have updated the report.

In addition, the captions in Figures 2:1 and 2:5 have been updated to read "Higher inflation abroad" instead of "Higher inflation".

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 14 February 2011. The Report is available on the Riksbank's website, www.riksbank.se. From this address a printed version of the report can be ordered free of charge or the report can be downloaded as a PDF file.

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

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

Monetary policy in Sweden

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

DECISION-MAKING PROCESS

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

PRESENTATION OF THE INTEREST RATE DECISION

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

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

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■ Monetary policy considerations

– a summary

■ Repo rate raised by 0.25 percentage points to 1.5 per cent

The Swedish economy is continuing to grow strongly. Underlying inflationary pressures are still low in Sweden, but are expected to increase as economic activity strengthens. Rising energy and commodity prices also contribute to higher inflation. To stabilise inflation close to the target of 2 per cent and to avoid resource utilisation being too high, the repo rate needs to gradually increase. The Executive Board of the Riksbank has therefore decided to raise the repo rate by 0.25 percentage points to 1.5 per cent. The assessment is also that the repo rate needs to be raised somewhat faster in the coming period.

■ Balance in the economy requires continued repo-rate increases

The Swedish economy remains strong, and the labour market situation is steadily improving. Exports and investment are increasing, and so is household consumption. Growth in the world economy as a whole is also good, and prospects in the United States look somewhat brighter. Developments in Europe are still uncertain, as a result of the fiscal problems in several European countries. On the whole, the prospects for continued high growth in Sweden are good.

International growth is contributing to rising energy and commodity prices. The higher prices temporarily push up inflation in Sweden, but are also expected to indirectly continue affecting inflationary pressures throughout the forecast period. At the same time, inflationary pressures are low, as a result of the strong Swedish krona and low domestic cost pressure. They are expected to rise, however, as wages increase at a faster rate and the spare capacity in the economy declines. To stabilise inflation close to the target of 2 per cent and to avoid resource utilisation being too high, there is a need to gradually increase the repo rate.

The Executive Board of the Riksbank has therefore decided to raise the repo rate by 0.25 percentage points to 1.5 per cent, and to adjust the forecast for the repo rate upwards in relation to the December forecast. A gradual rise in the repo rate reduces the risk of imbalances building up in the Swedish economy, and may also contribute to a slower growth in household borrowing.

■ Good growth – but there are risks

As always, the forecasts for 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 inflation in Sweden increases as a result, for example, of higher energy prices abroad or stronger domestic demand, monetary policy may need to be tightened more than in the main scenario of the Monetary Policy Report. If, on the other hand, productivity improves unexpectedly quickly or the krona strengthens further so that inflation is lower than expected, it may be necessary to increase the repo rate at a slower rate in the future.

CHAPTER 1 – The economic outlook and inflation prospects

The Swedish economy is continuing to show strong growth. It is expected that GDP increased by 5.5 per cent last year and unemployment has been declining for roughly a year now. Various economic indicators also point to continued strong growth in the period ahead. The assessment is that the recovery in the world as a whole will continue at a good rate during the forecast period. The emerging economies in, for example, Asia are growing rapidly, which is probably one of the reasons why commodity prices are rising. All in all,

global growth is expected to be just over 4 per cent per year over the next few years. The recent increases in commodity prices will contribute to rising inflation during the forecast period. The repo rate is now being increased to 1.5 per cent. We need to continue raising the repo rate towards more normal levels to stabilise inflation close to the target of 2 per cent and to avoid resource utilisation becoming too high. Compared to the Monetary Policy Update in December, the repo-rate path has been adjusted upwards somewhat.

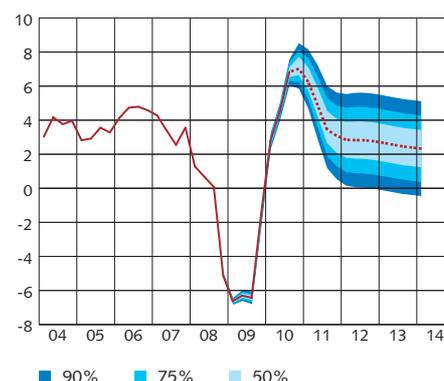
Continued good growth in Sweden

The Swedish economy is continuing to show strong growth (see Figure 1:1). Both the National Accounts and monthly indicators confirm this. The Swedish labour market has also improved steadily over the last 12 months or so. This is in contrast to developments in the United States and parts of the euro area, where the pace of the recovery is relatively slow (see Figure 1:2). The strength of the Swedish economy has also led to the continued appreciation of the krona recently.

The assessment is that the recovery in the world as a whole will continue during the forecast period. The emerging economies in, for example, Asia, are growing rapidly, which has contributed to the recent increases in the prices of food, energy and other commodities. All in all, world growth is expected to be just over 4 per cent a year over the next few years, which is high from an historical perspective (see Table 4). However, there is still uncertainty about developments abroad as a result of the fiscal policy tightening measures that are expected in some countries and ongoing global imbalances.

The preconditions for growth in Sweden are good and the assessment is that the Swedish economy will grow more rapidly than many other OECD economies in the period immediately ahead (see Figure 1:2). As a result of the higher level of growth, among other factors, there has also been a clear improvement in the situation on the labour market in Sweden (see also the article “The effects of the financial crisis on the labour market – a comparison of Sweden, the euro area and the United States”). The improvement on the labour market is expected to continue during the forecast period (see Figure 1:3).

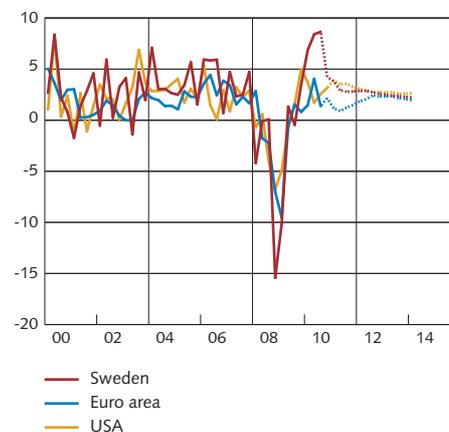
Figure 1:1. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



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

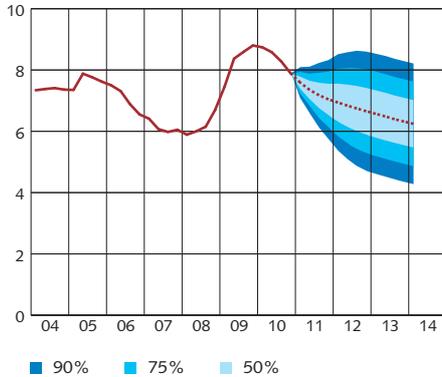
Sources: Statistics Sweden and the Riksbank

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



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

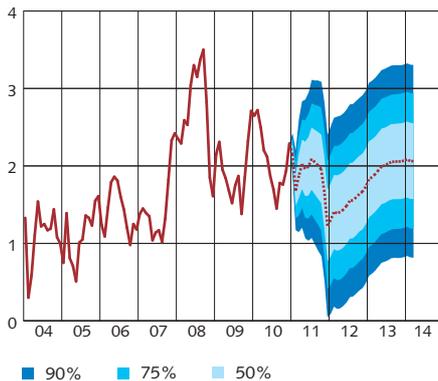
Figure 1.3. Unemployment with uncertainty bands
Percent of the labour force



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

Sources: Statistics Sweden and the Riksbank

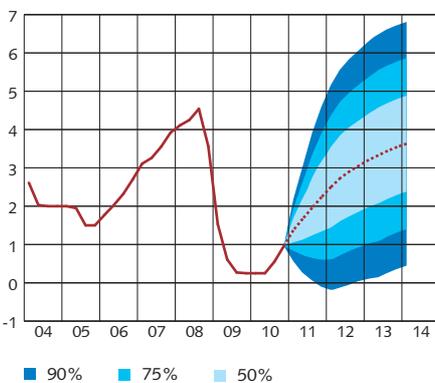
Figure 1.4. CPIF with uncertainty bands
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

Figure 1.5. Repo rate with uncertainty bands
Per cent, quarterly averages



Note. The uncertainty band is based on risk-adjusted market rates' forecast errors for the period 1999 until the Riksbank began publishing 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.

Source: The Riksbank

Resource utilisation is currently slightly lower than normal, but it is estimated that it will be normal or slightly above normal towards the end of the forecast period. The labour market has improved and wages are expected to rise at an increasing, but still relatively moderate rate. This will gradually have an impact on inflation, which will rise during the latter part of the forecast period (see Figure 1:4).

However, inflation has been surprisingly high in recent months. Rising prices for food, energy and other commodities have contributed to this. These price increases are also probably one explanation for the increase in inflation expectations. Increasing commodity prices will continue to have an impact on inflation during the forecast period. This impact is expected to be direct, in the form of rising prices for such items as petrol, electricity and food, but also indirect in the form of rising costs for the companies. The price increases for commodities constitute one important reason why the inflation forecast has been revised upwards compared to the assessment in December. However, the impact on inflation in Sweden will be counteracted by the strengthening of the krona.

To stabilise inflation around the target of 2 per cent and, at the same time, avoid a too high level of resource utilisation, the Riksbank's assessment is that it is appropriate to continue the sequence of increases in the repo rate that was initiated last year. The forecasts in this report are based on an increase of the repo rate to 1.5 per cent in February. When resource utilisation and inflationary pressures increase, the repo rate will gradually be raised to more normal levels (see Figure 1:5).

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 be temporarily above the inflation target of 2 per cent during parts of the forecast period but to eventually fall and be in line with the inflation target (see Figure 1:6).

Household debts have increased substantially in recent years. If these debts continue to increase at a much faster rate than incomes over a long period of time, there is a risk that imbalances will build up in the Swedish economy. A gradually increasing repo rate may help to slow down the growth of household borrowing.

If inflation in Sweden increases as a result, for example, of higher energy prices abroad or higher domestic demand, monetary policy may need to be tightened more than in the main scenario. If, on the other hand, productivity improves unexpectedly quickly or the krona strengthens further so that inflation becomes lower than expected, there may be a need to increase the repo rate at a slower rate in the future. These alternative scenarios are described in Chapter 2.

■ ■ Strong growth but increasing inflation poses a challenge to emerging economies

There will be strong growth in the global economy during the forecast period (see Table 4). In Asia, output in the emerging economies increased at a faster rate in the latter part of last year than in the third quarter,

and it is expected that this good development will continue in the years ahead. The rapid rate of growth in these countries is helping to push up the prices of energy and other commodities on the world market (see Figures 1:7 and 3:5).

Economic activity is stronger in the emerging economies than, for example, in Europe and the United States and they therefore have little spare capacity that could curb inflation. Increasing inflation is a cause for concern and the central banks in several of these countries have therefore begun to tighten monetary policy. This tightening is expected to continue over the next few years, although the countries must weigh the need to curb inflation against the risk that increased interest rates will lead to appreciating exchange rates and an excessive inflow of capital.

The effects of rising prices for food, energy and other commodities, which are mainly responsible for pushing up inflation so far, are expected to weaken in the slightly longer term. Nevertheless, the high level of global inflation is creating uncertainty in that underlying inflation and inflation expectations have also begun to rise.

The growth of the global economy and rising inflation have also contributed to rising long-term interest rates. Substantial borrowing requirements in countries with rising public debts may also have contributed the increase in interest rates. If long-term interest rates increase more rapidly than expected, this may have a dampening effect on global growth.

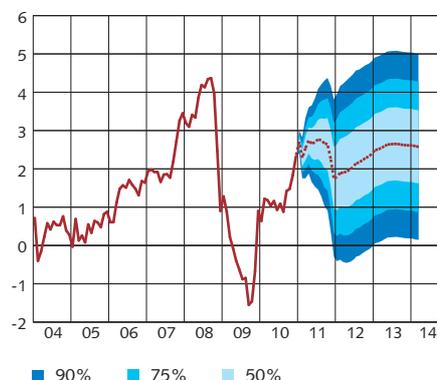
■ ■ The recovery is continuing in the United States, but uncertainty is high

The outlook for economic activity in the United States continues to improve and GDP growth in the fourth quarter of 2010 was higher than expected. Leading indicators for the US economy are rising, which indicates that growth will continue to be good over the next few quarters. However, although the US economy now appears to be recovering somewhat faster in the short term than the Riksbank expected in December, there is still great uncertainty about the course of development in the future. Unemployment is still high and there are major problems on the housing market. Fiscal policy stimulation measures will in the short term lead to a more rapid increase in private consumption, but are also leading to substantial deficits in the public budget and a record national debt. Budget consolidation is expected to begin in 2012 when the recovery has become more self-supporting.

Low wage increases and a rapid increase in labour productivity helped to keep underlying inflation low in the United States in 2010 (see Figure 1:8). Underlying inflation is expected to increase, however, as resource utilisation increases in the economy. Rising energy prices mean that CPI inflation will increase more rapidly than assessed in December.

It is expected that monetary policy will continue to be highly expansionary. One important reason for this is the weak development of the labour market. The policy rate is expected to remain at a very low level until the beginning of next year. As inflation and resource utilisation

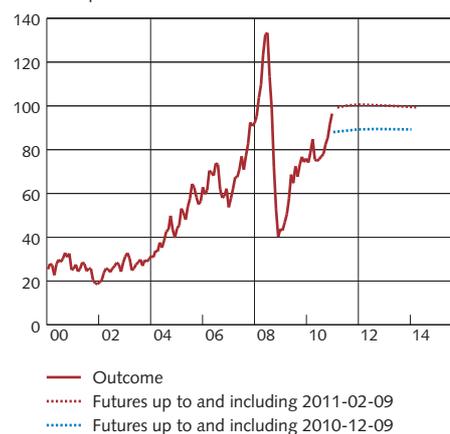
Figure 1:6. CPI with uncertainty bands
Annual percentage change



Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

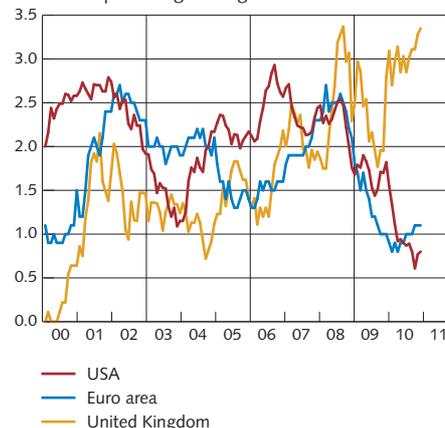
Figure 1:7. Oil price, Brent crude
USD per barrel



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

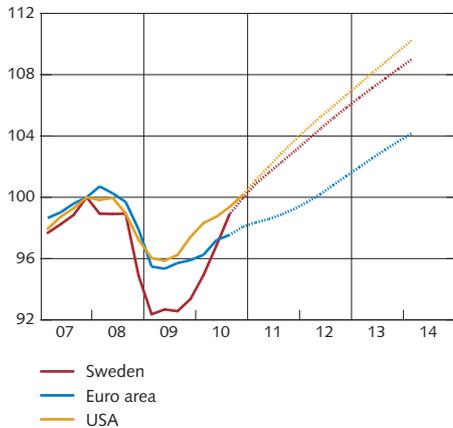
Sources: Intercontinental Exchange and the Riksbank

Figure 1:8. CPI excluding energy and food
Annual percentage change



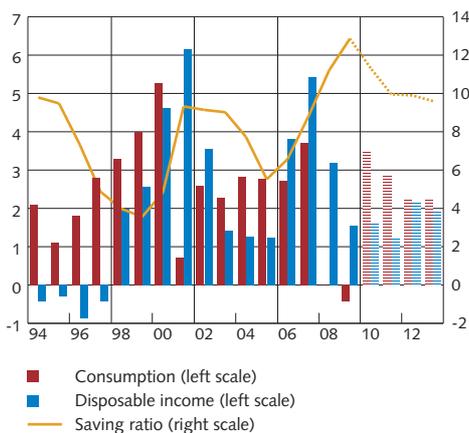
Sources: Bureau of Labor Statistics, Eurostat and OECD

Figure 1:9. Comparison of recovery in Sweden, the euro area and USA
GDP level, index 2007 quarter 4 = 100



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

Figure 1:10. Households' disposable incomes, consumption and saving ratio
Annual percentage change and percentage of disposable income



Sources: Statistics Sweden and the Riksbank

rise, it is expected that the policy rate will be increased in line with historical links.

■ ■ Fiscal policy tightening measures will restrict growth in Europe in the next few years

The recovery in the euro area is expected to continue in line with the assessment in December. GDP growth is relatively moderate despite the large amount of spare resources in the economy (see Figure 1:2). One contributing factor to this is that several countries have problems with their public finances and will need to tighten fiscal policy in the years immediately ahead. The slow rate of growth means that GDP in the euro area will not return to its pre-crisis level until 2012 (see Figure 1:9). This also means that unemployment will probably remain high during the forecast period.

Although some countries already took measures to reduce their budget deficits in 2010, it is not until this year that fiscal policy is expected to be tightening for the euro area as a whole. There are, however, major differences between the countries. Several of the countries with the weakest public finances, such as Greece, Ireland, Portugal and Spain, are in the short term forced to plan for very extensive tightening measures. Substantial tightening measures will still be required for a longer period of time to significantly reduce the level of public indebtedness.

Inflation increased in the euro area in 2010, despite the fact that resource utilisation was still low. This is due above all to higher prices for energy and food, but underlying inflation adjusted for energy and food prices also increased somewhat (see Figure 1:8). Higher energy prices mean that the forecast for inflation has been revised upwards compared to the assessment in December. VAT increases in Finland, Greece and Portugal are also expected to contribute to a further increase in inflation in 2011. However, the rate of inflation is expected to decline again towards the end of 2011 and in 2012 when the effects of the higher energy prices and other temporary factors become less significant.

Monetary policy in the euro area continues to be expansionary, although the policy rate is now expected to increase somewhat more rapidly than assessed in December. It is expected that the policy rate will initially increase approximately in line with market pricing. In the longer term, the assessment is based on historical links between the policy rate, inflation and resource utilisation, which means that the policy rate will be increased slightly more rapidly than now priced on the market. Market pricing in the longer term indicates, however, that a somewhat higher policy rate is now expected than was the case in December, which means that market pricing has drawn closer to the Riksbank's assessment.

In the UK, growth is curbed when fiscal policy is tightened. A weak housing market and high unemployment will also hold back domestic demand. In the longer term, the assessment is that growth will pick up again as both increasing global demand and a weak pound will favour exports and investment.

■ ■ Good growth in the Nordic countries

Together, the other Nordic countries constitute a quarter of Sweden's export market and the development of these countries is therefore very important to the Swedish economy. The prospects for growth in the Nordic countries remain largely unchanged in relation to the assessment in December. In Denmark, a tightening package will restrict growth this year. Inflation, which reached 2.8 per cent in December, is expected to fall slowly in 2011. Public finances in Norway are very strong and the prospects for growth are favourable in the period ahead. Inflation is currently high but is expected to fall when the effect of higher energy prices fades. The recovery is also expected to continue in Finland.

■ ■ Rapid growth in the Swedish economy

The recovery of the Swedish economy is continuing, and at a faster rate than in many other countries. However, the rate of growth will slow down in the period ahead compared to the very high growth in the second and third quarters last year. The upturn is broadly based and covers both exports and domestic demand.

The conditions for a continued recovery in the years ahead are 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 economies (see Figure 1:2). Another reason for the expected relatively high 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. On the contrary, tax reductions that will stimulate supply are expected to be implemented in the coming years. In addition, the households have accumulated relatively large savings, which makes it possible for them to increase consumption over and above the level enabled by increased incomes (see Figure 1:10).

All in all, this suggests that the Swedish economy will grow more strongly than many economies in, for example, the euro area, particularly this year. At the end of the forecast period the Swedish economy is expected to grow at around the same rate as the economies of our most important trading partners. Growth will gradually decline from last year's 5.5 per cent to just over 2 per cent towards the end of the forecast period (see Figure 1:1 and Table 5).

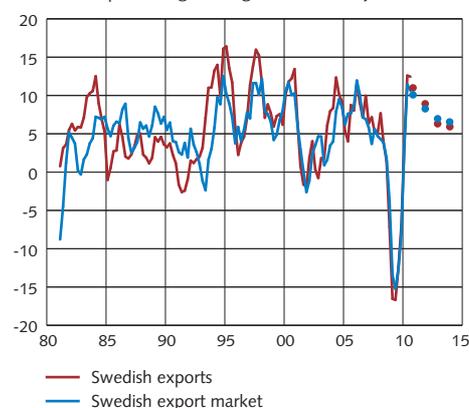
However, the level of GDP is still relatively low. Despite the rapid rate of growth in recent quarters, GDP has only recovered to approximately the same level that prevailed before the crisis two years ago. At present there is thus probably some spare capacity in the economy.

■ ■ Exports and investment are growing rapidly

Swedish exports grew rapidly last year and are expected to continue growing during the forecast period. Sweden's export markets also developed strongly in 2010 and are expected to continue growing in

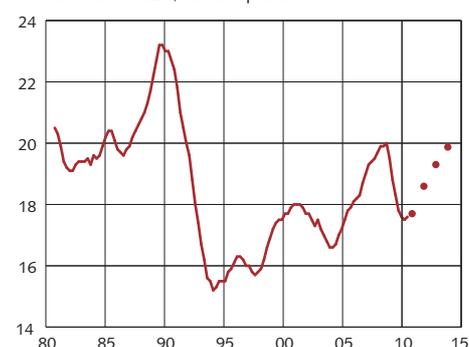
Figure 1:11. Swedish exports and the world market for Swedish exports

Annual percentage change, calendar adjusted data



Sources: Statistics Sweden and the Riksbank

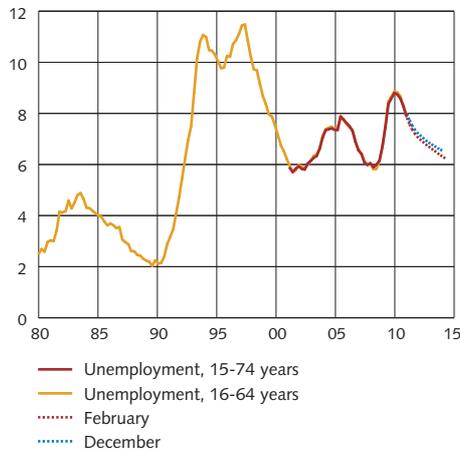
Figure 1:12. Investment ratio
Per cent of GDP, current prices



Note. Four-quarter moving average.

Sources: Statistics Sweden and the Riksbank

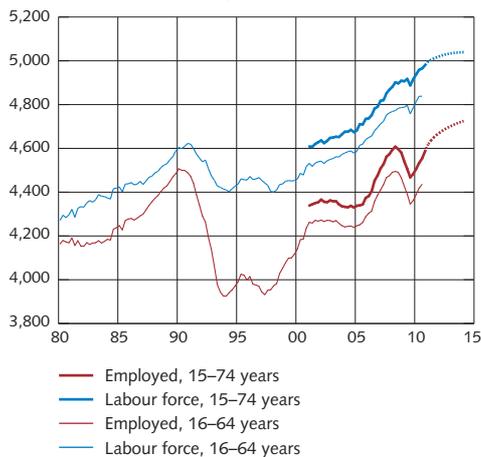
Figure 1:13. Unemployment
Percentage of the labour force, seasonally-adjusted data



Note. Pre-1987 data has been spliced by the Riksbank. The forecast represent 15-74 years.

Sources: Statistics Sweden and the Riksbank

Figure 1:14. Labour force and number of employed
Thousands, seasonally-adjusted data



Note. Pre-1987 data has been spliced by the Riksbank. Sources: Statistics Sweden and the Riksbank

the years ahead (see Figure 1:11). Exports are expected to increase in pace with the export markets, which entails an increase averaging approximately 7 per cent per year during the forecast period (see Table 5). Investment has now begun to increase abroad, which favours Swedish exports as Sweden produces a relatively large amount of investment goods.

Investment has also begun to increase in Sweden and the assessment is that it will continue to increase in the period ahead (see Figure 1:12). As production increases, capacity utilisation will rise also and the investment needs of the business sector will increase. Investment in housing has also been increasing rapidly for a while now. A high level of demand for housing in relation to supply indicates that investment in housing will continue to increase over the next few years. In particular, investment in apartment buildings is expected to increase rapidly over the next 12 months. However, public investment, which really accelerated in 2008 and 2009, will increase at a slower rate going forward.

The increase in investment is from a very low level, however. Declining demand resulted in a record fall in investment in the early stages of the downturn. Consequently, it will take until mid-2012 for investment to return to its pre-crisis level.

■ ■ Strong growth in household consumption

During the crisis, exports and investment fell much more than household consumption did. This is common in downturns, but the difference was particularly clear in this downturn as the crisis mainly affected the Swedish economy through falling international demand. The fall in consumption that nevertheless took place was connected to the fact that the households increased their saving when unemployment increased, that there was great uncertainty about the future and that the value of the households' assets declined.

The households are no longer pessimistic and consumer confidence has been at a high level since the beginning of 2010. The households' assets in the form of property and financial assets have also been increasing in value for a while. In addition, lending to households is continuing to increase, although at a slightly slower rate than previously. In parallel with this, household incomes will grow at an increasing rate during the forecast period (see Figure 1:10). This is linked to the improvement of the situation on the labour market. All in all, the assessment is that consumption will continue to increase at a good rate over the next few years. It will increase faster than incomes during the forecast period, a development that is made possible by the high level of saving in the initial position.

■ ■ Public sector finances show a 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. Public sector net lending was negative in 2009, but it is expected that it

was positive again already last year. This year, the surplus is expected to be over 1.5 per cent of GDP. Compared with most other OECD countries, Sweden's public finances are very strong.

As the economic situation improves and tax income rises, the net lending will strengthen further. The government is therefore expected to propose expenditure and income changes totalling almost SEK 50 billion for the years 2012 and 2013. The main part of these changes will take the form of reduced taxes for households and companies, which is expected to gradually increase the supply of labour and the long-term, sustainable level of GDP.

■ ■ The labour market continues to strengthen

The Swedish labour market has emerged from the downturn in relatively good shape in relation to historical relationships between GDP and employment, and compared to many other countries. Over the last 12 months, unemployment has fallen by almost 1 percentage point and totalled 7.8 per cent in December last year (see Figure 1:13).

The positive development of the labour market is continuing. The supply of labour has been high in recent years, partly as a result of reforms in the unemployment and health insurance schemes. Tax deductions for the employed have also increased incentives to take part in the labour force. The supply of labour is expected to increase further over the next few years (see Figure 1:14).

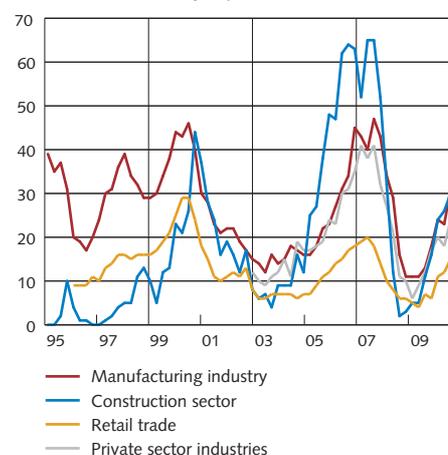
The demand for labour is increasing in most sectors which is leading to an increase in the number of hours worked and the number of those employed, while unemployment is falling. To date, however, the increase in employment has taken place in branches that were not hit as hard as the manufacturing industry by the crisis, such as corporate and household services and the construction industry. Surveys show that it is also in these branches that the shortage of labour is now growing rapidly (see Figure 1:15). At the same time, labour shortages are increasing in the manufacturing industry, where employment has not yet recovered. This indicates that there are recruitment problems even though unemployment is still relatively high.

Many of the unemployed are to be found among what the Employment Office identifies as vulnerable groups. These have difficulties in finding work quickly. These groups include young people with gaps in their education, people born abroad, people who no longer qualify for benefit from the health insurance scheme and people who have completed only the secondary level of education. Many of these unemployed people have also been out of work for a long time. This may make the matching process more difficult in the years ahead. However, overall unemployment is expected to continue to fall to amount to just below 6.5 per cent by the end of the forecast period.

■ ■ Resource utilisation normalising

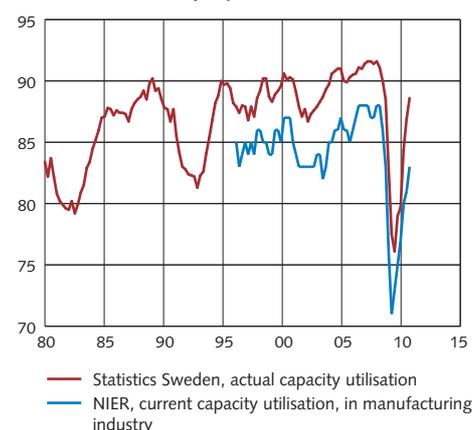
Monetary policy normally aims to attain a suitable balance between on

Figure 1:15. Proportion of companies reporting a shortage of labour
Per cent, seasonally adjusted data



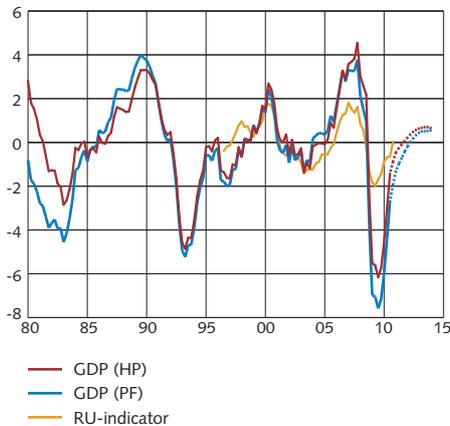
Source: National Institute of Economic Research

Figure 1:16. Capacity utilisation in industry
Per cent, seasonally adjusted data



Sources: National Institute of Economic Research and Statistics Sweden

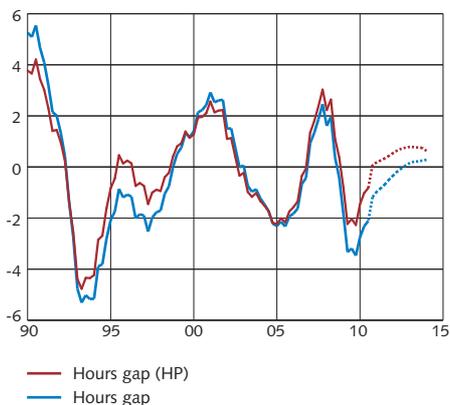
Figure 1:17. GDP-gap and RU-indicator
Per cent



Note. GDP-gap (HP) refers to the deviation from trend in GDP calculated with a Hodric Prescott filter. The GDP gap (PF) refers to the deviation from trend in GDP calculated with a production function. The RU-indicator is normalised so that the mean value is zero and the standard deviation is 1.

Sources: Statistics Sweden and the Riksbank

Figure 1:18. Hours gap
Per cent



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 numbers of hours worked.

Sources: Statistics Sweden and the Riksbank

the one hand keeping inflation close to the target of 2 per cent and, on the other hand, stabilising the real economy around a long term sustainable level. However, there is no simple method of measuring to what extent the productive resources of the economy, capital and labour, are used in a sustainable way. The Riksbank therefore uses a number of different indicators and statistical methods to assess how resource utilisation will develop over the next few years. However, as resource utilisation is not directly measurable, assessments are uncertain, irrespective of whether they relate to the current situation or to the situation further ahead.

According to some indicators, resource utilisation has increased rapidly and is now largely normal. This mainly applies to indicators based on surveys. In the Business Tendency Survey of the National Institute of Economic Research, there are signs of a shortage of labour in some branches, while capacity utilisation in the manufacturing industry is increasing rapidly (see Figures 1:15 and 1:16). The Riksbank's indicator for resource utilisation, which uses a statistical method to summarise information from surveys and labour market data, indicates that resource utilisation is back to normal levels (see Figure 1:17).³ Other indicators, however, for example the level of unemployment, indicate that there is still some spare capacity. The overall assessment of resource utilisation at present is that it is somewhat lower than normal.

GDP and the number of hours worked will increase rapidly during the forecast period. Resource utilisation will thus increase too. Most of the gaps that show the difference between actual and potential levels are closing and will be marginally positive during the forecast period (see Figures 1:17 and 1:18). The overall assessment is that resource utilisation will be normal or slightly higher than normal at the end of the forecast period. Compared with the assessment in December, it is expected to be slightly higher throughout the forecast period.

■ ■ Rising rate of wage increases

The improved situation on the labour market is expected to lead to a rising rate of wage increases in the years ahead. The new wage agreements that are due to be signed in 2011 and 2012, and which will affect a large part of Sweden's workforce, will be negotiated in a much better economic climate than was the case when the current agreements were signed. The improved economic situation also indicates that wage increases over and above the agreed levels (so-called wage drift) will be higher in the period ahead. The company interviews conducted by the Riksbank in January this year also support this assessment.⁴ However, it is estimated that wages will increase at a relatively moderate rate during the forecast period. At the same time, the assessment is that the rate of increase in productivity will be lower over the next few years than it was last year.

³ For a description of this indicator, see C. Nyman, "An indicator of resource utilisation", Economic Commentary no. 4, 2010, Sveriges Riksbank.

⁴ See the document "The Riksbank's company interviews in January 2011", on the Riksbank's website www.riksbank.se under the heading Press & published/Reports.

All in all, this means that the rate of increase in unit labour costs will accelerate during the forecast period (see Figure 1:19).

■ ■ The krona stronger during the forecast period

The krona has strengthened considerably over the last 12 months. The krona is now stronger in relation to several large currencies than it was before the financial crisis. This also applies to the trade-weighted TCW index (see Figure 1:20). This strengthening has taken place as the Riksbank has gradually increased the repo rate and as incoming data have shown that Sweden's economy is developing strongly in relation to the rest of the world.

In the period ahead, the Swedish economy is expected to grow more in pace with the rest of the world and the difference between Swedish and foreign interest rates is expected to decrease. The assessment is that the exchange rate will remain largely unchanged during the forecast period and be somewhat stronger in the forecast period than predicted in the December Update.

■ ■ Rising inflation towards the end of the forecast period

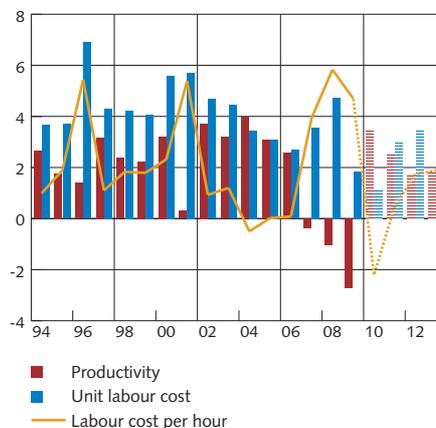
The rate of inflation is expected to fall this year (see Figure 1:21). Energy and food prices are increasing, while last winter's high energy price will no longer affect the annual rate of change in the measure for inflation.

Underlying inflationary pressures are low as a result of the strengthening of the krona and the fall in unit labour costs last year. Adjusted for the effects of energy prices, inflation will nevertheless gradually rise from the current level of around 1.5 per cent to around 2 per cent towards the end of the forecast period (see Figure 1:21). This will take place in pace with the improvement of the labour market and the rise in the rate of wage increases.

CPI inflation is expected to rise to over 2.5 per cent towards the end of the forecast period. This is largely due to households' mortgage rates increasing when the Riksbank raises the repo rate. CPIF inflation, in which mortgage rates are held constant, is expected to increase more moderately and amount to approximately 2 per cent at the end of the forecast period (see Figure 1:21). In the longer run, when the repo rate has reached more normal levels, CPI inflation is also expected to be around 2 per cent.

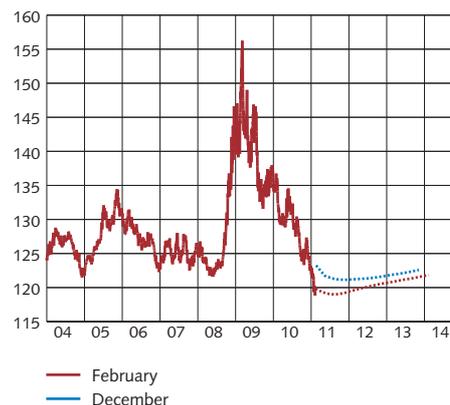
The recent price increases for food, energy and other commodities will affect inflation during the forecast period. This impact is expected to be direct, in the form of rising prices for such items as petrol, electricity and food, and indirect in the form of rising costs for the companies. These price increases are an important reason why the inflation forecast has been revised upwards compared to the assessment in December (see Figures 1:22 and 1:23). It is also probable that the increase in

Figure 1:19. Unit labour costs for the economy as a whole
Annual percentage change



Sources: Statistics Sweden and the Riksbank

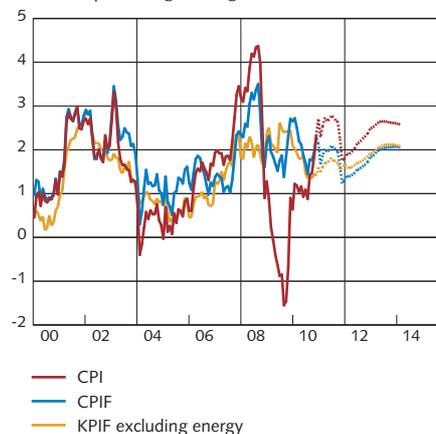
Figure 1:20. TCW-weighted exchange rate Index, 18.11.92 = 100



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

Source: The Riksbank

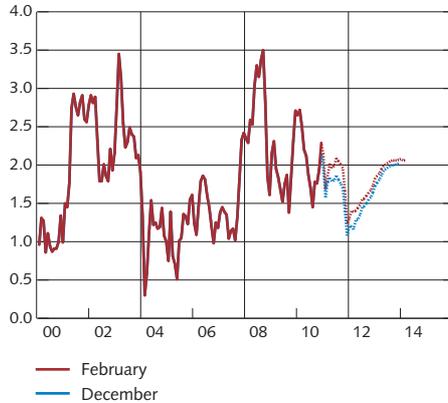
Figure 1:21. CPI, CPIF and CPIF excluding energy
Annual percentage change



Note. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate). CPIF is CPI with a fixed mortgage interest rate.

Sources: Statistics Sweden and the Riksbank

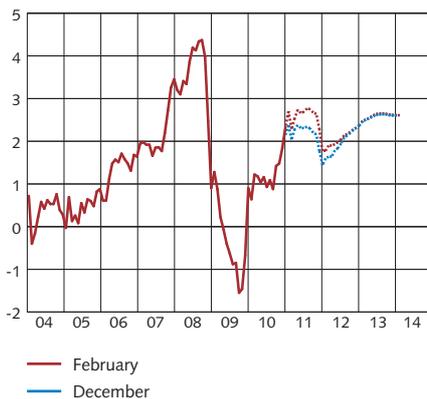
Figure 1:22. CPIF
Annual percentage change



Note. CPIF is CPI with fixed interest rate.

Sources: Statistics Sweden and the Riksbank

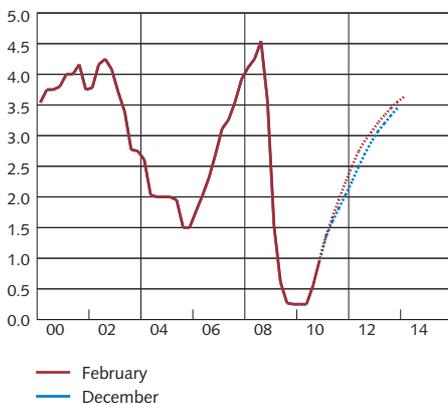
Figure 1:23. CPI
Annual percentage change



Note. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Figure 1:24. Repo rate
Per cent, quarterly averages



Source: The Riksbank

inflation expectations in the short term is at least partly due to the rising commodity prices.

■ ■ Repo rate to be raised in pace with the recovery of economic activity

The forecasts in this report are based on an increase of the repo rate to 1.5 per cent. Gradual increases will follow and the repo rate is expected to reach just over 3.5 per cent in three years' time.

The real economic prospects for Sweden and abroad are roughly in line with the forecasts published in December. Resource utilisation is currently slightly lower than normal, but it is estimated that it will be normal or slightly above normal towards the end of the forecast period. During the forecast period, inflationary pressures are expected to rise gradually as the labour market improves, the rate of wage increases rises and resource utilisation normalises. In addition, the recent price increases for food, energy and other commodities will continue to affect inflation during the forecast period.

To stabilise inflation around the target of 2 per cent and to avoid a too high level of resource utilisation in the period ahead, the Riksbank's assessment is that it is appropriate to continue the sequence of increases in the repo rate that was initiated last year. The repo-rate path has been raised compared with December (see Figure 1:24). It is expected that this will dampen the effects of rising commodity prices on inflation in Sweden and prevent increases in inflation expectations in the longer run. However, even with the increases in the Riksbank's forecast, the repo rate will be at a relatively low level for some time to come. Rising commodity prices will also affect policy rates abroad, which are expected to be increased somewhat more rapidly than predicted in December.

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 be temporarily above the inflation target of 2 per cent during the latter part of the forecast period, but to eventually fall and be in line with the inflation target.

Household debts have increased substantially in recent years. Although there are indications that this trend has weakened recently, the households' debts are still increasing faster than their incomes. If this continues over a longer period of time, there is a risk of imbalances building up in the Swedish economy. A gradually increasing repo rate may help to slow down the growth of household borrowing.

Main revisions since the Monetary Policy Update in December

- The forecasts for inflation and policy rates abroad have been revised upwards.
- The forecast for unemployment in Sweden has been revised downwards as a result of stronger outcomes and somewhat stronger GDP growth.
- The assessment is that resource utilisation will be slightly higher.
- The figure for inflation has been revised upwards throughout the forecast period, mainly as a result of price increases for food, energy and other commodities.
- The repo-rate path has been revised upwards to dampen the increase in inflation.

■ CHAPTER 2 – Alternative scenarios and risks

Energy and commodity prices in the world market have risen relatively rapidly in recent months, which has led the Riksbank to increase its forecast for inflation in Sweden. If the price rises continue at an unexpectedly rapid rate, it may be necessary to increase the repo rate more quickly than is assumed in the main scenario. Another possibility is that the recovery in the Swedish

economy will be quicker than is assumed in the current forecast. The effects on monetary policy will depend to a large extent on whether the higher growth rate is due to higher demand or to an unexpectedly rapid growth in productivity. The krona has strengthened recently. A further strengthening of the krona is also a risk that monetary policy may have to take into account.

All macroeconomic forecasts contain a considerable measure of uncertainty. In the first chapter of this report we illustrate this uncertainty in a general way in the uncertainty bands shown in Figures 1:1 and 1:3–1:6. This chapter discusses a number of specific alternative scenarios and the changes in monetary policy that might be necessary if one or more of these scenarios is realised. In addition to these quantified scenarios, there are other important risks to future economic developments. The fiscal situation in Europe remains uncertain and developments could quickly deteriorate.⁵ Another risk concerns the continued rapid growth in credit granting to households and rapidly-rising house prices in Sweden.

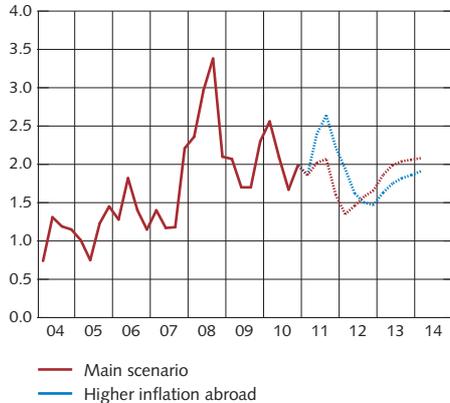
Inflation has been surprisingly high in recent months. As a result, the forecast for inflation has also been revised up in relation to the forecast published in December. If inflation abroad continues to rise, for instance, as a result of high growth in some developing countries and the ensuing price increases for energy and commodities, the Riksbank may need to increase the repo rate at a faster rate than is forecast in the main scenario. This potential situation is described in the scenario “Higher inflation abroad”.

Another source of uncertainty in the forecasts in the main scenario is the strength of the domestic recovery. According to the Riksbank’s assessment, the Swedish economy grew by more than five per cent in 2010, which is very unusual. However, this must of course be viewed in the light of the dramatic fall at the end of 2008 and beginning of 2009. The Riksbank forecasts that GDP growth will now return to more normal levels. Here, too, there is reason to consider alternatives to the developments described in the main scenario. The section “Higher growth in Sweden” describes a scenario with unexpectedly high growth in 2011 and 2012. The monetary policy consequences of this would be largely dependent on the causes of the high growth, as illustrated below.

A third alternative scenario reflects the risks linked to the Swedish krona exchange rate. Two quantified examples are used to describe how an unexpectedly strong exchange rate could affect monetary policy during the recovery in the coming years.

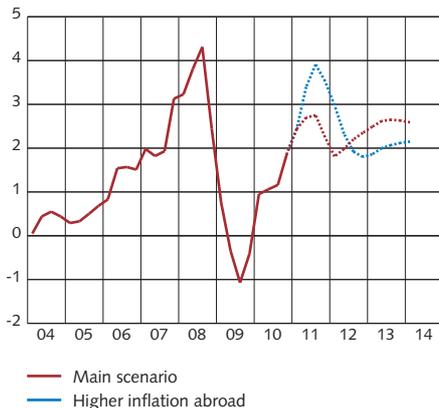
⁵ The consequences of a public finances crisis in the euro area were described in an alternative scenario in the Monetary Policy Report published in July 2010.

Figure 2:1. CPIF
Annual percentage change, quarterly averages



Sources: Statistics Sweden and the Riksbank

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



Note. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate).
Sources: Statistics Sweden and the Riksbank

At the end of the chapter there is a discussion of various monetary policy alternatives. On the basis of the forecast in the main scenario, we describe a scenario where the Riksbank chooses to raise the repo rate more quickly than in the main scenario, and a scenario where the rate is raised more slowly. Like the previous report (Monetary Policy Report October 2010), this one contains an article describing how the Swedish economy and monetary policy may be affected if policy rates abroad prove to be lower than is assumed in the main scenario (see the article "Lower policy rates in Sweden and abroad").

Alternative scenarios for economic developments

■ ■ Scenario: High inflation abroad

Commodity and energy prices have risen in the world market (see Figure 3:5). As the Swedish krona has at the same time strengthened, the price upturn in Sweden has been more subdued. But even when calculated in SEK, there has been a rise in prices. For example, over the past three months the price of oil has risen by around 13 per cent.

With regard to some commodities, such as metals, the price increases in the world market affect prices for Swedish consumers after a fairly long time lag. On the other hand, higher energy and food prices have a relatively rapid effect on the inflation rate, with an impact in proportion to these prices' weighting in the consumer price index (CPI).

■ ■ Underlying causes important for monetary policy

The monetary policy consequences of increases in energy and commodity prices are largely dependent on the underlying causes. One possibility is that world market prices are rising as a result of a temporary supply shock. Such negative supply shocks can arise as a result of, for instance, natural disasters or political unrest in the countries where the commodities are produced. A scenario with a supply shock of this nature would lead to a short-term rise in inflation. Once production returns to normal levels, world market prices usually fall again, and inflation in Sweden will slow down again.

Another possibility is that the rise in world market prices is due to stronger demand. Some developing countries, particularly in Asia, are currently growing very rapidly and their economies make intensive use of oil and other commodities. If a higher demand is the reason for the higher world market prices, it is more likely that the effects on Swedish inflation will be greater and more lasting. This applies in particular if international demand is expected to increase over a longer period of time. In such a scenario developments may give rise to a positive trend in commodity and energy prices.

■ ■ Stronger international demand pushing up inflation

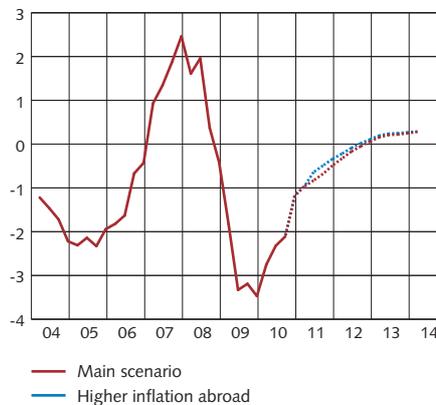
In the scenario “Higher inflation abroad”, energy and commodity prices in the world market are 20 per cent higher than in the main scenario. The price increases take place during the second quarter of 2011 and are assumed to be due to higher international demand. Swedish consumer prices will rise more quickly than assumed in the main scenario as a result of the higher world market prices and the higher international demand.⁶ As a result, TCW inflation in 2011 will be abroad 0.4 percent in comparison to the main scenario and in 2012 inflation will be 0.2 percent higher abroad (see table 8). CPIF inflation will be approximately 0.4 percentage points higher than in the main scenario in 2011 and around 0.1 percentage points higher in 2012 (Figures 2:1 and 2:2). The higher inflation rate is primarily due to increased import prices. Higher demand abroad leads at the same time to an increase in domestic resource utilisation, as exports increase somewhat. This is illustrated here by the hours gap (Figure 2:3). Higher resource utilisation in turn leads to higher prices for domestically-produced goods, and to slightly higher nominal wages. These effects push up domestic inflation further, in addition to the more direct effect through import prices.

■ ■ Tighter monetary policy in Sweden and abroad

As inflation and resource utilisation rise unexpectedly during 2011, the Riksbank chooses to conduct a less expansionary monetary policy than is assumed in the main scenario. The repo rate is on average around 0.4 percentage points higher than the repo rate path in the main scenario during 2011 and around 0.5 percentage points higher in 2012 (Figure 2:4). In this way, the Riksbank increases the repo rate sufficiently to ensure that the real interest rate in the alternative scenario will be higher than that in the main scenario (Figure 2:5). This means that the cost of borrowing increases for households and companies, while interest on savings rises to a corresponding degree. The increase in resource utilisation is thus slowed down, which means that the real economic effects of the higher demand from abroad will ultimately be relatively small.

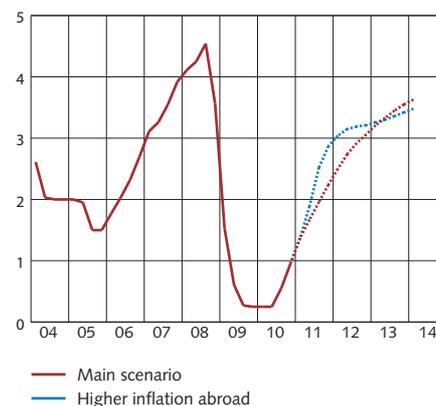
In this scenario, monetary policy reacts systematically to the inflationary impulses stemming from abroad. This means that Swedish companies and households expect the repo rate to be increased more quickly than is assumed in the main scenario. The fact that there is confidence in the Riksbank’s inflation-targeting policy thus contributes to anchoring inflation expectations, and it thus prevents the higher import prices from pushing up the general level of prices more tangibly.

Figure 2:3. Hours gap
Per cent



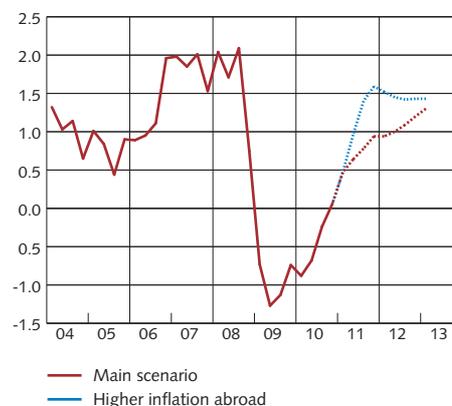
Sources: Statistics Sweden and the Riksbank

Figure 2:4. Repo rate
Per cent, quarterly averages



Source: The Riksbank

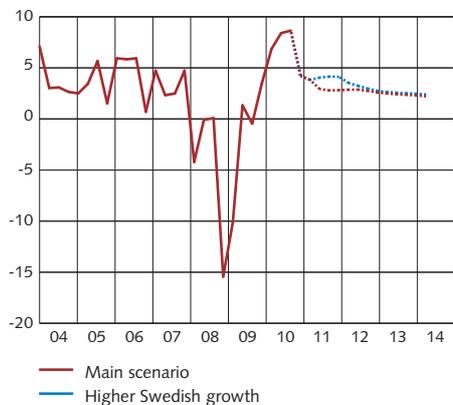
Figure 2:5. Real repo rate
Per cent, quarterly averages



Source: The Riksbank

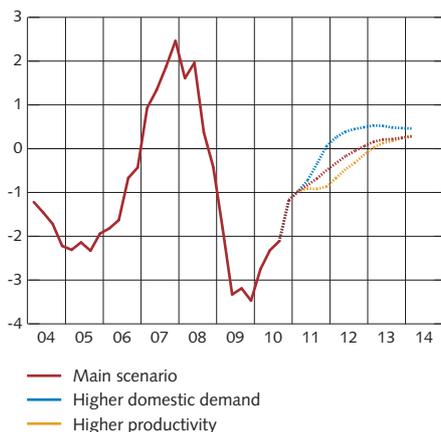
⁶ Like the other scenarios in this chapter, the scenario “Higher inflation abroad” is based on the Riksbank’s general equilibrium model Ramses. For a description of the model see L. Christiano, M. Trabandt and K. Walentin, “Introducing financial frictions and unemployment into a small open economy model”, Working Paper no. 214, Sveriges Riksbank 2007.

Figure 2:6. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 2:7. Hours gap
Per cent



Sources: Statistics Sweden and the Riksbank

This scenario also assumes that international monetary policy will change to counteract rising inflation and stronger demand (see Table 8). But it is still possible that the strained economic situation abroad may lead to foreign interest rates rising less than is assumed here. If this is the case, it could also slow down the rise in interest rates in Sweden, as the exchange rate might otherwise strengthen too much.

■ ■ Scenario: Higher growth in Sweden

In Sweden, the recovery from the deep recession has been unexpectedly rapid. Over the past year most forecasters, including the Riksbank, have therefore revised their forecasts for growth in 2010 and 2011 relatively substantially. If growth were to be unexpectedly high once again, the consequences for monetary policy would depend on the driving forces behind the increase.

■ ■ Higher productivity or higher demand?

Swedish data contain no clear average relationship between the rate of growth in GDP and the inflation rate. Sometimes a high GDP growth rate will be accompanied by an increase in the inflation rate, but just as often the opposite applies; GDP growth rises (falls) at the same time as inflation falls (rises). One interpretation of this is that both shocks to demand and productivity are important to the development of the Swedish business cycle.

The Riksbank's current forecast assumes that calendar adjusted GDP will grow by 4.5 per cent in 2011 and by 2.8 per cent in 2012. In this forecast, too, the developments in the level of final demand and the rate of productivity growth are both important. This is reflected here in a scenario called "Higher growth in Sweden".

During primarily 2011 and the beginning of 2012, the Swedish economy is expected to grow much more quickly than is assumed in the main scenario. The scenario presents two different examples of what might cause such an unexpected upturn in the growth rate. In one case, the upturn is due to higher domestic demand, in the other to an unexpectedly high productivity growth. It should be pointed out that even if the scenario is presented as an unexpectedly high growth rate, the illustrative calculation here could just as well be used to reflect the opposite risk; namely that the growth rate in the Swedish economy slows down unexpectedly.

■ ■ Higher demand leads to higher inflation

The scenario entails Swedish GDP growing by around 0.5 percentage points more in 2011 than is assumed in the main scenario. The following year the growth rate is around 0.8 percentage points higher (see Figure 2:6 and Table 9). In the case with higher domestic demand the most important driving force is a change in Swedish households' expectations of future rises in their income. During the first half of 2011, households' confidence in the future increases unexpectedly

rapidly, with the result that they increase their demand for goods and savings at the same time as the saving ratio falls.⁷ Companies take note of the unexpectedly high demand and increase their rate of investment. Altogether, this creates an increased need for labour, a faster growth rate and an increase in inflationary pressures (see Figures 2:7 and 2:8). During 2012 and 2013 CPIF inflation will be approximately 0.2 and 0.1 percentage points higher than in the main scenario.

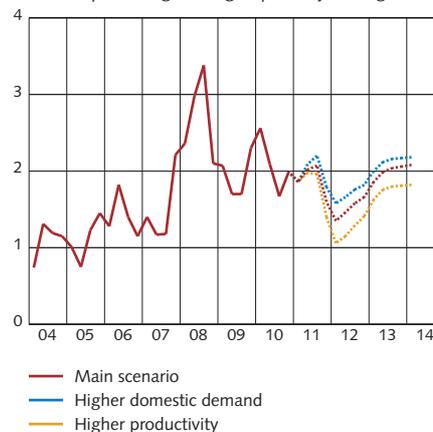
■ ■ Higher productivity leads to lower inflation

In the other example, the driving forces behind the GDP growth are assumed to be an unexpectedly rapid improvement in productivity in large areas of the business sector. This could entail new production methods being introduced or companies using their staff more efficiently. The result is that companies' costs fall.⁸ As a result of rigidity in companies' pricing, however, these changes will not immediately lead to lower prices and a corresponding increase in demand. This has the consequence that the number of hours worked is weaker than in the main scenario and that resource utilisation in the labour market normalises more slowly, which is illustrated here using the hours gap (see Figure 2:7). The lower production costs gradually have an impact on companies' prices, too. In the example with higher productivity the CPIF inflation rate is around 0.3 percentage points lower than in the main scenario during 2012 and 2013.

■ ■ Monetary policy reacts differently

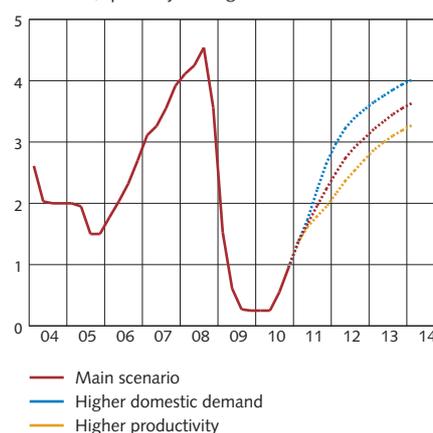
As inflation and resource utilisation are affected differently in the two examples, the Riksbank also acts in different ways. In the case with higher domestic demand, the repo rate is increased more quickly than is assumed in the main scenario. In this way inflation is prevented from rising too far above the target of 2 per cent, and resource utilisation is stabilised close to its normal level. The effects for monetary policy are the reverse in the case with a faster increase in productivity. Here the Riksbank chooses to slow down the repo rate increases, with the result that the repo rate is around 0.4 percentage points below the repo rate path in the main scenario during 2012 and 2013 (see Figure 2:9)

Figure 2:8. CPIF
Annual percentage change, quarterly averages



Sources: Statistics Sweden and the Riksbank

Figure 2:9. Repo rate
Per cent, quarterly averages

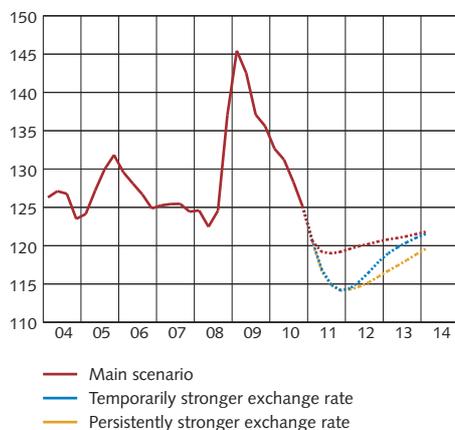


Source: The Riksbank

⁷ In Ramses it is assumed that both households and companies have on average correct expectations of future developments, which also applies in this scenario. Expectations of households' future lifetime incomes changes in the scenario. Households then wish to immediately translate these more optimistic expectations of future incomes into higher consumption, with the consequence that consumption rises as soon as expectations change, while the saving ratio falls.

⁸ During the recession, productivity has varied, particularly in the manufacturing industry, where a large share of the production is sold on export. The impact on Swedish consumer prices has therefore been limited. In this scenario it is assumed that productivity will grow more quickly in most parts of the business sector and the effects on consumer prices will therefore be comparatively greater.

Figure 2:10. Exchange rate, TCW
Index, 18.11.1992 = 100, quarterly averages



Source: The Riksbank

In this scenario the driving forces behind GDP growth are assumed in both examples to come from the domestic economy. Resource utilisation, inflation and interest rate policy abroad are therefore assumed to be the same as in the main scenario. Given that monetary policy reacts in different ways in the two examples, the effects on the exchange rate will also be different. In the case with higher domestic demand, the higher repo rate path leads to a relative strengthening of the krona, which contributes to slowing down the increased cost pressure and higher resource utilisation. In the case with higher productivity, the exchange rate instead becomes weaker than in the main scenario. The relatively weaker exchange rate helps hold up inflation and resource utilisation.

■■ Scenario: Stronger exchange rate

The krona exchange rate has strengthened significantly in recent months, and somewhat faster than was forecast in the December Monetary Policy Update. The current forecast is for the krona's trade-weighted exchange rate (TCW) to be just over 119 in 2011 and just over 120 in 2012.

The assessment in the main scenario is of course very uncertain, and there could be many different reasons why the krona exchange rate could be stronger or weaker. If the real economy grows unexpectedly quickly or slowly, this will have consequences for the exchange rate. Such risks are discussed in the scenario "Higher growth in Sweden", which was described in the previous section. Here we instead describe the uncertainty stemming from the market's assessment of credit risks, and the financial flows that can arise if such assessments change unexpectedly. In the scenario "Stronger exchange rate", the krona appreciates unexpectedly quickly in 2011 as a result of change in the relative risk premiums linked to Swedish and foreign financial assets respectively. Two different calculations illustrate the potential consequences for monetary policy of a particular strengthening of the exchange rate, depending on the durability of the change.

■■ Stronger exchange rate leads to lower inflation and interest rates

In the scenario "Stronger exchange rate", unexpected changes in risk premiums lead to the krona exchange rate strengthening much more than in the main scenario. During 2011 the krona's trade-weighted exchange rate index (TCW) falls gradually and at the end of the year is around 115 (see Figure 2:10). An unexpected strengthening or weakening in the krona exchange rate can of course be both greater and smaller than is assumed here. The effects on other variables can then be scaled up or down to a corresponding degree.

In the example with a temporary strengthening the change in Swedish risk premiums compared with those abroad is expected

to occur through gradual surprises, which are expected to wane relatively quickly. During 2012 the krona weakens again and approaches the forecast for the exchange rate assumed in the main scenario. In the example with a more persistent strengthening of the krona exchange rate, the change in risk premiums is assumed to be due to a more fundamental change in the assessment of Swedish credit risks in relation to credit risks in other countries. When the assessment changes, this leads to a strengthening of the same size as the example with a temporary fall in the krona exchange rate, but the appreciation is expected to last longer. As the two examples presuppose different expectations of the krona's continuing exchange rate, the consequences for inflation, resource utilisation and monetary policy differ somewhat.

When the krona strengthens more quickly than in the main scenario, it affects both import prices and pricing of Swedish goods. When import prices fall, some Swedish companies also choose to cut their prices to defend their market shares. When the rate of price increase is lower, companies' costs also fall. Intermediate goods and commodities will become cheaper than in the main scenario, and in the long run the stronger exchange rate will also lead to some restraint in wage formation. All in all, the effect will be that inflation is lower than assumed in the main scenario (see Figure 2:11).

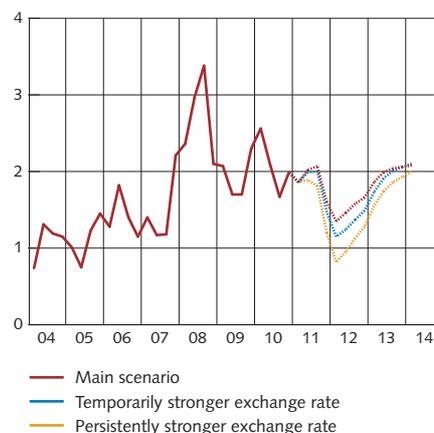
■ ■ **Temporarily stronger exchange rate has minor effects**

In the case of a temporary strengthening, CPIF inflation will be 0.1 percentage points lower during 2011, and 0.2 percentage points lower during 2012. In the case of a more lasting strengthening of the krona, the effects on inflation will be slightly greater, as both companies and households will expect the stronger krona to endure. Under these assumptions, CPIF inflation will be 0.2 percentage points lower than in the main scenario in 2011 and 0.5 percentage points lower during 2012.

The stronger exchange rate also has effects on resource utilisation in the Swedish economy, through lower net exports, something that is illustrated here with the aid of the hours gap (see Figure 2:12). As mentioned earlier, this contributes to the slightly lower cost pressure. The Riksbank chooses to raise the repo rate slightly more slowly than is assumed in the main scenario, to counteract a large fall in inflation and resource utilisation. In the alternative with a temporary strengthening of the krona, the repo rate path is at most around 0.4 percentage points lower than in the main scenario. If the underlying causes of the strengthening lead to an expectation that the exchange rate will remain strong, the Riksbank will have reason to make larger adjustments to the repo rate path, as the effects on inflation, in particular, will be greater in this case (see Figure 2:13).

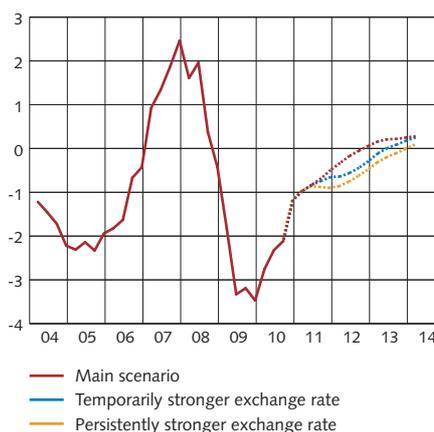
In conclusion, there is reason to briefly mention the question of the long-term real exchange rate for the krona. By this, we mean the level the real exchange rate tends to move towards in the long run.

Figure 2:11. CPIF
Annual percentage change, quarterly averages



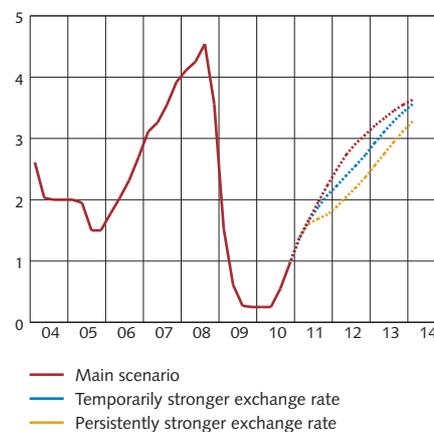
Sources: Statistics Sweden and the Riksbank

Figure 2:12. Hours gap
Per cent



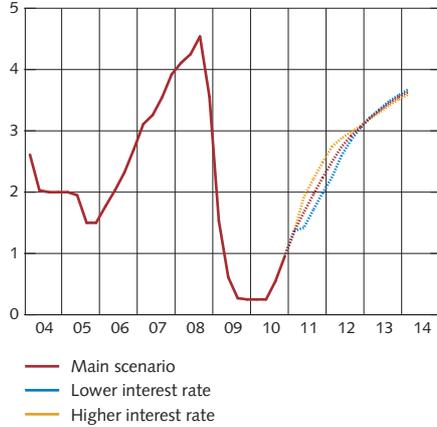
Sources: Statistics Sweden and the Riksbank

Figure 2:13. Repo rate
Per cent, quarterly averages



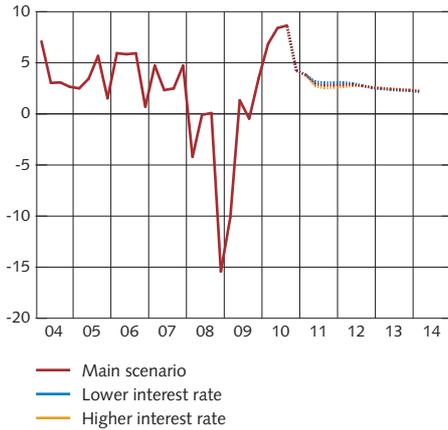
Source: The Riksbank

Figure 2:14. Repo rate assumptions
Per cent, quarterly averages



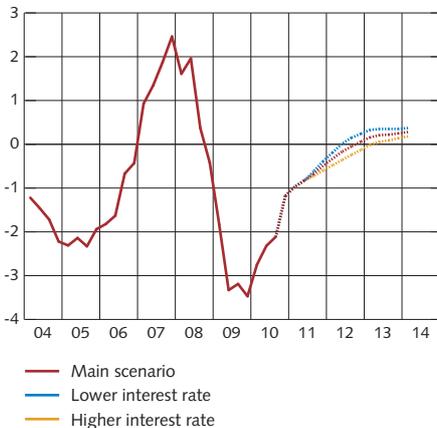
Source: The Riksbank

Figure 2:15. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 2:16. Hours gap
Per cent



Sources: Statistics Sweden and the Riksbank

This level is determined by, for instance, Sweden's GDP growth in relation to that of other countries, our terms-of-trade, and our net external position.⁹ Sweden's foreign trade has shown relatively large surpluses over a long period of time. These surpluses are expected to decline in the future, which is compatible with a stronger real exchange rate. There may be reason to believe that we are now seeing an adjustment of the real exchange rate towards a long-term level that is stronger than has been previously assumed, and that the foreign trade surplus will decline more quickly than expected in the coming period. If such an adjustment is one of the reasons behind the krona appreciation, the effects on inflation and resource utilisation can be expected to be different than is assumed in the scenario above.

The exchange rate is constantly affected by temporary shocks and by structural changes. The effects on inflation and resource utilisation usually depend on the underlying causes of the change. Thus, a well-balanced monetary policy does not primarily depend on developments in the exchange rate, but on the reasons for the fluctuations in the krona rate and the consequences for inflation and resource utilisation.

⁹ See also B. Lagerwall and M. Nessén, "The long-term development of the krona", Economic Commentary no. 6, 2009, Sveriges Riksbank.

Alternative scenarios for the repo rate

How would the Swedish economy develop if the Riksbank chose a different monetary policy than that assumed in the main scenario? This section describes two alternative scenarios for the repo rate and the effects they could have on resource utilisation and inflation. In the first scenario, the Riksbank chooses a path for the repo rate that is 0.25 percentage points higher than the repo rate path in the main scenario, with effect from the second quarter of this year and four quarters onwards. The second scenario shows the effects of the Riksbank setting the repo rate 0.25 percentage points lower than the path in the main scenario during the corresponding period (see Figure 2:14).

■ ■ Higher repo rate slows down demand

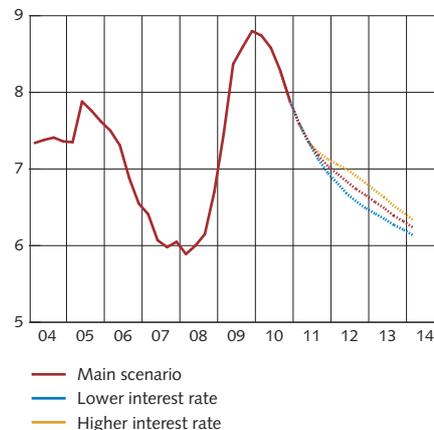
In the “Higher interest rates” scenario the rapid pace of the repo rate increases leads to banks and other financial institutions raising their saving and lending rates by roughly the same amount. As households are offered higher interest rates, they will want to increase their saving, and will then reduce their consumption. The consequence will be that Swedish companies will face slightly lower demand for goods and services. This will in turn lead to lower demand for labour, and to companies slowing their rate of investment. The higher interest rates also contribute to a slowdown in investment.

When interest rates are increased, the return on Swedish assets in relation to foreign assets increases, which affects the nominal exchange rate of the krona; during the four quarters with a higher repo rate the exchange rate is slightly stronger than in the forecast in the main scenario. The appreciation of the krona contributes to the lower demand for goods and services produced in Sweden. As a result of the lower demand, both growth and resource utilisation will be slightly lower than in the main scenario (see Figures 2:15 to 2:18). Lower demand also leads to companies slowing down their rate of price increase, with the result that inflation falls in relation to the main scenario (see Figures 2:19 and 2:20).

■ ■ Lower repo rate increases demand

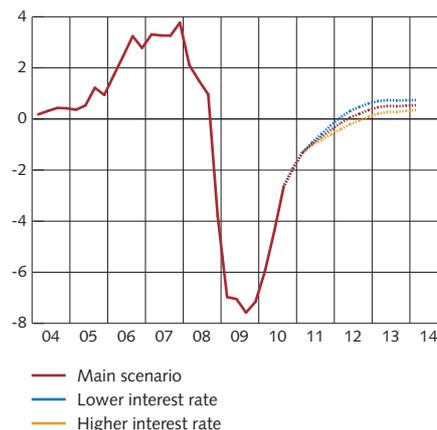
In the scenario with a lower interest rate the effects on households' saving and consumption are the reverse. The lower return on saving and the lower mortgages lead to households increasing their consumption, which leads to higher demand. Consequently, GDP growth and resource utilisation are slightly higher than in the main scenario (Figures 2:15 to 2:18), and inflation is slightly higher (Figures 2:19 and 2:20). The effects on the exchange rate are also the reverse, compared with the scenario with higher interest rates.

Figure 2:17. Unemployment
Percentage of the labour force



Sources: Statistics Sweden and the Riksbank

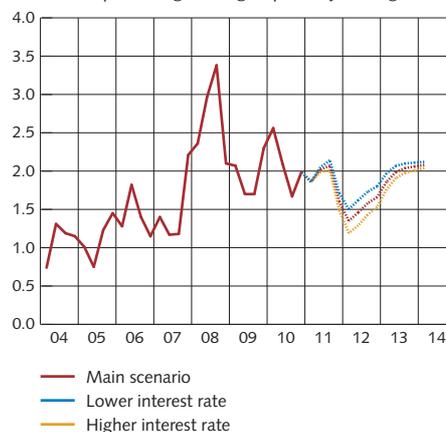
Figure 2:18. GDP gap
Per cent



Note. Refers to GDP's deviation from trend calculated using a production function.

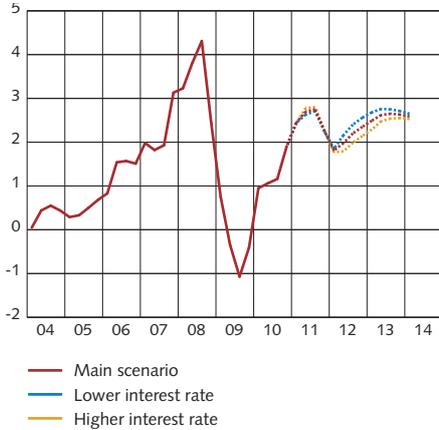
Sources: Statistics Sweden and the Riksbank

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



Sources: Statistics Sweden and the Riksbank

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



Note. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Well-balanced monetary policy in the main scenario

In the scenario with a higher repo rate CPI inflation deviates less from the 2 per cent target than in the main scenario. However, a less expansionary monetary policy also leads to relatively low underlying inflation, measured as the CPIF. The opposite applies to the scenario with a lower repo rate path; CPI inflation is further from the target, while underlying inflation is closer to 2 per cent. An overall assessment implies that there is currently some of spare capacity in the Swedish economy. Resource utilisation will rise gradually and is expected to be normal or slightly above normal towards the end of the forecast horizon. In the scenario with a lower repo rate path, resource utilisation is even higher at the end of the forecast horizon. Given this, the repo rate path in the main scenario is assessed to be well-balanced.

The monetary policy alternatives described in this section are based on the forecasts for inflation and resource utilisation given in the main scenario. The assumptions behind the forecasts in the main scenario are described in detail in Chapter 1 of this report. Other assumptions regarding economic developments in Sweden and abroad may motivate forecasts for inflation and resource utilisation that differ from those in the main scenario. Some such examples have been described in this chapter. These include scenarios that lead to higher inflation abroad, higher growth in Sweden, and a stronger exchange rate. A further example is illustrated in the article "Lower policy rates in Sweden and abroad". All of these scenarios show clearly that if other forecasts for inflation and resource utilisation are used, the conditions for the Riksbank's monetary policy decision also change.

This chapter includes a report on information received since the Monetary Policy update was published in December and the Riksbank's assessment of economic prospects in the coming quarters.

GDP in Sweden is growing swiftly, at the same time as the labour market is continuing to improve. Major upturns in commodity prices have led to rising inflation, both in Sweden and abroad. This increase in inflation in Sweden has been counteracted, to a certain extent, by the continued appreciation of the Swedish krona. The rate of increase in house prices and in lending to households has levelled off slightly

as mortgage rates have increased. Developments abroad continue to be divided, and monetary policies have already started to be tightened in emerging economies.

In the euro area, indicators suggest a continued recovery – but uncertainty persists concerning the sustainability of public finances in a number of European countries.

The recovery of the US economy has strengthened somewhat, but the improvement of the labour market continues to be slow.

■ ■ The Swedish krona continues to be strong

During the financial crisis, the Swedish krona depreciated steeply. As uncertainty regarding matter such as developments in the Baltic eased and world trade showed an upturn, the krona gradually appreciated. However, it was not until the spring of 2010 that the krona seriously started to return to the levels that prevailed before the crisis erupted in the autumn of 2008. The development of the Swedish economy has been significantly stronger than those of many of our largest trading partners. Growth in Sweden is strong and central government finances are stable, making the krona seem an attractive and secure investment at present.

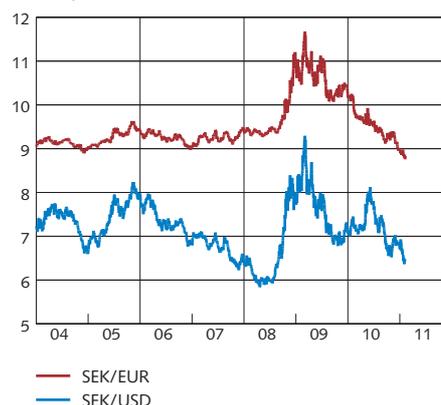
Since the monetary policy meeting in December, the krona has continued to appreciate against most major currencies and is currently being traded for less than nine kronor per euro (see Figure 3:1).

■ ■ Interest rates are rising on the financial markets

The repo rate was raised in September, October and December last year. These decisions were expected and has thus only led to minor fluctuations in market interest rates. According to market pricing and surveys, further interest rate increases are expected at the monetary policy meetings in the spring.

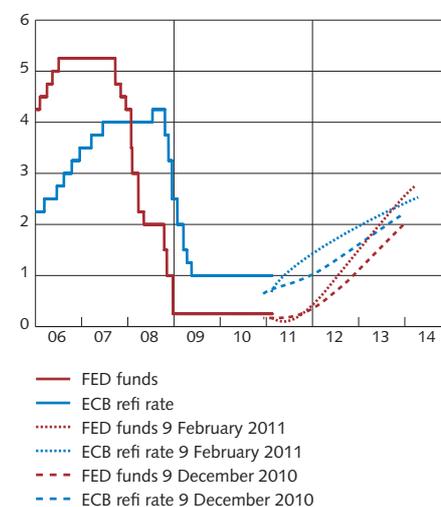
In the euro area and the United States, monetary policy expectations according to market pricing have increased since December (see Figure 3:2). According to pricing, the policy rate in the United States will be raised at some point in the first half of 2012, which is also in line with survey expectations. In the euro area, a more explicit focus on inflation has contributed to rises in interest rates, and an initial increase is now expected during the second half of 2011. In the United Kingdom, monetary policy expectations according to market pricing have also increased since December. The policy rate is expected to be raised in the second half of 2011.

Figure 3:1. Exchange rates SEK per euro and dollar



Source: Reuters EcoWin

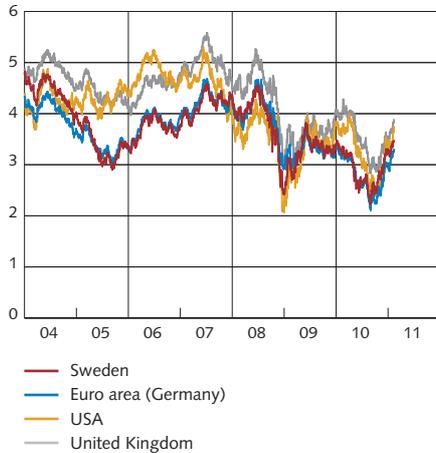
Figure 3:2. Policy rate expectations measured in terms of market prices in the euro area and the USA Per cent



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.

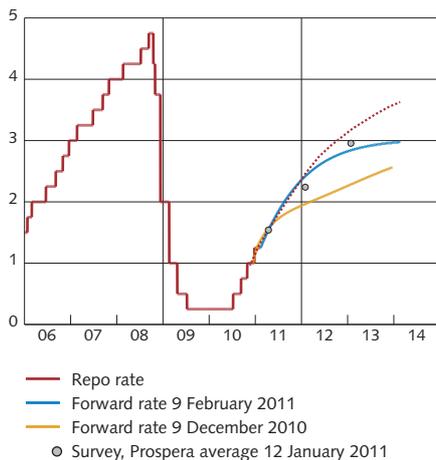
Sources: Reuters EcoWin and the Riksbank

Figure 3:3. Ten year government bond yield
Per cent



Source: Reuters EcoWin

Figure 3:4. Repo rate expectations measured as market prices and surveys in Sweden
Per cent



Note. Forward rates have been adjusted for risk premiums and describe the expected overnight rate.

Sources: Reuters EcoWin, TNS SIFO Prospera and the Riksbank

Interest rates for government bonds have risen during the autumn in tandem with the lightening of the economic outlook, both in Sweden and in many other parts of the world (see Figure 3:3). This concerns government bonds with both long and short maturities. Despite the joint support loans extended to Ireland by the EU and IMF in November, unease over the sustainability of public finances in the countries of Europe has spread to Portugal in particular, where the interest rate differential in relation to German government bonds is now higher than it was last autumn.

■ ■ Expectations of continued interest rate increases in Sweden

Since the publication of the most recent Monetary Policy Update, monetary policy expectations (derived from market prices) have shifted upwards. Monetary policy expectations according to Prospera's surveys have also increased, and are now approximately in line with the Riksbank's repo rate path (see Figure 3:4).

The use of market pricing as a measure of monetary policy expectations is associated with a series of assumptions and thus also with uncertainty. This applies in particular to slightly longer maturities, over about one year. Market rates primarily reflect expectations of future repo rate developments. However, different forms of risk premiums also affect market rates.

When the Riksbank makes forecasts for long-term market rates, these are thus based both on the repo rate path and on an assessment of how these premiums will develop. See the article "How does the Riksbank make forecasts for longer market rates?"

■ ■ The Riksbank's balance sheet is shrinking

In December and January, the Riksbank's final extraordinary loans to the banks (which totalled SEK 5.5 billion) matured. This meant that all of the extraordinary measures implemented by the Riksbank during the crisis have now been completely wound up. As a result of this, the Riksbank's balance sheet total has come close to the level prevailing before the crisis in 2008. The remaining difference in the balance sheet total is due to the strengthening of the foreign currency reserve carried out by the Riksbank in 2010.

In conjunction with its monetary policy meeting in November, the Federal Reserve announced that it would start to buy government bonds in an amount of up to USD 600 billion until the end of the second quarter of 2011. These purchases are proceeding as planned and are contributing to the continued increase of the Federal Reserve's balance sheet total.

■ ■ Inflation increasing faster in emerging economies

Rising prices for commodities and energy have contributed towards increasing inflation internationally (see Figure 3:5). A large part of these price increases is believed to have been caused by the high growth and associated high demand for commodities in the emerging economies (see Figure 3:6). Another factor that has affected prices of agricultural products in particular is the poor harvests arising from unfavourable weather conditions.

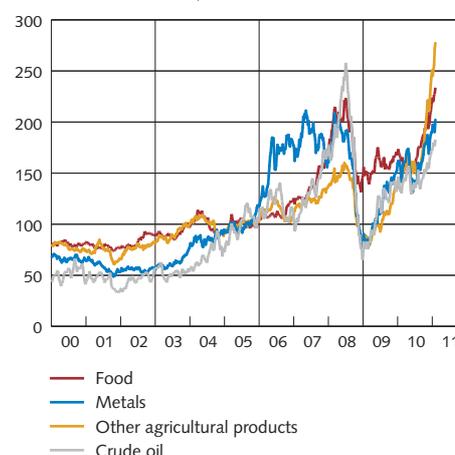
When commodity prices for agricultural products increase, this generally has a more severe impact on inflation in countries with a large proportion of food in their consumption. Several emerging economies are included in this group. Consequently, inflation has risen steeply in several Asian countries in recent months. For example, in China, inflation has been above the central bank's target of 3 per cent for 2010 in recent months, and inflation is also high in India (see Figure 3:7). In Brazil, inflation increased during the autumn, reaching 6.0 per cent in January, which is higher than the inflation target of 4.5 per cent. In Russia, inflation also continued to rise in January due to higher food and energy prices. It is now at 9.6 per cent (see Figure 3:7).

The financial crisis impacted the emerging economies of Asia less severely than it did many developed economies. Consequently, these emerging economies do not have as much spare capacity able to restrain underlying inflation. Many central banks in the region have thus already undertaken measures to tighten monetary policy. In several countries, the policy rate has been raised during the autumn.

■ ■ Higher consumption boosts growth in the United States

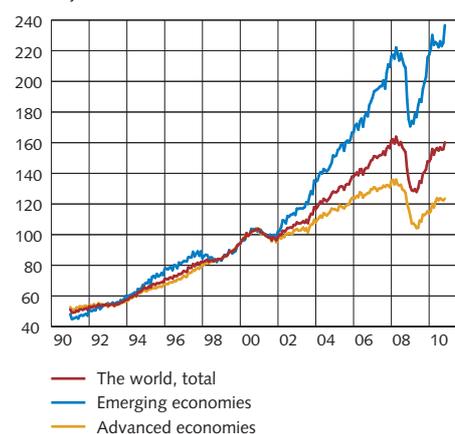
Growth in the United States was strong at the end of last year. GDP increased by 3.2 per cent in the fourth quarter, compared with the third quarter, when calculated at an annual rate. The outcome was stronger than was forecast in the Monetary Policy Update in December. The main contributors to the growth of GDP were household consumption and strong exports.

Figure 3:5. Commodity prices
Index 2005 = 100, USD



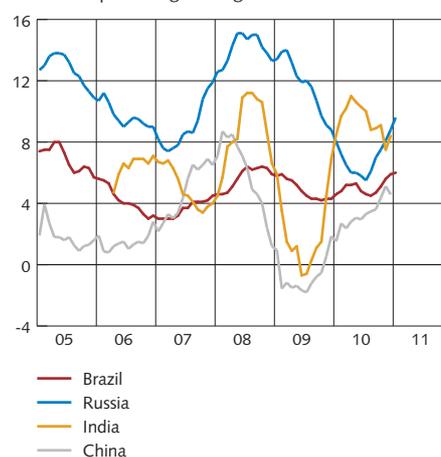
Sources: The Economist and Intercontinental Exchange

Figure 3:6. World trade
World trade monitor index, 2000 = 100, seasonally adjusted data



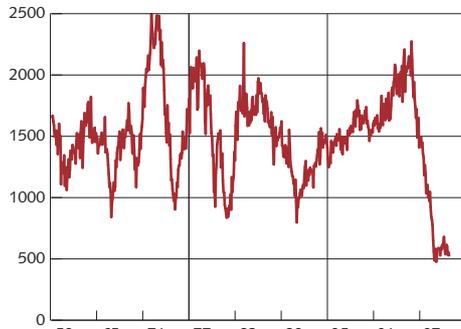
Source: Netherlands Bureau for Economic Policy Analysis

Figure 3:7. Inflation in Brazil, Russia, India and China
Annual percentage change



Sources: OECD, Federal State Statistics Service, Russia, Office of the Economic Adviser to the Government of India and National Bureau of Statistics of China

Figure 3:8. Housing construction in the USA
Number of new homes per month calculated as an annual rate, 1,000s



Source: U.S. Census Bureau

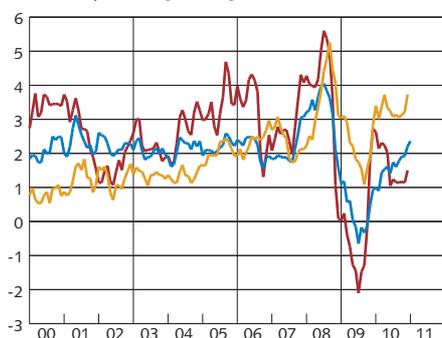
Figure 3:9. Purchasing manager's index, manufacturing sector
Index, over 50 indicates growth



— Sweden
— Euro area
— USA

Sources: Institute for Supply Management, Markit Economics and Swedbank

Figure 3:10. Consumer prices
Annual percentage change



— USA
— Euro area
— UK

Sources: Bureau of Labor Statistics, Eurostat and OECD

Demand on the US housing market is still weak and housing construction is very low (see Figure 3:8). Although house sales increased noticeably in December, this was probably due to the phasing out of public subsidies for housing purchases in California.

The purchasing managers' index for both the manufacturing and service sectors continued to increase in January (see Figure 3:9). According to revised statistics, companies' profits as a proportion of GDP were just over 11 per cent during the third quarter. This is one of the highest levels seen since the mid-1960s. All in all, this suggests that growth will continue to be strong during early 2011.

Labour productivity is continuing to increase relatively rapidly in the United States. The high productivity growth is contributing towards dampening inflationary pressures and underlying inflation, adjusted for food and energy prices, remained on a low level, 0.8 per cent in December (see Figure 1:8). However, CPI inflation is higher and increased by 0.4 percentage points in December to 1.5 per cent, primarily due to rising energy prices (see Figure 3:10). Inflation expectations have also continued to increase, according to both surveys and market pricing.

■ ■ Slow recovery of US labour market

When the crisis broke out, unemployment increased dramatically in the United States. This increase was the greatest experienced in the entire post-war period (see Figure 3.11). Unemployment has slowly fallen back in 2010 and early 2011. In January, it fell to 9.0 per cent, primarily as a result of many people leaving the labour market. Employment continued to increase in January after having increased in the fourth quarter by an average of almost 130 000 jobs per month. The situation in the labour market is thus continuing to improve.

Compared with developments in Sweden, unemployment has increased significantly more in the United States and the recovery there is expected to take much longer (see the article "The effects of the financial crisis on the labour market – a comparison of Sweden, the euro area and the United States").

■ ■ Dampened growth and higher inflation in the euro area

The GDP of the euro area increased by 1.4 per cent on an annual rate in the third quarter compared with the second quarter. Incoming data and confidence indicators suggest that the fourth quarter will be slightly stronger than was expected in the monetary policy update. Both industrial output and orders to the manufacturing sector continued to increase during November.

Confidence in the corporate sector remains strong. The purchasing managers' indices for both the manufacturing and service sectors remain on high levels (see Figure 3:9). On the other hand, retail trade turnover is continuing to develop weakly in the euro area and fell in December (see Figure 3:12). Consumer confidence also fell back slightly in the most recent figures for January and is now in line with the historic average. All in all, information for the euro area suggests a strong development of the manufacturing sector, but weaker development for consumption in the period ahead.

The German economy is continuing to drive growth in the euro area. GDP increased by 3.6 per cent during the full year 2010 after having fallen by 4.7 per cent in 2009. The German IFO index for January increased for the eighth month in a row, one of several indicators of continued high growth in Germany. Growth in many other countries in the euro area is more moderate or even negative in certain cases, such as Greece, for example. Unease persists concerning the fiscal situation of certain countries and significant fiscal policy tightening can be expected for large parts of the euro area in 2011.

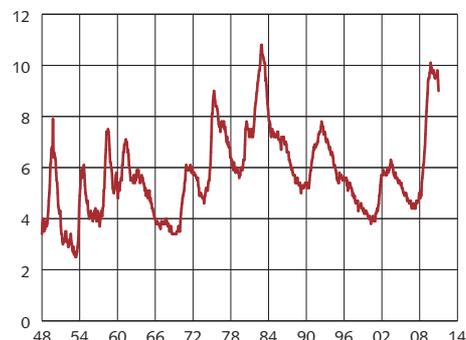
The rate of inflation in the euro area increased from 2.2 per cent in December to 2.4 per cent in January, above all due to higher food and energy prices.

After having fallen by about 2.5 per cent in conjunction with the financial crisis, employment in the euro area has stabilised in 2010. Employment continued to be unchanged during the third quarter, compared with the second quarter. Unemployment remained unchanged at 10 per cent in December, which is about the same level that unemployment has been at since April 2010.

■ ■ Varying growth and high inflation in neighbouring countries

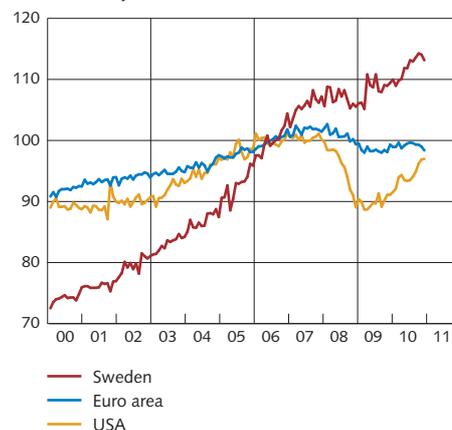
According to revised statistics, Denmark's GDP increased by about 4 per cent during the third quarter compared with the previous quarter on an annual rate (see Figure 3:13). This was slightly more than expected for December. The recovery of consumption and strong exports contributed to the high growth. However, growth is expected to be dampened this year, among other reasons as a consequence of the fiscal policy austerity package adopted in May last year. Inflation, which reached 2.8 per cent in December, is also expected to retreat in 2011.

Figure 3:11. Unemployment in the USA
Per cent of labour force



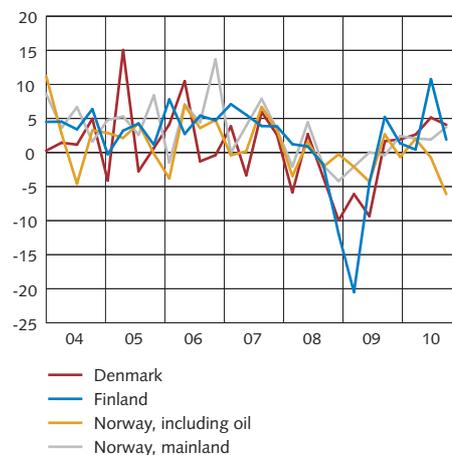
Source: U.S. Bureau of Labor Statistics

Figure 3:12. Retail sales
Index, volume 2006 = 100



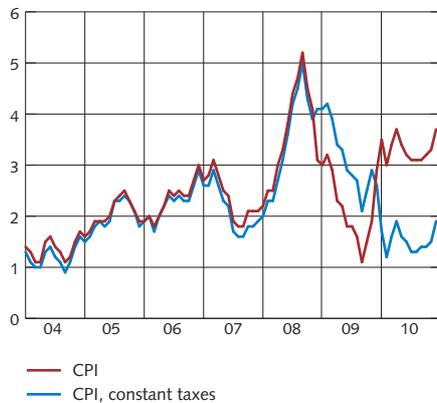
Sources: Eurostat, Statistics Sweden, U.S. Census Bureau

Figure 3:13. GDP in Denmark, Finland and Norway
Quarterly changes in per cent, annual rate, seasonally-adjusted data



Sources: National sources

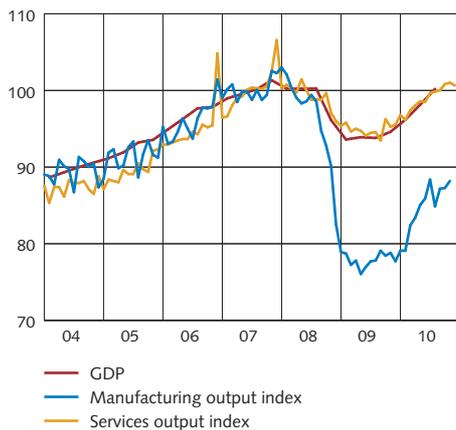
Figure 3:14. Consumer prices in the United Kingdom
Annual percentage change



Note. CPI constant taxes refers to the CPI excluding the effects of changed indirect taxes.

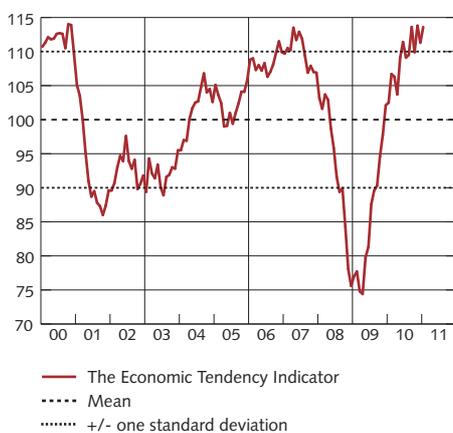
Source: Eurostat

Figure 3:15. GDP and output
Index, 2007 = 100



Source: Statistics Sweden

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



Source: National Institute of Economic Research

In Finland, the recovery of the labour market has been sluggish – in December, employment and unemployment were at about the same levels as during 2009. GDP increased moderately during the third quarter by 1.9 per cent on an annual rate compared with the previous quarter (see Figure 3.13), while monthly statistics for manufacturing and construction output in particular indicate a strong start to the fourth quarter. Inflation rose from 2.5 per cent in November to 2.9 per cent in December. Just as in the rest of the euro area, this increase in inflation was primarily due to rising energy prices.

Norway's GDP fell by about 6.1 per cent in the third quarter compared with the second quarter, on an annual rate (see Figure 3:13). However, this fall in GDP growth is mainly due to a steep fall in oil and gas production. The GDP of mainland Norway increased by 3.7 per cent on an annual rate over the same period. Strong private consumption also contributed to growth here. Inflation increased sharply to 2.8 per cent in December, primarily as a result of rapidly rising electricity prices. However, underlying measures of inflation, which exclude the effects of increased electricity prices, indicate more modest underlying inflationary pressures.

According to preliminary statistics for the United Kingdom, GDP fell by 2.0 per cent in the fourth quarter, calculated as an annual rate. Inflation has been far above the central bank's target of 2 per cent in recent months, amounting to 3.7 per cent in December. Inflation was high during the whole year of 2010. This was primarily due to VAT increases, but rising energy and food prices and a weak currency also played a part. Inflation, adjusted for the direct effects of changes in indirect taxes, has not increased particularly greatly and amounted to 1.9 per cent in December (see Figure 3.14).

■ ■ Continued growth in Sweden

The National Accounts showed that the Swedish economy grew rapidly during the third quarter of 2010. This strong development means that production volumes are back to about the same level as before the crisis. Monthly information indicates that the economy slowed down slightly, but still continued to grow during the fourth quarter (see Figure 3:15).

The purchasing managers' index indicates both a strong end to the year and a strong start to 2011 (see Figure 3:9). After having retreated somewhat in December, the business tendency survey increased again in January and has now returned to the peak levels from the autumn of 2010 (see Figure 3.16). This was a broad increase and indicates continued strong growth.

All in all, the indicators show that growth was high during the fourth quarter, even if the rate of increase is expected to be lower than the record level seen in the third quarter (see Figure 1:2). The indicators developed strongly as a whole and the forecast for GDP growth in 2011 remains unchanged since the Monetary Policy Update in December.

■ ■ Swedish exports increasing as world trade continues to expand

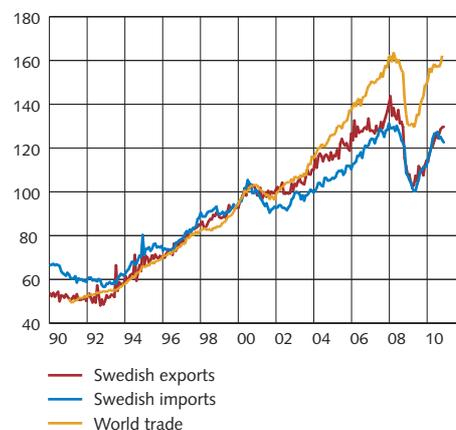
World trade developed strongly in 2010, increasing steeply in November after having grown at a somewhat slower pace during the late summer (see Figure 3:17). Like world trade, Swedish exports developed very strongly in 2010 (see Figure 3:17). During the crisis, exports of investment and input goods in particular fell dramatically. These sectors are now primarily responsible for the strong increase in Swedish exports. The development of exports is connected with the increase of investments we now see in large parts of the world. Indicators such as orders received suggest that exports will continue to rise rapidly in early 2011 (see Figure 3:18). Imports also grew very rapidly in 2010. However, during the second six months of the year, goods imports seem to have decreased slightly, which may be due to a slowdown in restocking (see Figure 3:17). Nevertheless, total imports are expected to increase in the following quarters, as both exports and domestic demand increase.

■ ■ Swedish companies make increasing numbers of investments

Gross fixed capital formation rose sharply during the third quarter of this year (see Figure 3:19). Investments in machinery and housing made the largest contribution to the increase, but major investments in infrastructure and public buildings, such as the Nya Karolinska hospital, also led to a strong increase in public sector investment.¹⁰ In the first three quarters of 2010, construction was started on twice as many multiple-household dwellings than in the equivalent period of the previous year. However, there has not been a similar strong increase in the construction of single-household dwellings. Total investments are judged to have continued to increase during the end of the year, although somewhat more slowly than during the third quarter.

Capacity utilisation in the manufacturing sector is increasing, although, according to the Riksbank's company interviews, there is still scope for the increase of production. According to the business tendency survey, capacity utilisation within the manufacturing sector has increased strongly but has not reached the high levels prevailing before the crisis. In the most recent investment survey, companies within the manufacturing sector report that they plan to increase their investments by 10 per cent in 2011. In the Riksbank's company interviews, the companies also report that they intend to continue investing, albeit at a moderate pace. Total lending to non-financial companies from monetary financial institutions showed a continued positive growth rate of 1.8 per cent in December (see Figure 3.20). All in all, this indicates that investments will continue to recover in the period ahead.

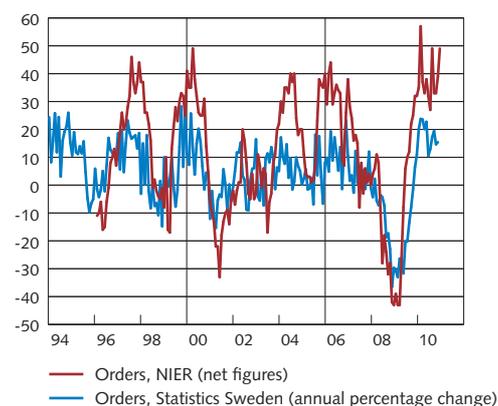
Figure 3:17. World trade monitor index and Swedish foreign trade with goods in fixed prices Index, 2000 = 100, seasonally adjusted data



Note. Fixed prices for Swedish exports have been calculated by the Riksbank.

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

Figure 3:18. New export orders
Net figures and annual percentage change



Sources: National Institute of Economic Research and Statistics Sweden

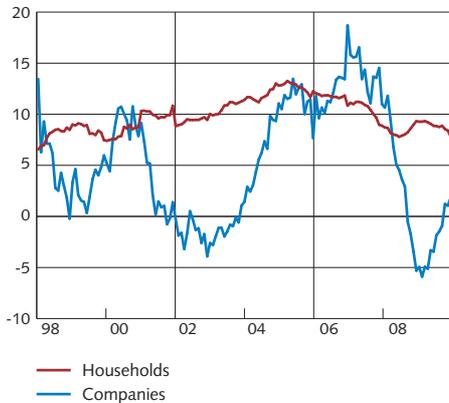
Figure 3:19. Gross fixed capital formation
Annual percentage change



Source: Statistics Sweden

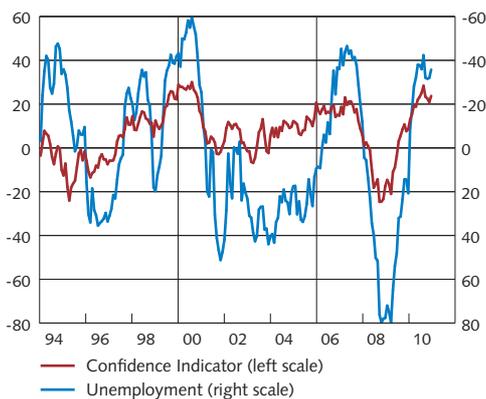
¹⁰ As regards public investments, the accounting procedures used mean that construction projects such as the Nya Karolinska hospital are generally recorded during a specific period even though the actual investment may have been spread over a longer period. This means that the upturn in investments during the third quarter has probably been exaggerated in the preliminary National Accounts figures.

Figure 3:20. Bank lending to companies and households
Annual percentage change



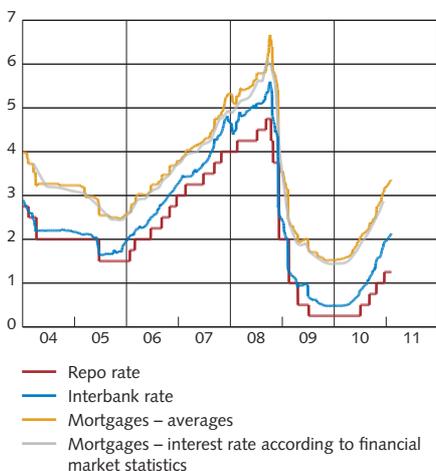
Source: Statistics Sweden

Figure 3:21. Households' expectations for the future
Net figures



Source: National Institute of Economic Research

Figure 3:22. Money market rates in Sweden
Per cent



Note. Refers to the average three month listed mortgage rates from banks and mortgage institutes, the three month interbank rate and the monthly average for three month mortgage rates for new loans according to financial market statistics. Listed mortgage rates are the rates that Nordea, SBAB, SEB, Spintab and Stadshypotek publish, for example, in the daily press.

Sources: Reuters EcoWin, Statistics Sweden and the Riksbank

■ ■ Strong public finances

General government net lending has shown a remarkable degree of strengthening over the first three quarters of 2010. This can primarily be explained by the rapid turnaround of the labour market. Expenditure on unemployment benefit is decreasing, as is expenditure related to sickness and ill-health. Preliminary tax payments also indicate that corporate taxes increased during 2010. For the full year 2010, general government net lending is expected to become positive and to amount to 0.6 per cent of GDP.

■ ■ Optimistic households and strong consumption

Household consumption increased substantially during the third quarter of 2010. During the fourth quarter, retail trade turnover, in particular sales of non-durables, developed relatively weakly (see Figure 3:12). On the other hand, households' purchases of cars increased significantly. All in all, consumption is deemed to have increased at a relatively rapid rate during the fourth quarter, even if this was somewhat weaker than during the third quarter.

Consumer confidence has been on a high level for a longer period and increased further in January. Households are much more optimistic about the future than normal (see Figure 3:21). Together with the continued positive development of the registration of new cars by households during the early part of the year, this indicates continued strong growth of consumption.

■ ■ Increasing mortgage rates and decreased rate of increase in housing prices

Concurrently with the successive raising of the repo rate by the Riksbank since July 2010, the market's monetary policy expectations of further increases have successively risen. This has contributed to the increase of the variable interest rates that households pay for their loans. However, variable mortgage rates have risen more than the repo rate (Figure 3:22). This may be due to a number of factors. One probable cause is the fact that the Riksbank's three fixed interest-rate loans to the banks matured during 2010. One important reason for their introduction in 2009 was that the Riksbank wished to reduce the interest rates being faced by households and companies. Now that these loans have been phased out, the banks are obtaining financing under the prevailing market conditions, and interest rates are rising again. In addition, there are also new banking regulations that may affect the banks' financing costs (see the article "The effects of Basel III on macroeconomic development"). While these regulations have not actually entered into force yet, it cannot be ruled out that pricing on the financial markets is already being affected by them to some extent.

Fixed mortgage rates have also increased but, in this case, the development seems to be proceeding apace with the development of other comparable long-term bond rates. The proportion of households opting for fixed mortgage rates has also increased since mid-2009, although about half of the new loans taken by households are still for variable interest rates.

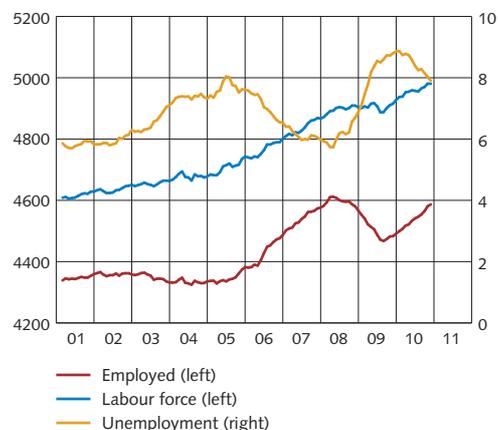
Lending to households increased in December by 7.8 per cent, compared with the same month in the previous year. This is significantly more than the increase in households' incomes, but is still the lowest rate of increase noted since 2001 (Figure 3:20). This increased borrowing has led household debt in relation to disposable income to increase rapidly. The debt ratio is also expected to continue to increase in the period ahead, albeit at a slower pace than previously. At the same time as the rate of increase in household indebtedness is decreasing, a declining trend in price movements has been noticed for both single-household dwellings and tenant-owner's rights. This tendency for the price level not to increase to the same extent as previously may be an effect of the mortgage ceiling introduced by Finansinspektionen last autumn¹¹ but it may also be due to the widely-expected interest rate increases implemented by the Riksbank.

■ ■ Continued recovery on the labour market

The labour market has recovered rapidly in Sweden. It is true that about 140 000 jobs disappeared in the Swedish economy as a result of the crisis. However, by the fourth quarter of 2010, about 120 000 of these had been recovered (see Figure 3:23). Even though the supply of labour has increased strongly, unemployment has decreased since the fourth quarter of 2009. During November and December 2010, the number of employed continued to increase, which was in line with the assessment of December's Monetary Policy Update. The number of people in the labour force and the number of unemployed were both smaller than expected.

Indicators suggest that the development of the labour market during the early part of 2011 was somewhat stronger than the forecasts of the monetary policy update. The number of new job vacancies reported by the Swedish Public Employment Service shows that demand for labour has increased rapidly in recent months (see Figure 3:24). This applies to the service industries above all, although demand is now also rising within the manufacturing sector. The most recent business tendency survey from the National Institute of Economic Research also indicates that increasing numbers of companies are planning to continue to increase their workforces.

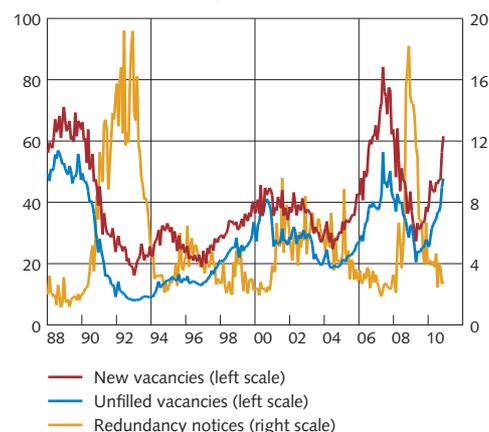
Figure 3:23. Employment, labour force and unemployment
Thousands and percentage of the labour force 15-74 years, seasonally adjusted data



Note. Three-month moving averages.

Sources: Statistics Sweden and the Riksbank

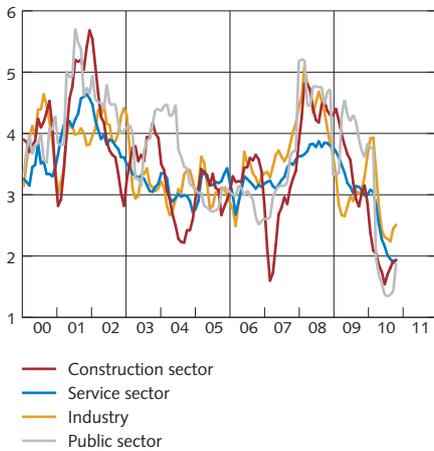
Figure 3:24. New and unfilled vacant jobs and redundancy notices
Thousands, seasonally adjusted data



Sources: Employment Service and the Riksbank

¹¹ See the Financial Stability Report 2010:2 for more information on the mortgage ceiling.

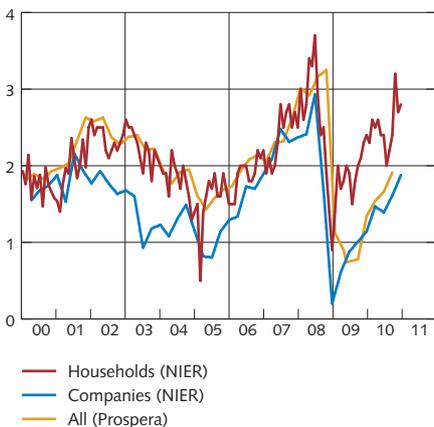
Figure 3:25. Wages
Annual percentage change



Note. Three-month moving average. Refers to wages according to short-term wage statistics. Preliminary outcomes for last 12 months, which are usually revised upwards.

Sources: National Mediation Office and the Riksbank

Figure 3:26. Expectations of inflation one year ahead
Per cent



Note. Household figures are monthly, others quarterly.

Sources: National Institute of Economic Research and TNS SIFO Prospera

■ ■ Rate of wage increase slowed down in 2010

According to short-term wage statistics from the National Mediation Office, there was a preliminary wage increase of 3.4 per cent in the first quarter of 2010. Following this, the wage rate declined. Among other reasons, this is due to the low wage agreements concluded in 2010. During the period April–November 2010, wages increased by an average of 2.1 per cent, according to preliminary wage outcomes. However, the preliminary wage outcome for 2010 will be revised upwards when retroactive wage payments are included in the statistics. This will still mean a significant decrease of the wage rate compared with the first quarter of 2010, when the preliminary wage rate was 3.4 per cent.

Wage outcomes for the public sector at the end of 2010 were remarkably low (see Figure 3:25), partially due to the fact that retroactive wage payments for groups within the public sector are still to be included in the statistics. Wage outcomes for the manufacturing sector in 2010 were higher than outcomes in the building sector and the rest of the business sector (see Figure 3:25). This is partially because postponed local pay reviews in the manufacturing sector led to extra payments during the period in question. The wage rate in the economy as a whole for 2010 is expected to be 2.6 per cent, which is in line with the assessment made in December.

Wages per hour worked in the economy as a whole according to the National Accounts are judged to have developed much more slowly than the corresponding figures in the short-term wage statistics (see Table 7). This discrepancy is deemed to be temporary and, among other causes, may be due to the way in which the different measures capture changes in employee leave, payments of bonuses and other taxable benefits.

■ ■ High productivity and low cost pressures

During 2010, labour productivity in the economy as a whole is estimated to have increased by 3.4 per cent, the highest increase in productivity since 2004. A comparatively low rate of growth in labour costs per hour, together with high productivity growth, led unit labour costs to fall by 2.2 per cent. The rate of increase in unit labour costs is also expected to remain low during the first six months of 2011.

■ ■ Rising inflation expectations

All inflation expectations one year ahead are now higher than the Riksbank's forecast for inflation with the same time horizon. On the other hand, over longer time horizons, inflation expectations are well-anchored around the inflation target. Even if inflation expectations are not worryingly high at present, they have risen recently. Consequently, it is now important to follow their development in the period ahead.

Prospera's quarterly survey indicates that all participants' inflation expectations one year ahead rose from 1.7 per cent in September to 1.9 per cent in December (see Figure 3:26). Inflation expectations two years ahead increased from 2.0 to 2.2 per cent, while remaining unchanged at 2.2 per cent five years ahead. According to the Business Tendency Survey, companies' inflation expectations increased from 1.6 per cent in the third quarter to 1.9 per cent in the fourth quarter.

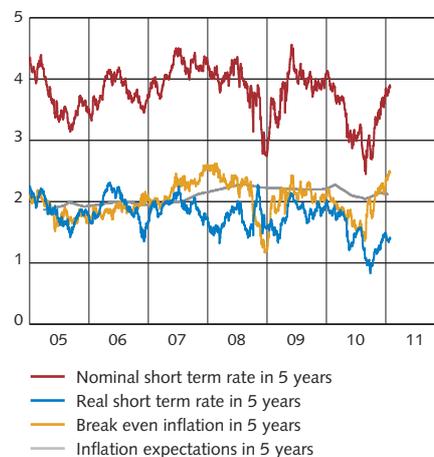
According to the Business Tendency Survey, households' inflation expectations one year ahead increased strongly in November, but then fell back in December. They increased slightly again in January, from 2.7 per cent to 2.8 per cent. Prospera's monthly investigation of the money market participants' inflation expectations one year ahead shows that these too increased, from 1.7 per cent in December to 2.1 per cent in January. As inflation expectations in the short term are usually strongly influenced by current inflation levels, an important explanation for the increasing expectations seen in December can probably be found in the high CPI outcome in the same month. CPI inflation amounted then to 2.3 per cent.

A rough measure of the fixed-income market's long-term inflation expectations is provided by break-even inflation¹², that is, the difference between short-term nominal and real forward rates after five years. Break-even inflation calculated in this manner is presently almost 2.5 per cent, having increased slightly since the autumn (see Figure 3:27). According to Prospera's survey, money market participants' inflation expectations five years ahead have not increased as much and are 2.1 per cent.

■ ■ Higher inflation

In the most recent outcome for December, the annual rate of change in CPI increased by 2.3 per cent compared with the same month in the previous year (see Figure 3:28). The underlying measure of inflation, CPIF, in which households' mortgage expenses are held constant, also increased by 2.3 per cent. The rising rate of inflation is primarily due to the more rapid increase of energy prices than previously, but also because food prices have started to increase slightly faster (see Figure 3:29). As mortgage rates are now increasing at the same pace as the repo rate is raised, households' interest expenses are also increasing at a faster rate. This means that CPI will increase faster than CPIF in the period ahead (see Figure 1:21).

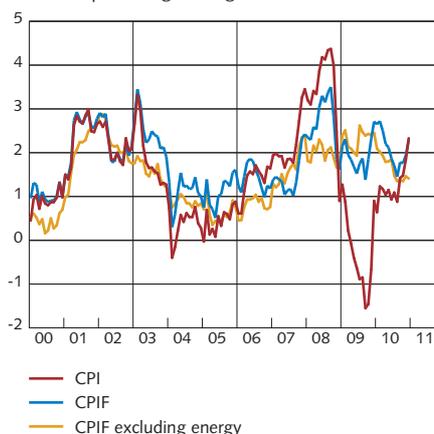
Figure 3:27. Break even-inflation
Per cent



Note. Inflation expectations refer to Prospera's survey of money and bond market participants.

Sources: TNS SIFO Prospera and the Riksbank

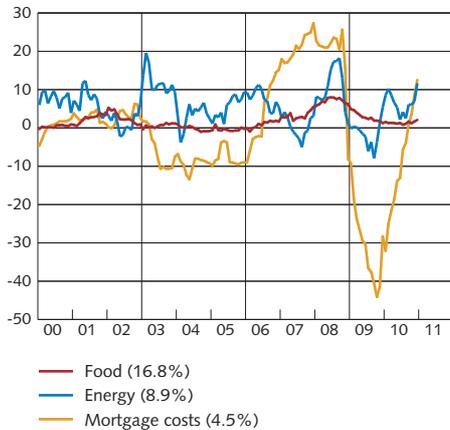
Figure 3:28. CPI, CPIF and CPIF excluding energy
Annual percentage change



Source: Statistics Sweden

¹² Break-even inflation should be interpreted with caution as the measure also includes risk compensation for uncertainty regarding inflation in the future.

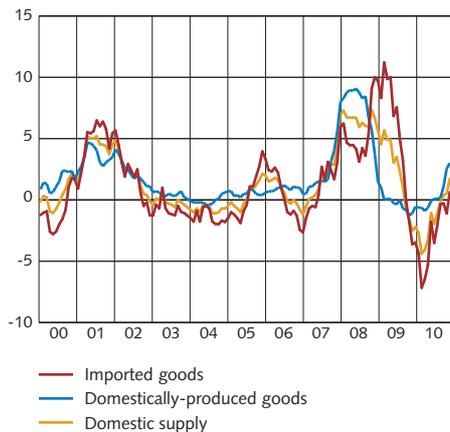
Figure 3:29. Food, energy and mortgage costs in the CPI
Annual percentage change



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

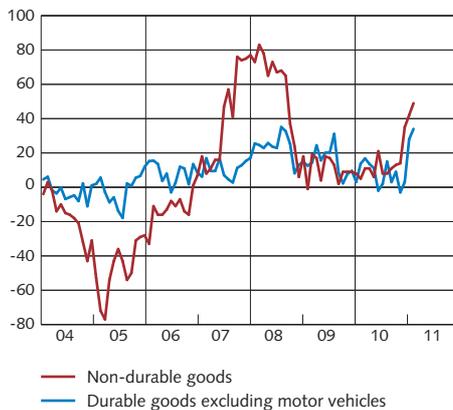
Source: Statistics Sweden

Figure 3:30. Prices of consumer goods in the producer channel
Annual percentage change



Source: Statistics Sweden

Figure 3:31. Planned price changes in the retail sector
Net figures



Note. Refers to planned price changes in the next 3 months

Source: National Institute of Economic Research

The rates of increase of both CPI and CPIF were slightly higher than was forecast in the monetary policy update from December, primarily because the rate of increase of electricity prices was higher than expected. CPIF excluding energy, which is another measure of underlying inflation, increased by 1.4 per cent in December, as expected (see Figure 3:28).

Forward prices for oil and electricity are now at a higher level than they were in December (see Figure 1:7). This is contributing to slightly higher inflation in the period ahead, compared with the expectations of the monetary policy report from December. However, the appreciation of the krona, higher productivity and a lower wage rate are contributing to continued expectations that the underlying rate of inflation will be comparatively low in the next quarter.

Producer prices have also started to increase, indicating continued price increases for consumers (see Figure 3:30). The latest Business Tendency Survey reveals that increasing numbers of companies in the retail sector intend to raise prices for both durable and non-durable goods, such as food (see Figure 3:31). In the Riksbank's company interviews, the companies also state that they intend to increase prices, although at a moderate rate.

All in all, the development of producer prices and the planned price changes indicate that inflation will be higher in the short term. Given this background, the inflation forecast for the quarters immediately ahead has been revised upwards.

The effects of the financial crisis on the labour market – a comparison of Sweden, the euro area and the United States

The labour market is important to monetary policy for several reasons. One current issue concerns the effects the financial crisis may have had on the labour market. This article aims to shed light on this issue by comparing developments on the labour markets of Sweden, the euro area and the United States.

Long-term unemployment in the United States has probably risen in connection with the financial crisis. Despite this, the conditions are more favourable for a fall in unemployment in the United States than in the euro area in the years ahead. A large part of the increased unemployment in Sweden is deemed to be due to cyclical factors, which indicates that the recovery of the labour market will continue.

The significance of the labour market for monetary policy

The labour market has long played a large role in discussions of economic policy in Sweden and other countries. One important monetary policy question concerns the impact that the financial crisis may have had on the labour market.¹³ This article discusses the effects of the crisis on the labour markets of the United States, the euro area and Sweden.

The financial crisis, production and the labour market – background facts

The financial crisis led to a severe drop in GDP in Sweden, the euro area and the United States (see Figure 1:9). Even if the increase in unemployment was great in both Sweden and the euro area, the US labour market was hit particularly severely by the crisis (see Figure A1). The pattern is similar as regards the number of employed (see Figure A2). Over the past year, unemployment has also fallen more sharply in Sweden than in the United States and the euro area. To some degree, this is because GDP growth is currently higher in Sweden than in the euro area and the United States.¹⁴ Initial questions concern why the US labour market has been hit so severely by the crisis and how protracted the decline can be expected to be.

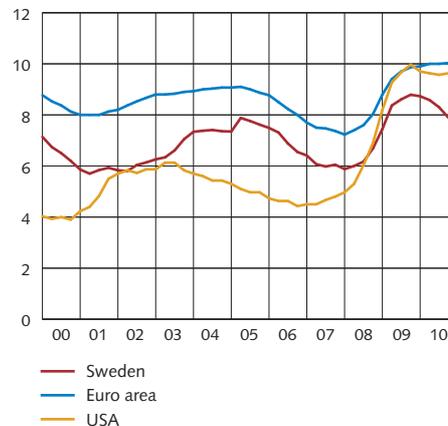
Developments in the United States – record unemployment increase

Over a two year period between 2007 and 2009, unemployment in the United States increased from about 4.5 per cent to about 10 per cent. This is the strongest increase seen during the entire post-war period (see Figure 3:11).

To gain an illustration of how the proportion of unemployed should have developed given the historical covariation with GDP, what is known as an Okun relationship can be estimated up to the third quarter of

Figure A1. Unemployment in Sweden, the euro area and the USA

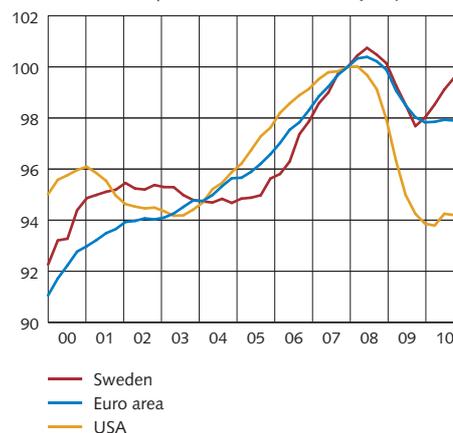
Percentage of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics, Eurostat and Statistics Sweden

Figure A2. Employment in Sweden, the euro area and the USA

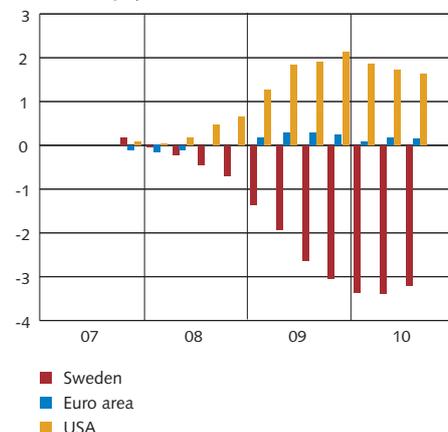
Index, 2007 quarter 4 = 100, seasonally-adjusted data



Sources: Bureau of Labor Statistics, Eurostat and Statistics Sweden

Figure A3. Difference between actual and expected unemployment in Sweden, the euro area and the USA

Percentage points

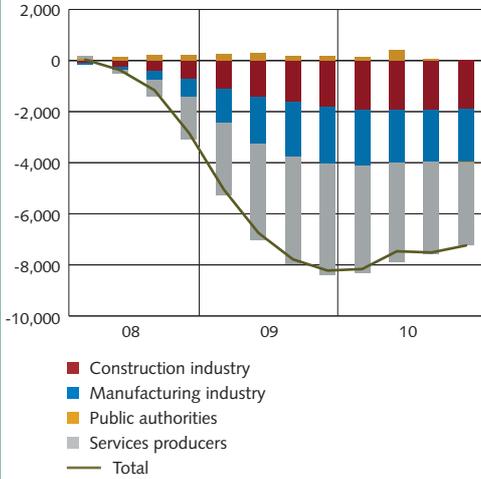


Sources: The Bureau of Labor Statistics, Eurostat, Statistics Sweden and the Riksbank.

13 For example, in the United States, a discussion is underway of the degree to which long-term unemployment has been affected by the financial crisis. See, for example, speeches by Ben Bernanke ("Monetary Policy Objectives and Tools in a Low-Inflation Environment", 15 October 2010, www.federalreserve.gov), Narayana Kocherlakota ("Inside the FOMC", 17 August 2010, www.minneapolisfed.gov) and Janet Yellen ("The Federal Reserve's Asset Purchase Program", 8 January 2011, www.federalreserve.gov).

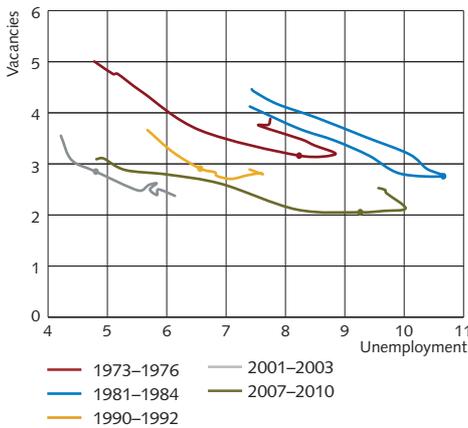
14 For a comparative discussion of GDP development, see the article "Why higher growth in Sweden than in the Eurozone and the United States?" in the Monetary Policy Report, October 2010.

Figure A4. Total change in employment since fourth quarter 2007 in the USA
Thousands



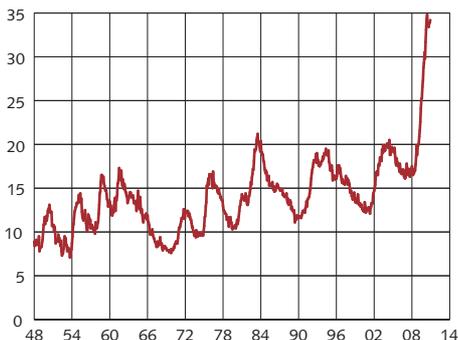
Source: Bureau of Labor Statistics

Figure A5. Correlation between vacancies and unemployment during different cycles in the USA
Percentage of the labour force



Source: R. Barnicon (2009), "Building a composite Help-Wanted Index", *Economic Letters* 109, 2010, Bureau of Labor Statistics and the Riksbank

Figure A6. Average period of unemployment in the USA
Number of weeks



Source: Bureau of Labor Statistics

2007.¹⁵ Based on the actual development of GDP, unemployment can then be extrapolated over the course of the recession. The result indicates that unemployment in the United States has been significantly higher than may have been expected according to historical correlations (see Figure A3).

So why has the development of the US labour market been so weak? To start with, the global financial crisis was triggered by problems in the US housing market, meaning that the United States can thereby be said to have been the 'epicentre' of the financial crisis. So the problems were domestically-generated, which may have contributed towards the decline in the economy being seen as more persistent by companies. This may have reduced the element of so-called labour hoarding.¹⁶ Further, relatively labour-intensive sectors were hit hard by the downturn. Since the crisis broke out, the US employment level has decreased by about 7.5 million jobs.¹⁷ The construction and manufacturing industries contribute to about half of this decrease, but employment in the service sector has also decreased by about 2.5 million individuals (see Figure A4).

Long-term unemployment in the United States

Developments on the US housing market may have led to structural problems on the US labour market. Many unemployed workers need to turn to new industries and regions. At the same time, many of the unemployed are reluctant to move due to the risk of making a loss on the sale of their homes. Such structural problems should be reflected in the development of what is known as a Beveridge curve.

Beveridge curves illustrate the link between unemployment and the vacancy rate, which is the number of vacant jobs as a proportion of the labour force. Normally, a negative relationship is expected: in a period of high economic activity, the proportion of vacant jobs increases while unemployment decreases, while the reverse applies in a period of low economic activity. The further from origo the curve lies, the poorer the match between vacant jobs and jobseekers becomes.

During the early part of the crisis, the number of vacancies decreased while unemployment increased – a movement along the Beveridge curve. However, over the last year, vacancies have increased without unemployment showing much of a decline. This trend means that the Beveridge curve may have shifted outwards, which, in turn, may suggest a deterioration of the matching of jobseekers and vacant jobs.

However, historical experiences indicate that such deterioration in matching is part of the normal pattern in an economic recovery (see Figure A5).¹⁸ In addition, the period during which unemployment benefit may be received has been extended, which may have decreased willingness among the unemployed to seek work. This may have had a negative effect on matching. If these extended benefit periods are seen as a temporary element

¹⁵ The dependent variable is the quarterly change in unemployment, while the determining variables are the simultaneous quarterly percentage change in GDP and previous changes in unemployment and GDP.

¹⁶ Labour hoarding means retaining a labour force during a period of declining demand.

¹⁷ This data refers to what are known as non-farm payrolls, that is employment outside the agricultural sector.

¹⁸ The data in the figure shows developments from the quarter when the recession began to seven quarters after the recession ended, in accordance with the NBER's dating. For the years 2007-2010, developments to five quarters after the end of the recession are shown. The points represent the final quarters of the recession.

of a cyclical policy, this effect will be transitory. All in all, it is too early to reach any clear conclusions regarding matching efficiency over the longer term, although an abnormal deterioration of matching cannot be ruled out during the current cycle.

Matching efficiency is linked to the important issue of how long-term unemployment has been affected. If we believe that it has been strongly affected by the crisis, what is known as hysteresis or persistence effects are present.¹⁹ In this case, the rise in unemployment will be more long-lasting and the scope for a demand-stimulating economic policy will be limited.

The current average duration of unemployment is almost twice as long as the second longest average in the post-war period (see Figure A6). This may be a sign of an increase in long-term unemployment.²⁰ Different empirical estimates of long-term unemployment together lend a certain amount of support for the hypothesis that long-term unemployment has increased in the United States as a result of the crisis (see Figure A7).²¹

The euro area – large differences between countries

Unemployment in the euro area has increased by just over 2.5 percentage points from the start of 2008 and presently amounts to about 10 per cent. Considering the growth of GDP, the development of unemployment in the euro area was more or less as expected according to the Okun relationship (see Figure A3).

However, behind developments in the euro area as a whole, large differences can be found between different member states, with developments in Germany and the Netherlands being significantly more positive than those in Spain, for example. The Okun relationship indicates that unemployment in Germany and the Netherlands has been lower than expected given the development of GDP, while it was markedly higher in Spain (see Figure A8). These differences are also reflected by long-term unemployment, which has increased markedly in Spain (see Figure A9).

An examination of this data on a sector-by-sector basis shows that the decrease in employment in the euro area as a whole has largely taken place in the construction and manufacturing industries, while large areas of the service sector do not seem to have been affected at all by the crisis (see Figure A10).²² Even in this case, major differences exist between countries. The housing market in Spain has collapsed and employment levels within the construction industry have seriously declined, which stands in strong contrast to developments in Germany and the Netherlands.

19 Simplified, "hysteresis" means that an increase in unemployment will tend to be permanent. "Persistence effects" mean that it will take a long time for unemployment to decrease again.

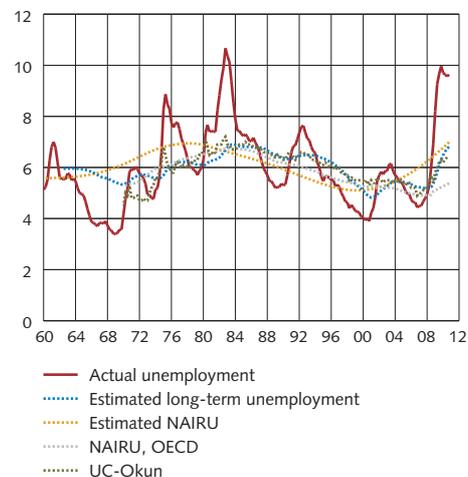
20 Long periods of unemployment tend to have severe negative consequences for individual workers. Some reasons for this are that more competence is lost the longer an individual remains unemployed, that incentives to seek work decrease over time, and that employers take a somewhat negative view of long periods of unemployment when recruiting.

21 "Estimated long-term unemployment" has been prepared with the assistance of a dynamic Okun link in accordance with the model presented in Benes et al. (2010), "Estimating Potential Output with a Multivariate Filter", IMF Working Paper 285. "Estimated NAIRU" constitutes updated estimates of NAIRU prepared using a method presented by Ball and Mankiw (2002); "The NAIRU in Theory and Practice", *Journal of Economic Perspectives* 16 (4), pp. 115–136, 2002.

22 For some years now, there has been a clear increase in employment, particularly in the areas of education and healthcare in both Germany and the Netherlands. This trend continued during the financial crisis, which counteracted a larger fall in total employment.

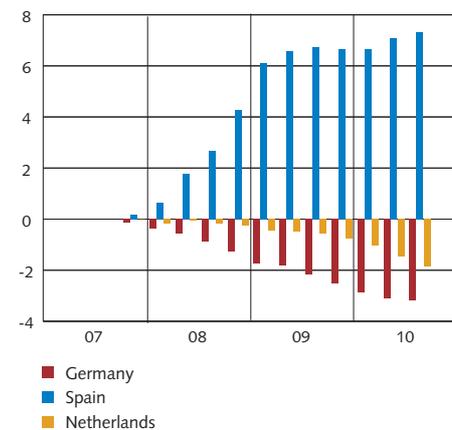
Figure A7. Estimates of long-term unemployment in the USA

Percentage of the labour force, seasonally-adjusted data



Sources: Bureau of Labor Statistics, IMF, OECD and the Riksbank

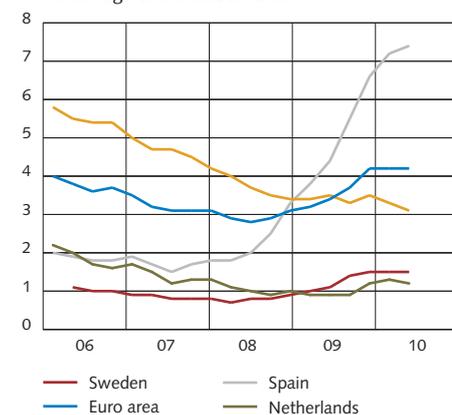
Figure A8. Difference between actual and expected unemployment in various euro area countries
Per cent



Sources: OECD, Bureau of Labor Statistics, Eurostat and the Riksbank.

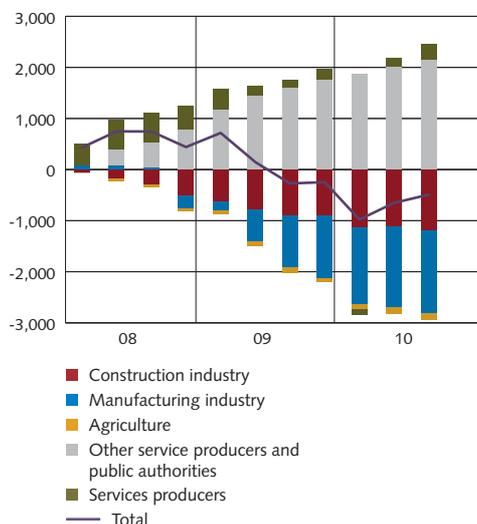
Figure A9. Long-term unemployment in the euro area and Sweden

Percentage of the labour force



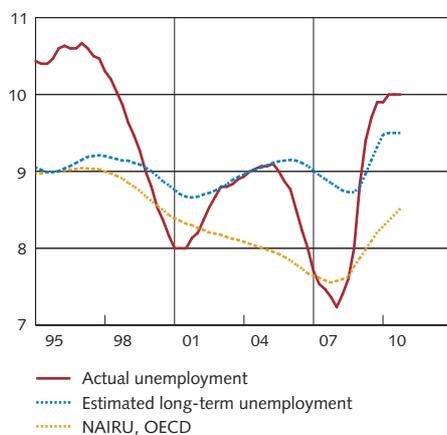
Source: Eurostat

Figure A10. Total change in employment since fourth quarter 2007 in the euro area
Thousands



Source: Eurostat

Figure A11. Estimates of long-term unemployment in the euro area
Percentage of the labour force, seasonally adjusted data



Sources: Eurostat, IMF, OECD and the Riksbank

Differences between the United States and the euro area – long-term developments

Long before the financial crisis, a discussion was underway of why unemployment trends have been significantly higher in the EU and the euro area than in the United States.²³ One explanation that has often been suggested is that the US labour market is less regulated and is thus more flexible. Furthermore, like income taxes, compensation levels during unemployment are generally higher in the euro area than in the United States. To this can be added differences in labour market legislation. To a large extent, these differences are expected to remain, making it reasonable to assume that long-term unemployment is higher in the euro area than in the United States. Two estimates of long-term unemployment in the euro area are shown in Figure A11.²⁴

All in all, unemployment figures in the United States and the euro area are presently at similar levels, but previous historical experiences and functional differences in the labour markets indicate that the conditions should be present for a greater decrease in the United States.

The Swedish labour market has coped comparatively well

Unemployment in Sweden increased by just over 2.5 percentage points from the middle of 2008 to the end of 2009, when it reached almost 9 per cent. Given the historical connection with GDP, the increase in unemployment has been unexpectedly small (see Figure A3). How can this be explained?

Put simply, Sweden was impacted by a demand shock that largely took the form of declining demand from abroad. Exports and investments fell sharply. Dividing the change in employment by sector indicates that it was the manufacturing industry that was primarily affected (see Figure A12). This sector is less labour intensive than many other sectors, which means that decreased production does not have as great an effect upon employment. In addition, crisis agreements stipulating decreased working hours may have dampened the fall in employment. Within the service sector and the construction industry, employment has increased somewhat (see Figure A12). Furthermore, the crisis in general may have been seen as being relatively temporary by Swedish companies, which may have caused these companies to decide to retain existing personnel to a greater extent despite the decline in demand – that is, an element of labour hoarding may have been present.

Long-term unemployment in Sweden

There are many indications that long-term unemployment in Sweden increased as a result of the crisis of the 1990s and that it has since fallen.²⁵

One marked difference from the United States (for example) is that, in connection with the crisis, the Swedish economy has not been affected by the structural labour market problems associated with a declining housing market.

²³ For example see A. Alesina, E.L. Glaeser and B. Sacerdote: "Work and Leisure in the U.S. and Europe: why so Different?" NBER working paper no. 11278, 2005.

²⁴ "Estimated long-term unemployment" has been prepared with the assistance of a dynamic Okun relationship in accordance with the model presented in Benes et al. "Estimating Potential Output with a Multivariate Filter", IMF Working Paper 285, 2010.

²⁵ See for example A. Forslund, "Den svenska jämviktsarbetslösheten – en översikt" ("Swedish equilibrium employment – a review"). Report to the Swedish Fiscal Policy Council 2008:17.

However, a look back at matching efficiency during previous downturns in Sweden confirms the pattern from the United States: In the initial stage, a movement takes place along an existing Beveridge curve, while, during the recovery, a deterioration of matching efficiency appears to take place (see Figure A13).²⁶ One indication that matching may have deteriorated is that labour shortages are already high in several industries, at the same time as unemployment is still relatively high (see Figure 1:15).

In the manufacturing industry, employment fell dramatically in connection with the crisis and has not substantially increased again so far (see Figure A12). Nevertheless, there is already a significant shortage of labour, which may be an indication of matching problems. This may, in turn, reflect rationalisation measures that companies were forced to take because of the crisis. However, it is difficult at this stage to draw any far-reaching conclusions on developments within the manufacturing sector as changes in employment levels usually occur with a certain degree of delay in relation to production.

In recent years, the government has implemented a series of measures aimed at getting more people into work. Among other objectives, these measures are aimed at increasing incentives to seek work, which is contributing towards the increase of the labour force. The effect this will have on long-term unemployment depends on how great the probability is that new groups of jobseekers will find work. All in all, we judge that long-term unemployment has been decreased by the measures implemented by the government in recent years.²⁷

Compared with many other countries, long-term unemployment in Sweden has thus far increased at a moderate rate, which is an indication of limited persistence effects from the crisis (see Figure A9).

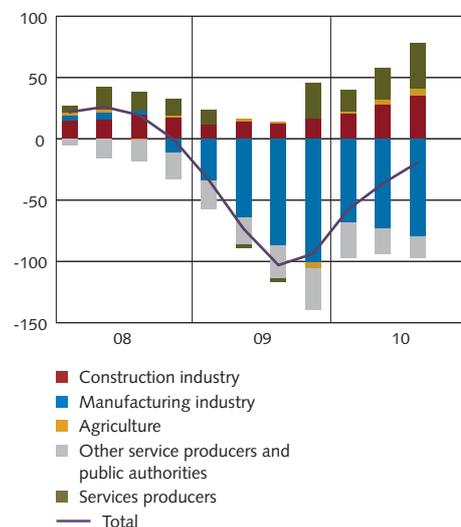
All in all, the Riksbank's assessment is that long-term unemployment has probably not increased significantly in Sweden as a result of the crisis. Figure A14 shows an estimate of long-term unemployment, together with the OECD's estimate.

Conclusions

Before the financial crisis, long-term unemployment was significantly higher in the euro area than in the United States, which probably was largely due to the less flexible labour market and more generous remuneration system. These basic factors remain. Although the difference may have lessened somewhat in connection with the financial crisis, long-term unemployment is probably still higher in the euro area than in the United States.

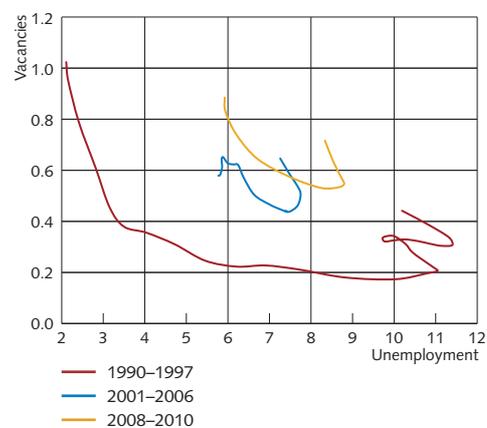
In Sweden, the increase in unemployment in connection with the crisis was mainly an effect of declining international demand. All in all, the Riksbank's assessment is thus that a large part of the increased unemployment is due to cyclical factors. It should thus be possible for the strongly improved economic prospects for the years ahead to contribute towards a continued recovery of the Swedish labour market.

Figure A12. Total change in employment since fourth quarter 2007 in Sweden
Thousands



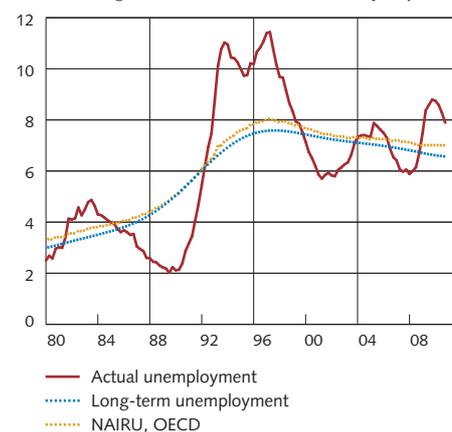
Source: Eurostat

Figure A13. Correlation between vacancies and unemployment during different cycles in Sweden
Percentage of the labour force



Sources: Swedish Employment Service and Statistics Sweden

Figure A14. Estimates of long-term unemployment in Sweden
Percentage of the labour force, seasonally-adjusted data



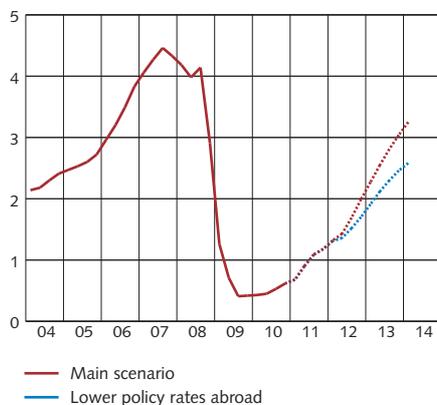
Sources: OECD, Statistics Sweden and the Riksbank

²⁶ The data shows developments from the quarter when unemployment began to increase to three quarters after unemployment peaked.

²⁷ See also A. Forslund, "Den svenska jämviktsarbetslösheten – en översikt" ("Swedish equilibrium unemployment – a review"), Report to the Swedish Fiscal Policy Council 2008:17 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.

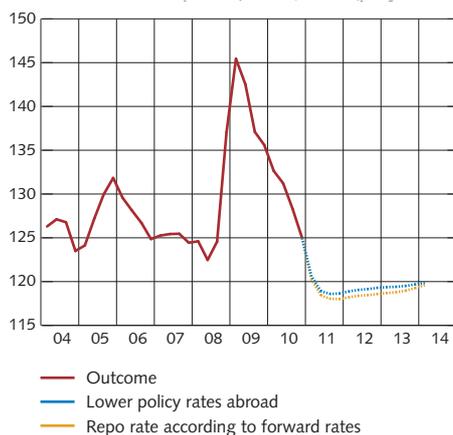
Lower policy rates in Sweden and abroad

Figure A15. Policy rates abroad
TCW-weighted, per cent, quarterly averages



Sources: The respective central banks and the Riksbank

Figure A16. TCW-weighted exchange rate
Index, 18.11.92 = 100, quarterly averages



Source: The Riksbank

The forecast for policy rates abroad affects the forecasts for inflation and resource utilisation in Sweden. This takes place through, for instance, the effects on the krona exchange rate. This article describes two illustrative calculations that are both based on the alternative assumption that policy rates abroad will be lower than in the main scenario and will follow forward rates.

The exchange rate is an important variable for a small, open economy like Sweden. The exchange rate affects the price of the goods imported to Sweden and the price of the goods we export. This means that the krona exchange rate affects both inflation in Sweden and the demand for goods and services produced here. Demand in Sweden in turn affects resource utilisation.

The krona exchange rate is determined by several different factors, and it is relatively difficult to forecast its future path. One factor that is important to the exchange rate is expectations of future interest rates in Sweden and in the countries that are our most important trading partners. The differences in interest rates between countries affect capital flows, which in turn have an effect on the exchange rate.

According to the forecast in the main scenario, the repo rate will be raised gradually over the coming years and will be around 3.6 per cent at the beginning of 2014. The Riksbank's forecast for policy rates abroad is based primarily on an assessment of economic developments, but in the short term we also take into account the central banks' communications and market expectations. Policy rates abroad are expected to increase during the forecast period, apace with rising inflation and stronger economic activity abroad. However, according to the forecast the (TCW-weighted) policy rates abroad will be increased gradually to 3.3 per cent at the beginning of 2014. This expected difference between Swedish and foreign interest rates is one reason why the exchange rate in the main scenario is expected to appreciate slightly at the beginning of 2011, and then to weaken gradually.

An example using a general equilibrium model

After having been clearly below the Riksbank's forecast, market expectations of policy rates abroad, measured in terms of forward rates, have in recent months approached the forecast.²⁸ But forward rates abroad are still lower than the Riksbank's forecast for policy rates abroad during large parts of the forecast period. There may thus be reason to examine how the forecast for Sweden might change if the forecast for the policy rates abroad was more in line with forward rates. In this article we use the Riksbank's general equilibrium model Ramses to illustrate

²⁸ There are several weaknesses in using forward rates as a basis for measuring the market's monetary policy expectations. The interest rate paths described in this article should thus not be interpreted as a clear measure of such expectations. For a further discussion, see the article "The repo rate path and monetary policy expectations according to implied forward rates" in the Monetary Policy Report, October 2010.

a possible alternative forecast.²⁹ This example is similar to the scenario “Lower policy rates abroad” published in the Monetary Policy Report in October 2010 in the article “The repo rate path and monetary policy expectations according to forward rates”, which was based on the forward rates applying at the end of September 2010.

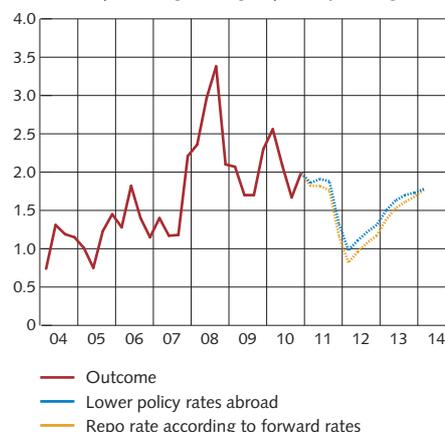
Figure A15 shows the Riksbank’s forecast for policy rates abroad (Main scenario) and an alternative, lower path (Lower policy rates abroad). The latter alternative is in line with market expectations of future policy rates measured in terms of forward rates in recent weeks. The difference between the interest rate paths increases gradually from the second quarter of 2012 and is around 0.7 percentage points during the first quarter of 2014. On average, forward rates are around 0.25 percentage points lower throughout the forecast period than in the main scenario’s forecast for policy rates abroad.

The example “Lower policy rates abroad” assumes that policy rates abroad will follow forward rates for abroad (see Figure A15). The purpose of the example is to illustrate how the forecast for policy rates abroad affects the forecasts for inflation, resource utilisation and the repo rate in Sweden. The example therefore assumes that GDP growth and inflation abroad will develop in the same way as in the main scenario.

The comparatively low policy rates abroad tend to strengthen the krona’s exchange rate more than is the case in the main scenario (Figure A16). In this model the policy rates abroad affect the Swedish economy through what is known as an interest rate parity condition. Lower interest rates abroad mean that the yield on financial assets issued in foreign currencies falls in relation to the yield on the corresponding assets in SEK. Behind the interest rate parity condition is the assumption that investors will move their assets between different currency areas to benefit from these differences in yield. When an increasing number of investors demand Swedish assets, the krona exchange rate will strengthen, but will then gradually weaken and return to its initial position. In the long run, the krona exchange rate is adjusted as much as necessary for the gradual weakening of the krona exchange rate (from a stronger level) to compensate the investors choosing to keep their assets in foreign currencies and who can thereby count on a comparatively lower interest rate.

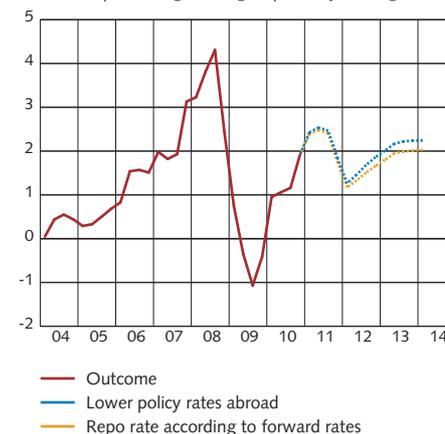
When the exchange rate strengthens, the price of imported goods falls. Swedish companies also become more cautious about raising their prices in Sweden as they wish to defend their market shares. As some imported goods are used in the production of Swedish goods, prices in Sweden are also held back by a fall in companies’ production costs. These effects lead fairly quickly and directly to the model forecast for inflation in Sweden being lower (see Figure A17–A18).

Figure A17. CPIF
Annual percentage change, quarterly averages



Sources: Statistics Sweden and the Riksbank

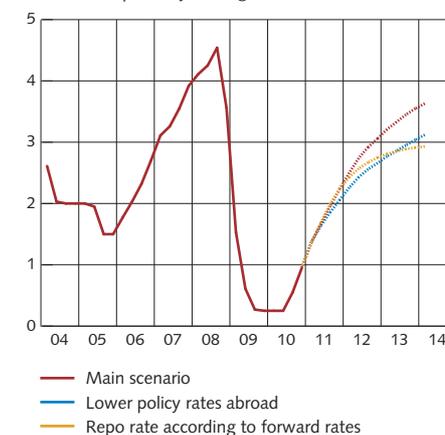
Figure A18. CPI
Annual percentage change, quarterly averages



Note. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

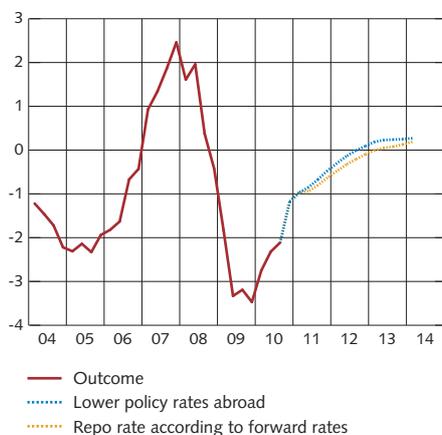
Figure A19. Repo rate
Per cent, quarterly averages



Source: The Riksbank

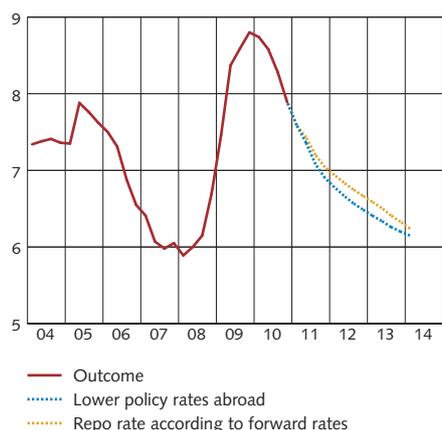
²⁹ One important assumption is that households and companies actually expect policy rates abroad to develop in line with forward rates abroad. The calculations have therefore been made using methods described by S. Laséen and L.E.O. Svensson, “Anticipated Alternative Instrument-Rate Paths in Policy Simulations”, to be published in *International Journal of Central Banking*, 2011. For a description of the model see L. Christiano, M. Trabandt and K. Walentin, “Introducing financial frictions and unemployment into a small open economy model”, Working Paper no. 214, Sveriges Riksbank 2007.

Figure A20. Hours gap
Per cent



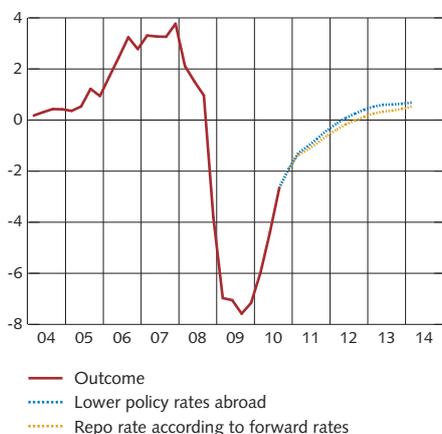
Sources: Statistics Sweden and the Riksbank

Figure A21. Unemployment
Percentage of the labour force



Sources: Statistics Sweden and the Riksbank

Figure A22. Output gap (GDP)
Per cent



Sources: Statistics Sweden and the Riksbank

To prevent inflation being too low, monetary policy becomes more expansionary. The repo rate is now raised less during the forecast period and is around 3.1 per cent at the beginning of 2014 (see Figure A19). The lower repo rate path also contributes to keeping up domestic demand, as it stimulates households to increase their consumption and companies to increase their investment. In this way, monetary policy counteracts a fall in resource utilisation resulting from the lower demand for exports and the increase in imports linked to the relatively strong exchange rate. The effects of the low policy rates abroad on the hours gap, unemployment and the output gap are therefore ultimately quite small (Figures A20-A22).

The fact that the effects on resource utilisation are small also means that the demand-driven effect on inflation is slight. However, the more direct effects of a stronger exchange rate mean that the inflation rate falls. All in all, CPI inflation will be 1.2 per cent in 2012 and 1.6 per cent in 2013 (see Figure A17). The fact that the repo rate is increased relatively slowly means that CPI inflation will also be fairly moderate: 1.5 per cent in 2012 and 2.1 per cent in 2013 (see Figure A18).

The repo rate according to forward rates for Sweden

In Sweden, too, the forward rates are relatively low at present. One interpretation of this is that the market is expecting the repo rate to be set lower in the coming years than is assumed in the main scenario. Expectations of the repo rate in accordance with forward pricing are shown in Figure A19 (Repo rate according to forward rates). In this section we describe how the forecast for the Swedish economy is affected if policy rates abroad and in Sweden are assumed to develop in line with forward rates. The calculation is made in such a way that the model is allowed to determine how inflation and resource utilisation are affected, given that monetary policy in Sweden and abroad follow the two predetermined policy rate paths.

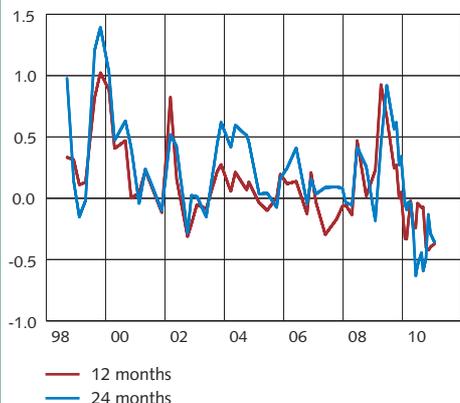
As shown in Figure A19, there are relatively small differences between the repo rate path in the example "Lower policy rates abroad" and the market's expectations according to forward pricing. The market is expecting that the interest rate will be raised slightly faster in 2011, but after this the forward curve indicates slower interest rate increases.

As a result of the relatively small differences in the interest rate path, the differences in other variables are also relatively small. When the repo rate is set according to market expectations, the exchange rate strengthens during 2011 and then gradually weakens. According to the calculation, CPIF inflation will now be 1.1 per cent in 2012 and 1.6 per cent in 2013 (see Figure A17). In this example, too, the lower policy rates abroad have only small effects on the real economy.

Summary

This article has described two illustrative calculations based on the assumption that policy rates abroad will be lower than in the main scenario and will follow recent forward rates abroad. The lower interest rates abroad tend to lead to the krona exchange rate strengthening and to inflation in Sweden falling. However, the effects of the lower interest rates abroad on inflation and resource utilisation in Sweden ultimately depend on how Swedish monetary policy reacts. Inflation is relatively slow in both of these examples, while resource utilisation is roughly normal at the end of the forecast period. This might justify a slightly more expansionary monetary policy in Sweden than has been examined in this article.

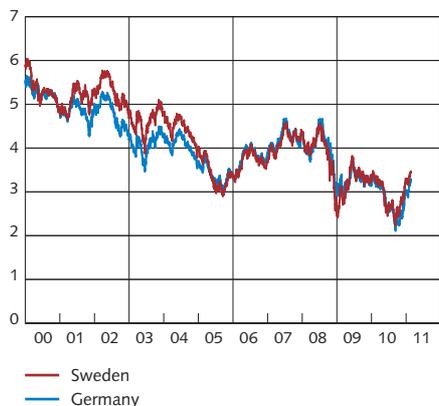
Figure A23. Difference between monetary policy expectations according to Prospera and forward rates
Percentage points



Note. The data refers to money market agents. Given that surveys provide a reasonable picture of market expectations the difference between surveys and forward rates constitutes a (rough) measure of premiums. Forward rates are calculated from government securities using the Nelson-Siegel-Svensson method.

Sources: TNS Sifo Prospera, Reuters EcoWin and the Riksbank

Figure A24. 10 year Government yields
Per cent



Source: Reuters EcoWin

How does the Riksbank make forecasts for long-term market rates?

Market rates are determined by monetary policy expectations and by premiums. The Riksbank's forecasts for long-term market interest rates are based on two assumptions: that the repo-rate path will be realised and that risk premiums will gradually normalise.

The determinants of market interest rates

The Riksbank mainly conducts its monetary policy by deciding on the repo rate. Changes in the repo rate then spread to interest rates in the money and bond markets and to the interest rates offered to households and companies through financial institutions. An important part of the description of how monetary policy takes effect thus concerns showing how the repo rate influences market rates with differing maturities.

The so-called expectations hypothesis is a natural starting point for discussing what determines market interest rates. Briefly, the expectations hypothesis states that long-term interest rates are determined by expectations of the future repo rate. Pricing is also affected by different types of risk premium, which probably vary over time (see Figure A23).³⁰ As Sweden is a small open economy, our financial markets are moreover affected by developments in the corresponding markets abroad, such as the government bond market (see Figure A24).

How does the Riksbank make forecasts for market rates?

The Riksbank's forecasts for bond rates are based on the forecast for the repo rate and on an assessment of how premiums will evolve over time. Here we describe how a forecast is made for a five-year government bond rate, but the principle remains the same regardless of maturity.

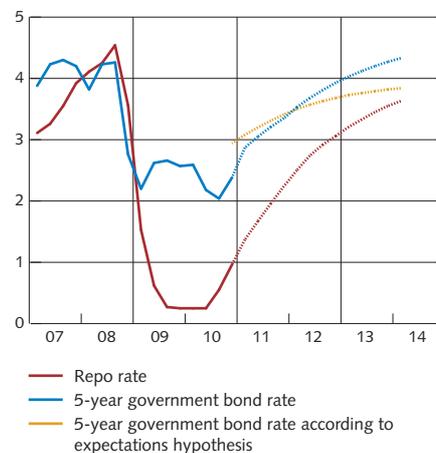
According to the expectations hypothesis, the interest rate on a five-year bond is roughly equal to the expected repo rate over the coming five years.³¹ Figure A25 shows how the interest rate for a five-year government bond would evolve, given that the repo-rate path is realised and the expectations hypothesis proves correct. Given these assumptions, the current five-year government bond rate should thus be higher than can be seen from the actual market listings (the starting point for the yellow broken line is above the end point of the blue solid line). The difference can be due to several factors. The market may have other expectations regarding the repo rate than those signalled by the Riksbank in the repo-rate path. In addition, the market pricing may incorporate premiums.

³⁰ The article by J. Alsterlind and H. Dillén, "Monetary policy expectations and forward premiums" in *Sveriges Riksbank Economic Review* 2005:3 discusses the advantages and disadvantages of different measures of premiums.

³¹ The Riksbank's forecasts normally do not extend further than three years ahead, which means that we must make some assumption for the repo-rate path beyond the forecast period. This assumption is of a technical nature and the calculation assumes that the repo rate will gradually approach its normal long-term level.

These may push down current market interest rates so that they are lower, even if the market has the same view of future monetary policy as the Riksbank. The Riksbank's forecasts for long-term interest rates are based on the assumption that these differences will gradually diminish. This could be because market expectations are adapted, and/or because premiums normalise. Figure A25 describes the Riksbank's forecast for a five-year government bond rate (broken blue line) that takes into account such a gradual adaptation and is based on the repo-rate path.³²

Figure A25. Repo rate path, forecast for 5-year government bond rate and 5-year government bond rate according to expectations hypothesis
Per cent



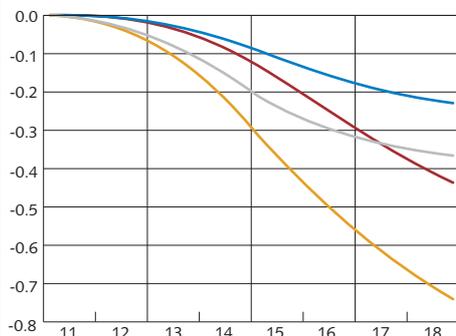
Sources: Reuters EcoWin and the Riksbank

³² The forecast for the five-year government bond rate (the blue broken line) will approach a level higher than a forecast merely based on the expectations hypothesis (the yellow broken line). This is because the expectations hypothesis does not take into account risk premiums on bond rates. The Riksbank's forecast assumes that risk premiums will return to the historical average level in the long run.

The effects of Basel III on macroeconomic development

Figure A26. Effects of the changed interest rate margins on GDP

Deviation from main scenario, per cent



— Capital level, passive monetary policy
 — Capital level, active monetary policy
 — Liquidity, passive monetary policy
 — Liquidity, active monetary policy

Source: The Riksbank

The financial crisis has highlighted the need for an effective banking sector. The current banking regulations in the Basel II framework have not managed to adequately address the risks in the banking system. A new regulatory framework, Basel III, has therefore been drawn up. This new framework will require the banks to hold more capital of better quality and entails new requirements concerning the banks' liquidity.³³ This article presents the result of calculations of how the new regulations will effect real economic development in Sweden in terms of GDP. The results indicate that the costs associated with stricter capital and liquidity requirements will be small and in line with the results of previous international studies.

Higher capital and liquidity requirements may increase the banks' capital costs and thus the lending rates offered to companies and households. According to economic theory, however, higher capital requirements do not necessarily lead to higher capital costs. The so-called Miller-Modigliani theorem states that the banks' average capital costs are only affected by the risks in the total assets; that is, it is irrelevant whether the banks fund their operations using equity or loans. This only applies, however, in a world without taxes, subsidies, bankruptcy costs or other forms of friction. In reality, it is often more costly to fund operations using equity rather than loans since the central government subsidises loan funding. It does this, for example, by providing a deposit guarantee scheme and by making interest rate payments on loans, but not share dividends, deductible in the companies' accounts.³⁴

Stricter capital requirements may lead to higher interest rates and lower GDP

There is thus reason to believe that higher capital requirements may lead to increased capital costs for the banks. However, the impact of Basel III on the banks' capital will vary from country to country. The Swedish banks already meet the capital requirements proposed in Basel III.³⁵ The increased capital requirements should not therefore need to affect the banks' costs unless market demands lead the banks themselves to choose to maintain buffers over and above the level required by the regulations.

The Swedish banks do not, on the other hand, fully comply with the new liquidity requirements.³⁶ In the short term, we can thus expect that requirements for more and higher-quality capital in combination with new liquidity requirements will lead to increased costs for the banks. If these costs are passed on to companies and households this will entail higher loan costs for them in the form of higher lending rates. It is not self-evident that the costs will be passed on in this way, but it is likely given the banks' historical price setting behaviour.

³³ See Monetary Policy Report, October 2010, and Financial Stability Report 2010:2 for descriptions of Basel III.

³⁴ See also A. Vredin, R. Brännlund, L. Ljungqvist, P. Strömberg och A. Wallgren, "Miljö, arbete och kapital: konjunkturrådets rapport 2011", SNS Förlag, 2011.

³⁵ See the article "Basel III – Effects on the Swedish banks and Sweden" in Financial Stability Report 2010:2.

³⁶ See the article "Basel III – effects on the Swedish banks and Sweden" in Financial Stability Report 2010:2, which also describes how increased liquidity requirements may lead to higher costs for the banks.

The effects of the new regulations on macroeconomic development in a number of countries (although not Sweden) have been studied by a working group under the Basel Committee and the Financial Stability Board (FSB) called the Macroeconomic Assessment Group (MAG).³⁷ This working group finds that the banks' interest rate margins will increase marginally and that GDP will decline somewhat. The negative effects may, however, be mitigated by monetary policy reacting to the higher interest rate margins and by the fact that the regulations will be phased in over a long period of time.

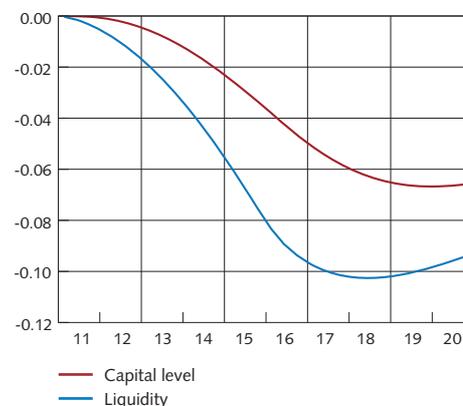
In the longer term, it is expected that the new requirements will reduce the likelihood of new financial crises occurring and – if they nevertheless do occur – reduce their impact on the real economy. Another working group under the Basel Committee, the Long-term Economic Impact group, LEI, has studied this.³⁸ This group finds that the long-term net benefit of the stricter regulations will be positive and in the range of a 0 to 2 per cent increase in GDP. However, this article focuses solely on calculating the costs that will arise when the new requirements are phased in.

Limited effects on GDP

The scenarios follow the same structure as in the MAG report but are based on Swedish data. The starting points for the scenarios are a hypothetical increase of the capital level by 1 percentage point or, alternatively, a hypothetical increase in the banks' holdings of liquid assets by 25 per cent.³⁹ This will affect the banks' interest rate margins, which may increase by between 10 and 15 basis points, see the article "Basel III – effects on the Swedish banks and Sweden" in Financial Stability Report 2010:2. The impact this will then have on GDP has been calculated using a general equilibrium model (Ramses) and a time-series model.⁴⁰

In the first scenario, the capital level increases by one percentage point over a four-year period, which is in line with the MAG study. It is assumed that the banks, in line with their historical price setting behaviour, will pass on the increased costs stemming from the capital requirements to the borrowers, which means that the banks' interest rate margins will gradually increase by around 10 basis points according to the Riksbank's calculations. The effects of the higher interest rate margins on GDP are presented in Table A1 and Figure A26.⁴¹ In Ramses, it is primarily the companies' loan costs that are affected by the higher interest rate margins. When the interest margins increase corporate investment will fall, which will lead to weaker GDP growth. How much GDP will fall depends, among other things, on how monetary policy is designed.

Figure A27. Adjustment of repo rate
Deviation from main scenario, percentage points



Source: The Riksbank

37 The MAG report is called "Assessing the macroeconomic impact of the transition to stronger capital and liquidity requirements". It was published in August 2010 and is available at www.bis.org.

38 The LEI report is called "Assessing the long-term economic impact of stronger capital and liquidity requirements". It is available on www.bis.org.

39 The capital level is defined as Core Tier 1 capital in relation to the risk-weighted assets for the major Swedish banks.

40 Ramses is the Riksbank's forecasting and policy simulation model. For a description of the model see L. Christiano, M. Trabandt and K. Walentin, "Introducing financial frictions and unemployment into a small open economy model", Working Paper no. 214, Sveriges Riksbank 2007.

41 As well as the increase in interest rate margins, the calculations of the effects of Basel III on the banks indicate that lending volumes will decrease. However, this effect is not included in the Ramses scenarios.

In Ramses, the repo rate is adjusted to achieve the inflation target of 2 per cent and partly to stabilise resource utilisation. If the negative effects of the increased interest rate margins are counteracted with a more expansionary monetary policy, the impact on GDP will be lessened. Figure A27 shows how the repo rate will be adjusted if monetary policy follows its normal pattern. After 18 quarters, the repo rate is approximately 5 basis points lower. GDP then falls by 0.1 per cent, see the first column in Table A1. If the repo rate is instead left unchanged, GDP falls by roughly twice as much.

In the second scenario, the banks' holdings of liquid assets increase by 25 per cent, a change that is also phased in over a period of four years. This leads to a gradual increase in the banks' interest rate margins by 15 basis points. As the interest rate margins increase more in this scenario, the effects on GDP are greater to a corresponding degree. In the case of an active monetary policy, GDP falls by 0.2 per cent after 18 quarters, see the third column in Table A1⁴².

Table A1 also shows the results of an increase in the capital level of 1 percentage point for the euro area calculated using the CMR model, which is a general equilibrium model used by the ECB.⁴³ According to these calculations, GDP will fall by 0.2-0.3 per cent after 18 quarters as a result of the increased capital requirements, depending on whether monetary policy is adjusted or not. The MAG report also presents calculations based on other types of general equilibrium model, with or without the banking sector. The median value of these calculations is that GDP will fall by 0.1 per cent after 18 quarters as result of an increased level for the banks' capital. A requirement for a greater proportion of liquid assets will lead to a similar fall in GDP.

The effects of the new regulations on the real economy have also been calculated using a time-series model, i.e. a Vector Autoregressive (VAR) model. This model captures historical correlations between variables but says nothing about potential causal links in the way that a general equilibrium model can. However, one advantage of this simpler time-series model is that there is no need to first calculate the effect of the regulations on the interest rate margin. We can instead directly investigate how the changes in the capital level may affect macro variables such as GDP and inflation. This model therefore acts as an important complement to the analysis in the general equilibrium model. The MAG study finds that in general the calculated effects of the regulations are slightly larger in the time-series models than in the general equilibrium models.⁴⁴

42 Active monetary policy means that the central bank follows its normal course of action, for example in accordance with a monetary policy rule. Passive monetary policy means that the policy rate remains constant.

43 See L. Christiano, R. Motto and M. Rostagno, "Financial factors in economic fluctuations", ECB Working Paper Series, nr 1192, 2010.

44 The effects of the new liquidity requirements have not been calculated in the VAR model.

The MAG has issued guidelines for the design of the time-series models. The model that has been estimated for Sweden follows these guidelines. The variables included are the capital level, real GDP, inflation measured in terms of the CPIF, the interest rate on a three-month treasury bill and bank lending to the Swedish public.⁴⁵ In the scenario, the capital level is 1 percentage point higher than in the base scenario after four years.

Results for Sweden in line with the calculations for other countries

The Swedish results are in line with the results of the MAG study for other countries. The effects of the proposed regulations on GDP (see Table A1) are somewhat stronger than the effects calculated using Ramses. GDP falls by approximately 0.3 per cent, but recovers after a few years. In the MAG report it is also generally the case that the effects are somewhat greater in the time-series models. When uncertainties in the estimates are taken into account, however, the differences appear to be insignificant.

All in all, the results of the calculations in Ramses and the time-series model indicate that an increase in the capital adequacy requirement for Swedish banks would have limited effects on the development of GDP. According to the calculations in Ramses a requirement to increase holdings of liquid assets would have a somewhat greater effect on GDP, as in this scenario it is assumed that the banks would increase their interest rate margins to a greater extent than in the case of stricter capital requirements.

Table A1. Reduction in GDP (per cent) from increased interest rate margins as a result of new regulations

	Level of capital increases by one percentage point		Increase in holdings of liquid assets by 25 per cent	
	18 quarters	32 quarters	18 quarters	32 quarters
Sweden				
Passive monetary policy (Ramses)	0.2	0.5	0.4	0.8
Active monetary policy (Ramses)	0.1	0.2	0.2	0.4
Time-series model	0.3	0	-	-
Euro area, CMR model*				
Passive monetary policy	0.3	0.4	-	-
Active monetary policy	0.2	0.3	-	-
MAG median				
General equilibrium models**	0.1	0.1	0.1	0.1
Time-series models	0.4	0.4	1.3	1.7

* The CMR model is used by the ECB and is a general equilibrium model of a type similar to Ramses. In the CMR scenario it is assumed that the interest rate margins will gradually increase so that after 18 quarters they will have risen by 25 basis points.

** The MAG report compiles results from various types of general equilibrium models, with or without the banking sector.

Source: The Riksbank

⁴⁵ The estimation period is 1997-2010. The VAR model contains four lags and is estimated using Bayesian methods.

■ 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 (December 2010).

Table 1. Repo rate forecast

Per cent, quarterly average values

	2010 Q4	2011 Q1	2011 Q2	2012 Q1	2013 Q1	2014 Q1
Repo rate	0.96	1.4 (1.4)	1.7 (1.6)	2.5 (2.2)	3.2 (3.1)	3.6

Source: The Riksbank

Table 2. Inflation, annual average

Annual percentage change

	2009	2010	2011	2012	2013
CPI	-0.3	1.3 (1.3)	2.5 (2.2)	2.1 (2.0)	2.6 (2.6)
CPIF	1.9	2.1 (2.1)	1.9 (1.7)	1.5 (1.4)	2.0 (1.9)
CPIF excl. energy	2.3	1.7 (1.7)	1.7 (1.6)	1.7 (1.6)	2.1 (2.0)
HICP	1.9	1.9 (1.9)	1.7 (1.5)	1.3 (1.1)	1.8 (1.7)

Note. The forecast for CPI refers to the annual rate of change in the revised index (the so-called inflation rate). CPIF is CPI with fixed interest rate. HICP is an EU harmonised index of consumer prices.

Sources: Statistics Sweden and the Riksbank

Table 3. Summary of financial forecasts

Annual average, per cent, unless otherwise specified

	2009	2010	2011	2012	2013
Repo rate	0.7	0.5 (0.5)	1.8 (1.7)	2.8 (2.6)	3.4 (3.3)
10-year rate	3.3	2.8 (2.8)	3.4 (3.2)	4.0 (3.8)	4.4 (4.3)
Exchange rate, TCW-index, 1992-11-18=100	140.2	129.3 (129.3)	119.3 (121.8)	120.1 (121.4)	121.1 (122.2)
General government net lending*	-1.0	0.6 (0.6)	2.0 (2.0)	1.9 (2.1)	1.8 (1.9)

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank

Table 4. International conditions

Annual percentage change, unless otherwise specified

GDP	2009	2010	2011	2012	2013
Euro area (0.15)	-4.0	1.7 (1.7)	1.5 (1.5)	1.7 (1.8)	2.3 (2.3)
USA (0.20)	-2.6	2.9 (2.8)	3.3 (3.0)	3.1 (3.4)	2.7 (2.9)
Japan (0.06)	-6.3	4.3 (4.3)	1.7 (1.5)	1.7 (1.7)	1.8 (1.8)
OECD (0.57)	-3.5	2.9 (2.9)	2.6 (2.5)	2.6 (2.8)	2.6 (2.7)
TCW-weighted (0.48)	-3.9	1.9 (1.9)	1.8 (1.8)	2.0 (2.1)	2.3 (2.3)
World (1.00)	-0.5	4.8 (4.7)	4.4 (4.1)	4.3 (4.3)	4.4 (4.3)

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	1.6 (1.5)	1.9 (1.5)	1.4 (1.2)	1.8 (1.8)
USA	-0.3	1.6 (1.6)	1.9 (1.5)	1.7 (1.6)	2.0 (2.0)
Japan	-1.4	-0.9 (-0.9)	-0.1 (-0.3)	0.3 (0.3)	0.5 (0.5)
TCW-weighted	0.5	1.6 (1.6)	1.9 (1.5)	1.5 (1.4)	1.8 (1.8)

	2009	2010	2011	2012	2013
Policy rates in the rest of the world, TCW-weighted	0.7	0.5 (0.5)	0.9 (0.8)	1.6 (1.4)	2.7 (2.5)
Crude oil price, USD/barrel Brent	62	80 (79)	99 (89)	100 (89)	99 (90)
Swedish export market	-13.1	10.0 (10.0)	8.2 (8.1)	6.8 (7.0)	6.5 (6.5)

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 5. GDP by expenditure

Annual percentage change, unless otherwise specified

	2009	2010	2011	2012	2013
Private consumption	-0.4	3.5 (3.5)	2.9 (2.9)	2.3 (2.1)	2.3 (2.1)
Public consumption	1.7	2.0 (2.0)	0.9 (0.9)	0.5 (0.5)	0.7 (0.7)
Gross fixed capital formation	-16.3	5.8 (5.8)	10.1 (10.7)	5.9 (5.6)	5.5 (5.0)
Inventory investment*	-1.5	2.2 (2.3)	-0.3 (-0.1)	-0.2 (-0.2)	0.0 (0.0)
Exports	-13.4	11.4 (11.3)	8.7 (8.6)	5.6 (5.6)	5.9 (5.9)
Imports	-13.7	13.1 (13.3)	7.2 (7.8)	5.8 (5.7)	6.4 (6.3)
GDP	-5.3	5.5 (5.5)	4.4 (4.4)	2.4 (2.3)	2.5 (2.4)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.4 (4.4)	2.8 (2.7)	2.5 (2.4)
Final figure for domestic demand*	-3.0	3.3 (3.3)	3.4 (3.6)	2.3 (2.2)	2.3 (2.2)
Net exports*	-0.8	0.0 (-0.1)	1.2 (0.9)	0.3 (0.3)	0.2 (0.2)
Current account (NA), per cent of GDP	6.8	6.4 (6.2)	7.2 (6.7)	7.1 (6.7)	7.0 (6.6)

*Contribution to GDP growth, percentage points

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

Sources: Statistics Sweden and the Riksbank

Table 6. Production and employment

Annual percentage change, unless otherwise stated

	2009	2010	2011	2012	2013
Population, aged 16-64	0.7	0.5 (0.4)	0.2 (0.1)	0.0 (0.0)	-0.1 (-0.1)
Potential hours worked	1.2	0.9 (0.9)	0.5 (0.5)	0.4 (0.4)	0.3 (0.2)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.4 (4.4)	2.8 (2.7)	2.5 (2.4)
Number of hours worked, calendar-adjusted	-2.6	1.8 (1.8)	1.9 (1.9)	1.1 (1.0)	0.7 (0.6)
Employed, aged 15-74	-2.1	1.0 (1.0)	2.1 (2.0)	0.9 (0.9)	0.6 (0.5)
Labour force, aged 15-74	0.2	1.1 (1.1)	0.9 (1.0)	0.4 (0.3)	0.2 (0.1)
Unemployment, aged 15-74*	8.3	8.4 (8.4)	7.3 (7.5)	6.8 (7.0)	6.4 (6.6)

* Per cent of labour force

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

Sources: Statistics Sweden and the Riksbank

Table 7. Wages and unit labour cost for the economy as a whole

Annual percentage change, calendar-adjusted data

	2009	2010	2011	2012	2013
Hourly wage, NMO	3.4	2.6 (2.6)	2.8 (2.7)	3.3 (3.2)	3.5 (3.5)
Hourly wage, NA	2.8	1.4 (1.4)	2.9 (2.9)	3.5 (3.4)	3.8 (3.7)
Employer's contribution*	-1.0	-0.2 (-0.2)	0.1 (0.1)	0.1 (0.1)	0.0 (0.0)
Hourly labour cost, NA	1.8	1.1 (1.2)	3.0 (2.9)	3.5 (3.4)	3.8 (3.7)
Productivity	-2.7	3.4 (3.5)	2.5 (2.5)	1.7 (1.7)	1.8 (1.8)
Unit labour cost	4.7	-2.2 (-2.2)	0.5 (0.4)	1.7 (1.7)	1.9 (1.9)

* Contribution to the increase in labour costs, percentage points.

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

Sources: National Mediation Office, Statistics Sweden and the Riksbank

Table 8. Alternative scenario with higher inflation

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
GDP abroad	-3.8	1.9 (1.9)	2.0 (1.8)	1.8 (2.0)	2.1 (2.3)
CPI abroad	0.5	1.6 (1.6)	2.3 (1.9)	1.7 (1.5)	1.7 (1.8)
Interest rate abroad, per cent	0.7	0.5 (0.5)	1.3 (1.0)	2.1 (1.6)	2.7 (2.7)
Repo rate, per cent	0.7	0.5 (0.5)	2.2 (1.8)	3.1 (2.8)	3.3 (3.4)
CPI	-0.3	1.3 (1.3)	3.3 (2.5)	2.2 (2.1)	2.0 (2.6)
CPIF	1.9	2.1 (2.1)	2.3 (1.9)	1.6 (1.5)	1.8 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.5 (4.4)	2.8 (2.8)	2.5 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.6 (-0.7)	0.0 (-0.1)	0.2 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.3 (7.3)	6.7 (6.8)	6.3 (6.4)
Real repo rate, per cent	-1.0	-0.4 (-0.4)	1.1 (0.7)	1.5 (1.1)	

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate). TCW-weighted foreign variables.

Sources: Statistics Sweden and the Riksbank

Table 9. Alternative scenario with higher domestic demand

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	2.0 (1.8)	3.3 (2.8)	3.8 (3.4)
CPI	-0.3	1.3 (1.3)	2.8 (2.5)	2.4 (2.1)	2.7 (2.6)
CPIF	1.9	2.1 (2.1)	2.0 (1.9)	1.7 (1.5)	2.1 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.9 (4.4)	3.6 (2.8)	2.7 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.5 (-0.7)	0.4 (-0.1)	0.5 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.1 (7.3)	6.4 (6.8)	6.2 (6.4)

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Tabell 10. Alternative scenario with higher productivity

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	1.7 (1.8)	2.4 (2.8)	3.0 (3.4)
CPI	-0.3	1.3 (1.3)	2.4 (2.5)	1.7 (2.1)	2.3 (2.6)
CPIF	1.9	2.1 (2.1)	1.8 (1.9)	1.2 (1.5)	1.7 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.8 (4.4)	3.5 (2.8)	2.8 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.9 (-0.7)	-0.4 (-0.1)	0.1 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.3 (7.3)	6.7 (6.8)	6.1 (6.4)

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Table 11. Alternative scenario with a temporarily stronger exchange rate

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	1.7 (1.8)	2.5 (2.8)	3.2 (3.4)
CPI	-0.3	1.3 (1.3)	2.4 (2.5)	1.8 (2.1)	2.6 (2.6)
CPIF	1.9	2.1 (2.1)	1.8 (1.9)	1.3 (1.5)	1.9 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.3 (4.4)	2.6 (2.8)	2.8 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.8 (-0.7)	-0.5 (-0.1)	0.0 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.3 (7.3)	7.0 (6.8)	6.6 (6.4)
Exchange rate, TCW-index, 1992-11-18=100	140.2 (140.2)	129.3 (129.3)	116.4 (119.3)	116.1 (120.1)	120.1 (121.1)

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Table 12. Alternative scenario with a persistently stronger exchange rate

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	1.6 (1.8)	2.1 (2.8)	2.8 (3.4)
CPI	-0.3	1.3 (1.3)	2.2 (2.5)	1.4 (2.1)	2.4 (2.6)
CPIF	1.9	2.1 (2.1)	1.7 (1.9)	1.0 (1.5)	1.8 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.3 (4.4)	2.6 (2.8)	2.8 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.9 (-0.7)	-0.7 (-0.1)	-0.2 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.3 (7.3)	7.0 (6.8)	6.6 (6.4)
Exchange rate, TCW-index, 1992-11-18=100	140.2	129.3 (129.3)	116.4 (119.3)	115.0 (120.1)	117.8 (121.1)

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Table 13. Alternative scenario with lower repo rate

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	1.6 (1.8)	2.7 (2.8)	3.4 (3.4)
CPI	-0.3	1.3 (1.3)	2.5 (2.5)	2.2 (2.1)	2.7 (2.6)
CPIF	1.9	2.1 (2.1)	1.9 (1.9)	1.7 (1.5)	2.1 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.5 (4.4)	3.0 (2.8)	2.5 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.7 (-0.7)	0.1 (-0.1)	0.3 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.3 (7.3)	6.6 (6.8)	6.3 (6.4)
GDP gap, per cent	-7.2	-3.7 (-3.7)	-0.8 (-0.9)	0.4 (0.1)	0.7 (0.5)

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Table 14. Alternative scenario with higher repo rate

Annual percentage change, unless otherwise stated, annual average

	2009	2010	2011	2012	2013
Repo rate, per cent	0.7	0.5 (0.5)	2.0 (1.8)	2.9 (2.8)	3.4 (3.4)
CPI	-0.3	1.3 (1.3)	2.6 (2.5)	1.9 (2.1)	1.5 (2.6)
CPIF	1.9	2.1 (2.1)	1.8 (1.9)	1.4 (1.5)	1.1 (2.0)
GDP, calendar-adjusted	-5.3	5.3 (5.3)	4.3 (4.4)	2.6 (2.8)	1.6 (2.5)
Hours gap, per cent	-3.0	-2.1 (3.1)	-0.8 (-0.7)	-0.3 (-0.1)	0.1 (0.2)
Unemployment, per cent	8.3	8.4 (8.4)	7.3 (7.3)	6.9 (6.8)	6.6 (6.4)
GDP gap, per cent	-7.2	-3.7 (-3.7)	-0.9 (-0.9)	-0.1 (0.1)	0.3 (0.5)

Note. The figures in parentheses show the forecast in the main scenario. CPI refers to the annual rate of change in the revised index (the so-called inflation rate).

Sources: Statistics Sweden and the Riksbank

Outline of boxes published 2007–2010⁴⁶

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
- 2010 October** Why higher growth in Sweden than in the eurozone and the United States?
- 2010 October** Basel III – tougher rules for banks
- 2010 October** The repo rate path and monetary policy expectations according to implied forward rates
- 2010 October** The driving forces behind trends in the economy can be analysed using a production function

⁴⁶ A list of the boxes published since 1993 can be found on our website www.riksbank.se.

Earlier interest rate decisions⁴⁷

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
25 October	1.00	+0.25	October 2010
14 December	1.25	+0.25	Monetary Policy Update

⁴⁷ 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, the central bank of the United States.

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

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

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

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

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

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

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

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

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

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

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

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

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. The central government authority for official statistics.

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

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

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.

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