



Monetary Policy Report

October 2009

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 21 October 2009. 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 TARGET

According to the Sveriges Riksbank Act, the statutory objective of monetary policy is “to maintain price stability”. The Riksbank has specified this objective in terms of an inflation target according to which the annual change in the consumer price index (CPI) is to be two per cent. The Riksbank has set a tolerance band around the target of plus/minus one percentage point. This band draws attention to the fact that it is beyond the powers of monetary policy to exactly attain the target all of the time. It also serves to underline that excessively large deviations are unacceptable if the target is to remain credible.

MONETARY POLICY STRATEGY²

- Monetary policy is guided by, in addition to CPI, various measures of “underlying inflation”. However, there is no single measure of inflation that at all times indicates the proper stance of monetary policy.
- Monetary policy is normally focused on achieving the inflation target within two years. This is partly because monetary policy has an effect on economic developments after a time lag. The two-year horizon also gives the Riksbank scope to take into account real economic developments (GDP growth, unemployment, employment and so on).
- The Riksbank’s monetary policy decisions routinely take into account changes in asset prices and other financial variables.
- The Riksbank’s forecasts are based on the assumption that the repo rate will develop in such a way that monetary policy can be regarded as well-balanced. In the normal case, a well-balanced monetary policy means that inflation is close to the inflation target two years ahead without there being excessive fluctuations in inflation and the real economy. At the same time, it is important to point out that the level of output and employment in the long term is not affected by monetary policy but is governed by other factors such as technology and access to labour.
- Openness and clarity in monetary policy are prerequisites for the successful combination of credibility for the inflation target and a flexible application of the target in the short term.

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 how the different Executive Board members voted.

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.
- A press conference is held on the day following the monetary policy meeting.

² A detailed description of the monetary policy strategy is available as a PDF file on the Riksbank’s website www.riksbank.se under the heading Monetary policy/Price stability.

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■ Monetary policy considerations

– a summary

The recovery has begun, but it will take time. To contribute to a stable recovery and attain the inflation target of 2 per cent, the Executive Board of the Riksbank has decided to hold the repo rate unchanged at 0.25 per cent. The forecast for the repo rate also remains unchanged, and the repo rate is expected to remain at this low level until autumn 2010.

■■ Recovery will take time

The situation in the financial markets has continued to improve, while companies and households are more optimistic about the future. The recovery has begun and GDP growth in the world economy looks to be slightly stronger than expected. However, it has a fragile base and future developments are still uncertain. Sweden has been hit hard by the deep recession abroad and the recovery will take time.

■■ Continued low repo rate

The repo rate needs to be low over a long period of time to come to enable a stable development on the economy and to attain the inflation target of 2 per cent. The Executive Board of the Riksbank has therefore decided to hold the repo rate unchanged at 0.25 per cent and the interest rate is expected to remain at this level until autumn 2010. The forecast for the repo rate is the same as in September.

Although the situation in the financial markets has improved, it is still not normal. Supplementary measures are therefore necessary to ensure that monetary policy has the intended effect. The Executive Board of the Riksbank has therefore decided to offer further loans totalling SEK 100 billion to the banks at a fixed interest rate and with a maturity of 11 months. This should contribute to continued lower interest rates on loans to companies and households.

■■ Stable underlying inflation

The low interest rate, together with increased demand from abroad, will contribute to stronger GDP growth in Sweden in the future. The labour market lags behind GDP growth and employment is not expected to begin to rise until the beginning of 2011. Wages are therefore expected to increase at a slow rate.

As economic activity recovers, the repo rate will be raised to more normal levels to attain a balanced development of the economy and an inflation rate in line with the target. Changes in the repo rate affect mortgage rates, which are included in the consumer price index (CPI). There will thus be large fluctuations in the CPI in the future. The CPIF underlying inflation rate (the CPI with a fixed mortgage rate) will on the other hand remain stable close to 2 per cent during the forecast period.

■■ Considerable uncertainty

There is still considerable uncertainty surrounding future developments. It is possible that the international recovery will be quicker than is expected in the main scenario, as a result of the improved situation in the financial markets. However, it is also possible that the recovery could slow down when the fiscal policy stimulation packages around the world are phased out. Monetary policy will depend, as always, on how economic developments abroad and in Sweden will affect the prospects for inflation and economic activity in Sweden.

CHAPTER 1 – The economic outlook and inflation prospects

Following a very rapid downturn in the world economy, there are signs that a recovery has begun. Conditions on the financial markets have improved and companies' and households' confidence is recovering.

Although growth is expected to recover during the second half of the year, GDP in Sweden is forecast to have fallen by more than 4 per cent during 2009, and it will take a long time before the economy is back at the same level as prior to the crisis. Labour market developments will remain weak and unemployment is expected to rise at the end of next year. This follows historical patterns with a time lag between manufacturing output and employment. The weak labour market is expected to hold back wage increases in the 2010 wage bargaining rounds.

The repo rate has been cut substantially over the past year, which has contributed to CPI inflation falling rapidly through changes in households' mortgage

rates. With effect from autumn 2010 the repo rate is expected to rise relatively quickly, which will correspondingly mean that CPI inflation will be above 4 per cent at the beginning of 2012. Underlying inflation, measured as the CPIF, excludes the direct effects of the repo rate on mortgage rates. Using this measure, inflation is calculated to be close to the target of 2 per cent for most of the forecast period.

The assessment that the repo rate needs to remain low over a relatively long period of time still stands. This is necessary to safeguard the recovery in the Swedish economy. Although economic prospects have improved, resource utilisation in Sweden will be lower than normal during the forecast period. The forecast for the repo rate is the same as in the September Monetary Policy Update. The Riksbank has also decided to lend SEK 100 billion to the banks at a fixed interest rate. This will help to keep the interest rates charged to companies and households low.

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

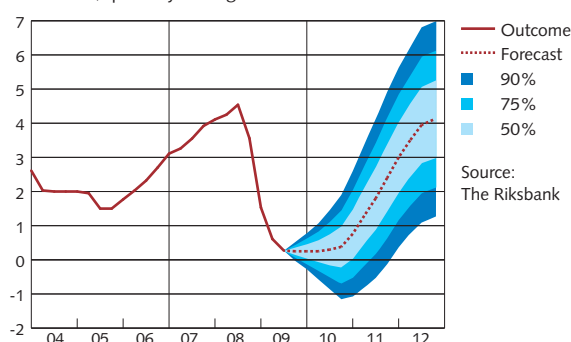


Figure 1:2. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data

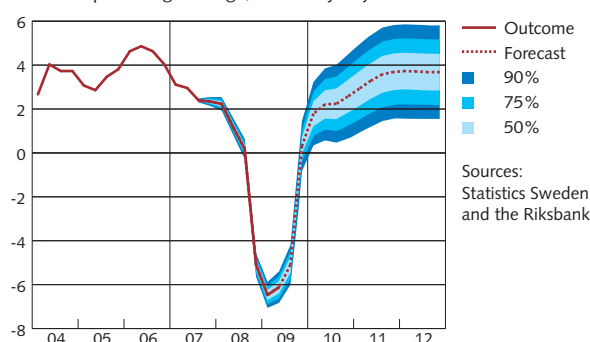


Figure 1:3. CPI with uncertainty bands
Annual percentage change

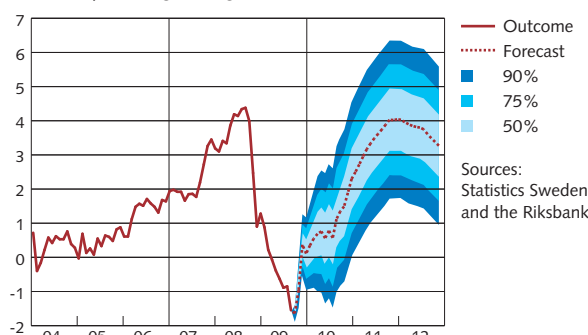
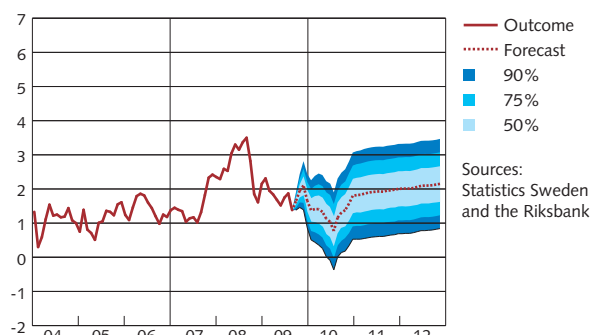
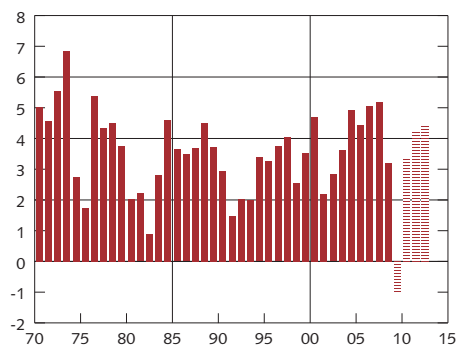


Figure 1:4. CPIF with uncertainty bands
Annual percentage change



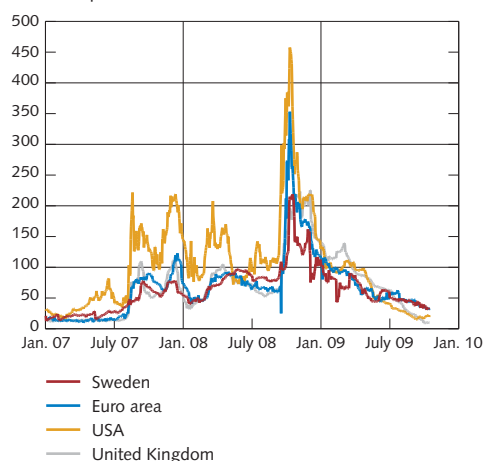
Note. The uncertainty bands in the figures are based on historical forecast errors. See the article "Calculation method for uncertainty bands" in Monetary Policy Report 2007:1. The uncertainty band for the repo rate is based on the ability of risk-adjusted market rates to forecast the future repo rate. This uncertainty band does not take into account the fact that there may be a lower bound for the repo rate. There is also uncertainty over the outcomes for GDP, as the National Accounts figures are revised several years after the preliminary publication. Uncertainty regarding the CPI forecast is updated using the forecast errors for 2008. An error in the calculations has also been corrected. The uncertainty regarding the CPIF forecast is based on the Riksbank's forecast error for the CPIX 1999-2009 with an adjustment for the fact that the CPIF and the CPIX have varied to different degrees.

Figure 1:5. GDP-growth abroad
Annual percentage change



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

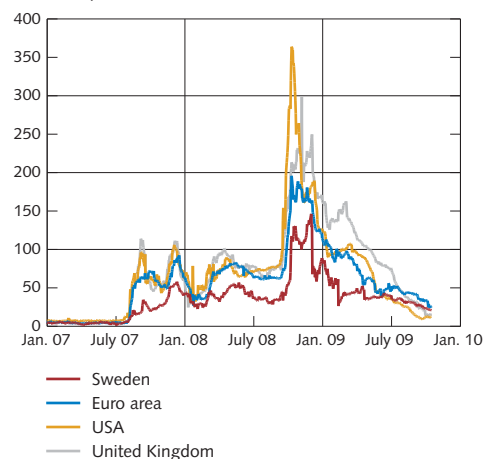
Figure 1:6. Difference between interbank rates and government bond rates (TED spread)
Basis points



Note. The differential is calculated as difference between the three-month interbank rate and three-month treasury rate.

Sources: Reuters EcoWin and the Riksbank

Figure 1:7. Difference between interbank rates and expected monetary policy (Basis spread)
Basis points



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

Sources: Reuters EcoWin and the Riksbank

■ Upturn in world economy

At the end of 2008 most of the world suffered an economic crisis that is unparalleled since the Second World War, and the past year has been marked by this severe economic deterioration. 2009 will be the first year since the 1940s during which GDP falls in the world (see Figure 1:5). Following a very rapid downturn in the world economy, however, there are signs that a recovery has begun.

In Sweden and abroad it is apparent that conditions in the financial markets are returning to normal. Risk premiums in money markets, in the form of TED and basis spreads, have declined since last spring (see Figures 1:6 and 1:7). Nor do companies and households in Sweden appear to have been affected by any major credit crunch over and above what is normal in an economic downturn. Both the National Institute of Economic Research's Business Tendency Survey and the Riksbank's company survey indicate that funding opportunities for companies have improved recently. At the same time, equity prices have risen relatively sharply both in Sweden and abroad (see Figure 1:8). The volatility in the stock markets is currently much less than at the beginning of the financial crisis, and is around or slightly over the historical average levels (see Figure 1:9).

The crisis led to a deterioration in not only financial conditions but also household confidence around the world. Parallel to the ongoing normalisation on the financial markets, consumer confidence has now also made a relatively rapid recovery in Sweden, the euro area and the United States (see Figure 1:10). All in all, there are many indications that GDP abroad and in Sweden has bottomed out and will rise in the future.

The GDP in the world economy is expected to shrink slightly less in 2009 than was expected in the main scenario of the Monetary Policy Update published in September 2009. The growth forecast for world GDP in 2010 and 2011 has also been revised up to 3.3 per cent and 4.2 per cent respectively (see Table A5). In 2012 the world economy is expected to grow by 4.4 per cent (see Figure 1:5). This means that growth in the world during 2010-2012 is close to the historical average since 1970.

The recovery is most apparent in Asia, where growth showed a rapid upturn in the second quarter. Growth in Asia is led both by strong demand in China, which stimulates exports in the area, and by an improvement in domestic demand in a number of Asian countries. Economic prospects have also improved in the United States and Europe.

In the wake of heavily falling oil prices and a fall in demand, inflation is low in many parts of the world (see Figure 3:16). As oil prices rise and global economic activity recovers, inflation is expected to rise, although it is still expected to be moderate (see Table A5).

■ ■ Uncertainty remains regarding the recovery

Although there are increasingly clear signs that the recovery in the world economy has begun, there is still considerable uncertainty over future developments. Consumer confidence and companies' own assessments of future prospects have risen on the whole. However, it still remains to be seen whether this is the beginning of a strong and sustainable recovery. Many countries are conducting very expansionary fiscal and monetary policies, and this stimulus has had a positive effect on the world economy. But the fiscal policy stimulus packages have also led to rising budget deficits in many countries, which can lead to a greater need for tighter policies in the future than is assumed in the main scenario. This would then risk slowing down the economic recovery. The improvement that has taken place in the financial markets is also largely due to the powerful stimulus provided by the central banks' low policy rates and other extraordinary measures. This has conjured up some concerns and speculation regarding exit strategies for these measures, primarily with regard to the United States and the euro area. With regard to Sweden, however, the Riksbank's assessment is that phasing out the measures will be a relatively uncomplicated process.³

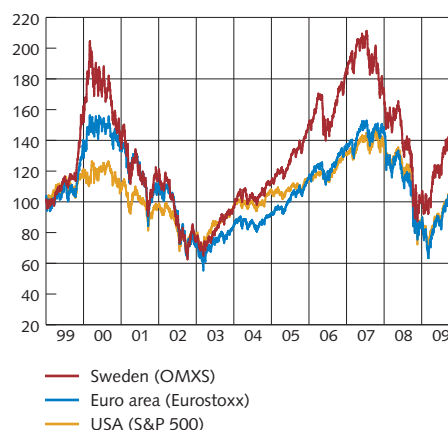
While there are factors indicating that the recovery may be slower, it is not entirely improbable that the economic recovery could be quicker than in the main scenario. If confidence in the world economy strengthens more quickly, or the effects of the monetary and fiscal policy measures are greater than expected, growth could be higher than anticipated both in Sweden and abroad. The uncertainty over the forecasts is illustrated in greater detail with the aid of several different alternative scenarios in Chapter 2.

■ ■ Recovery in the USA

There are many indications that the recession in the United States, which began in December 2007, came to an end during the second quarter of 2009, when GDP was in principle unchanged in relation to the previous quarter.⁴ During the two previous quarters GDP fell by 5-6 per cent per quarter when calculated as an annual rate. The housing market has stabilised and the share index has risen fairly substantially this year. This has already had an effect on household consumption, which has developed better than expected during the third quarter. However, this development also stems from a very expansionary economic policy, which is partly aimed at supporting consumption and in particular the purchasing of cars and new housing. Household confidence has also improved, which is an important requirement for a continued recovery in the US economy (see Figure 1:10).

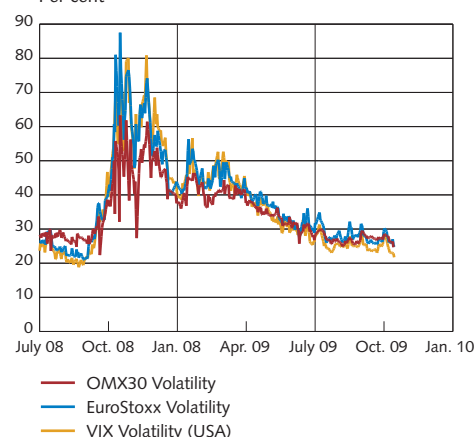
The first tendencies towards increased consumption and a decreasing fall in investment mean that stocks of goods can no longer decline at the same rate as in recent quarters. Following an increase in stocks at the

Figure 1:8. Stock market movements
Index, 04.01.99 = 100



Source: Reuters EcoWin

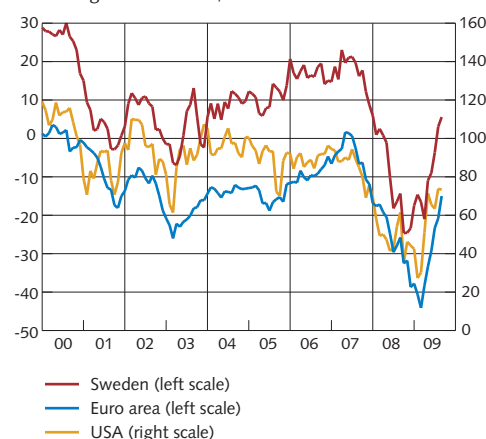
Figure 1:9. Stock market implied volatility
Per cent



Note: Implicit volatility is estimated on the basis of index-linked option prices.

Source: Reuters EcoWin

Figure 1:10. Consumer confidence in Sweden, the euro area and the USA
Net figures and index, 1985 = 100

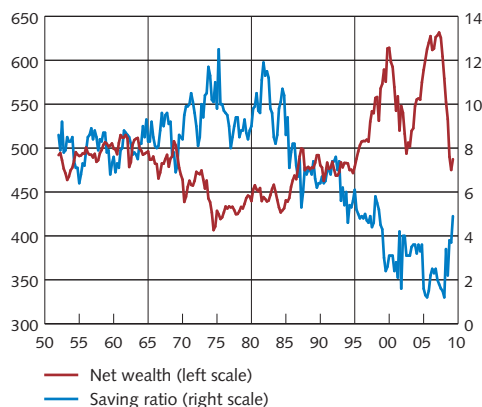


Sources: The Conference Board, the European Commission and National Institute of Economic Research

³ See the article "Exit strategies for unconventional measures" in this Report.

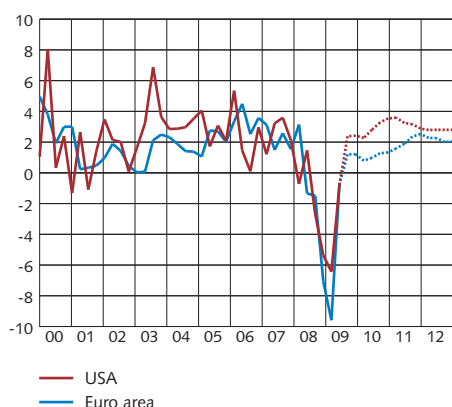
⁴ The official dating by the National Bureau of Economic Research (NBER) in the United States shows that the recession began in December 2007.

Figure 1:11. Households' net wealth and saving ratio in the USA
Percentage of disposable income



Sources: Federal Reserve and Department of Commerce.

Figure 1:12. GDP for the USA and the euro area
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecast.

Sources: Bureau of Economic Analysis, Eurostat and the Riksbank

beginning of the economic downturn, their contribution to GDP growth tends to be negative. But as the fall in final demand slows down, the rate that companies cut back on stocks must decline. When this occurs, investments in stock make a substantial positive contribution to GDP growth, which is expected to be the case during the second half of 2009.

The labour market is not expected to begin a recovery until 2010. This delay in relation to the recovery in GDP is in line with experiences of earlier financial crises, and with the most recent recessions in the United States.

One limiting factor regarding the sustainability of the recovery in the US economy is that household saving was at a historically very low level prior to the crisis. There are several possible reasons why the saving ratio fell over a long period of time. One possible explanation is that household consumption is determined not only by current disposable income, but also by expected future total income. As productivity has improved and economic developments have been more stable, this expected income may have been revised upwards constantly during the 1980s and 1990s, and resulted in both rising asset prices and a reduced saving ratio. There is historically a strongly negative link between household saving and net wealth (see Figure 1:11). During the sharp upturn in asset prices of the 1990s and 2000s, the saving ratio fell to just over 1 per cent. Following the large fall in net wealth caused by the crisis it has begun to rise again. In addition, a historically-high debt/equity ratio means that many households which would normally want to consume on credit are now instead being forced to limit their consumption. This year, however, stock prices have risen again, and a continued increase in asset prices will have a restraining effect on saving and gives the conditions for a recovery in consumption growth.

The assessment is that continued support from an expansionary economic policy and a coming turnaround in the labour market will provide GDP growth in the United States approaching normal levels in 2011 and 2012. All in all, the assessment is that GDP in the United States will decline by 2.6 per cent this year, and will then increase by 2.4 per cent in 2010. During the following years, growth is expected to be around 3 per cent a year.

Consumer prices in the United States were 1.3 per cent lower in September than at the same time last year, and inflation is expected to remain low during the forecast period. Rising oil prices and a slightly improved economic situation are expected to contribute to inflation rising to around 2 per cent on average a year during 2010 to 2012.

■ ■ Incipient recovery in the euro area.

As in the United States, GDP in the euro area was almost unchanged during the second quarter of this year (see Figure 1:12). The euro countries are expected to experience rising GDP again with effect from the third quarter of this year.

Exports have developed more favourably than expected and are assessed as providing a greater boost to growth during the second half

of 2009 than in the September forecast. The contribution to growth in demand from companies' adjustments in stocks is also expected to be slightly stronger. For the year 2009 as a whole the fall in GDP is now expected to be 4 per cent, which is slightly less than was assumed in September. Continued expansionary fiscal and monetary policy will contribute to stimulating output in 2010. However, the recovery is still expected to be slow and the forecast for 2010 is a weak growth rate of 1 per cent. Not until 2011 will growth approach a more normal level (see Table A5). Growth during the forecast period will be lower in the euro area than in the United States. This is compatible with historical patterns showing that recoveries from economic downswings are more rapid in the United States and that the growth trend there is higher. Moreover, the problems of the bank system appear to be hampering the recovery in the euro area more, as companies there are more dependent on the banks for their funding.

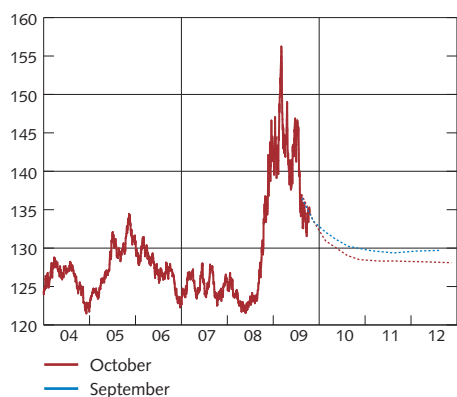
Despite the improvement in growth now, the labour market in the euro area is expected to deteriorate further as the heavy fall in GDP has not yet had full impact on employment. The continued weak labour market will hold back consumption. Moreover, many households are heavily indebted and may need to increase their savings to restore their balance sheets. However, the saving ratio is much higher in the euro area than in the United States, which reduces the risk of a large upward adjustment in saving in the future. Consumption is nevertheless expected to be weak during the remainder of 2009 and in 2010. Growth in the euro area will recover only gradually and is expected to be 1 per cent and 1.7 per cent respectively in 2010 and 2011. It will not exceed 2 per cent until 2012 (see Table A5).

Inflation in the euro area is expected to bottom out during the third quarter, and then to rise again and reach positive figures during the fourth quarter. Low resource utilisation will hold back inflation. It is mainly the subsiding effects of falling energy and oil prices that will put upward pressure on inflation in the future. The forecasts for HICP inflation are 0.4 per cent in 2009 and 1.2 per cent in 2010. Inflation will then continue to rise to around 2 per cent at the end of the forecast period (see Table A5).

■ ■ Mixed developments for Nordic countries and UK

The United Kingdom and Norway are also showing signs of a recovery. Financial conditions have improved and optimism has increased in both the household sector and the corporate sector. This, together with the economic stimulation measures, is expected to contribute to a gradual rise in growth in the coming years. In Norway and the United Kingdom a recovery in the housing market is also expected to contribute to rising growth. House prices in these countries have risen since the beginning of the year. In the United Kingdom the weak pound is also expected to lead to increased growth by stimulating exports. In Denmark, however, the outcomes for GDP have been surprisingly weak up to the end of the second quarter of this year. Growth is nevertheless expected to rise gradually over the coming years as international growth rises.

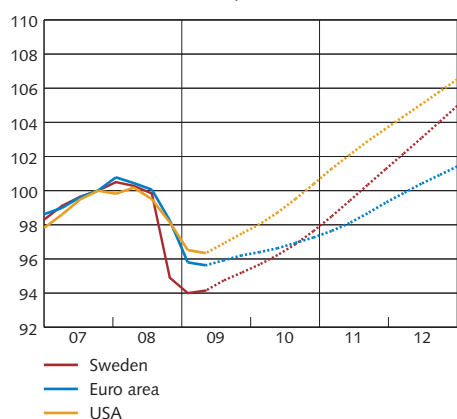
Figure 1:13. TCW-weighted exchange rate Index, 18.11.92 = 100



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

Source: The Riksbank

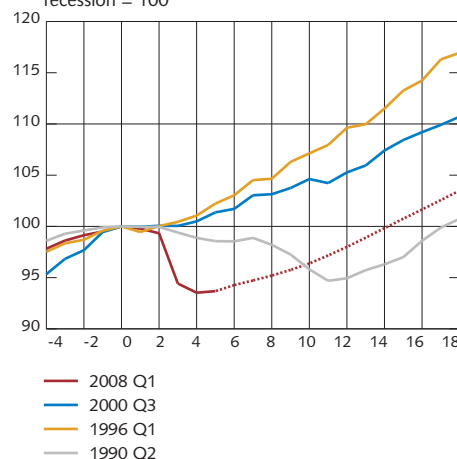
Figure 1:14. Comparison of recovery in Sweden, the euro area and USA
GDP level, index 2007 quarter 4 = 100



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

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

Figure 1:15. Comparison of recovery following various recessions, GDP Sweden
Index in the quarter preceding the beginning of the recession = 100



Note. The explanation denote the quarter in which the index = 100. X-axis is quarter. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Recovery strongest in Asia

In the recovery that has now begun the emerging economies in Asia, particularly China and India, have lain ahead of the United States and the euro area. Growth in this region is expected to be maintained during the second half of the year. China's exports are expected to increase slightly in the future, as demand in other regions rises. However, it is expected to remain at a lower level than prior to the crisis for a relatively long period to come.

Japan, which has substantial exports to the rest of Asia, has been affected by the strong growth in Asia. Its GDP increased by 2.3 during the second quarter, calculated as an annual rate, following a period of large falls in GDP. Manufacturing output shows a similar pattern. Improved export prospects and the expansionary economic policy indicate that the recovery in the Japanese economy will continue, and growth is expected to be around 2 per cent in 2011 and 2012. This is above the average growth rate since the beginning of the 1990s. However, domestic demand is still weak and inflation will remain low.

Continued appreciation of krona

During the initial stage of the financial crisis the Swedish krona weakened substantially (measured according to the trade-weighted exchange rate, the TCW index). During the summer, however, the krona has strengthened noticeably, partly as a result of the ongoing normalisation in the financial markets. Since the publication of the July Monetary Policy Report the krona has strengthened a good 5 per cent. The Riksbank has earlier assessed that the krona may strengthen as the financial crisis subsides, and the development of the krona since the Monetary Policy Update was published in September has been in line with this forecast.

The krona is expected to continue to strengthen slightly further over the coming years (see Figure 1:13). Fundamental factors regarding the Swedish economy point to this. GDP growth in Sweden will be higher in relation to other countries and the surplus on the current account will remain large.⁵

Long time before GDP fall in Sweden is recovered

GDP fell more quickly in Sweden than in many other countries at the beginning of the crisis, as Sweden is a small, open economy with substantial trade abroad (see Figure 1:14). Although growth will recover in the second half of the year, GDP in Sweden is expected to fall by more than 4 per cent in 2009. Figure 1:15 shows that the fall in GDP has this time been much faster than during earlier economic downturns. Despite the expectation that GDP growth will now be positive in the future, it will take a long time before the economy is back at the same level as before the crisis.

⁵ See also B. Lagerwall and M. Nessén, "The long-term development of the krona", Economic Commentary no. 6, 2009, Sveriges Riksbank.

Next year GDP growth is expected to be just over 2 per cent. Several factors contribute to the more positive development. Demand from abroad will recover after the steep fall last year, which will contribute to Swedish exports increasing once again. Compared with many other countries, Sweden also has relatively good conditions for stronger domestic demand, as household saving is high to begin with and the public sector's finances are comparatively good. The latter means that the need for tighter fiscal policy further ahead is not as great in Sweden as in many other countries.

As the recovery abroad continues, Swedish growth is expected to strengthen further in 2011 and 2022 (see Figure 1:16). Despite GDP growth in 2011 being expected to be over 3 per cent, it is only towards the end of the year that GDP will reach the same level as that prior to the crisis (see Figure 1:14). GDP growth in 2012 is expected to remain high, in line with demand from abroad. Then there is once again a more solid demand for Swedish export products, which also contributes to an increase in capacity utilisation and an acceleration in business sector investment in Sweden (see Table A6).

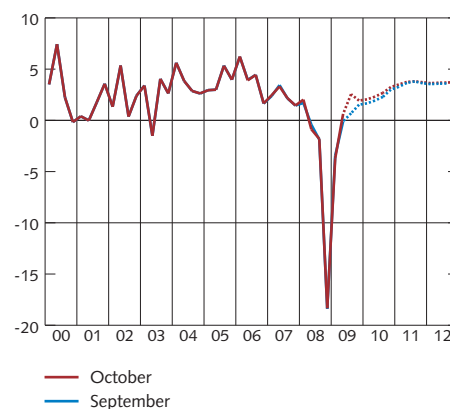
■ ■ High saving now benefits future growth in consumption

Household consumption has risen recently, but is still around 2 per cent lower than one year ago. Households' disposable incomes have increased in recent years, but households have saved an increasingly large share of their incomes. The fact that households are increasing their savings is natural when the future is uncertain and when they expect the labour market to be weaker. In Sweden, saving among households is very high at present (see Figure 1:17). Unlike the low level of household saving in, for instance, the United States, Swedish households' savings will not restrict consumption growth in the future. A further factor indicating a higher growth in consumption in Sweden compared with, for instance, the United States and the United Kingdom, is that the downward adjustment in house prices has not been as large in Sweden. Moreover, house prices have recently risen.⁶

Household consumption will be stimulated by the low interest rates during the forecast period and is expected to increase by just over 2 per cent a year in the period 2010 to 2012. There is also a historical connection between consumer confidence and the saving ratio. The large fall in consumer confidence in connection with the financial crisis coincided with an upturn in the saving ratio (see Figure 1:18). In recent months household sector confidence has quickly returned to the same level as before the crisis. This increases the conditions for reduced saving in the future. As economic activity gradually improves and uncertainty over the future declines, households are expected to reduce their savings and increase their consumption (see Figure 1:17).

Figure 1:16. GDP

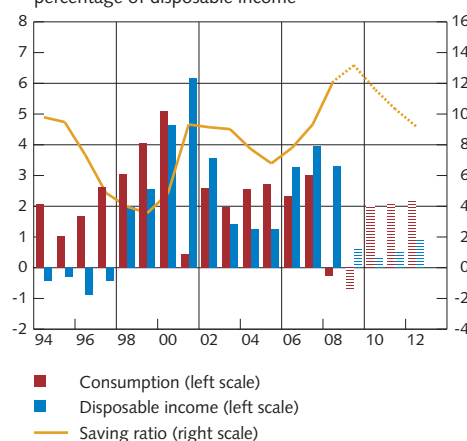
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

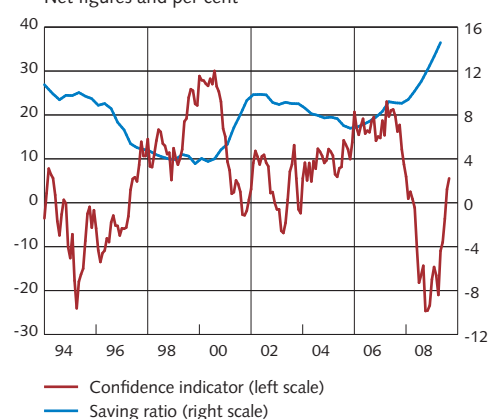
Figure 1:17. Households' consumption, disposable incomes, and saving ratio
Annual percentage change, fixed prices and percentage of disposable income



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

Sources: Statistics Sweden and the Riksbank

Figure 1:18. Confidence indicator and saving ratio for households
Net figures and per cent

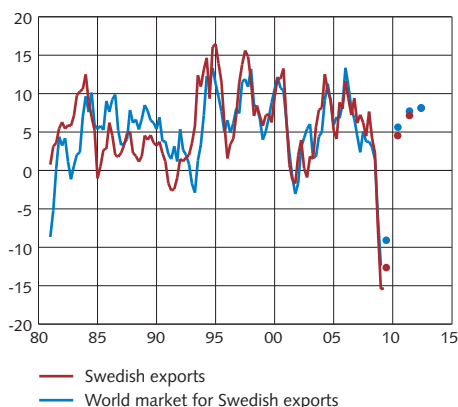


Note. Four quarters moving average for saving ratio.

Sources: National Institute of Economic Research and Statistics Sweden

⁶ See also the article "House prices in Sweden" in this Report.

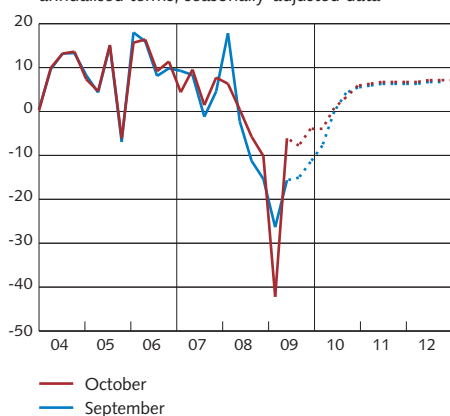
Figure 1:19. Swedish exports and world market for Swedish exports
Annual percentage change



Note. Dots represent the Riksbank's forecast for the whole year.

Sources: Statistics Sweden and the Riksbank

Figure 1:20. Gross fixed capital formation
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Note. Seasonally adjusted by the Riksbank. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

■ ■ Swedish exports hit hard by crisis

The demand for Swedish export products, which largely consist of intermediate and investment goods, has fallen substantially in connection with the global recession. Swedish exports are expected to fall by almost 13 per cent in 2009. However, indicators point to a recovery in demand from abroad. Orders for Swedish exports are rising and indicate that exports will increase again at the end of the current year (see Figure 3:27). It is primarily orders to the intermediate and investment goods industry that have shown strong growth. During 2010 exports are expected to increase by 4.6 per cent, but the upturn will be held back somewhat as a result of a stronger exchange rate. During 2011 and 2012 exports are expected to develop in line with world market growth (see Figure 1:19).

Imports have also fallen heavily, but are expected to increase at the end of 2009. This is due to increased domestic demand and exports at the same time as companies reduce the pace of their reduction in stocks. Imports will recover slightly more slowly than exports in 2010, as investment continues falling.

According to the balance of payments statistics, the surplus in the current account declined in 2008, mainly as a result of the large reduction in return on investment abroad. Over the coming years, the surplus on the current account is expected to increase again as the recovery comes earlier to the export sector than for total domestic demand, which means that net exports will increase.

■ ■ Continued fall in investment

Business sector investment has also been affected considerably by the falling demand for Swedish export goods. Investment plans have been stopped or delayed. During 2009 total investment is expected to fall by more than 15 per cent. Total investment is also expected to fall in 2010, but at a much slower rate. It is primarily business sector investment that is continuing to decline. Following the large fall in demand during the crisis, there is considerable spare capacity in the manufacturing industry in particular. This means that even if production begins to increase again, it will take time before the need for increased investment returns. The fall in housing investment has been under way for some time, and a recovery is expected in 2010. The low interest rates together with a pent-up need for new housing indicate that investments in housing will recover sooner than business sector investment. In the year 2011 total investment is expected to increase again as capacity utilisation in the business sector has risen so much that new investment is required (see Figure 1:20).

■ ■ Fiscal policy normal under prevailing economic climate

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.⁷ General government net lending has long been positive but during 2009 and 2010 it will weaken substantially (see Table 4). The main reason for this is that weak economic activity will reduce public revenues at the same time as expenditure will increase as unemployment increases. General government net lending will fall to -2.5 per cent of GDP in 2010.

As the economic recovery progresses in 2011 and 2012, net lending will be strengthened again, partly through increased tax income and reduced expenditure for unemployment. The Riksbank's assessment is that the government will announce smaller increases in expenditure in 2011 than in 2010, which is normal given the economic situation. The target for public sector finances is that they shall show a surplus of 1 per cent of GDP during an economic cycle. The Riksbank's assessment is that this target will be achieved in the long term.

Public consumption is affected by changes in the population as this consumption largely consists of providing basic services to the public. When the numbers of old or young people increase, for example, the need for geriatric care or childcare also increases. This normally leads to increasing public consumption. Many municipalities and county councils have strained finances. The stimulation that is expected to benefit municipalities and county councils will reduce the risk of personnel cutbacks during the forecast period. This means that public consumption is expected to increase in line with what is motivated by the change in the population structure.

■ ■ Continued deterioration in labour market

The labour market has deteriorated rapidly over the past year. Unemployment has risen by around 2.5 percentage points, and both employment and the number of hours worked have fallen substantially, particularly in the manufacturing industry. Although there appears to have been a stabilisation in some labour market indicators, they are still at levels that indicate a continuing fall in employment. The number of job vacancies has fallen by half over the last 12 months and the National Institute of Economic Research's Business Tendency Survey shows that companies are planning to continue making staff cuts. Although the number of redundancy notices has decreased in recent months, it is still at a high level. Substantial declines in demand and production have put increasing pressure on companies to rationalise and the number of hours worked is expected to fall significantly until the end of 2010.

Sick leave and other absence are expected to fall during the forecast period, which will push up the average working hours. At the same time, the mean working hours will be subdued by the weak demand for labour and by agreements regarding shorter working hours signed by social partners. All in all, this means that the mean working hours per employee will decrease this year. In the coming years the mean working hours will recover, which means that employment will first fall more quickly and then grow more slowly than working hours. The assessment is that the

⁷ See the article "Fiscal policy: assumptions and forecasts" in MPR 2008:3.

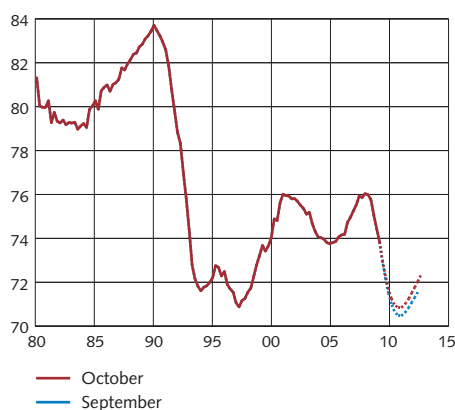
Figure 1:21. Labour force and number of employed
Thousands, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecast, 15-74 year. Pre-1993 data has been spliced by the Riksbank.

Sources: Statistics Sweden and the Riksbank

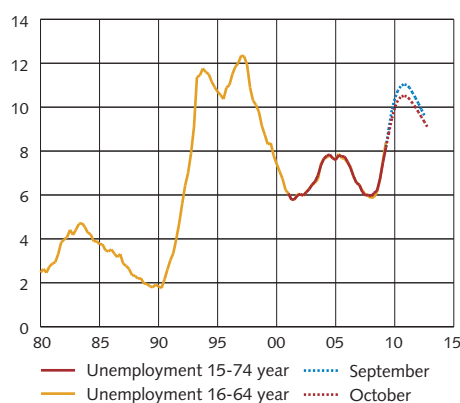
Figure 1:22. Employment rate
Employment as a percentage of the population, 16-64 year, seasonally-adjusted data



Note. Pre-1993 data has been spliced by the Riksbank. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 1:23. Unemployed
Percentage of the labour force, seasonally-adjusted data



Note. Pre-1993 data has been spliced by the Riksbank. Broken lines represent the Riksbank's forecast, 15-74 years.

Sources: Statistics Sweden and the Riksbank

number of people employed will fall by more than 180,000 between 2008 and 2012. This is the largest downturn in employment since the crisis of the 1990s, although the fall in employment is expected to be more limited on this occasion (see Figure 1:21).

According to Statistics Sweden's population forecast, the population of working age is expected to increase at a slow rate over the coming years (see Table A7) and its contribution to the labour force will thus keep on declining.⁸ As the percentage of younger and older people is increasing, the composition of the working age population means that a larger percentage will find themselves outside of the labour force, for instance, studying or receiving old-age pension. The weak labour market with a low demand for labour also means that fewer persons are seeking their way into the labour market. A number of economic policy measures counteract this cyclical negative effect. Changed regulations means, for instance, that many people will leave the health insurance system in 2010 and 2011. Some of these are expected to find their way into the labour market. The overall assessment is that the labour force will decline up to the middle of 2011, and then begin to grow again. This will entail a historically low level of labour force participation during the forecast period, and that the employment rate will bottom out at a level lower than that prevailing after the crisis of the 1990s (see Figure 1:22).

Unemployment is expected to continue rising and to peak at around 10.5 per cent at the end of 2010, which means that around 510,000 people will then be unemployed. The increase in unemployment from the lowest level to the peak will therefore be the largest since the crisis of the 1990s (see Figure 1:23). At the beginning of 2011 employment will increase again and unemployment will fall. This recovery follows historical relationships, where employment lags behind in relation to GDP. Despite the recovery, around 160,000 more people will be unemployed at the end of 2012, compared with the end of 2007.

■ ■ Recovery in productivity has begun

It is usual for the rate of increase in labour productivity to decline when GDP growth weakens and to increase when it recovers, as it takes longer to adapt the workforce than production. The recovery in productivity has begun in that production has now begun to grow, while the number of hours worked is still falling (see Figure 1:24). Companies' adjustments to the number of persons employed and the number of hours worked are expected to continue during 2010. At many companies, capacity utilisation is low and production capacity too high. Now that demand has begun to rise again, production may therefore increase rapidly without the number of hours worked increasing to the same extent. The forecast is that productivity will increase by 2.8 per cent in 2011 and by 2.3 per cent in 2012 (see Table 8).

⁸ For details regarding Statistics Sweden's population forecast, see "Sweden's future population 2009-2060", Demographic reports 2009:1.

■ Resource utilisation is at a low level

The monetary policy stance takes into account not only inflation, but also resource utilisation. The Riksbank uses several different indicators and statistical methods to assess how resource utilisation will develop over the next few years. The development of the labour market, where unemployment will increase rapidly and the employment rate will fall, indicates that there will be a steady decline in resource utilisation.

It is believed that the considerable fall in production that has occurred will have partly lasting effects that will reduce the long-term level of production. The effect on the labour market is also expected to be prolonged. When the labour market deteriorates so significantly, the supply of labour is affected negatively over a long period of time and the number of long-term unemployed rises. As in the period following the crisis of the 1990s, it is expected that some members of the working population will be more permanently excluded from the labour market.

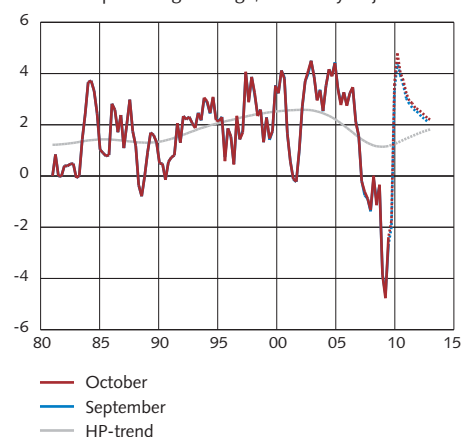
To summarise, the Riksbank has assumed that the long-term levels of production and employment have been negatively affected by the financial crisis and by the economic downturn. The fall in resource utilisation will therefore not be as substantial as the decrease in production would otherwise indicate. Figure 1:25 shows estimates of how GDP, employment and the number of hours worked will develop in relation to their long-term trends. According to the forecast, resource utilisation measured in terms of the output gap will bottom at roughly the same level in this crisis as during the 1990s crisis. However, compared to the situation in the 1990s, productivity has plummeted in this crisis and consequently the fall in GDP has been larger than the fall in hours and employment. The overall picture of resource utilisation is that it will be much lower than normal in 2010, and will thereafter rise.

■ Labour market situation leads to low wage increases in coming years

During 2010 collective wage agreements covering around 75 per cent of the employees in the Swedish labour market will be re-negotiated. These negotiations will take place in a situation where the labour market is very weak, with falling employment and rising unemployment. In addition, productivity in the Swedish economy has fallen over a long period of time and companies' profits are depressed. These factors point to low wage increases in the future. Moreover, recent expectations of future wage increases have been around 2 per cent, according to the National Institute of Economic Research's Economic Tendency Survey and Prospera's survey.

Given this, wages are expected to increase by just over 2 per cent in 2010, which is actually less than during the 1990s crisis (see Figure 1:26). The rate of wage increase will thereafter increase, but will remain at a relatively low level for the remainder of the forecast period (see Table A8). The low wage increases together with high productivity growth mean that unit labour costs will fall in 2010 and 2011, to then increase slightly during 2012 (see Figure 1:27).

Figure 1:24. Actual and trend productivity growth in the economy as a whole
Annual percentage change, seasonally-adjusted data



Note. Trend calculated using a Hodrick- Prescott filter. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

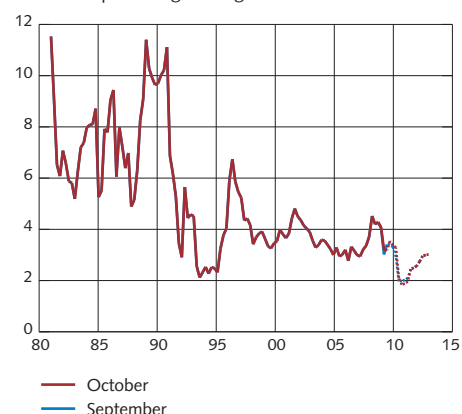
Figure 1:25. Estimated gaps
Percentage deviation from the HP trend



Note. Note. These gaps should not necessarily be interpreted as the Riksbank's overall assessment of resource utilisation. Broken lines represent the Riksbank's forecast. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

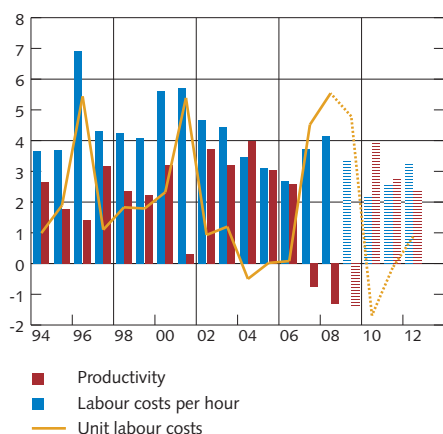
Figure 1:26. Nominal wages
Annual percentage change



Note. Refers to wages according to short-term salaries statistics from 1993 and according to wage and salary structure statistics previous to 1993.

Sources: National Mediation Office, Statistics Sweden and the Riksbank

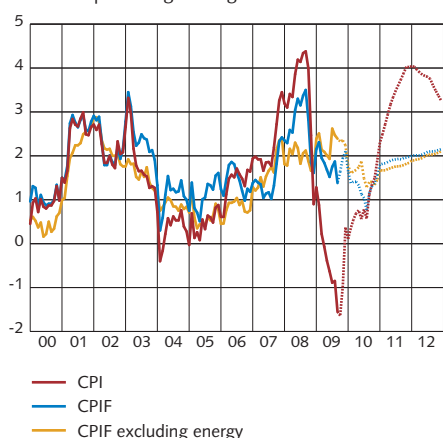
Figure 1:27. Unit labour costs for the economy as a whole
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

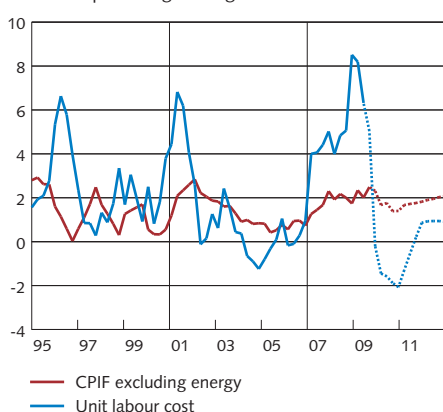
Figure 1:28. CPI, CPIF and CPIF excluding energy
Annual percentage change



Note. CPIF is CPI inflation excluding household mortgage interest expenditure. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 1:29. CPIF excluding energy and unit labour costs
Annual percentage change



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

■ ■ Inflation will rise in the future

Inflation has fallen rapidly in recent months. The annual rate of increase in the CPI is expected to fall from a peak of 4.4 per cent in September 2008 to a trough of -1.6 per cent in October 2009. The rate of increase in the CPI will thus have fallen 6 percentage points during the course of one year. The main reason for the fall in CPI inflation in 2009 is the rapid decrease in mortgage rates and energy prices. However, when mortgage rates and energy are excluded from inflation, it is expected to remain relatively stable around 2 per cent (see Figure 1:28).

Unit labour costs have increased rapidly in recent years, but will fall during 2010 and 2011. In the long term there is a covariation between unit labour costs and underlying inflation measured as the CPIF excluding energy (see Figure 1:29). However, unit labour costs vary much more than the CPIF excluding energy. Neither the large rates of increase in unit labour costs since 2007 nor the weakening of the krona in 2008 have led to any large price increases. The exceptional economic situation has probably reduced the scope for companies to raise their prices. Companies' profit shares have therefore fallen. It is therefore reasonable that inflation should be maintained in the future, despite falling cost pressures. Companies are expected to raise their prices to restore their profit margins.

In 2010, CPI inflation will begin to increase rapidly and will be just under 4 per cent at the end of the forecast period. This will mainly be because mortgage rates will stop falling and then increase as the Riksbank raises the repo rate. Moreover, energy prices will rise at the end of the forecast period. The oil price is expected to rise from approximately an average of 68 dollars a barrel in September to 81 dollars a barrel at the end of 2012. This is in line with the forward pricing in the oil market (see Figure 1:30). Electricity prices are also expected to rise during the period in line with forward pricing on the electricity market.

The rate of increase in the CPIF and the CPIF excluding energy will rise at the end of the forecast period as economic activity strengthens and resource utilisation is less negative. At the end of the forecast period inflation measured in terms of the CPIF and the CPIF excluding energy is expected to be close to 2 per cent. Mortgage rates will thus contribute with a difference of around 2 percentage points between CPI inflation and CPIF inflation at the end of the forecast period.

The HICP is expected to rise by an average of 1.8 per cent during 2009 (see Figure 1:31). The HICP is the harmonised consumer price index used in the euro area. The HICP, like the CPIF, is not affected by changes in mortgage rates. However, there are methodological differences between the CPIF and the HICP which mean that, in the long term, HICP inflation can be expected to be higher than CPIF inflation. HICP inflation has been higher in Sweden than in the euro area in recent months, which is probably because the krona has weakened against the euro and unit labour costs have risen faster in Sweden than in the euro area in recent years. Towards the end of the forecast period HICP inflation in both Sweden and the euro area is expected to be close to 2 per cent.

■ ■ Inflation expectations firmly anchored

If monetary policy is to have the desired effect in the prevailing economic situation, it is desirable that the general public's inflation expectations do not fall too far so that the real interest rate charged to households and companies is too high. After having fallen over a period of one year, inflation expectations for one and two years' ahead rose slightly, according to Prospera's October survey (see Figure 3:36). Looking one year ahead they are now 0.8 per cent, while at two years ahead the figure is 1.6 per cent. Inflation expectations five years ahead are at 2.2 per cent and are thus in line with the inflation target. Over the past decade they have at most been 0.5 percentage points off 2 per cent. This indicates that inflation expectations are firmly anchored. There are thus no signs that the recent very low inflation has reduced long-term inflation expectations significantly.

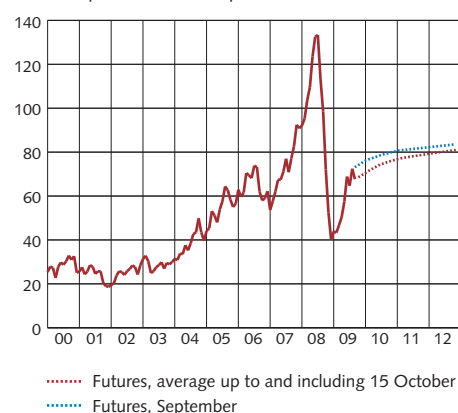
■ ■ Low repo rate over a long period of time

The signs of an improvement in economic activity have become more apparent. The situation in the financial markets is on the way to normalising and the risk of continued weak developments abroad has declined. Economic prospects are thus slightly more favourable than in September. Nevertheless, resource utilisation in Sweden will be lower than normal during the forecast period. The monetary policy stance takes into account not only inflation, but also resource utilisation.⁹ The assessment that the repo rate needs to remain low over a relatively long period of time still stands. This is necessary to safeguard the recovery in the Swedish economy. The forecasts in this report are based on the repo rate being held unchanged at 0.25 per cent until autumn 2010 (see Figure 1:32). After this it will be raised relatively quickly to around 4 per cent at the end of 2012. The expected result is that inflation is kept close to the target. However, resource utilisation will be lower than normal throughout the forecast period, despite a very expansionary monetary policy. The real repo rate will be negative over a two-year period from the beginning of 2009 (see Figure 1:33). This is very unusual in an historical perspective.¹⁰

Between September 2008 and July 2009 the repo rate has been cut by a good 4.5 percentage points. From autumn 2010 to autumn 2012 it is expected to rise by around 3.75 percentage points (see Figure 1:32). These substantial changes in the repo rate contribute to large fluctuations in CPI inflation through changes in household mortgage rates (see Figure 1:28). A better picture of underlying inflation is given by CPIF inflation, where mortgage rates are held constant. CPIF inflation shows relatively stable development and is in line with the inflation target for most of the forecast period. In the longer term, the rates of increase in the CPIF and the CPI coincide as the repo rate stabilises at a more normal level.

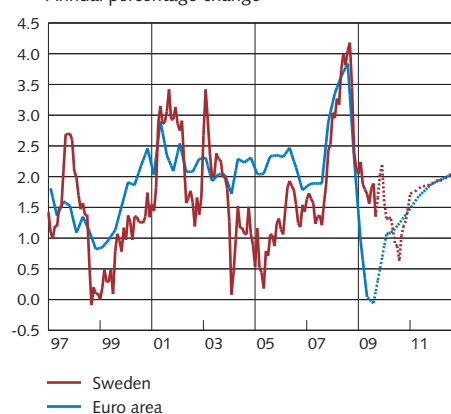
Compared with the September Monetary Policy Update, GDP growth has been revised upwards, which is partly counteracted by the

Figure 1:30. Oil price, Brent crude
USD per barrel, future price



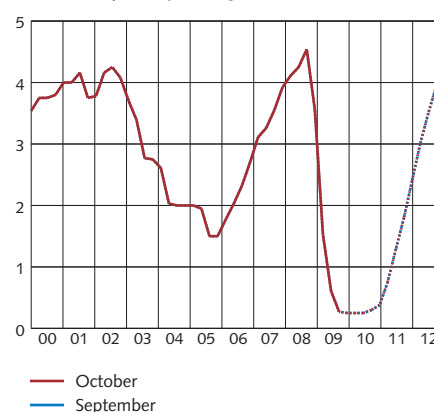
Note. Futures are calculated as a 15-day average. Outcomes represent monthly averages of spot prices. Sources: Intercontinental Exchange and the Riksbank

Figure 1:31. HICP in Sweden and the euro area
Annual percentage change



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

Figure 1:32. Repo rate
Per cent, quarterly averages

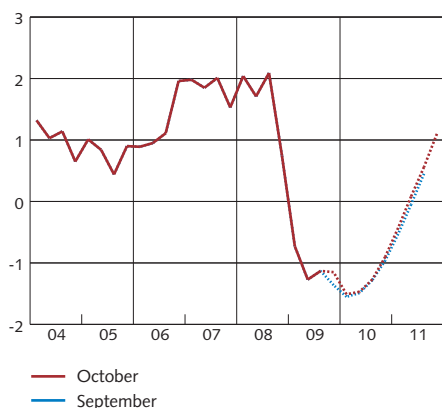


Note. Broken lines represent the Riksbank's forecast. Source: The Riksbank

⁹ See the article "Evaluation of different monetary policy alternatives" in this Report.

¹⁰ See B. Lagervall "Real interest rates in Sweden", Economic commentary no. 5, Sveriges Riksbank.

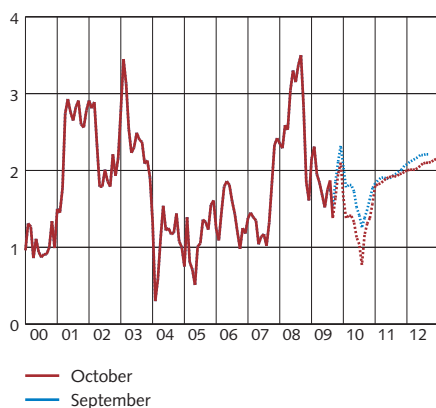
Figure 1:33. Real repo rate
Per cent, quarterly averages



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

Source: The Riksbank

Diagram 1:34. CPIF
Annual percentage change



Note. CPIF is CPI inflation excluding household mortgage interest expenditure. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

expectation of slightly lower inflation. Under normal circumstances this would point to a higher repo rate path. But the very low resource utilisation and the fragile situation in the financial markets motivates a lower repo rate. All in all, it is therefore appropriate to hold the repo rate unchanged at 0.25 per cent. The forecast for the repo rate is also unchanged in relation to the September Monetary Policy Update.

In connection with the interest rate decision the Riksbank has also decided to lend a further SEK 100 billion to the banks at a fixed interest rate with a maturity of 11 months. Offering the banks loans with such a long maturity at low and predetermined interest rates should contribute to maintaining lower interest rates on loans to companies and households. This measure is implemented with the aim of increasing the opportunities for monetary policy to have the intended effect.

Main revisions to forecasts since the update in September

- The forecast for GDP growth abroad has been revised upwards compared with September. The revision is justified by a change in the view of stock cycles and by improved growth indicators (see Table A5).
- The forecast for GDP growth in Sweden is revised upwards for both 2009 and 2010 and to a lesser extent also 2011 (see Table A6). The upward revision is justified by stronger outcomes, slightly stronger growth abroad and indicators pointing to stronger growth.
- The forecast for employment is revised upwards slightly as a result of the higher GDP growth. Unemployment is expected to be slightly lower (see Table A7).
- The krona is expected to be unchanged in the fourth quarter of this year, compared with the forecast made in September. After this, the krona will appreciate slightly more than was forecast in September (see Table A4).
- The forecasts for energy prices are lower than in September, due to lower future prices.
- Inflation is expected to be somewhat lower (see Figure 1:34), primarily as a result of lower energy prices and slightly higher productivity growth.

■ CHAPTER 2 – Alternative scenarios and risks

An improvement in the economic climate is becoming apparent: the decline in GDP in Sweden came to a halt during the second quarter of 2009 and the financial markets are becoming more stable. However, there is still a great deal of uncertainty about how long the recovery will take. It is for instance conceivable that the positive development of the credit markets will contribute to a more rapid upturn in Sweden and abroad, which could lead to the Riksbank increasing the repo rate earlier than

in the main scenario. At the same time, the expansionary fiscal policy measures implemented in many countries will be phased out in 2011 and 2012 and demand may therefore decline during the later part of the forecast period. Moreover, resource utilisation in the Swedish economy is still very low and it is quite possible that inflationary pressures will be weaker than expected. In such a case, the Riksbank would need to increase the repo rate later than is proposed in the main scenario.

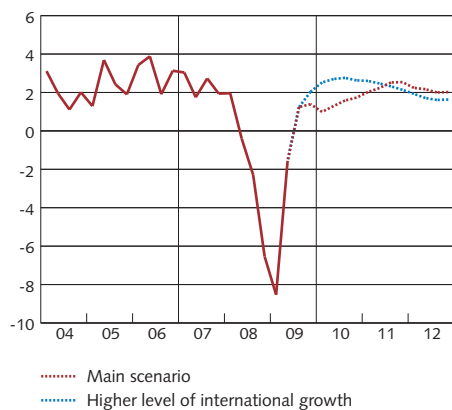
Although the situation on the financial markets seems to be returning to normal, there is still a lot of uncertainty concerning how the recession in the Baltic countries and Eastern Europe will affect the loan losses of the Swedish banks. There is a risk that more bank customers will be hit by the downturn and by the programmes for cutbacks in government spending that the Baltic countries have been forced to adopt and that they will thus find it difficult to service their loans. The loan losses that the banks would suffer in this case may be higher than calculated in, for example, the main scenario in Financial Stability Report 2009:1, even though economic activity has improved since then.

Furthermore, the financial markets are still sensitive to individual shocks and there is a risk that financial confidence will begin to deteriorate once again. Such a widespread undermining of confidence could weaken the recovery of the economy in both Sweden and abroad. Another uncertainty that may also affect the speed of the recovery, relates to the effects of a correction of the global imbalances that have long prevailed in global current account relationships. If the substantial current account deficit in the USA is to be reduced, exports must increase in the USA and decrease in countries with large current account surpluses such as China, Japan and Sweden. In the short term, the decline in demand in the USA and other countries with deficits may have negative consequences for Swedish exports, but it is difficult to assess how great the effects may be (see also the article "Global imbalances, saving and demand in the wake of the crisis" in MPR July 2009).

In this Chapter, the Riksbank presents some alternative scenarios for the development of the economy that differ from the main scenario. The aim is to highlight the uncertainty that prevails regarding developments in the period ahead and the risks that are regarded as being particularly important at the moment. There are of course a number of other alternative paths for development. These are reflected in the uncertainty intervals around the forecast illustrated in Figures 1:1-1:4 in Chapter 1.

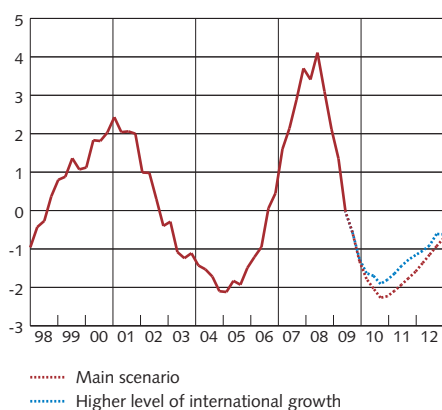
In the first alternative scenario, it is assumed that growth and demand around the world will be stronger than has been assumed in the main scenario due to the normalisation of the financial markets and the return of confidence. In this alternative scenario, the repo rate is increased somewhat more rapidly.

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



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

Figure 2:2. Labour market gap (hours worked)
Percentage deviation from the HP trend



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

In the second alternative scenario it is assumed that productivity in the Swedish economy will be higher than expected in the main scenario. More efficient production will lead to lower costs and thus to lower inflation. An ample supply of labour and unutilised machinery could also contribute to such a development. In this scenario, the repo rate is raised somewhat later than in the main scenario.

This is followed by a presentation of what would happen to the Swedish economy if the Riksbank conducted a tighter or a more expansionary monetary policy. First it is assumed that the repo rate is increased more rapidly than proposed in the main scenario and approximately in line with the market's expectations regarding the future repo rate path (as expressed in implied forward rates). Finally, it is assumed that the repo rate is cut to zero at the end of 2009 and is kept at this level for approximately a year before the repo rate returns to the same level as in the main scenario.

All in all there are thus a number of circumstances that could change the future course of economic development and thus justify a different direction for monetary policy than the one expected in the main scenario.

Alternative scenarios for economic development

■ ■ Stronger growth and demand abroad

Great uncertainty prevails about how the monetary policy and fiscal policy packages implemented around the world will affect economic development over the next few years. It is quite possible that the international recovery will be quicker than assumed in the main scenario due, for example, to the improved situation on the financial markets. In the same way that the fall in GDP was underestimated when financial confidence collapsed in the wake of the economic downturn, it is also possible that the upturn is being underestimated now that trust between the banks and investors is rapidly returning. It is of course very difficult to forecast such effects.

In this alternative scenario it is assumed that growth abroad will be higher than in the main scenario in 2010 and 2011 and reach an annual growth level of over 2 per cent already during the first half of 2010 (see Figure 2:1 and Table A9). It can be expected that the expansionary fiscal policy measures will keep up demand, above all in 2010, but as the packages of measures are phased out and the public budgets around the world are balanced the recovery may slacken. It is therefore expected that growth abroad will be somewhat lower than predicted in the main scenario in 2012.

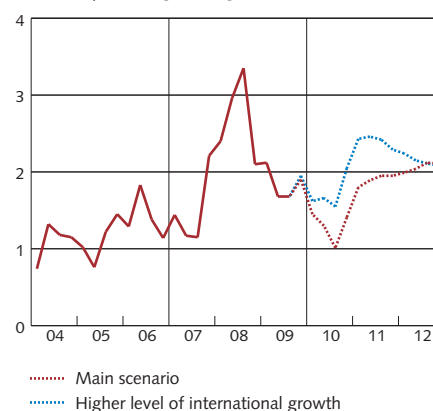
The scenario's higher growth is modelled as a better economic development abroad on both the demand and supply sides but, as it assumed that a large part of the higher growth abroad will be driven by higher demand, this will lead to higher inflationary pressures abroad. CPI inflation abroad will therefore reach a level above 2 per cent already in 2011 (see Table A9). The higher rate of inflation will be counteracted, however, by higher international interest rates compared to the main scenario. Nominal interest rates abroad will be increased somewhat more quickly in the alternative scenario (see Table A9).

The stronger growth abroad will lead to an increase in the demand for Swedish goods and the rate of growth for exports will be higher than in the main scenario. This will increase production and improve the situation on the labour market, with narrower production and labour market gaps than in the main scenario (see Figure 2:2). The increase in demand will also make it possible for Swedish producers to increase the prices of their goods and inflation will therefore increase at a faster rate than in the main scenario. CPI inflation will reach almost 2.5 per cent by the end of 2011 before international demand slackens and inflation falls back to approximately 2 per cent at the end of the forecast period (see Figure 2:3).

The increased inflationary pressures justify the raising of the repo rate in the spring of 2010 and at a somewhat faster rate than in the main scenario. At the end of the forecast period, the repo rate will be approximately 1 percentage point higher than in the main scenario (see Figure 2:4). It should also be noted, however, that this alternative scenario is based on the situation on the financial markets returning to normal so that monetary policy also has a normal impact. Otherwise, there could still be good reasons for keeping the repo rate at a low level for a long period of time.

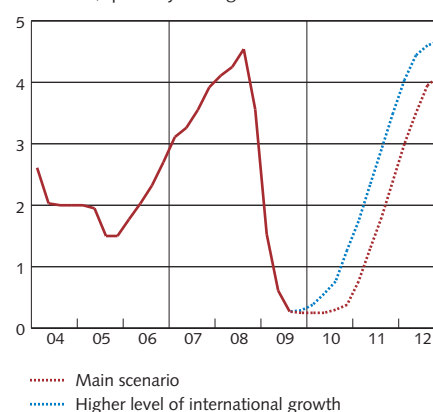
It is assumed that monetary policy will be more restrictive from the end of 2010 than in the main scenario and the real interest rate is therefore somewhat higher in this alternative scenario. The Swedish repo rate will not, however, be increased at the same rate as interest rates abroad, which will weaken the nominal exchange rate somewhat compared with the main scenario. The higher inflation abroad and the weakened exchange rate will also lead to a more rapid increase in imported inflation than in the main scenario, which in turn will contribute to higher inflationary pressures. GDP growth in Sweden is kept up by the increase in exports, despite the fact that the rate of growth of consumption and investments declines somewhat due to the higher repo-rate level compared to the main scenario. The rate of growth of GDP, measured as the annual percentage change, is at most 0.4 percentage points higher in the alternative scenario (see Figure 2:5) while the rate of growth in exports is at the same time expected to be over 1.5 percentage points higher.

Figure 2:3. CPIF
Annual percentage change



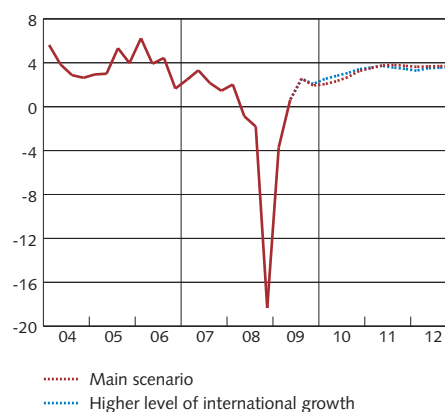
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

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



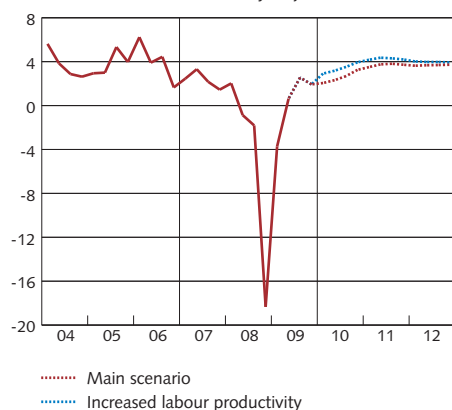
Note. Broken lines represent the Riksbank's forecast.
Source: The Riksbank

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



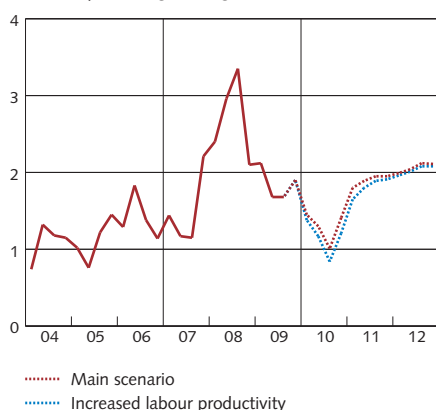
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

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



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

Figure 2:7. CPIF
Annual percentage change



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

■ Rationalisation measures during the downturn provide lower inflation

Capacity utilisation, which has previously fallen rapidly, has now bottomed out at a low level. It also appears that labour productivity, which has fallen dramatically in recent years, partly because the companies have retained personnel but reduced working hours instead of issuing redundancy notices, has now bottomed out. It is possible that the recovery may be faster than expected in the main scenario. Following previous downturns, labour productivity has increased very quickly in the recovery phase. For example, labour productivity grew by 4.5 per cent over the course of only one year following the downturn of 2001-2001 (see Figure 1:24).

We are now moving from what, historically, is a very low negative rate of growth in labour productivity of -4.7 percent in the first quarter of this year to a situation in which labour productivity is instead improving. The restructuring and rationalisation measures implemented in a number of companies during the downturn can be expected to lead to more efficient manufacturing processes. These enable companies to increase their production with the same workforce, or even a reduced workforce. It is also probable that less productive companies have gone to the wall during the rapid downturn. This alternative scenario describes the effects of labour productivity, measured as the annual percentage change, being on average 0.5 percentage points higher than in the main scenario due to such rationalisation programmes (see Table A10). GDP growth in the scenario is thereby at the most 0.8 percentage points higher compared to the main scenario (see Figure 2:6).

The higher level of productivity leads to lower unit labour costs for the companies and thus to lower inflation. CPIF inflation will, at most, be 0.2 percentage points lower than in the main scenario (see Figure 2:7). At the same time, the higher level of productivity will lead to slower growth in employment, which means that resource utilisation, measured as the number of hours worked in relation to the long-term trend, will fall (see Figure 2:8). When both inflation and resource utilisation fall, the Riksbank will have reason to reduce the repo rate compared to the rate in the main scenario. In the first quarter of 2010, the repo rate will therefore be cut to 0 per cent and kept at this low level until the second half of the year, after which the Riksbank will begin to increase the repo rate again in 2011 at a pace similar to that described in the main scenario (see Figure 2:9). The lower repo rate will counteract the fall in the inflation rate and the increase in the labour market gap, but inflation will still be lower and the labour market gap larger than in the main scenario.

In this alternative scenario, it is assumed that there are no obstacles to reducing the repo rate to a level very close to zero. If this is deemed to

be inappropriate, then other measures may be used to influence market rates and the supply of credit.

■ ■ Large loan losses may restrict the provision of credit and weaken the krona

The situation on the global financial markets has improved in recent quarters. The anxiety about liquidity problems that arose following the collapse of Lehman Brothers in September 2008 has lessened considerably. Instead the focus has shifted to the credit risks of the banks (see Financial Stability Report 2009:1)

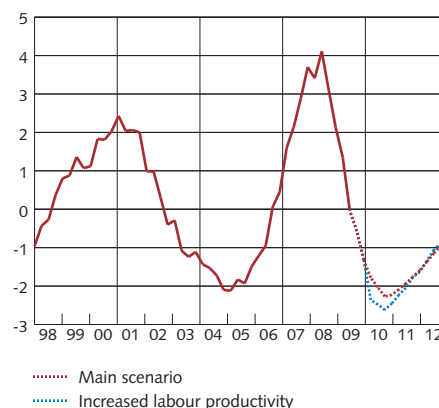
In Sweden too there is uncertainty about how large the loan losses of the Swedish banks may be over the next few years. The major downturn may lead to a situation in which more companies and households find it difficult to pay back their loans. In addition there is the uncertainty that is still associated with development in the Baltic countries, where a couple of major Swedish banks have considerable claims. The Riksbank's main scenario in Financial Stability Report 2009:1 showed that the Swedish banks are well capitalised and meet the statutory capital requirements by a broad margin despite the considerable loan losses forecast in the Baltic countries.

If unexpectedly large loan losses arise in the banking system, there is a risk that this will restrict the provision of credit to companies and households in the years ahead. If the Swedish banks make unexpectedly large losses on their claims in the Baltic states, it can also be expected that the krona will weaken in relation to other currencies. This is because Swedish securities may then be perceived as carrying a higher risk and some investors may therefore choose to move their assets to markets that they believe to be safer.

If the banking system suffers unexpectedly high loan losses, the banks will have to take measures to ensure that they continue to have an acceptable level of capital adequacy. We can then expect the banks to charge higher interest rates for their lending and to reduce their provision of credit. Such measures will have several consequences for the real economy. It will become more expensive for companies, and perhaps households too, to refinance loans that fall due, which may in turn lead to further loan losses. These measures will also restrict investments in business and industry and in the housing sector. A lower level of investment will lead to lower levels of production and employment, which will also have negative repercussions in the financial sector.

Problems in the Swedish financial sector, linked to concern about developments in the Baltic countries, could lead to a weakening of the krona on the international foreign exchange markets. If such a situation arises, the Riksbank would face a difficult choice. On the one hand, a

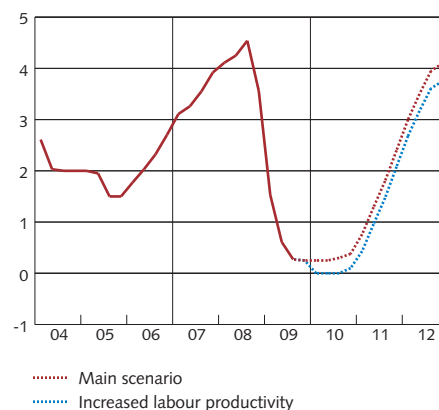
Figure 2:8. Labour market gap (hours worked)
Percentage deviation from the HP trend



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

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



Note. Broken lines represent the Riksbank's forecast.

Source: The Riksbank

reduction in the provision of credit and higher borrowing costs, and the resulting reduction in resource utilisation, would call for a more expansionary monetary policy. On the other hand, the weak krona would give rise to an increase in inflationary pressures via higher import prices, which in turn would call for an increase in the repo rate.

■ ■ Higher debt levels and higher housing prices

The demand for housing slackened in 2008 as a result of the downturn in economic activity and, because of the fall of the stock market, the lower level of net wealth. The prices of single-family dwellings and tenant-owned apartments have, however, begun to increase again since the spring (see Figure 3:10).

If the development of prices and the increase in borrowing are based on unrealistic expectations regarding the development of housing prices and interest rates in the future, then there is a great risk that significant price corrections will occur later. This in turn may have major consequences for the real economy. Although such a scenario is unlikely and the potential effects lie beyond the forecast horizon, it may be necessary to consider risks of this type when making the monetary policy decision. In practice, this could mean that the interest rate would be increased slightly sooner than would otherwise have been the case. However, in order to handle problems of this type and avoid significant macroeconomic effects a combination of monetary policy and stricter regulations governing the provision of credit by the banks is probably needed (see also the article "Housing prices in Sweden" in this report).

Alternative scenarios for the repo rate

■ ■ A higher repo rate provides lower inflation but dampens growth

In order to describe the possible effects on economic development if the Riksbank followed a higher repo-rate path, we present an alternative scenario with a repo rate that is higher than the rate in the main scenario up to 2012 and that by and large corresponds to the market's expectations (as expressed in the implied forward rates, see Figure 3:5). In the scenario, it is assumed that the Riksbank will begin to raise the repo rate in the first quarter of 2010 and that it will be almost 1 percentage point higher compared with the main scenario at the end of 2010 (see Figure 2:10). From the beginning of 2012, the alternative repo-rate path is instead lower than in the main scenario and at the end of 2012 is 0.8 percentage points below the forecast for the repo rate in the main scenario.

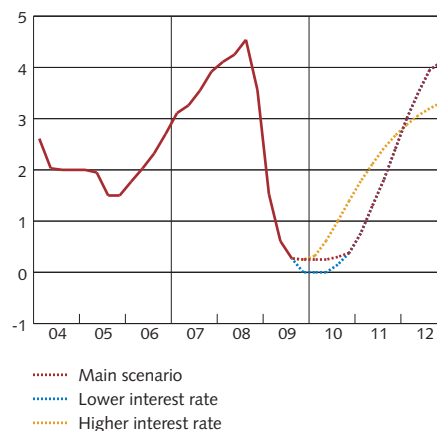
The higher repo rate will dampen the growth of GDP (see Figure 2:11 and table A11). Resource utilisation measured in terms of the production gap and the labour market gap will also decline further from its already low levels (see Figures 2:12 and 2.13). The higher repo-rate level will also reduce household consumption and the companies will be more restrictive in their investments than in the main scenario. The lower production level will reduce the demand for capital and labour and both real and nominal wages will therefore be lower than in the main scenario. This will in turn reduce the companies' costs and inflation will be lower than in the main scenario (see Figure 2.14). During the second half of 2010 and in 2011, CPIF Inflation will be almost one percentage point off the inflation target of 2 per cent. At the same time, resource utilisation will be lower than in the main scenario.

When the Riksbank determines the repo rate, it attempts to achieve the best balance between returning inflation to the target and stabilising fluctuations in the real economy. Despite the fact that the repo rate is held at a lower level than in the main scenario in 2012, the labour market gap and the inflation gap are more negative, which means that the number of hours worked is further below the trend and inflation is further below the target (see Figures 2:13 and 2:14). These Figures thus reveal that a repo-rate path in line with market expectations is worse than the main scenario if the objective is to conduct a monetary policy that takes both inflation and the real economy into account.

■ ■ A lower repo rate provides higher inflation and higher growth

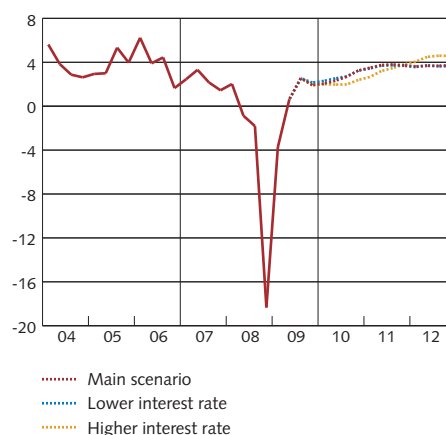
The final alternative scenario describes the effects of a more expansionary monetary policy in which the repo rate deviates from the main scenario over the next 12 months. The repo rate is cut to 0 per cent at the end of 2009 and is kept at this level for three quarters before increases begin again. From the end of 2010, the repo rate will return to the same level as in the main scenario (see Figure 2:10).

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



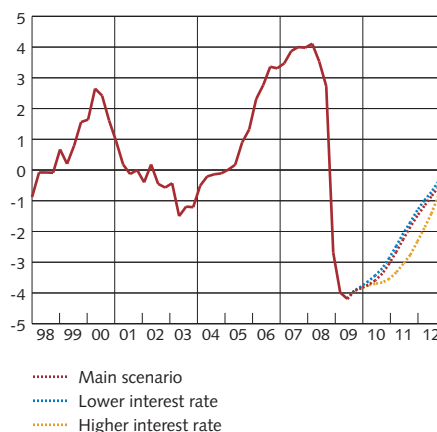
Note. Broken lines represent the Riksbank's forecast.
Source: The Riksbank

Figure 2:11. GDP
TCW-weighted, quarterly changes in per cent calculated in annualised terms



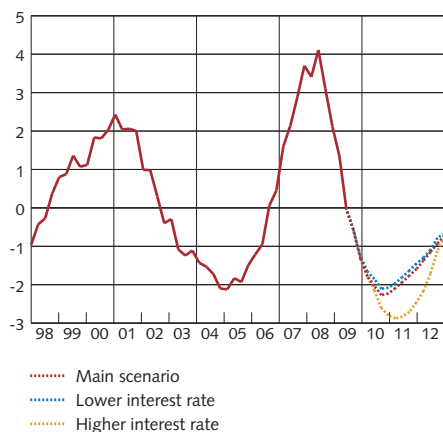
Note. Broken lines represent the Riksbank's forecast.
Sources: National sources and the Riksbank

Figure 2:12. Production gap
Percentage deviation from the HP trend



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

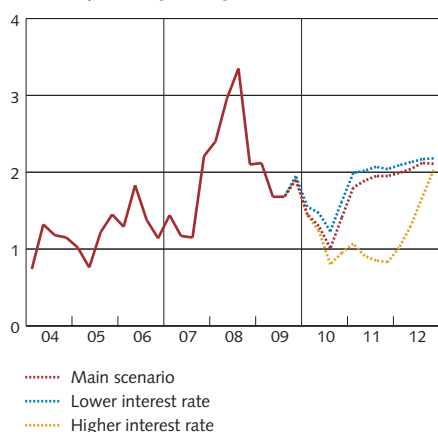
**Figure 2:13. Labour market gap
(hours worked)**
Percentage deviation from the HP trend



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 2:14. CPIF
Annual percentage change



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

The lower level of the repo-rate path compared with the main scenario stimulates household consumption and business investment. The resulting increase in domestic demand will lead to somewhat more rapid growth in production than in the main scenario (see Figure 2:11 and Table A12). This will also lead to improvements in the production gap and the labour market gap (see Figures 2:12 and 2:13), which will boost the demand for capital and labour. This in turn will lead to higher production costs that the companies will pass on to the consumers. CPIF inflation will therefore be an average of 0.2 percentage points higher than in the main scenario (see Figure 2:14). However, it is not only higher production costs that will contribute to the higher level of inflation. The lower repo rate will also lead to a weakening of the exchange rate compared to the main scenario which will in turn lead to higher inflationary pressures via higher import prices.

A more expansionary monetary policy will thus lead to CPIF inflation being somewhat closer to the target of 2 per cent, above all in 2010, at the same times as resource utilisation, measured as the labour market gap, will improve by an average of 0.1 percentage points during the forecast period (see Table A12). The lower repo-rate path thus provides better target fulfilment than compared to the main scenario if monetary policy aims to stabilise CPIF inflation and the resource utilisation (see also the article "Evaluation of monetary policy alternatives" in this report). It is possible, however, that a lower repo rate path will have effects on financial stability and the functioning of the financial markets which may affect the monetary policy decision.

■ CHAPTER 3 – The current economic situation

This chapter includes a report on information received since the Monetary Policy Update was published in September and the Riksbank's assessment of economic prospects in the coming quarters. The situation in the financial markets continued to stabilise over the summer. Output in many sectors is still at unusually low levels following the large fall in production that took place in large parts of the world economy last autumn. However, indicators and expectations point to a recovery having begun. The GDP outcomes for the second quarter abroad and in

Sweden were slightly stronger than anticipated in the September Monetary Policy Update. In Sweden unemployment is now rising relatively rapidly and the labour market is expected to continue weakening. Retail trade sales, orders and confidence indicators for the business sector point to a gradual recovery in the Swedish economy. The newly-received information indicates all in all that the real economy and the labour market will develop slightly more strongly, while inflation will develop slightly more weakly during the second half of this year, compared with the forecast made in September.

■ ■ Financial markets continuing to stabilise

The financial markets have stabilised further as GDP has ceased falling around the world and confidence has returned. Central banks and governments have continued to conduct very expansionary policy with different forms of unconventional measures. This has meant that the financial market agents have no longer felt obliged to hold such a large share of their assets in liquid funds. For example, the TED spread has fallen, which is mainly due to lower interbank rates (see Figure 1:6). This likely reflects that banks' confidence in one another has increased.

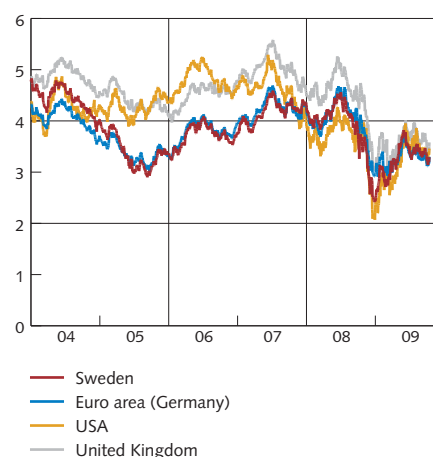
The period of falling production is probably over, but there is uncertainty in the financial markets as to how rapid the recovery will be. Compared with the Monetary Policy Update published in September, the 10-year government bond rates in the United States and Europe are slightly higher (see Figure 3:1). The uncertainty over economic activity means, however, that bond rates are still at relatively low levels. Although many governments will need to borrow more money over the coming years, which points to higher rates.

The difference between government bond rates for different European countries is still relatively large, despite a fall during the spring and summer (see Figure 3:2). The interest rate differentials between Germany and countries with large funding requirements, such as Greece and Ireland, peaked during the winter. The fall in interest rate differentials since then can be interpreted to mean that the European Monetary Union is not called into question in the same way as when the financial crisis was at its most pronounced, but it could also be an expression of generally lower risk aversion. The differences that still exist between government bonds issued by different countries probably reflect concerns over government budget deficits. The difference between the Swedish and German ten-year rates is very slight in this context.

Equity prices have risen during the summer and autumn, which indicates greater optimism and increased risk propensity among market agents. The same pattern also largely applies to commodity prices.

Since the monetary policy meeting in September the Riksbank has

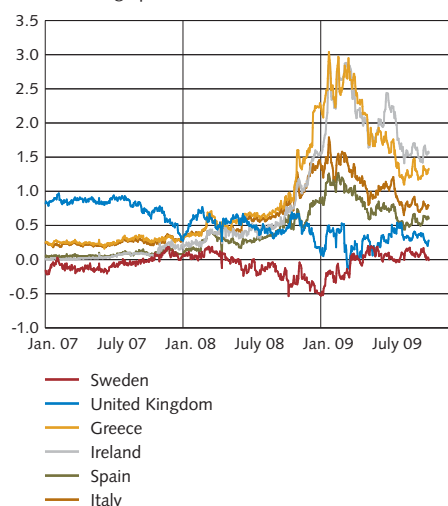
Figure 3:1. Long-term interest rates
Per cent



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

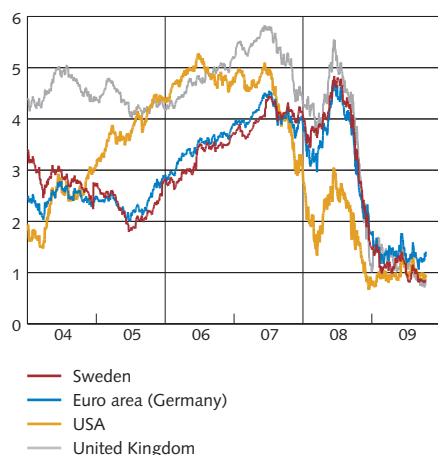
Source: Reuters EcoWin

Figure 3:2. Spread in different countries' government bonds against Germany
Percentage points



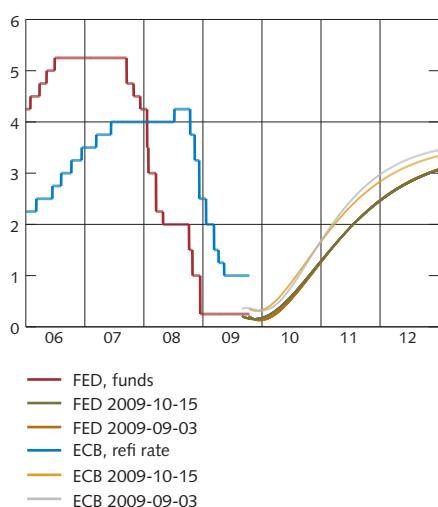
Note. Government bonds with approximately 10 years left to maturity.

Source: Reuters EcoWin

Diagram 3:3. Two-year interest rates
Per cent

Note. Government bonds with approximately 2 years left to maturity.

Source: Reuters EcoWin

Figure 3:4. Monetary policy expectations in the Euro area and the USA
Per cent

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

Sources: Reuters Ecowin and the Riksbank

lent the banks a further SEK 100 billion at a fixed interest rate and with a maturity of one year. Following the Riksbank's announcement of the loan, government bond rates and other market rates fell. The two-year government bond rate has since remained at the same level (see Figure 3:3). The rates for loans between the banks, STIBOR, also fell after the loan was announced. Since then both short-term and long-term mortgage rates in Sweden have fallen.

■ ■ Central banks expected to raise policy rates in 2010

Since the Monetary Policy Update was published at the beginning of September central banks around the world have continued to say that interest rates will remain low over a long period of time to come. However, the Reserve Bank of Australia is an exception. It raised its policy rate by 0.25 percentage points to 3.25 per cent at the beginning of October, with the explanation that economic prospects in Australia had improved drastically. Norges Bank (the central bank of Norway) also discussed a raise at its monetary policy meeting in September, although it held the policy rate unchanged.

The US central bank, the Federal Reserve, has stood firm at its record-low policy rate with a target interval of 0-0.25 per cent since December 2008. The Federal Reserve and other central banks are expected to begin raising their rates at some point during 2010 (see Figure 3:4). When it comes to the United States, the financial markets are expecting the policy rate to remain at the current low level until the middle of 2010. The ECB is expected to raise its policy rate from 1 per cent during autumn 2010, according to surveys. However, it is more difficult to interpret on the basis of market rates what the ECB is expected to do, as the overnight rate is much lower than the policy rate.¹¹ The Bank of England is also expected to raise its rate in the middle of 2010.

The Riksbank has held the repo rate unchanged at 0.25 per cent since the monetary policy meeting on 2 July, when it was cut from 0.5 per cent. In connection with the two interest rate decisions in July and September the Riksbank announced loans totalling SEK 100 billion each, at a fixed interest rate and with a maturity of approximately 12 months. The purpose of these loans has been to contribute to lower interest rates for households and companies. The Riksbank's own repo rate path moreover indicates that the repo rate will remain unchanged until autumn 2010. According to money market rates, however, market expectations lean towards earlier raises in the repo rate. At present the first raise in the repo rate is expected during spring 2010 (see Figure 3:5).

■ ■ Central banks continuing to buy government and mortgage bonds

With policy rates close to zero several central banks have considered it necessary to conduct monetary policy by means of unconventional

¹¹ Normally, central banks try to influence the overnight rate by changing the policy rate. The level of these two rates is then roughly the same. However, over the past year the overnight rate has been much lower than the policy rate in the euro area. The difference in these two rates is partly due to the large access to money following the ECB's lending to the banks. The overnight rate is the more important rate with regard to demand in the economy.

measures. One reason for this has been to facilitate credit granting and contribute to lower interest rates. Some central banks, such as the Bank of England and the Federal Reserve, have purchased government and mortgage bonds. Other central banks, such as the Riksbank, have instead lent money to the commercial banks and in this way contributed to lower interest rates on loans provided to companies and households.

In mid-October Swedish banks and credit institutions had loans to a value of SEK 290 billion in the Riksbank, which corresponds to just under 10 per cent of Sweden's GDP. At the same time as the loan stock in the Riksbank has now grown, the banks' borrowing from the Riksbank has changed the composition. Since the Riksbank introduced loans at a fixed interest rate, the banks are borrowing less money at a variable interest rate. The two fixed-interest rate loans offered in July and September have meant that the banks have increased their borrowing at a fixed interest rate by SEK 200 billion. At the same time, the loan volume at a variable interest rate has declined to SEK 90 billion. The lending in SEK has meant that the banks' deposits with the Riksbank have also increased, and thereby also the monetary base (see Figure 3:6 and the article "Unconventional measures and the risk of inflation" in this Report).

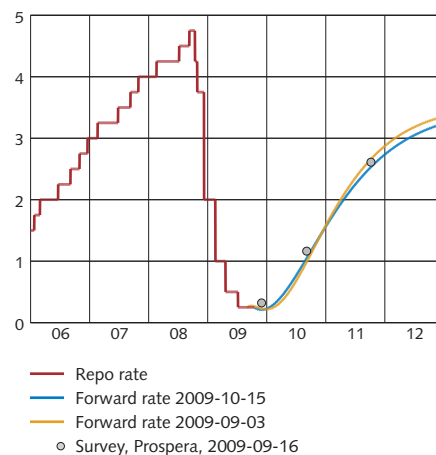
The Riksbank's lending in USD at a variable interest rate has fallen from a peak of USD 30 billion last spring to USD 3.7 billion at present. This is because the banks have to a greater extent been able to fund themselves in dollars through the market during the summer and autumn. The dollar loan now outstanding will mature at the beginning of November 2009.

Like the Riksbank, the ECB has also continued to support credit granting in the euro area by providing the banks with loans with a long duration at a fixed interest rate. In September EUR 75.2 billion was lent at the policy rate and with a maturity of one year. As in June, when EUR 446 billion was lent, the banks were given the possibility to borrow as much as they wished. The ECB has also continued to buy covered bonds, which has led to a fall in the interest rate differential between mortgage bonds and government bonds. The ECB has lent money and bought securities to such an extent that the assets in the ECB's balance sheet now correspond to almost 20 per cent of the euro area's GDP.

To alleviate credit granting in the US economy, the Federal Reserve has announced that it intends to continue purchasing government and mortgage bonds even during the first quarter of 2010. The Federal Reserve has also made it clear that it intends to make use of the entire mandate of USD 1,450 billion to buy mortgage-backed securities. At the end of October the Federal Reserve is expected to have carried out purchases of government bonds to the value of USD 300 billion. The Bank of England has also continued to buy assets, such as government and mortgage bonds. So far, assets to the value of slightly more than GBP 160 billion have been purchased, which corresponds to almost 12 per cent of Britain's GDP.

No central bank has yet made a decision regarding how and when the various crisis measures will be phased out. However, this question of exit strategies is being discussed in the central bank world, and will

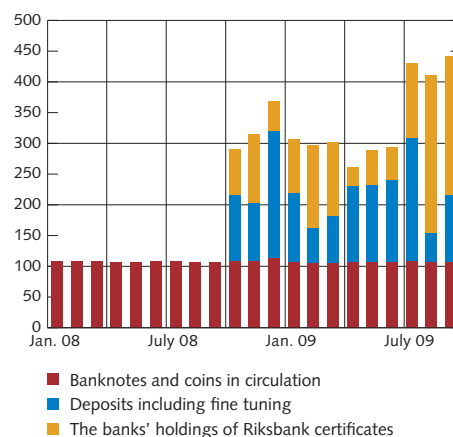
Figure 3:5. Monetary policy expectations in Sweden according to money market participants
Per cent



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

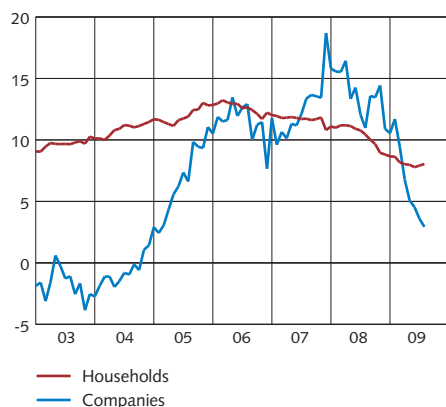
Sources: Reuters Ecowin, TNS SIFO Prospera and the Riksbank

Figure 3:6. Monetary base
Billion SEK



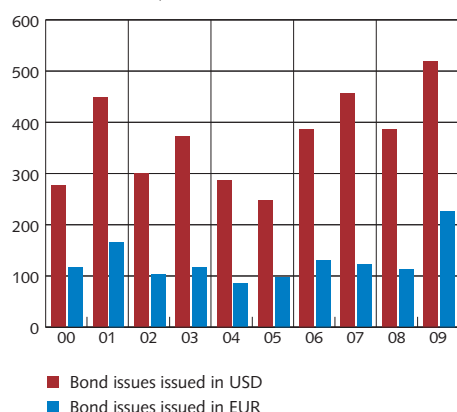
Source: The Riksbank

Figure 3:7. Households' and non-financial companies' total borrowing from credit institutions
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 3:8 Manufacturing companies' borrowing on the credit market
USD and EUR, billion



Sources: Bloomberg and the Riksbank

for natural reasons become even more important (see the article "Exit strategies for the phase-out of unconventional measures" in this Report). It will be a relatively uncomplicated procedure for the Riksbank to phase out its crisis measures. Unlike many other central banks, the Riksbank has not bought securities in the form of, for instance, bonds.

■ Bank lending to companies declining

The rate of increase in the banks' lending to companies has declined substantially measured as an annual percentage change (see Figure 3:7). Over the past six months the level of lending has also fallen. At the same time, the average interest rates offered to companies rose marginally between July and August. However, it is not a question of the banks indiscriminately trying to restrict credit. The Riksbank's company surveys indicate that the lower rate of growth in corporate lending is probably fairly normal in relation to the prevailing economic situation (see the publication "The Riksbank's company interviews in September 2009"). Judging by the company surveys, the level of Swedish companies' planned investment is still low, which also means that the demand for loans is lower than otherwise. Like last spring, however, a small number of the companies interviewed stated that they were unable to obtain the funding they required. Small companies in particular appear to be affected when the banks are actively trying to strengthen their own balance sheets. However, the majority of companies state that funding opportunities have improved since the spring. According to ALMI's loan indicator, the bank managers questioned responded that lending to companies will increase in the future. However, at the moment it is difficult for new corporate clients to obtain loans.¹²

■ Companies issuing bonds to a greater degree

Companies' funding opportunities through issuing bonds have also improved. Unlike bank borrowing, borrowing through corporate bonds has risen substantially both in Sweden and globally in 2009. So far, companies have in global terms issued bonds in EUR and USD for larger amounts than in any other single year in the 2000s (see Figure 3:8).

■ Household borrowing increased over the summer

The banks' lending to households continued to increase at a relatively high rate in August, according to financial market statistics. Lending rose by 8 per cent compared with the same month last year (see Figure 3:7). According to ALMI's loan indicator, the bank managers expected that lending to households would also continue to increase in the future. The Riksbank's measures have probably contributed to maintaining the rate of household borrowing at a relatively high level. The repo rate cut in July and the two loans at a fixed interest rate have contributed to a fall in both short-term and longer-term mortgage rates. The average listed mortgage

¹² According to the results from ALMI Företagspartners' quarterly survey ("loan indicator"), in which 150 randomly-selected bank managers in Sweden were interviewed over the telephone during the period 14 to 21 September 2009.

rates with a maturity of 1-3 years have fallen by around 0.1 percentage points since the Monetary Policy Update was published in September. The longer-term mortgage rates have fallen further, which means that a listed 5-year mortgage rate is now around 4.30 per cent (see Figure 3:9). Just over two thirds of new household loans are still being signed at a variable interest rate.

■ ■ House prices rising again

The low interest rates in 2009 have contributed to a rise in house and apartment prices since last spring. According to Statistics Sweden's figures for house prices, prices of single-family dwellings rose on average by 3 per cent between the second and third quarters. Estate agents' statistics ("Mäklarstatistik") confirm the picture of rising house prices and also indicate that the average price of tenant-owned apartments has risen by 4 per cent in the same period.

According to Statistics Sweden's purchase price coefficient, on the other hand, prices slowed somewhat in September compared with August (see Figure 3:10). This is probably due to some time lag in the statistics in Statistics Sweden's figures for house prices in relation to estate agents' statistics. This also indicates that the house price survey will continue to show rising house prices for some time to come. Estate agents' statistics point to an increase in activity on the housing market, which is visible in a decline in the number of days a home is on the market.

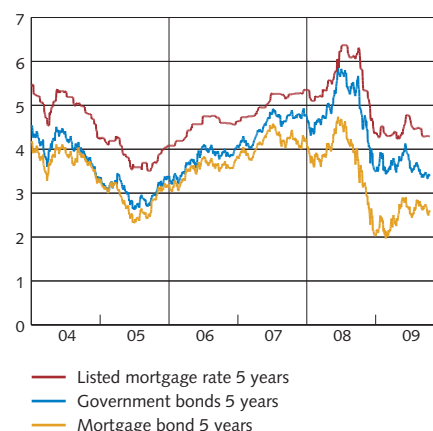
■ ■ Stock markets have continued to rise

Stock markets have continued to rise since the Monetary Policy Update at the beginning of September. The Stockholm stock exchange has so far risen slightly over 40 per cent since the start of the year. Bank shares have risen more than the Stockholm stock market's main index for much of the year, following the large falls in autumn 2008 and the subsequent winter. Low interest rates, greater confidence in the financial system and a belief that the recession will soon be over have been driving forces here. These factors have together contributed to better possibilities for companies to fund their operations, which has led to a higher valuation for many listed companies. Moreover, listed companies' interim reports for the third quarter have so far been unexpectedly positive in Europe and the United States. However, analysts' expectations of profits for the coming year and next year remain at roughly the same level as prior to the summer. This means that the valuation of the Stockholm stock market in terms of the P/E ratio is now in line with a longer historical average.

■ ■ Larger monetary base when the banks demand liquid funds

Following the Riksbank's two fixed-interest rate loans, the so-called monetary base has increased further (see Figure 3:6). At the same time, the rate of increase in the M2 money supply measure has fallen, but is at approximately the same level as prior to the crisis. However, the rate of increase in the broadest money supply measure, M3, was negative

Figure 3:9. Long-term mortgage rates in Sweden
Per cent



Note. Listed mortgage rates are the interest rates published by Nordea, SBAB, SEB Spintab and Stadshypotek in the daily press and elsewhere.

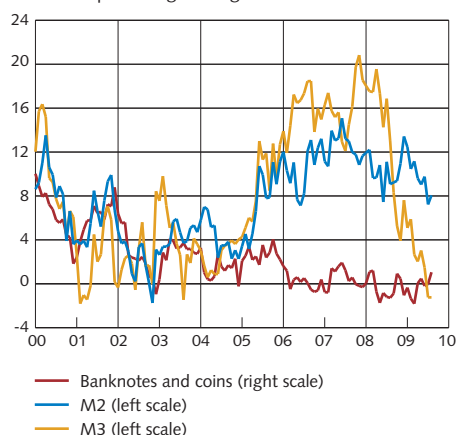
Sources: Reuters EcoWin and the Riksbank

Figure 3:10. Single-family dwelling prices
Purchase price coefficient, whole country

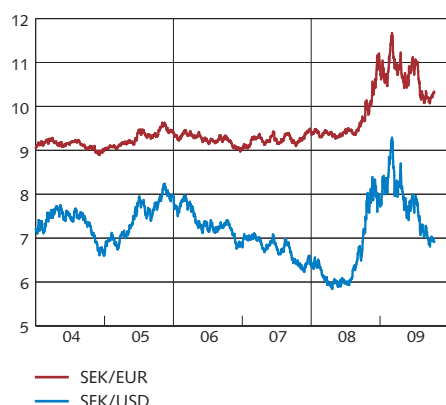


Note. The purchase price coefficient is the price in relation to the rateable value at a particular point in time (in this case the 2006 simplified property taxation).

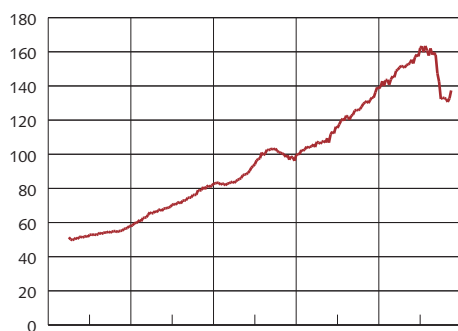
Source: Statistics Sweden

Figure 3:11. Money supply
Annual percentage change

Sources: Statistics Sweden and the Riksbank

Figure 3:12. Exchange rates
SEK per Euro and dollar

Source: Reuters EcoWin

Figure 3:13. World Trade Monitor Index
Index 2000 = 100,
seasonally adjusted data

Source: Netherlands Bureau for Economic Policy Analysis

for the second month in a row in August. This is primarily explained by households and companies having sold money market instruments with short maturities to buy other assets, such as equity (see Figure 3:11). The fact that the monetary base has risen substantially without other measures of the money supply increasing reflects an increase in the banks' need for liquid assets (see the article "Unconventional measures and the risk of inflation" in this Report).

■ ■ The krona has strengthened rapidly

During last autumn and winter the Swedish krona weakened substantially, at the same time as the foreign exchange market was highly volatile. The fluctuations could be explained by a flight from smaller to larger currencies, which are considered more secure and liquid, as a result of the deeper financial crisis, the weak stock markets and the global economic downturn in autumn 2008. However, during the spring and summer the krona has strengthened at a rapid rate. As the situation in the financial markets improves, the will to invest in markets perceived as higher risk will improve, which will probably benefit the krona.

The Riksbank's forecast for the trade-weighted krona exchange rate, the TCW index, remains largely unchanged for the fourth quarter of 2009. In terms of the TCW index, the krona is now much stronger than it was at the beginning of July (see Figure 1:13). The USD/SEK rate has returned to the levels prevailing one year ago. However, the krona is still relatively weak against the euro, seen in an historical perspective (see Figure 3:12). During October the krona has moreover weakened as a result of developments in the Baltic countries and the Swedish banks' exposures there.

■ ■ Recovery in world trade

Following the heavy fall at the end of 2008, world trade has begun a recovery (see Figure 3:13). The global trade volume rose in both June and July. The increase in volume in July was, when expressed as a percentage, the largest since December 2003, which is not actually surprising, given the low level. Exports from the euro area and Asia have increased particularly strongly in recent months.

■ ■ Stronger development in Asia

The most recent statistics from China point to continued strong domestic demand in August. Both retail trade and fixed gross investment continued to increase at a rapid rate. At the same time, inflation appears to have bottomed out. CPI inflation fell by 1.2 per cent on an annual basis, but rose by 0.3 per cent on a monthly basis, mainly because of rising food prices. Manufacturing output continued to rise at the same rate in August as in July (1 per cent on a monthly basis), but both exports and imports fell slightly in August.

In India, GDP increased by 6.7 per cent during the second quarter, when calculated as an annual rate, compared with the previous quarter. Manufacturing output fell slightly in July, compared with the previous

month but rose again in August. The inflation rate, which has fallen for several months, took an upward turn in September and was then 0.5 per cent.

Japan, which has substantial exports to the rest of Asia, has been very much affected by the strong growth in Asia, and GDP increased by 2.3 during the second quarter, calculated as an annual rate, following a period of large falls in GDP.

■ ■ Indications of a recovery in the US economy

GDP growth in the United States between the first and second quarters of this year was -0.7 per cent when calculated as an annual rate, which was a slightly smaller fall than indicated in the preliminary outcome that was available when the Monetary Policy Update was published in September. With effect from the third quarter, a positive quarterly growth is expected, in the initial stage supported by measures to stimulate household consumption, by a stabilisation in the housing market, rising net wealth and a gradual phasing out of the large cutbacks in companies' stocks of goods that could be noted in recent months.

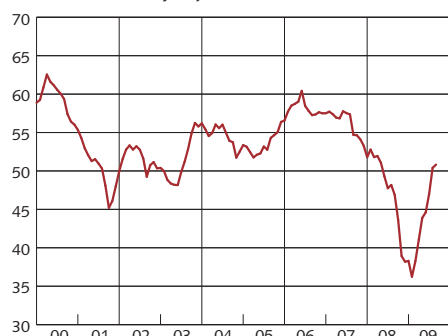
Consumption fell by 0.9 per cent in the second quarter, when calculated as an annual rate, but then rose substantially in July and August. The most prominent of the measures to stimulate consumption is that aimed at stimulating sales of motor vehicles. The subsidy provided to buyers who have replaced older vehicles with newer vehicles with lower fuel consumption, generally known as "cash for clunkers", has led to a large increase in sales of motor vehicles in July and August. However, the increase in consumption that could be observed during these months has been larger than can be explained by the earlier consumption that could be expected as a result of the vehicle subsidy. It is therefore probable that other parts of consumption demand will to some extent compensate for the decline in sales of vehicles expected after the subsidy programme expired at the end of August.

Sales of new homes have risen every month since April. This pattern can also be seen among sales of existing housing with the exception of a decline in August. House prices have begun to rise again in recent months, and according to the Case-Shiller index are now a few per cent above the bottom level in April, but around 30 per cent below the top level in summer 2006. Combined with the large upturn in the equity market that has been under way since March, this means that households' net wealth has begun to recover slightly following the dramatic fall in 2008.

The labour market has continued to weaken, and even if the rate of decline in employment has slowed down somewhat since March, the number of employed is still fewer every month. In September, employment was around 4 per cent lower than one year earlier. Unemployment has risen and was 9.8 per cent in September.

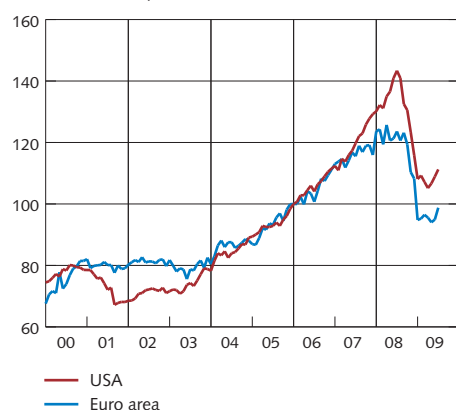
Inflationary pressures in the United States are low after a period of falling capacity utilisation and low expectations of future growth. After having fallen to -1.5 per cent in August, CPI inflation continued to rise in

Figure 3:14. Purchasing managers' index in the euro area
Index, seasonally adjusted data



Source: Markit Economics

Figure 3:15. Export
Index 2006 quarter 1 = 100



Sources: Eurostat, U.S. Department of Commerce and the Riksbank

September, when it was -1.3 per cent, largely as a result of rising energy prices.

■ GDP in the Euro area falling, but signs of a recovery

The large fall in GDP during the first quarter has come to a halt, and GDP fell by 0.7 per cent in the second quarter, calculated as an annual rate. Compared with the same quarter in 2008, GDP declined by 4.8 per cent (see Figure 1:12). Germany and France showed positive growth, while GDP continued to fall in Italy and Spain.

Consumption rose slightly during the second quarter, after having fallen in the two previous quarters. Public sector consumption also increased. On the other hand, the other components of demand continued to fall. The fall in exports, imports and investment was much less than during the first quarter. The contribution to stocks was still very negative. However, most indications are that the stocks cycle will turn around during the third quarter, as companies' stocks have declined substantially during the first half of the year, at the same time as orders have increased in recent months.

Indicators of companies' and households' expectations have continued to improve. The European Commission's barometer for September indicated increased optimism. The aggregate sentiment and confidence indicator for the euro countries, the ESI, continued to rise in September. The aggregate purchasing managers' index improved substantially in August and passed 50, which is an indication that production is rising (see Figure 3:14). The index also rose in September, but at a slower rate, and has now risen for seven months in a row.

Manufacturing output developed weakly during the spring, but revised statistical outcomes indicate that it has risen slightly in recent months. The increase in August was 0.9 per cent on the previous month. Orders have strengthened considerably. In June orders rose by almost 4 per cent compared with the previous month, and the increase continued in July.

Exports from the euro area rose in June and July, after falling heavily at the end of 2008 and beginning of 2009. The increase in July was more than 4 per cent, compared with the previous month (see Figure 3:15). In the export-dependent German economy, exports have now increased three months in a row. Trade within the euro area has also risen substantially.

Employment continued to fall during the second quarter, but at a slower rate than during the first quarter. Unemployment rose to 9.6 per cent in August, but is now rising at a slower rate. There are, however, major differences between the individual euro countries. Unemployment has increased substantially in Spain, and also in, for example, Ireland over the past year. However, the increases have been less in France and Germany, where government support to companies to maintain labour has contributed to slowing down the upturn.

Retail trade has developed weakly and continued to fall in August, although the decline was marginal. As the labour market will probably weaken further, retail trade is expected to remain sluggish.

The annual rate of increase in the banks' lending to households fell to -0.2 per cent in August. However, the rate of increase has stabilised around zero in recent months. The rate of lending to companies continued to fall in August, but was slightly positive. The ECB's Bank Lending Survey from the end of July shows that the banks continued to tighten their loan terms for companies and households during the second quarter of this year. However, the percentage of banks stating that they had tightened loan terms further fell substantially compared with the first quarter.

The inflation rate in the euro area was -0.2 per cent in August, which was an upturn compared with July. In September, inflation fell by -0.3 per cent (see Figure 3:16).

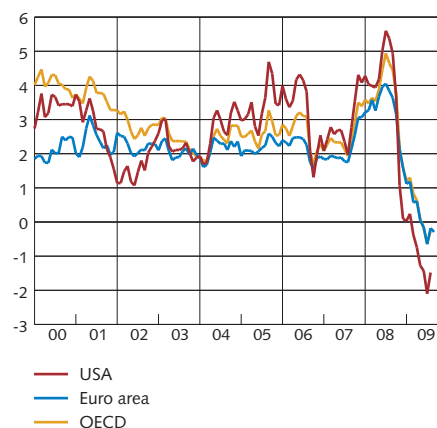
■ ■ Stabilisation also in other parts of Europe

In the United Kingdom and Norway GDP fell by 2.3 per cent and 5 per cent respectively from the first to the second quarter, calculated as an annual rate. Like most other countries, the fall in GDP during the second quarter was smaller in the United Kingdom than the fall during the first quarter. The weak GDP outcome in Norway was primarily a result of weak developments in the gas and oil industries. When adjusted for these sectors, GDP rose marginally in the second quarter. In Denmark GDP fell by around 10 per cent during the second quarter when calculated as an annual rate, which was a larger fall than during the first quarter. It was primarily the fall in investment and exports that contributed to the weak growth. With regard to the Danish households' confidence in the economic situation, this is currently at a level above the historical average.

At the same time as optimism has increased, the real economy has remained weak. New statistics show that manufacturing output in both Denmark and the United Kingdom has continued to fall in recent months. In Norway, on the other hand, there are signs of some stabilisation in manufacturing output. Retail trade sales in all countries have remained largely unchanged since the beginning of the year. Exports from the three countries have also continued to develop weakly, particularly in Denmark and Norway. In Denmark and in the United Kingdom, unemployment has risen substantially over the past year. While unemployment is high in Denmark from an historical perspective, it is still relatively low compared with other countries. Unemployment in Norway has risen over the past year, but has fallen back in recent months to 2.7 per cent in September, which is a historically low level.

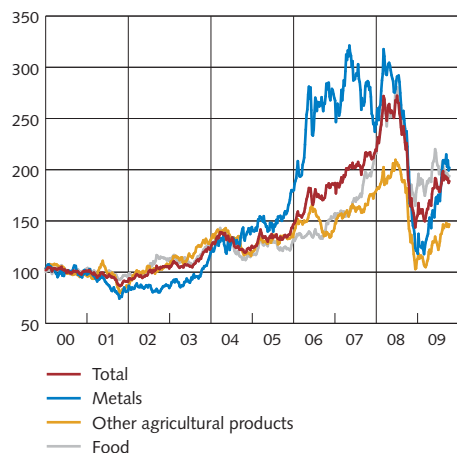
In the United Kingdom, Norway and Denmark inflation is showing a similar pattern. CPI inflation has fallen substantially since the end of last year. This can be partly explained by lower energy and food prices. However, inflation excluding energy and food prices has also slowed down recently, and is around two per cent.

Figure 3:16. Consumer prices
Annual percentage change



Sources: Bureau of Labor Statistics, Eurostat and OECD

Figure 3:17. Commodity prices
Index 2000 = 100, USD



Source: The Economist

In the Baltic countries the recession continued to deepen during the second quarter of the year. GDP fell by more than 15 per cent, as an annual percentage change, in Estonia, Latvia and Lithuania. At the same time, the labour market has continued to deteriorate. This has meant that the government budget deficits have increased substantially. In recent months, however, the downturn in the Baltic economies has begun to slow down. This is evident in, for instance, the fact that manufacturing output appears to have bottomed out, at the same time as retail trade sales are not falling as rapidly as before. Households' optimism regarding the future remains at a low level, however.

■ ■ Signs of a recovery also in other parts of the world

After having fallen for two quarters in a row, GDP in Brazil rose by almost 8 per cent, calculated as an annual rate, during the second quarter, compared with the previous one. Manufacturing output rose in July and August compared with the previous months. Exports were 30 per cent lower in September 2009 than in September 2008. However, this was a slight deterioration compared with August. After having fallen for seven months in a row, the inflation rate was 4.3 per cent in August.

In Russia, GDP fell by 10.9 per cent in the second quarter of 2009, compared with the same period in the previous year. However, it appears as though the fall in GDP has slowed down. Manufacturing output rose on a monthly basis in June and July but fell again in August. Exports have continued to recover in recent months, but were nevertheless around 40 per cent lower in August than in the same month last year. Inflation has shown a falling trend since the middle of 2008, but was nevertheless above 11 per cent in August.

■ ■ Rising commodity prices

The oil price had fallen heavily since July 2008, when it was on average around USD 133 per barrel, but has partly recovered since the start of the year. In September the price per barrel was 68 dollars on average, which is a fall of 7 per cent compared with the previous month and a fall of more than 30 per cent compared with the same month in the previous year. Since the lowest level noted in December last year the price has risen by almost 70 per cent, from USD 40 per barrel to USD 68 per barrel, which will contribute to a higher inflation rate (12-month change) in the future. Forward prices for oil have fallen since September and are now expected to be around 5 per cent lower on average during the forecast period (see Figure 1:30). Commodity prices (metals, foods and other agricultural products) have remained relatively unchanged in recent months (see Figure 3:17).

■ ■ GDP growth in Sweden beginning to recover

GDP in Sweden rose during the second quarter of this year by 0.6 per cent when calculated as an annual rate. Compared with the same period in the previous year, GDP growth fell by 6.0 per cent (calendar-adjusted).

This was a rather stronger result than was reported in the preliminary National Accounts figures available prior to the monetary policy meeting in September. The forecast for GDP growth in the first quarter was at the same time revised down. Compared with the preliminary outcome, there have been relatively large revisions in the demand components in the balance of resources. For example, stocks were phased out to a greater extent than has been reported earlier.

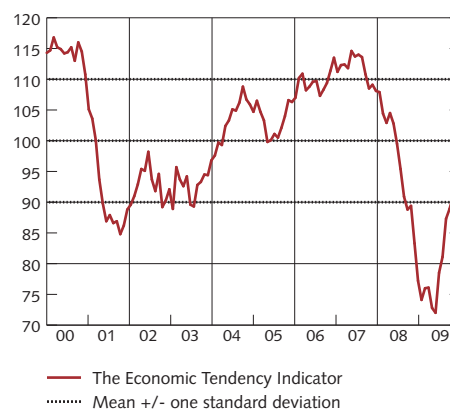
There is information from barometers for all three months of the third quarter, while information in the form of monthly outcomes is only available for the first two months. The upturn that began in the spring and could be seen, for instance, in the purchasing managers' index and the National Institute of Economic Research's Economic Tendency Survey, has continued in recent months. According to the survey, the situation in the Swedish economy has gone from being "much weaker than normal" to "weaker than normal" (see Figure 3:18). However, there is a clear difference between developments in different sectors (see Figure 3:19). Several sectors are still at historically low levels, despite the upturn. Manufacturing output fell in August, too, but a recovery can be expected during the autumn as companies have to begin manufacturing on a wider scale to meet demand. Orders to the manufacturing industry have shown some recovery in recent months, but also fell slightly in August (see Figure 3:20).

Several factors indicate that the period of very severe cuts in stocks is drawing to a close. Over the past year, companies have to a great extent sold from their stocks and cut down substantially on the manufacture of new goods, as demand has been low. The survey information also indicates that companies in general are not as dissatisfied with their stocks as they were before.

The results from the Riksbank's company interviews in September match the picture painted by the other indicators (see the publication "The Riksbank's company interviews in September 2009"). Although developments differ for the different sectors, most companies state that the economy has now bottomed out. Nevertheless, the companies do not expect a rapid recovery and many are uncertain over the stability of the upturn. Before companies dare to begin investing to a greater extent again, it will be necessary to have a more sustainable higher level of demand. Companies have found it slightly easier to find funding, but the situation is still not considered entirely normal.

All in all, the indicators for the third quarter are slightly stronger than expected. At the same time, the most recent National Accounts figures for the second quarter together with additional information from the Riksbank's company interviews means that a partly new picture of, for instance, stocks, is emerging. GDP is expected to rise by around 2.5 per cent in the third quarter when calculated as an annual rate (see Figure 1:16), which is a relatively large upward revision in relation to the forecast made in September. The motive for the revision is primarily that domestic demand has developed slightly more strongly than estimated and that investment in stocks is expected to provide a positive contribution to

Figure 3:18. The Economic Tendency Indicator
Index, mean = 100



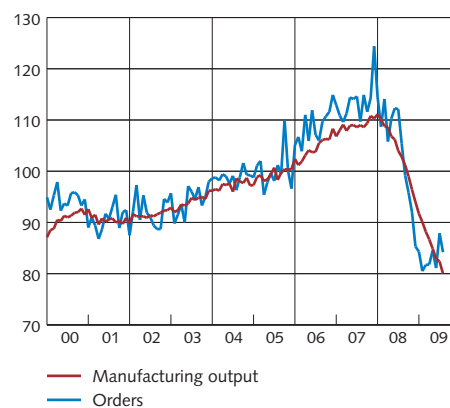
Source: National Institute of Economic Research

Figure 3:19. Confidence indicators in the business sector
Seasonally adjusted net figures



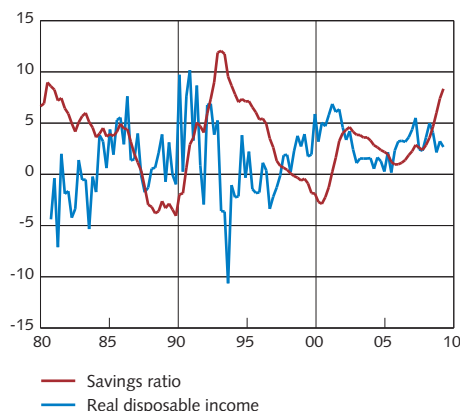
Source: National Institute of Economic Research

Figure 3:20. Manufacturing output and orders
Index 2005 = 100, seasonally adjusted data



Source: Statistics Sweden

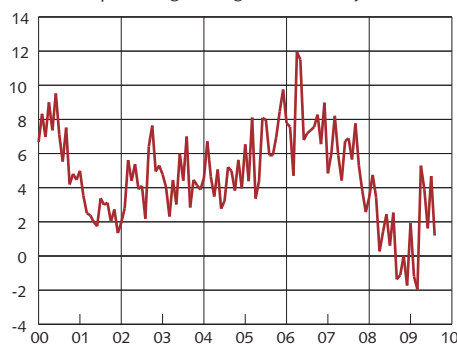
Figure 3:21. Savings and disposable income
Per cent of disposable income and annual percentage change



Note. Savings does not include savings in occupational pensions and is calculated as four quarter moving average.

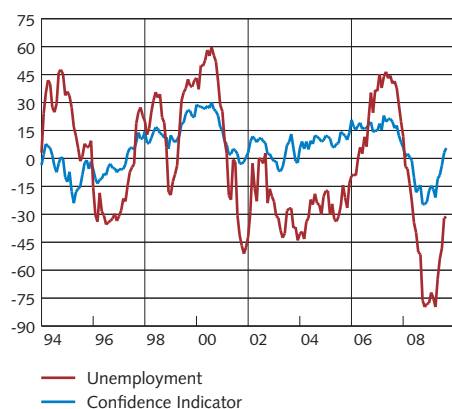
Sources: Statistics Sweden and the Riksbank

Figure 3:22. Retail trade index
Annual percentage change, calendar adjusted data



Source: Statistics Sweden

Figure 3:23. Households' expectations for the future
Net figures



Note. Unemployment is defined here as the percentage of households that believe unemployment will fall minus the percentage who believe that unemployment will rise.

Source: National Institute of Economic Research

the quarterly change in GDP growth in the third quarter, after having provided a record-breaking negative contribution during the second. In the fourth quarter GDP growth is expected to amount to 1.9 per cent calculated as an annual rate, which is a marginal upward revision compared with the forecast in September.

Expectations of GDP growth among all those questioned in Prospera's October survey point to a more optimistic view of how the economy will develop in the future, compared with the results in the previous survey published in June. In a year's time GDP is expected to have fallen by 0.6 per cent, compared with 1.5 per cent in the June survey. Expectations of GDP growth two and five years ahead are 1.5 per cent and 2.5 per cent respectively, which can be compared with 0.8 per cent and 2.4 per cent respectively in the June survey.

■ ■ Recovery in household consumption

After having falling heavily in the fourth quarter of last year, household consumption rose in the first and second quarters of this year, when expressed as a percentage change in comparison with the previous quarter (the Riksbank's own seasonal adjustment). However, the level of household consumption was still almost 2 per cent lower in the second quarter than in the same period last year.

Households' real disposable incomes have increased steadily, partly as a result of tax cuts and low interest rates (see Figure 3:21). Despite this, household consumption has fallen over the past year. This is probably linked to the uncertainty over economic developments that has prevailed among households and to falling wealth. Households' savings in relation to disposable income have risen substantially (see Figure 3:21).

There are plenty of indications that household consumption will rise over the coming quarters. House prices and equity prices have risen, which usually leads to increased consumption. Retail trade turnover has increased in recent months. In August, consumption of retail goods increased by just over 1 per cent compared with the same month last year (see Figure 3:22). After falling substantially last year, new car registrations have once again begun to rise slightly in recent months. According to the National Institute of Economic Research's Consumer Tendency Survey, households are moreover becoming gradually less pessimistic with regard to future economic developments, and a smaller percentage believe that unemployment will rise (see Figure 3:23).

■ ■ Expansionary fiscal policy will increase public sector consumption

Public sector consumption increased by 1.5 per cent in 2008 and continued to increase during the first half of 2009. General government net lending in 2008 corresponded to 2.5 per cent of GDP (see Figure 3:24). During 2009 as a whole, public sector consumption is expected to increase by 1.5 per cent.

New information received since the Monetary Policy Update in September includes the tax assessment outcome for 2008, forecasts and

outcomes for August from the Swedish National Financial Management Authority and the government budget for 2010. The preliminary tax assessment for 2008 with regard to tax on labour and households' capital taxes was higher than expected. This, together with the slightly stronger developments in the stock market and the real economy in 2009 indicates that net lending will not weaken as much as was forecast in the September Monetary Policy Update.

The Government's budget bill for 2010 was roughly as expected in terms of scope and aims. Net lending will weaken by SEK 32 billion (corresponding to 1 per cent of GDP) in 2010 through the proposed discretionary fiscal policy. Some reforms are temporary and others are permanent. Municipalities and county councils will temporarily receive more resources. This will counteract the procyclical fiscal policy, that is, that the decline will be reinforced by cutbacks in municipalities and county councils.

■ ■ Business sector investment falling heavily

Total investment has fallen substantially during the first half of this year. At the same time as the outcome for the National Accounts for the second quarter was published, the assessment of developments in the first half of 2009 was revised substantially (see Figure 1:20). Now the picture emerging shows the largest fall in investment occurring during the first quarter and slowing down during the second quarter.

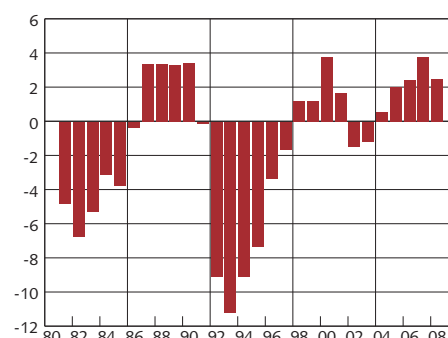
Nevertheless, both business sector investment and housing investment fell heavily during the second quarter compared with the same period last year (see Figure 3:25). Almost half of the fall in total investment is due to the business sector reducing its investment in machinery. Housing investment has been weak over a long period of time. However, in recent months it has stabilised somewhat. The historically low interest rates, combed with a pent-up need for housing in large parts of the country mean that new accommodation is being planned once again. Conversions have also benefited recently from low interest rates and the re-introduction of the tax deductions for repairs, maintenance and improvements (known as the ROT deduction). As before, investment by public authorities is relatively strong. This is mainly due to continued investment in roads and construction.

Total investment is expected to continue to fall in the third and fourth quarters of this year, but the fall is expected to be slightly less than was forecast in September. All in all, total investment is expected to fall by just over 17 per cent in 2009, which is in line with the assessment made in September.

■ ■ Record-low growth in foreign trade, but recovery expected

Swedish exports have been hit hard by the crisis. During the second quarter of this year, total exports fell by 16.9 per cent, compared with the same period in the previous year. Exports of goods fell by 25.5 per cent, while exports of services only declined by 0.9 per cent. Increasing exports of travel (foreign consumption in Sweden) contribute substantially

Figure 3:24. General government net lending
Per cent of GDP



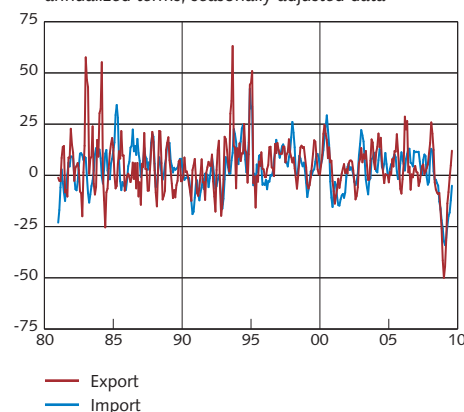
Source: Statistics Sweden

Figure 3:25. Gross fixed capital formation
Annual percentage change



Source: Statistics Sweden

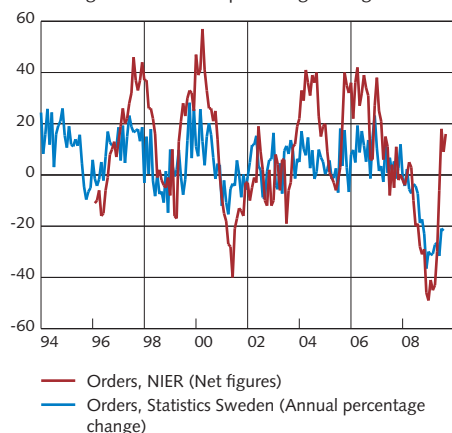
Figure 3:26. Foreign trade with goods in fixed prices
Three-month changes in per cent calculated in annualized terms, seasonally adjusted data



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

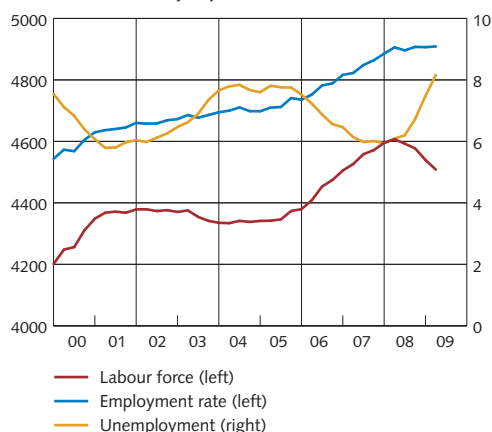
Sources: Statistics Sweden and the Riksbank

Figure 3:27. New export orders
Net figures and annual percentage change



Sources: National Institute of Economic Research and Statistics Sweden.

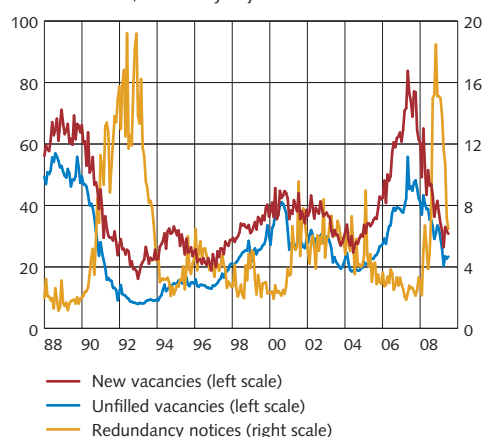
Figure 3:28. Employment rate, labour force and unemployment
Thousands, 15-74 years and per cent of the labour force, seasonally adjusted data



Note. Three-month moving averages. Data before 2001 is spliced by the Riksbank.

Sources: Statistics Sweden and the Riksbank

Figure 3:29. New and unfilled vacant jobs and redundancy notices
Thousands, seasonally adjusted data



Sources: Employment service and the Riksbank

to subduing the fall in exports of services. This is largely explained by the weak krona having stimulated both cross-border shopping and tourism in Sweden.

Total imports also fell substantially during the second quarter of 2009. They fell by just over 20.3 per cent then, compared with the same period in the previous year. Companies continued to cut back on their stocks during the second quarter, which contributed to a decline in imports. The large fall in exports and investment (which both have a large import content) has also contributed to the low imports. The fall in imports of goods was much larger than the fall in imports of services.

However, monthly statistics on foreign trade up to the end of August imply a recovery in both exports and imports (see Figure 3:26). Indicators of export orders also point to a positive development (see Figure 3:27). The statistics on orders published by the National Institute of Economic Research show that it is mainly the intermediate goods industry that accounts for the recovery.

Exports are expected to increase slightly during the second half of this year, which is a marginal upward revision to the forecast made in September. The forecast for imports, on the other hand, has been revised up more strongly as a result of consumption and investment being expected to strengthen during the third quarter. Stocks are also expected to decline at a slower rate, which means that imports will increase more quickly.

■ Economic downturn affects labour market

The situation in the labour market has deteriorated rapidly as a result of the large fall in production in the Swedish economy. Over the past year employment has declined by more than 100,000 persons, most of them in the manufacturing industry, and unemployment has risen by around 2.5 percentage points (see Figure 3:28). In August, the number of persons employed (aged 15-74) according to the labour survey declined by 147,000 persons, or 3.1 per cent, compared with the same period in the year before. During the same period the number of persons in the labour force fell by 10,000, or 0.2 per cent, which means that the number of persons unemployed increased by 137,000. Compared with the assessment made in the September Monetary Policy Update, the number of persons employed as developed as expected, while the number of unemployed has been slightly lower than expected.

The competition for jobs has stiffened as unemployment has increased and the demand for labour has declined. Over the past year the number of job vacancies reported to the Swedish Employment Service has halved, although the situation in recent months appears to have stabilised somewhat (see Figure 3:29). The number of persons receiving notice of redundancy has also declined in recent months. Around 8,000 persons were given notice of redundancy in September, which means that a total of more than 163,000 persons has been given notice of redundancy since September last year. According to the business tendency survey, the sentiment among companies has improved in recent months, but it is still

weaker than normal. The percentage of companies stating a shortage of labour is very low (see Figure 3:30) and despite the number of employed already having declined substantially, companies are predicting continued staff cutbacks (see Figure 3:31).

All in all, the outcomes and labour market indicators published so far indicate that the labour market has weakened as expected. The forecasts for labour and unemployment have been revised down as a result of the lower outcome. The forecasts for the number of hours worked and employment, on the other hand, have been revised upwards for the second half of the year due to slightly stronger GDP growth.

■ ■ Labour productivity recovering

Labour productivity in the Swedish economy fell for more than two years up to the first quarter of this year, which is an unusually long period (see Figure 1:24). The fact that productivity growth has declined over the past year is to some extent normal, as companies adapt their labour forces and the number of hours worked in an economic downturn at a later stage than they adapt output. During the second quarter, productivity began to recover. It increased by 6.1 per cent compared with the previous quarter (calculated as an annual rate), which was almost 1 percentage point more than the outcome published in the preliminary version of the National Accounts. Compared with the corresponding quarter last year, however, productivity fell by around 2.4 per cent. The recovery in labour productivity is expected to continue as companies adapt their staffing to the production volume. This also means that the negative effects on the labour market will continue, entailing falling employment and rising unemployment, despite an increasing GDP. The forecast for productivity growth in the coming quarters remains unchanged compared with the September Update. The level of productivity, on the other hand, is slightly higher than was forecast in the Update.

■ ■ Resource utilisation has fallen rapidly

There is no simple way of measuring resource utilisation in the economy. The Riksbank studies several different indicators and also uses statistical methods to assess the utilisation of the economy's manufacturing resources. The overall picture at present is that resource utilisation has fallen rapidly and is now at around the same level as during the 1990s crisis.

The large and rapid fall in production means that companies now have substantial spare capacity. Capacity utilisation in the manufacturing industry has fallen sharply to historically low levels (see Figure 3:32). Demand for labour has also fallen rapidly and there are very few companies stating that they have a shortage of labour (see Figure 3:30).

Resource utilisation in the labour market as a whole is also falling rapidly, which is clearly indicated by the rapid rise in unemployment and falling employment rate. Various statistical measures can also be used to estimate resource utilisation in the economy. Figure 1:25 shows the deviations in GDP, the number of hours worked and employment from

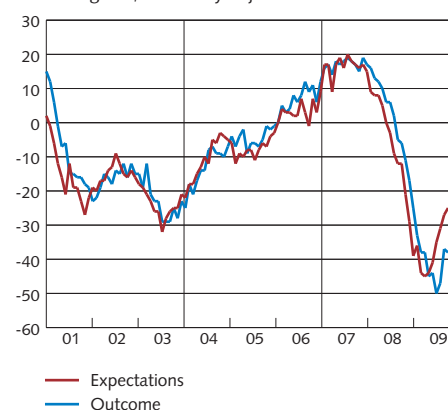
Figure 3:30. Proportion of firms reporting a shortage of labour

Per cent, seasonally adjusted data



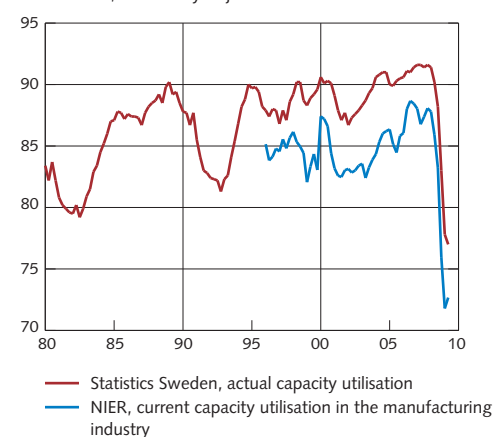
Source: National Institute of Economic Research

Figure 3:31. Employees in the business sector according to the Economic Tendency Survey
Net figures, seasonally adjusted data



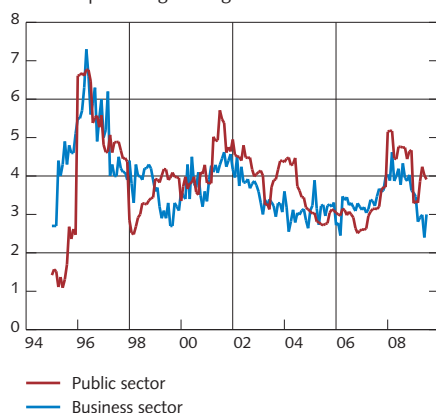
Source: National Institute of Economic Research

Figure 3:32. Capital utilization in industry
Per cent, seasonally adjusted data



Sources: National Institute of Economic Research and Statistics Sweden

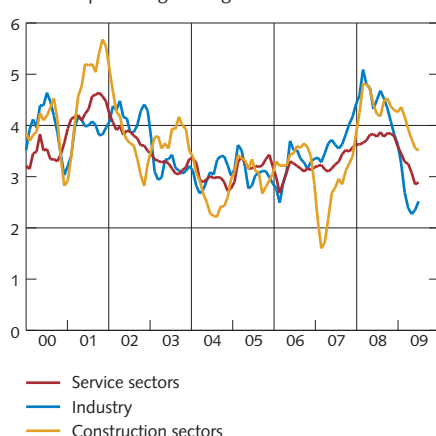
Figure 3:33. Wages
Annual percentage change



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

Sources: National Mediation Office, Statistics Sweden and the Riksbank

Figure 3:34. Wages in the business sector
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

their respective trends, produced by means of what is known as an HP filter. The size of these gaps is affected by the method used and should be interpreted with caution, but according to these measures, too, resource utilisation appears to have fallen rapidly and is now at a low level.

■ ■ Unusually low wage drift this year

Since the Monetary Policy Update was published in September, new preliminary wage outcomes have been published for the months of June and July according to the short-term wage statistics from the National Mediation Office. Wages in the economy as a whole increased preliminarily by 2.9 per cent and 3.4 per cent on an annual rate in the respective months. During the first seven months of the year, the preliminary rate of wage increase has on average been higher in the public sector than in the business sector (see Figure 3:33). The preliminary rate of wage increase has so far this year been lower in the manufacturing industry than in the construction sector and service industries (see Figure 3:34).

The definitive rate of wage increase in the economy as a whole is expected to be 3.4 per cent for 2009, which is higher than the assessment in the September Monetary Policy Update. The forecast revision is mainly due to a revision of the statistics. The new branch breakdown (SNI2007), which is now used for wage statistics in the business sector, and has so far this year led to an around 0.1 percentage points higher rate of wage increase in this sector compared with the rate of increase according to the earlier branch breakdown used in the statistics. The centrally-agreed wage increases are calculated at 3.0 per cent this year, which means that wage increases over and above central agreements will be low this year, less than 0.5 percentage points. One important explanation for the low wage increases above the centrally-agreed ones is of course the gradual deterioration in the labour market.

■ ■ Continued high growth in unit labour costs

The statistics for payroll expenses according to the National Accounts for the second quarter of this year have been published since the September Update. According to these statistics, hourly wages in the economy as a whole increased by 4.1 per cent on an annual rate during the second quarter, which is slightly higher than was forecast in September. The rate of wage increase according to the National Accounts is higher than according to the short-term wage statistics, which may be partly explained by the local agreements within the general agreement for the manufacturing industry, which means that working hours decline more than wages are cut.¹³ This effect is not captured in the short-term wage statistics.

However, labour costs per hour rose during the second quarter, albeit at a slightly more moderate rate, around 3.5 per cent on an annual rate, which is in line with the assessment made in September. One of the

¹³ Hourly wages according to the National Accounts are measured as payroll expense divided by seasonally-adjusted working hours.

explanations for this is that the statutory employers' contributions are being reduced this year. Growth in unit labour costs was 6.1 per cent in the second quarter of this year, compared with the corresponding quarter in 2008, which means that this is the fourth quarter in a row with an annual growth rate of over 5 per cent. Unit labour costs are expected to fall when productivity rises.

■ ■ Inflation expectations remain low in the short term

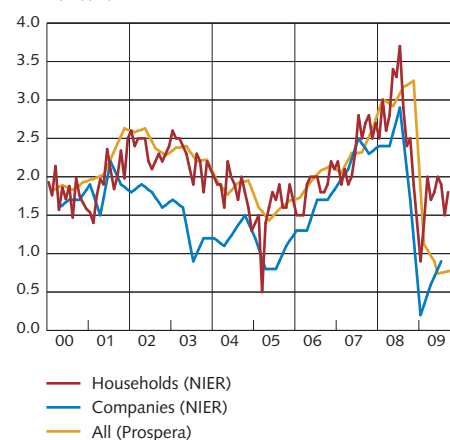
Households' inflation expectations one year ahead, as measured in the National Institute of Economic Research's Consumer Tendency Survey, amounted to 1.8 per cent in September 2009. This is an upswing from 1.5 per cent in August (see Figure 3:35). According to Prospera's survey in October 2009, inflation expectations have increased slightly in relation to the previous survey in June, and are now at 0.8 per cent one year ahead. Inflation is expected to be 1.6 per cent and 2.2 per cent at two and five years ahead respectively. In the previous survey, inflation was expected to be 1.4 per cent two years ahead and 2.2 per cent five years ahead (see Figure 3:36). In Prospera's survey, inflation expectations for the coming year are thus lower than in the National Institute of Economic Research's Consumer Tendency Survey and also in relation to the Riksbank's forecasts for CPI inflation.

A rough measure of the fixed-income market's long-term inflation expectations is break-even inflation, that is, the difference between nominal and real bond rates with the same maturity. This has risen in 2009 from very low levels at the start of the year. Breakeven inflation calculated on rates with a five-year maturity in Sweden is currently just over 2.3 per cent (see Figure 3:37). As before, there are signs that trading in this type of instrument has increased, but the measure should still be interpreted with caution. The fact that the measure of break-even inflation has been perceived as misleading is mainly due to a low turnover in the real bonds market, which means that prices probably have not fully reflected inflation expectations.

■ ■ CPI inflation falling

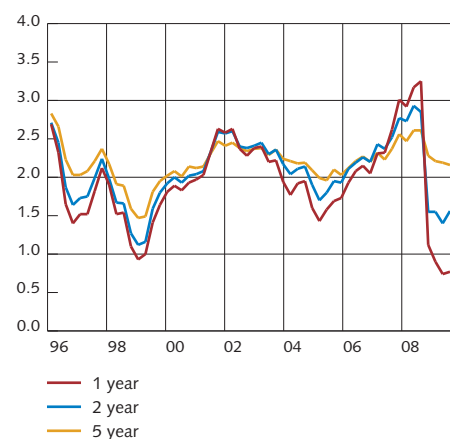
Since the September Monetary Policy Update CPI inflation has continued to fall. In September, CPI inflation fell by 1.6 per cent compared with the same month last year (see Figure 1:28). Households' interest expenditure and energy costs are falling rapidly, measured as an annual percentage change. However, if the effects of changes in interest rates and energy prices are excluded from CPI inflation, then prices do not fall. The CPIF excluding energy was 2.4 per cent higher in September than in the same month last year. Inflation measured in terms of the CPIF, where only mortgage rates are held constant, amounted to 1.4 per cent in September (see Figure 1:28). The outcomes for CPI and CPIF inflation were slightly higher than forecast in the September Monetary Policy Update. The relatively weak krona, together with the high rate of increase in unit labour costs, is probably a contributing factor to the relatively high underlying inflation rate.

Figure 3:35. Expectations of inflation one year ahead
Per cent



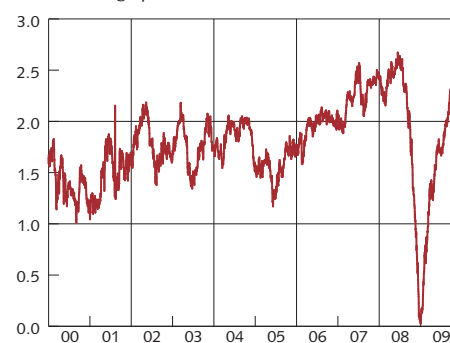
Sources: National Institute of Economic Research and TNS SIFO Prospera

Figure 3:36. Inflation expectations one, two and five years ahead
Per cent



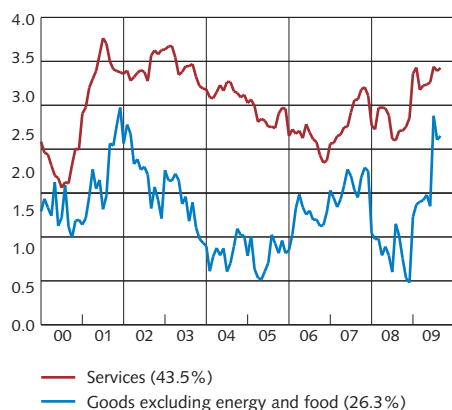
Source: TNS SIFO Prospera

Figure 3:37. The difference between nominal and real five-year rates (break-even inflation)
Percentage points



Source: The Riksbank

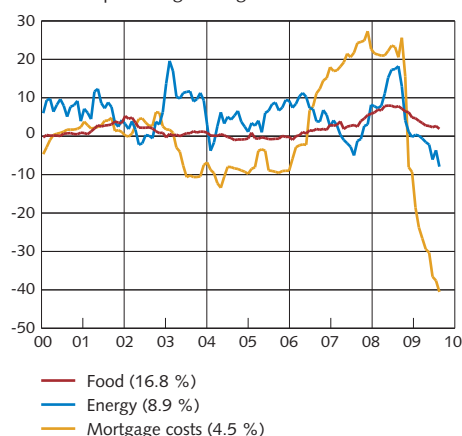
Figure 3:38. Prices of goods and services in the CPI
Annual percentage change



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

Source: Statistics Sweden

Figure 3:39. 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

The annual rate of change in goods prices (excluding energy and food) was 1.3 per cent in September, which is a relatively high outcome compared with the average since 1992 of around 0.6 per cent (see Figure 3:38). Durable goods prices in the producer sector were 6.1 per cent higher in August than in the same month last year, which was also a relatively high rate of increase. The annual rate of change in durable goods prices in the producer sector has risen by just under 4 percentage points since September 2008, when the krona began to weaken. This has probably not yet had full impact on the consumer sector. There is thus probably a pent-up need to raise prices in the consumer sector, despite the recent strengthening of the krona. Business Tendency Survey data from the National Institute of Economic Research and results from the Riksbank's company interviews in September also imply that prices will be raised in the retail trade. The annual rate of increase in service prices was 2.9 per cent in September, compared with 2.8 per cent in August (see Figure 3:38).

■ ■ Falling energy prices

Energy prices have fallen substantially since autumn 2008 and are still falling (see Figure 3:39). The annual rate of change in oil prices has fallen over a long period of time, but since last summer the rate of change in electricity prices is also falling. Futures prices for both oil and electricity have also fallen since the Monetary Policy Update was published in September (see Figure 1:30).

CPI inflation, measured as an annual percentage change, is expected to have bottomed out in September and the rate of change is expected to be slightly positive at the end of the year. The falling energy prices have not yet begun to make a full impact on the annual percentage change in the CPI, and they are expected to continue falling for a while, when measured as an annual percentage change. However, during the fourth quarter oil prices are expected to increase and the rate of change will be positive, while electricity prices are expected to continue falling. CPI inflation is expected to develop in line with the assessment in the most recent Monetary Policy Update over the coming months. However, when adjusted for mortgage rates and energy prices, inflation is expected to be slightly higher over the coming months than was forecast in September. The HICP¹⁴ rose by 1.4 per cent measured as an annual percentage change in September and is expected to rise by on average 1.8 per cent in the second half of this year (see Figure 1:31).

14 The HICP is the EU-harmonised consumer price index and is similar to the CPI in composition, but rises slightly faster than the CPI, on average.

■ Evaluating different monetary policy alternatives

Monetary policy aims to stabilise inflation around the inflation target at the same time as weight is attached to stabilising the real economy. One way of measuring how successful different monetary policy alternatives are at this is to calculate the sum of the squared deviations between the inflation forecast and the inflation target, and between the forecasts for actual and normal resource utilisation. This overall measure provides a way of comparing the expected consequences of different future interest rate scenarios. In some cases, however, it does not provide all the relevant information required for the monetary policy considerations.

According to the Sveriges Riksbank Act, the objective of monetary policy is to maintain price stability. In the preamble to the Act, it is stated that the Riksbank, without prejudice to the price stability target, should also support the goals of general economic policy with a view to maintaining a sustainable level of growth and high rate of employment. The Act states, moreover, that the Riksbank's tasks include promoting a safe and efficient payment system. This is often expressed as an assignment to safeguard financial stability.

The preamble also makes it clear that monetary policy can only influence growth and employment in the short term. Today, it is generally accepted that a central bank can not lastingly increase GDP growth and employment by conducting a systematically expansionary monetary policy. What monetary policy can do is to create sound conditions for the efficient functioning of the economy and relatively stable macroeconomic development. This can be achieved by conducting a monetary policy that aims to stabilise inflation around the inflation target at the same time as weight is attached to stabilising the real economy. Such a policy is usually referred to as flexible inflation targeting. A measure of resource utilisation is often used as an overall measure of the development of the real economy.

The approach normally used by the Riksbank entails setting a current repo rate and selecting a future repo rate path so that the forecasts for inflation and resource utilisation together "look good". To simplify somewhat, this means that if one looks ahead, any deviation from the inflation target or deviation from the normal level of resource utilisation appears reasonable and not too large. If a conflict of interests arises in which, for example, inflation increases at the same time as the real economy weakens, then monetary policy should aim to achieve a reasonable compromise between stable inflation and stable resource utilisation.

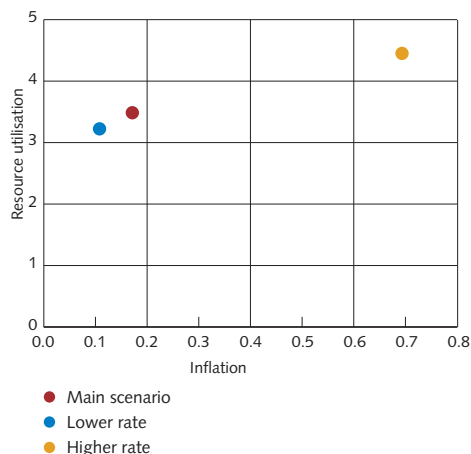
Such a policy can be described as choosing a repo rate path that minimises a loss function of the form

$$\sum_{k=0}^T (\pi_{t+k,t} - \pi^*)^2 + \lambda \sum_{k=0}^T (y_{t+k,t} - \bar{y}_{t+k,t}^*)^2$$

where $\pi_{t+k,t}$ is the forecast in quarter t for inflation in quarter $t+k$, π^* is the inflation target, λ is the weight of the stabilisation of resource utilisation (often measured using the production gap) relative to the stabilisation

Figure B1. Mean square gaps for the forecast of inflation and resource utilisation

Average squared deviation during the forecast horizon



Note. Resource utilisation is measured as the deviation in GDP from the HP trend and the deviation in inflation is measured as the deviation in the CPIF from the inflation target.

Source: The Riksbank

of inflation, $y_{t+k,t} - \bar{y}_{t+k,t}$ is a measure of resource utilisation (often the so-called production gap) and T is the forecast horizon (normally 12 quarters). It is thus a case of choosing a repo rate path that minimises the squared sum for the forecast for the inflation deviation $\sum_{k=0}^T (\pi_{t+k,t} - \pi^*)^2$, plus the weight λ times the squared sum for the forecast for resource utilisation $\sum_{k=0}^T (y_{t+k,t} - \bar{y}_{t+k,t})^2$.

In producing its forecast, the Riksbank analyses the consequences of various possible repo rate paths. These are presented in Chapter 2 of the Monetary Policy Reports under the heading "Alternative scenarios and risks". The alternative scenarios are usually presented in the form of figures that show, over time, the forecast development of inflation and a measure of the production gap that a particular repo rate is expected to give rise to. Figures 2:14 and 2:12 show the forecast development for CPIF inflation and resource utilisation measured in terms of the production gap in the main scenario and in the two alternative repo rate scenarios presented in Chapter 2.

A complementary way of presenting the alternative scenarios is to calculate the mean squared sums, the mean squared gaps, for the forecasts for inflation deviation and resource utilisation.¹⁵ These have been plotted in Figure B1. The Figure sums up the information already presented in Figures 2:12 and 2:14 and thus makes it easier to compare alternative courses of action. It also relates directly to the point above that in conducting monetary policy one aims to minimise a loss function. The information is, however, independent of the relative weight, λ , that the central bank attaches to stabilising inflation in relation to stabilising resource utilisation.

The closer to origin, or "south-west" in the Figure, a scenario lies, the smaller the deviations between inflation and resource utilisation and the respective target levels are. The Figure shows that the scenario with a lower repo rate generates smaller mean squared gaps for both inflation and resource utilisation. All other things being equal, the alternative with the lower rate might thus be preferable. It is possible, however, that different interest rate paths, for example for a very low interest rate, may have consequences for financial stability or the functioning of the financial markets that may affect the decision.

¹⁵ The mean squared sums for the forecasts for the inflation deviation and resource utilisation are calculated as $\sum_{k=0}^T (\pi_{t+k,t} - \pi^*)^2 / (T+1)$ and $\sum_{k=0}^T (y_{t+k,t} - \bar{y}_{t+k,t})^2 / (T+1)$, where T is the forecast horizon (normally 12 quarters).

¹⁶ For more discussion, see L.E.O. Svensson, "Evaluating Monetary Policy," forthcoming in E. Koenig, and R. Leeson, eds., *From the Great Moderation to the Great Deviation: A Round-Trip Journey Based on the Work of John B. Taylor*, 2009 (updated and revised version of a speech on 13 March 2009).

■ Unconventional measures and the risk of inflation

The unconventional measures taken by the Riksbank have led to a substantial increase in the monetary base, which according to the textbook models could lead to a considerable increase in the money supply with significant risks of inflation in the period ahead. However, the increase in the monetary base reflects the increased demand for reserves at the Riksbank that has arisen as a result of the funding problems on the interbank and securities markets, a factor that should counter this development. Without the Riksbank's measures, market rates would be higher and inflation and resource utilisation would be far too low.

Central banks normally conduct monetary policy by using the policy rate to influence the interest rates charged to households and companies. However, during the financial crisis it has been necessary to complement the monetary policy toolbox with more unconventional methods in order to get the financial markets to function more effectively, ease the supply of credit and reduce various risk premiums that have counteracted monetary policy.¹⁷

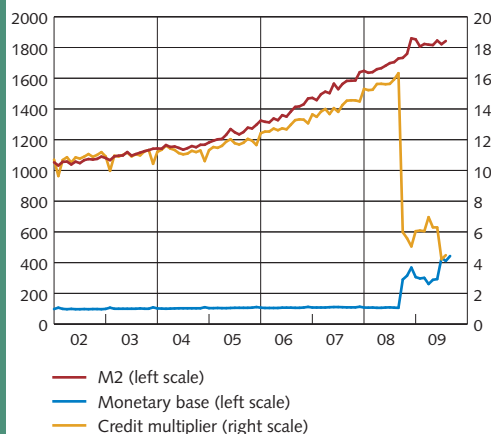
The Riksbank's lending has facilitated the banks' funding

The unconventional measures that the Riksbank and many other central banks have implemented include providing loans to their counterparties at longer maturities than usual, providing loans in US dollars, approving a wider range of securities as collateral and increasing the circle of counterparties. During the course of the crisis, the Riksbank has provided loans to the banking system at maturities of three, six and twelve months so that the banks can manage their short- and medium term funding more easily and efficiently. The Riksbank has thus acted as an intermediary in the banking system. These measures have led to substantial increases in the balance sheets of the central banks. The Riksbank's assets and liabilities have, for example, increased from almost SEK 200 billion in September 2008 to over SEK 650 billion in mid-October 2009.

Does this expansion of the balance sheet entail an increase in the money supply which in turn may lay the foundations for higher inflation in the future? In simple terms, the mechanism at work here is that increased lending to the banking system encourages the banks to increase their lending. When the public's access to credit increases, the level of demand in the economy increases, which fuels inflation. However, as can be seen in the latest statistics on the money supply, an expansion of the central bank's balance sheet does not automatically entail a dramatic increase in the supply of money in society (see Figure 3:11 in Chapter 3). Without the Riksbank's measures, however, both lending and the money supply would be lower.

¹⁷ See, for instance, the articles "The financial crisis and the effects of monetary policy", Monetary Policy Report, February, 2009 and "The Riksbank's new measures" in Financial Stability Report 2009:1.

Figure B2. Money supply (M2), monetary base and credit multiplier
SEK billion and ratio respectively



Sources: Statistics Sweden and the Riksbank

The Riksbank's lending has increased the monetary base

We normally distinguish between the money held by the public – which here means non-financial companies and households – and the central bank's supply of money. The volume of liquid funds held by the public can be calculated in different ways depending on how liquid these funds are. The Riksbank's supply of money consists of several items on the liabilities' side of its balance sheet: the banknotes and coins in circulation and the banks' deposits with the Riksbank. In textbook models the latter is also usually referred to as reserves. There are three items on the Riksbank's balance sheet that together form the equivalent of the textbooks' reserves: fine-tuning transaction, outstanding Riksbank certificates and funds in the deposit facility. These three items, together with banknotes and coins, constitute the so-called monetary base and it is this monetary base that has increased dramatically in connection with the increase in the Riksbank's lending to the banks (see Figure B2).

Here it may be worth pointing out that an increase in the Riksbank's lending to the banks, which entails an increase on the balance sheet's asset side, automatically leads to an increase on the liabilities side, either in the form of an increase in the number of banknotes in circulation or an increase in the banks' reserves. In the short term, the public demand for banknotes and coins will not change, so all the lending will, in one way or another, return to the Riksbank in the form of increased reserves. This does not mean, however, that the lending will have had no effect; it simply reflects the fact that the system is closed. By a closed system we mean, for example, that if the Riksbank lends money to a bank which in turn uses the money to increase its lending to a company, which in turn uses it to fund investments or pay wages, then these funds will be deposited in a bank which in turn will deposit them in an account at the Riksbank.

Is it possible that the banks' increased access to funds has indirectly affected the public's money supply and thus threatens to become a factor that will fuel inflation? To gain a clearer understanding of this, it may be a good idea to first look at the standard textbook model for how the supply of, and demand for, reserves is affected by the central bank's measures and then discuss the measures taken by the Riksbank during the financial crisis against this background.

In the textbook model, it is often assumed that the central bank influences interest rates and credit volumes in the economy by influencing the banks' reserves at the central bank, which in turn influences the money supply.¹⁸ In the model, the banks keep a liquidity buffer in a deposit account at the central bank (a reserve) that yields little or no return. No bank therefore wants its reserves to be higher than the amount needed to cover temporary fluctuations in incoming and outgoing payments.

According to the textbook model, when the central bank increases the reserves interest rates will fall and the banks will increase their lending to the public, thus increasing the money supply. The mechanism that

¹⁸ See for example M. Marquis, "Monetary Theory and Policy", Saint Paul: West Publishing Company, 1996.

creates a balance between the supply of and the demand for reserves is that the banks that have surplus liquidity choose to lend this in order to earn a higher return on their assets. The bank must then reduce its interest rates in order to increase its lending. Increased lending in turn leads to increased deposits and this process continues until the deposits become so substantial that the banks are willing to keep the reserves offered by the central bank.

The Riksbank's steering interest rate system does not normally use the mechanisms based on the central bank influencing the banks' reserves, and thus the interest rate, through open market operations. The system can be described instead as the Riksbank deciding the level of the policy rate, that is the repo rate, and then adapting market operations so that the demand for banknotes is met.¹⁹ Usually, the banks' demand for reserves at the Riksbank is zero. The Swedish banks even out any temporary deficits or surpluses in their accounts at the Riksbank by lending to each other overnight on the so-called interbank market. The Riksbank assists this process by conducting so-called fine-tuning operations so that there is no need to use the Riksbank's deposit and lending facilities.²⁰

The increase in the monetary base reflects an increased demand for reserves

One way of reconciling the textbook description with what has happened in Sweden is to say that the financial crisis has led to an increase in the demand for reserves and a decrease in the credit multiplier²¹ (see Figure B2). It has been possible to manage the increased demand for reserves within the framework of the existing steering interest rate system. The major difference compared to the period before the crisis is the magnitude of the Riksbank's market operations. The banking system's demand for reserves, and thus also the demand for Riksbank loans, has also varied over the course of the past year. This indicates that the Riksbank's balance sheet should be able to return to normal without any real drama.

The Riksbank's measures aimed to provide lower market rates and a higher level of inflation than would otherwise have been the case, and they have probably succeeded in this. In addition, the lowering of the repo rate has also helped to keep up the demand for credit and countered the level of inflation becoming too low. However, given the low level of demand and the low cost pressures expected in the period ahead, we do not believe that the measures constitute a threat to the inflation target. They have rather been necessary measures to avoid far too low levels of inflation and resource utilisation.

¹⁹ K. Mitlid and M. Vesterlund, "Steering interest rates in monetary policy – how does it work?" Sveriges Riksbank Economic Review no. 1, 2001 and "The Riksbank's management of interest rates – monetary policy in practice" – Riksbank publication.

²⁰ It is possible for the Riksbank's counterparties to borrow Swedish kronor overnight at the repo rate plus an addition of 0.50 percentage points and against certain types of previously-approved collateral in the Riksbank's payment system RIX. It is also possible to deposit money overnight in an account in RIX at the repo rate minus 0.50 percentage points. With a current repo rate of 0.25 per cent, this means that a bank that deposits money overnight in RIX will now do so at a negative interest rate.

²¹ According to the textbooks, there is a ratio, a so-called credit multiplier, between the money supply/deposits and the size of the reserves. A credit multiplier of 10, for example, means that deposits, and thereby the money supply, will increase by 1 000 if the reserves increase by 100.

■ Exit strategies for unconventional measures

Central banks and governments around the world have taken extensive measures to maintain financial stability and mitigate the effects of the recession that arose in the wake of the global financial crisis, which became very serious in September 2008. As the financial sector is stabilising and the economies are showing signs of recovery, the need for such measures is declining. An international discussion is now underway about exit strategies, in other words how and when these measures can be phased out in an orderly way. This article briefly discusses the measures that the Riksbank has taken and the conditions governing when and how they may be phased out. Unlike many other central banks, the Riksbank has not purchased securities and this will make the phase-out relatively uncomplicated.

The measures taken by governments and central banks

The global financial crisis became very serious when the US investment bank Lehman Brothers filed for bankruptcy in September 2008. Since then, central banks and governments around the world have taken extensive measures to maintain financial stability and counteract a long recession. The governments' have taken fiscal policy measures that mainly comprise:

- State guarantees for the banks' borrowing
- Capital injections for the banks to strengthen the capital base
- Assuming the credit risk for the central banks' purchase of securities
- Stimulus packages to promote household and corporate demand
- Infrastructure investments

The central banks' measures can mainly be divided into two kinds: unconventional monetary policy measures that aim to stimulate the economy when the possibilities to do so using conventional monetary policy methods have been exhausted following substantial cuts in the policy rates, and measures designed to maintain financial stability. The unconventional monetary policy measures mainly comprise:

- Announcing that the policy rate will be kept at a low level for a long period of time
- Purchasing government securities
- Purchasing interest-bearing securities issued by mortgage institutions and companies
- Lending at longer maturities than normal

The measures taken to maintain financial stability consist above all of measures to facilitate the liquidity management and funding of solvent banks and measures to promote the functioning of seriously-disrupted financial markets. For example:

- Swap agreements between central banks to make it possible to offer counterparties loans in foreign currencies
- The acceptance of additional types of security as collateral for loans from central banks
- A wider circle of counterparties that may receive loans from the central banks
- Lending at longer maturities
- Purchasing interest-bearing securities issued by mortgage institutions and companies

The effects of the different measures are interlinked. Measures that improve financial stability also affect market rates and thus have a monetary policy effect.

The need for international coordination is under discussion

The improvement of the situation on the financial markets and the return of growth have sparked an international discussion about how and when the redirection of the fiscal and monetary policy stimulation measures should begin. If this is done too soon the recovery of the economy may be put at risk. If it is done too late it may lead to excessive inflationary pressures. The different countries must weigh up these factors in the light of the economic situation and inflation pressures in the respective countries.

One of the points sometimes raised regarding the extraordinary measures to promote stability is whether there is a need to coordinate the phase-out of the measures internationally. It is not self-evident that the phase-out should be coordinated as the situation differs in the different countries. However, it can be argued that the exit strategies for the phase out of the support to the banking sector should be coordinated. Otherwise there is a risk that competition could be distorted if some countries retain their fiscal policy stimulus measures while others phase them out. For example, banks will be subsidised to some extent in those countries where bank support programmes are retained in contrast to countries where such programmes are phased out.

The Riksbank's measures

What measures has the Riksbank taken to mitigate the effects of the financial crisis and the subsequent recession? The Riksbank has reduced the repo rate to 0.25 percent in a rapid series of cuts and then communicated that the repo rate will remain at this level for some time to come. Some time to come means, given the current forecasts, until the autumn of 2010. For monetary policy reasons, the Riksbank has also provided loans to the banks at a fixed interest rate for 12 months. This has been accompanied by other measures designed to safeguard financial stability:

- The Riksbank has provided SEK and USD loans to the banks at longer maturities
- The Riksbank has entered into swap agreements with the Federal Reserve (the US central bank) to make it possible to swap Swedish krona for US dollars and then lend these dollars to the banks and with the ECB to enable EUR/SEK swaps when needed
- The Riksbank has decided that more types of security can be accepted as collateral for loans from the Riksbank has been extended
- The Riksbank has widened the circle of counterparties permitted to participate in fine-tuning operations
- The Riksbank has introduced a new category of counterparty, referred to as restricted monetary policy counterparties, who may participate in certain measures

The measures will be phased out when they are no longer needed

The Riksbank has followed two basic principles in the design of these measures. The first is that the measures must not take the place of markets that are functioning effectively and the second is that loans should be granted against collateral and at an interest rate corresponding to the repo rate with a certain addition. The measures have thus been designed so that they can be easily phased out when they are no longer needed.

Once the situation in the financial sector can be regarded as normal and the real economy no longer requires stimulus in the form of unconventional measures, then these measures will be phased out. The Riksbank's exit strategy is based on it being possible to achieve the inflation target and maintain financial stability. This also entails the Riksbank clearly communicating when and how quickly the measures will be phased out.

Some measures will phase themselves out

Although the design of the measures follows the same basic principles, there are certain differences between them regarding the extent to which they will phase themselves out when they are no longer needed. Several of the unconventional measures have a more or less built-in exit strategy. This applies to the swap agreement with the Federal Reserve and the provision of SEK loans at longer maturities. The swap agreement with the ECB is a standing agreement that allows the Riksbank to borrow euros when necessary in EUR/ SEK swap. Although the agreement was drawn up during the crisis, it will remain in place even when the situation returns to normal as it is a standing agreement.

It can be noted that the demand for US dollar loans from the Riksbank has dried up. It is quite simply cheaper for the banks to borrow dollars on the market than to borrow dollars from the Riksbank. The swap agreement with the Federal Reserve has a time limit and applies up to and including 1 February 2010. This measure will thus phase itself out when the agreement expires.

When the situation in the financial sector stabilises and the conditions in the interbank market return to normal it ought to be cheaper for the banks to borrow Swedish kronor at longer maturities on the market than from the Riksbank. The demand for loans from the Riksbank will then decline, assuming that the addition to the repo rate is at a reasonable level. The addition should be such that under normal conditions in the financial markets it is more expensive to borrow from the Riksbank than on the market. This does not necessarily mean, however, that the Riksbank will phase out the measures immediately when there is no longer a demand for them. Merely knowing that the measures are in place, even though they are not being used, will help to stabilise the financial markets. It is only when the Riksbank deems that the situation on the financial markets has been stable for a satisfactory period of time that it will be time to phase out the loans by no longer offering them. The Riksbank will clearly communicate in good time when the measures will be phased out so that the change does not come as a surprise.

The restricted monetary policy counterparties are permitted to participate in the Riksbank's programme for SEK loans at longer maturities. When the Riksbank stops issuing these loans, the restricted monetary policy counterparties will no longer be interested in remaining as counterparties, especially as there is a charge for this.

Some measures will require active decisions

The exit strategies for the remaining measures – the number of counterparties that may participate in the fine-tuning operations and the list of securities accepted as collateral for loans from the Riksbank – will require more active decisions on the part of the Riksbank. However, it is not self-evident that these measures will be phased out. The issues relating to these measures are more technical in nature and will be studied more closely before any decisions are made on whether to phase them out or retain them.

■ House prices in Sweden

Despite the fact that the Swedish economy is in a deep recession, house prices are rising. There are signs that house prices are currently slightly above the level that can be considered sustainable in the long term. However, several factors indicate that house prices will increase more slowly in the future. At the same time, overly optimistic expectations of future interest rates or more expansionary credit granting could entail risks in the long term. It is therefore important that all those who affect the housing market take some responsibility for ensuring that its development is sustainable in the long term.

House prices in Sweden have risen by just over 3 per cent between the second and third quarters of this year, although the economy is in a recession and unemployment is expected to increase over the coming years. The Riksbank's assessment is that the repo rate will be kept low for a long period of time to come, and this is justified by the forecasts for inflation and resource utilisation. The reason for this is to support the economic recovery. The low interest rate stimulates general demand, as well as consumption and investment in housing. As price formation is to a great extent governed in the short term by demand in this sector, it creates a certain amount of pressure on prices. If the rising house prices are signalling an increase in consumer confidence, then there is no major problem. But if prices are developing beyond levels that are sustainable in the long term, then there is an increased risk of a problematic correction in the future, entailing negative consequences for both financial stability and the real economy.

Supply and demand affect house prices

One to two years ahead the supply of housing is to a large extent known, as it takes a long time to build new houses, which means that the price is most affected by demand in the short term. This in turn is governed by households' current and expected incomes, by expectations of future house prices and by costs – in particular interest rates. Other important factors are the access to credit and the banks' lending policy. Lower amortisation requirements lead to greater opportunities for taking on large loans, which may push up prices. How strict the banks are in their credit assessment is probably also a significant factor as a less-rigorous credit assessment means that households can increase their loans.

The effects of monetary on the demand for housing can be divided into a direct and an indirect channel. The direct channel affects households' mortgage costs and thus the demand for housing. The indirect channel has an effect on the demand for housing in that inflation, GDP, employment and so on are affected by changes in interest rates.

Long-term price developments are determined by production costs and land prices. Productivity in housing construction is weaker than the average productivity in the economy as a whole. This means that production costs for housing will increase more quickly than the average rate of price increase in the economy as a whole. A more severe shortage of suitable undeveloped land, combined with rising real incomes will also

contribute to higher prices for land to be developed. Both of these factors mean that house prices may in the long term increase more quickly than consumer prices on average.

What factors lie behind the development of housing prices in Sweden in recent years?

Prices of single-family dwellings have increased rapidly since the mid-1990s (see Figure A3). It is difficult to say exactly what rate of increase is sustainable in the long term. However, the Riksbank's assessment is that the average price increase of around 8 per cent a year since 1996 is not sustainable in the long term.

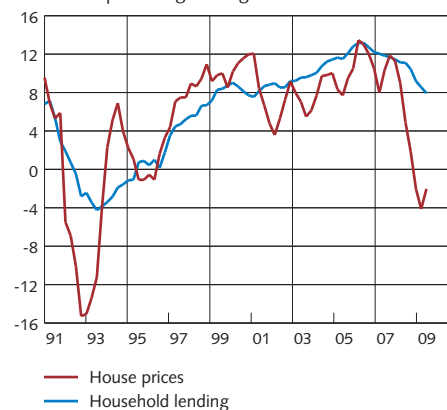
The main reason for the large increase in prices is that the demand for housing has been very high. This is partly due to large increases in income but also to households having increased their borrowing at a rapid pace. Since 1996 the average rate of increase in household borrowing has been over 9 per cent a year (see Figure A3). The high level of indebtedness means that households are tying up an unusually large share of their future incomes in housing. House prices and households' debts in relation to disposable incomes have almost doubled since 1996. It is probable that this is mainly due to the change in the credit markets during this period. The banks became less restrictive in their mortgage lending and reduced their demands for cash down-payments, as well as granting higher first mortgages, which enabled households that had previously had limited access to credit to obtain loans. Moreover, the development towards lower inflation meant, all else being equal, that the rate of amortisation on the loans should have increased to obtain the same real instalment profile as before. But the rate of amortisation declined instead. All in all, this has enabled an expansion in total credit granting that tended to increase the demand for housing.

One mechanism that may have reinforced the demand for housing is the possibility that Swedish households engendered unrealistic expectations of future increases in housing prices, as happened in the USA according to Robert Shiller.²² Given the dramatic and uninterrupted rise in housing prices in the period 1996–2007, it is not unreasonable to believe that this also occurred in Sweden.

Finally, the supply of housing, measured as housing construction, has been very low both in historical terms and in an international comparison since the early 1990s (see Figure A4).

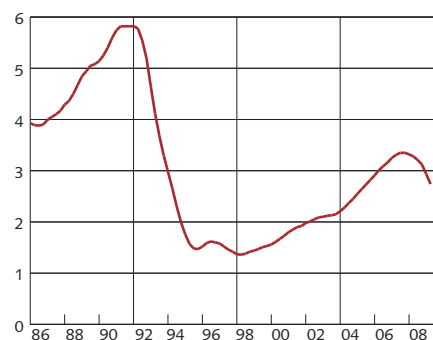
Monetary policy may also have contributed to the unusually high demand for housing, as interest rates have been low during the period in question. However, the relatively expansionary monetary policy is in turn due to macroeconomic developments, which affect house prices via several different channels.

Figure B3. Single-family dwelling prices and household lending
Annual percentage change



Sources: Statistics Sweden and the Riksbank

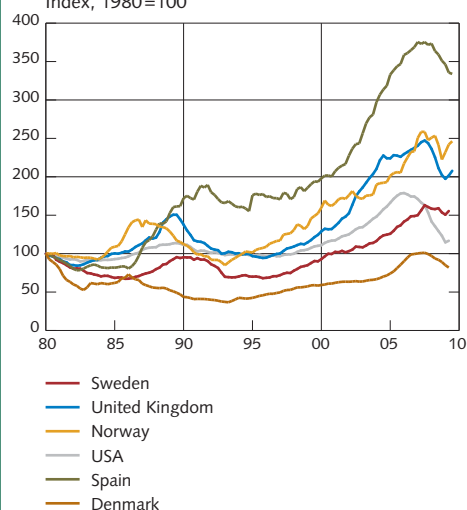
Figure B4. Housing investment
Percentage of GDP, current prices



Note. Four-quarter moving average.
Source: Statistics Sweden

22 R. Shiller, "Understanding Recent Trends in House Prices and Home Ownership", Federal Reserve Bank of Kansas City, Jackson Hole Symposium 2007.

Figure B5. Real house prices in Sweden and abroad
Index, 1980=100



Note. Single-family dwelling prices deflated using consumer price index.

Source: Reuters EcoWin

Developments in house prices in Sweden compared with other countries

In Sweden house prices increased much more quickly than consumer prices on average from the middle of the 1990s. Real house prices more than doubled between 1996 and 2007. This development is not unique to Sweden. In several other countries real house prices doubled over a ten-year period, and in some cases, such as Ireland and Spain, they rose even more (see Figure A5). The fall in house prices that took place in connection with the economic crisis has been relatively small in Sweden, compared with many other countries, such as the United States, the United Kingdom and Spain (see Figure A5).

All in all, from 1996 and just over 10 years ahead, real house prices increased almost as much in Sweden as in some other countries where house prices have fallen much more in connection with the crisis. This could possibly be an indication that house prices in Sweden will develop weakly in the future.²³ However, there are arguments as to why the decline in house prices has not been as great in Sweden as in other countries. Firstly, new construction in Sweden has been at a much lower level than in other countries since the beginning of the 1990s. Moreover, Swedish households buy their housing to live in, not to rent out. In the United Kingdom and in Ireland, where house prices have fallen substantially, there has been a large market for buy-to-let. This means that a house or apartment can be bought for the sole purpose of letting it, which has added a speculative element to the housing market that largely does not exist in Sweden.

One possible explanation as to why developments in house prices have been so similar in large parts of the world could be the increasingly globalised financial markets. New products, for instance, mortgage-backed bonds, enabled an increased credit expansion.

How will house prices develop in the future?

The Riksbank has used a model for the housing market to analyse developments in house prices.²⁴ The estimated long-term trend in the model indicates that nominal house prices will increase by around 5 per cent a year in the long term. However, estimates from a single model or a specific time period are always very uncertain. Other models may give rise to other estimates. Data from the 1950s onwards indicate that real house prices in principle did not rise at all up to the middle of the 1950s. Data for the United States over an even longer period of time also show that real house prices had a much lower rate of increase up to the middle of the 1950s than during the following period.

²³ The IMF World Economic Outlook, October 2009, puts forward arguments for a weak development in house prices in the future in Sweden and several other countries is put forward

²⁴ This is a general equilibrium model that apart from describing the housing market also captures the link between the housing market and other parts of the economy. The model is described in more detail by P. Sellin and K. Walentin in "House prices and the economy", Economic Commentary no. 6, 2008, Sveriges Riksbank. A more detailed technical description of this type of model can be found in M. Iacoviello and S. Neri, "Housing Market Spillovers: Evidence from an Estimated DSGE Model", American Economic Journal: Macroeconomics, under publication.

Despite the uncertainty of the estimate, there are nevertheless many indications overall that house prices are above their long-term trend at present, and that this will have a dampening effect on future developments in house prices.

Three factors might bring prices back to a trend in the longer term. Firstly, if households go back to putting a smaller share of their income into housing, in line with historical behavioural patterns, then demand should decline. Secondly, the weak development in the labour market will contribute to a low demand for housing. Thirdly, and in the longer term, increased housing construction will contribute to an increase in supply and slow down house prices. In contrast to these dampening factors we have the current low interest rate which, seen in isolation, contributes to higher housing prices.

All in all, there are arguments in favour of house prices increasing at roughly the same rate as consumer prices (measured in terms of the CPIF) over the coming years, and in this case real house prices will remain unchanged.

What risks exist in a long-term perspective?

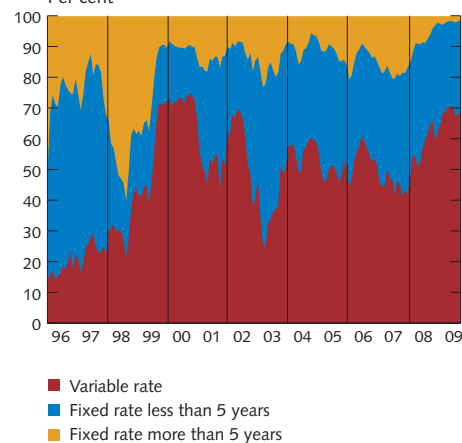
The low interest rate at present is motivated by the general economic situation, and the forecast for the repo rate is expected to contribute to a recovery in the Swedish economy and to a CPIF inflation rate of around 2 per cent during the forecast horizon. It is important that the interest rate remains low for a relatively long period to come. However, it is also important to remember that the repo rate will rise in the future, and a reasonable normal level for the repo rate is much higher than the current level. If developments in the housing market reflect these expectations, the increase in house prices should be moderate in the future.

Rapidly-rising house prices over a long period of time could indicate unreasonable expectations of low interest rates in the future. The percentage of households taking on mortgages at a variable rate has also risen relatively sharply in the recent period (see Figure A6). Rising interest rates could then lead to an abrupt fall in house prices further ahead, which could have negative consequences for the real economy.

However, monetary policy is only one of many tools that could be used in a scenario where credit expansion and house prices were considered to be increasing at a rate that is not tenable. Monetary policy has no specific target for house prices, but looks at the development of the economy as a whole. Moreover, the interest rate is too blunt an instrument to use for fine-tuning house prices. Of course, this does not rule out the possibility of some consideration being given to developments in the housing market to the extent the Riksbank considers this necessary, given the macroeconomic risks.

Normally, a rapid credit expansion and rising house prices coincide with a general economic upswing. Then it is possible to raise the interest rate without any conflict of interests. However, situations may arise where credit volumes and house prices develop in an untenable manner, at the same time as the general economy requires the support

Figure B6. Households' new loans broken down into different maturities
Per cent



Source: The Riksbank

of a low interest rate. If the Riksbank is then to maintain a low interest rate and stimulate the economy, it is important that authorities with supervisory responsibility and also the banks themselves ensure that lending is sustainable in the long term by having sufficient margins in their credit calculations. Fiscal policy can also contribute to a more stable development in the housing market through changes in, for instance, property tax, stamp duties and opportunities for tax relief for interest expenditure.

Summary and conclusions

What then are the overall conclusions of this analysis? There are some signs that house prices in Sweden are currently above the long-term trend. If this conclusion is correct, then continued high rates of increase in house prices could entail future risks for both financial stability and the real economy. It is important that all those who affect the housing market take some responsibility for ensuring that its development is sustainable in the long term. It is also important that those who take on loans at variable interest rates now realise that the interest rate will rise to a much higher level in a few years' time – even if it is initially low to stimulate the economy during its recovery phase.

■ Appendix

- Tables
- Outline of articles published 2007–2009
- Earlier interest rate decisions
- Glossary

Tables

The figures in parentheses show the forecast in the previous Monetary Policy Update (September 2009).

Table A1. Repo rate forecast

Per cent, quarterly average values

	Q2 2009	Q3 2009	Q4 2009	Q4 2010	Q4 2011	Q4 2012
Repo rate	0.6	0.3 (0.3)	0.3 (0.3)	0.4 (0.4)	2.4 (2.4)	4.1

Source: The Riksbank

Table A2. Inflation, annual average

Annual percentage change

	2008	2009	2010	2011	2012
CPI	3.4	-0.4 (-0.3)	0.9 (1.2)	3.3 (3.3)	3.7
CPIF	2.7	1.8 (1.9)	1.3 (1.6)	1.9 (1.9)	2.1
CPIF excl. energy	2.0	2.3 (2.3)	1.6 (1.8)	1.7 (1.9)	2.0
HICP	3.3	1.8 (1.9)	1.2 (1.6)	1.8 (1.9)	2.0

Note. CPIF is CPI with fixed interest rate.

Sources: Statistics Sweden and the Riksbank

Table A3. Inflation, 12-month average

Annual percentage change

	Dec. -08	Dec. -09	Dec. -10	Dec. -11	Dec. -12
CPI	0.9	0.4 (0.6)	1.9 (2.0)	4.0 (4.2)	3.3
CPIF	1.6	2.1 (2.3)	1.6 (1.8)	2.0 (2.1)	2.2
CPIF excl. energy	1.7	2.2 (2.2)	1.5 (1.8)	1.8 (2.0)	2.1
HICP	2.1	2.2 (2.5)	1.5 (1.7)	1.9 (2.0)	2.1

Note. CPIF is CPI with fixed interest rate.

Sources: Statistics Sweden and the Riksbank

Table A4. Summary of financial forecasts

Annual average, per cent, unless otherwise specified

	2008	2009	2010	2011	2012
Repo rate	4.1	0.7 (0.7)	0.3 (0.3)	1.6 (1.6)	3.6
10-year rate	3.9	3.3 (3.3)	3.9 (3.9)	4.5 (4.5)	4.9
Exchange rate, TCW-index, 1992-11-18=100	127.2	139.7 (139.5)	129.6 (130.9)	128.3 (129.5)	128.2
General government net lending*	2.5	-2.2 (-2.5)	-2.5 (-3.5)	-1.0 (-2.1)	0.2

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank

Table A5. International conditions

Annual percentage change, unless otherwise specified

	2008	2009	2010	2011	2012
GDP					
Euro area	0.6	-4.0 (-4.1)	1.0 (0.7)	1.7 (1.7)	2.3
USA	0.4	-2.6 (-2.9)	2.4 (1.5)	3.3 (3.3)	2.9
Japan	-0.7	-5.9 (-5.9)	1.2 (1.2)	2.0 (2.0)	1.8
OECD	0.6	-3.6 (-3.7)	1.8 (1.3)	2.6 (2.7)	2.7
TCW-weighted	0.5	-3.8 (-4.0)	1.1 (0.8)	2.0 (2.0)	2.3
World	3.2	-1.0 (-1.1)	3.3 (2.8)	4.2 (3.9)	4.4
CPI					
Euro area (HICP)	3.3	0.4 (0.4)	1.2 (1.2)	1.7 (1.7)	2.0
USA	3.8	-0.5 (-0.5)	1.8 (1.8)	2.0 (2.0)	2.1
Japan	1.4	-1.3 (-1.2)	-0.7 (-0.6)	0.5 (0.5)	0.5
OECD	3.6	0.5 (0.5)	1.6 (1.7)	2.0 (1.9)	2.1
TCW-weighted	3.3	0.5 (0.5)	1.3 (1.3)	1.7 (1.7)	2.0
	2008	2009	2010	2011	2012
Crude oil price, USD/barrel Brent	97	60 (62)	74 (78)	78 (81)	80
Swedish export market growth	0.5	-9.2 (-10.7)	5.7 (3.2)	7.8 (7.5)	8.3

Note. The export market index aims to measure demand for internationally-traded goods in the countries to which Sweden exports. The index is calculated with the aid of import figures in recipient countries weighted with the country's relative importance for Swedish exports.

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

Table A6. GDP by expenditure

Annual percentage change, unless otherwise specified

	2008	2009	2010	2011	2012
Private consumption	-0.2	-0.7 (-1.1)	2.0 (1.8)	2.1 (2.0)	2.2
Public consumption	1.5	1.5 (1.1)	0.6 (0.6)	0.6 (0.6)	1.1
Gross fixed capital formation	2.7	-17.3 (-17.1)	-1.8 (-5.7)	5.7 (5.4)	6.9
Inventory investment*	-0.6	-1.4 (-0.9)	1.1 (0.5)	0.2 (0.2)	0.1
Exports	1.8	-12.8 (-14.7)	4.6 (4.2)	7.3 (7.0)	8.2
Imports	3.0	-15.0 (-16.1)	4.1 (1.9)	6.2 (6.0)	7.4
GDP	-0.2	-4.6 (-4.9)	2.5 (1.9)	3.4 (3.2)	3.7
GDP, calendar-adjusted	-0.4	-4.4 (-4.7)	2.2 (1.6)	3.4 (3.2)	3.7
Final figure for domestic demand*	0.8	-3.3 (-3.5)	0.9 (0.1)	2.1 (2.0)	2.5
Net exports*	-0.4	0.1 (-0.4)	0.6 (1.3)	1.1 (1.0)	1.1
Current account (NA)**	6.1	7.6 (7.2)	7.7 (8.1)	8.3 (8.6)	8.7

*Contribution to GDP growth, percentage points

** In 2008, the Riksbank's forecast is based on the latest data from the balance of payments statistics.

Note. The figures show actual growth rates that have not been calendar-adjusted, unless otherwise stated.

Sources: Statistics Sweden and the Riksbank

Table A7. Production and employment

Annual percentage change, unless otherwise stated

	2008	2009	2010	2011	2012
Population, aged 16-64	0.8	0.6 (0.6)	0.3 (0.3)	0.2 (0.2)	-0.1
GDP, calendar-adjusted	-0.4	-4.4 (-4.7)	2.2 (1.6)	3.4 (3.2)	3.7
Number of hours worked, calendar-adjusted	0.9	-3.0 (-3.2)	-1.7 (-2.0)	0.6 (0.5)	1.3
Employed (EU-definition)	1.2	-2.4 (-2.4)	-2.6 (-2.9)	-0.1 (-0.3)	1.2
Labour force (EU-definition)	1.3	0.0 (0.1)	-0.6 (-0.6)	-0.2 (-0.3)	0.3
Unemployment, aged 15-74 (EU-definition)*	6.2	8.5 (8.6)	10.3 (10.8)	10.3 (10.7)	9.4

* Per cent of labour force

Sources: Employment Service, Statistics Sweden and the Riksbank

Table A8. Wages and unit labour cost for the economy as a whole

Annual percentage change, calendar-adjusted data

	2008	2009	2010	2011	2012
Hourly wage, NMO	4.3	3.4 (3.3)	2.2 (2.2)	2.4 (2.4)	2.9
Hourly wage, NA	4.8	3.8 (3.5)	2.1 (2.1)	2.6 (2.6)	3.2
Employer's contribution*	-0.7	-0.5 (-0.4)	0.1 (0.1)	0.1 (0.1)	0.1
Hourly labour cost, NA	4.1	3.3 (3.2)	2.2 (2.2)	2.6 (2.7)	3.2
Productivity	-1.3	-1.4 (-1.6)	4.0 (3.7)	2.8 (2.6)	2.3
Unit labour cost	5.5	4.8 (4.8)	-1.7 (-1.5)	-0.1 (0.0)	0.9

* 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 A9. Higher level of international growth

Annual percentage change, unless otherwise specified

	2008	2009	2010	2011	2012
TCW- weighted GDP	0.5	-3.8 (-3.8)	2.1 (1.1)	2.5 (2.0)	1.9 (2.3)
TCW- weighted CPI	3.3	0.5 (0.5)	1.5 (1.3)	2.1 (1.7)	2.3 (2.0)
TCW-weighted interest rate, per cent	3.8	1.0 (1.0)	1.3 (1.0)	3.2 (2.6)	4.6 (3.9)
GDP, calendar adjusted	-0.4	-4.4 (-4.4)	2.5 (2.2)	3.4 (3.4)	3.5 (3.7)
CPIF	2.7	1.9 (1.8)	1.7 (1.3)	2.4 (1.9)	2.1 (2.1)
Labour market gap, per cent	3.2	-0.1 (-0.1)	-1.8 (-2.1)	-1.4 (-1.8)	-0.8 (-1.0)
Repo rate, per cent	4.1	0.7 (0.7)	0.7 (0.3)	2.6 (1.6)	4.4 (3.6)

Note. The labour market gap refers to the deviation in the number hours worked from the HP trend. Main scenario's forecast in brackets.

Sources: National Sources Office, Statistics Sweden and the Riksbank

Table A10. Scenario with increased labour productivity

Annual percentage change, unless otherwise specified

	2008	2009	2010	2011	2012
GDP, calendar adjusted	-0.4	-4.4 (-4.4)	2.7 (2.2)	4.0 (3.4)	4.1 (3.7)
CPIF	2.7	1.8 (1.8)	1.1 (1.3)	1.8 (1.9)	2.0 (2.1)
Labour market gap, per cent	3.2	-0.1 (-0.1)	-2.5 (-2.1)	-1.9 (-1.8)	-1.0 (-1.0)
Productivity	-1.3	-1.4 (-1.4)	4.9 (4.0)	3.1 (2.8)	2.6 (2.3)
Repo rate, per cent	4.1	0.7 (0.7)	0.0 (0.3)	1.2 (1.6)	3.3 (3.6)

Note. The labour market gap refers to the deviation in the number hours worked from the HP trend. Main scenario's forecast in brackets.

Sources: Statistics Sweden and the Riksbank

Table A11. Scenario with higher repo rate

Annual percentage change, unless otherwise specified

	2008	2009	2010	2011	2012
GDP, calendar adjusted	-0.4	-4.4 (-4.4)	2.0 (2.2)	2.8 (3.4)	4.1 (3.7)
CPIF	2.7	1.8 (1.8)	1.1 (1.3)	0.9 (1.9)	1.5 (2.1)
Labour market gap, per cent	3.2	-0.1 (-0.1)	-2.3 (-2.1)	-2.7 (-1.8)	-1.4 (-1.0)
Repo rate, per cent	4.1	0.7 (0.7)	0.8 (0.3)	2.2 (1.6)	3.1 (3.6)

Note. The labour market gap refers to the deviation in the number hours worked from the HP trend. Main scenario's forecast in brackets.

Sources: Statistics Sweden and the Riksbank

Table A12. Scenario with lower repo rate

Annual percentage change, unless otherwise specified

	2008	2009	2010	2011	2012
GDP, calendar adjusted	-0.4	-4.4 (-4.4)	2.4 (2.2)	3.3 (3.4)	3.7 (3.7)
CPIF	2.7	1.9 (1.8)	1.5 (1.3)	2.1 (1.9)	2.1 (2.1)
Labour market gap, per cent	3.2	-0.1 (-0.1)	-1.9 (-2.1)	-1.7 (-1.8)	-1.0 (-1.0)
Repo rate, per cent	4.1	0.6 (0.7)	0.1 (0.3)	1.6 (1.6)	3.6 (3.6)

Note. The labour market gap refers to the deviation in the number hours worked from the HP trend. Main scenario's forecast in brackets.

Sources: Statistics Sweden and the Riksbank

Outline of boxes published 2007-2009²⁵

2007

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

2008

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

2009

- 2009 February** Monetary policy alternatives in times of financial crisis and concern over deflation
- 2009 February** The financial crisis and the effects of monetary policy
- 2009 February** The recent weakening of the krona
- 2009 February** The Riksbank's company interviews in December 2008–January 2009
- 2009 July** Monetary policy when the interest rate is close to zero
- 2009 July** Differences in financial structure and crisis measures in various countries
- 2009 July** Global imbalances, saving and demand in the wake of the crisis
- 2009 July** The Riksbank's company interviews in May 2009

²⁵ A list of the boxes published since 1993 can be found on our website www.riksbank.se.

Earlier interest rate decisions²⁶

Date of meeting	Repo rate (per cent)	Decision (percentage points)	Monetary Policy Report
2005			
27 January	2.00	0	no report
14 March	2.00	0	2005:1
28 April	2.00	0	no report
20 June	1.50	-0.50	2005:2
23 August	1.50	0	no report
19 October	1.50	0	2005:3
1 December	1.50	0	2005:4
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	4.5	+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	2009:1
20 April	0.50	-0.50	Monetary Policy Update
1 July	0.25	-0.25	April 2009
2 September	0.25	0	Monetary Policy Update

²⁶ 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, which 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: The prices of bonds, shares and property.

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 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 terms of the annual percentage change of the CPI.

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

CPIX: A measure of underlying inflation. Calculated on a monthly basis by Statistics Sweden as the CPI excluding household mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies.

Current prices: The current price expresses the nominal value and is not adjusted for changes in value such as inflation.

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 growth: Intended as a measure of the growth in those markets (countries) to which Swedish goods and services are exported. See also the note to Table A2.

FED: The Federal Reserve Bank of the United States.

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

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

Financial markets: The financial markets comprise the equity market, the money market, the bond market and the foreign exchange market.

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.

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.

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 removed.

ILO: The ILO (International Labour Organization) is the UN body focusing on employment and working life.

Implied forward rates: If there are no market-listed forward rates it is possible to calculate what are known as implied forward rates on the basis of ordinary interest rates with different terms. 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. Listings for interbank rates are often stated in the form of fixing rates, where one has calculated an average of what the banks have stated as the interest rates at which they lend to other participants in the interbank market. See also STIBOR, which is the Swedish interbank market fixing rate.

Implied forward rate: The forward rates that can be implied by basing calculations on the yield curve.

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 per hours worked according to the National Accounts, i.e. the sum of wages, 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 policy: The measures taken by the Riksbank in order to maintain the value of money.

Money market: The market for interest bearing securities with a time to maturity less than one year.

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

Money market instruments: Securities traded in the money market.

MPR: Monetary Policy Report.

MPU: Monetary Policy Update

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

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 the number of hours worked.

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 : The European Central Bank's policy rate.

Repo rate: The Riksbank's 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 on a high-risk investment that an investor wants in order to be able to feel that an investment that involves risk and one that entails no risk are equivalent.

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

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

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

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

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

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

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

TCW index: An index for the Swedish krona's exchange rate, based on competitive weighting.

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

Total Competitiveness Weights (TCW) exchange rate: The Swedish krona's exchange rate measured against a basket of other currencies, where the weighting is determined primarily by the amount of trade we have with each of the respective countries.

Underlying inflation: A measure of inflation that in some way excludes or attributes 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 per unit produced.

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

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