Monetary Policy Report

February 2009

SVERIGES RIKSBANK

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 autum it takes the form of the Monetary Policy Report.

The Executive Board decided to adopt the Monetary Policy Report at its meeting on 10 February 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 STRATEGY[2]

- 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 Executive Board of the Riksbank has decided to cut the repo rate by 1 percentage point to 1 per cent. The repo rate may need to be cut slightly further during 2009. This large reduction in the interest rate and the interest rate path is necessary to dampen the fall in production and employment and to attain the inflation target of 2 per cent.

Sharp deterioration in economic activity

The downturn in the economy now looks as if it will be even worse than was thought in December. Exports and export orders have fallen dramatically and the number of redundancy notices remains high. The weaker economic activity has also led to the oil price falling further since December, which contributes to a lower inflation rate.

Lower interest rate path

A lower repo rate and repo rate path are needed to counteract production and employment being too weak and inflation becoming too low. The Executive Board of the Riksbank has therefore decided to cut the repo rate by 1 percentage point to 1 per cent. The interest rate may need to be cut slightly more over the coming six months.

Recovery will begin in 2010

A lower repo rate path will dampen the fall in resource utilisation, which will rise again at the end of the forecast period. When the financial system begins to function better and the uncertainty declines, the demand from Sweden and abroad will increase. The effects of the fiscal policy measures taken around the world will also contribute to the recovery. The weaker krona will also dampen the fall in growth and keep inflation in Sweden closer to the target of 2 per cent.

Large fluctuations in CPI inflation

Inflation measured in terms of the CPI (Consumer price index) will fall very rapidly in 2009. This is largely due to the rapid interest rate cuts at the end of 2008 and the beginning of 2009. With effect from 2011, when the interest rate is expected to be raised again, CPI inflation will rise substantially. If the effects of changed mortgage rates are excluded, CPI inflation will develop in a more stable manner and be close to the target of 2 per cent at the end of the forecast period.

Considerable uncertainty

The economic prospects are unusually uncertain at the moment. For example, it may take longer time before the financial markets function as they should, but the effects of an expansionary economic policy may also come sooner and be stronger than in the main scenario. The future direction for monetary policy will depend on how new information on economic developments abroad and in Sweden will affect the prospects for inflation and economic activity in Sweden.

The minutes from the Executive Board's monetary policy discussion will be published on 25 February. The next monetary policy meeting will be held on 20 April. The next Monetary Policy Report will be published on 2 July.

CHAPTER 1 – The economic outlook and inflation prospects

The statistics published since December clearly show that the global economic slowdown and the financial crisis are continuing to have marked effects on developments in Sweden. For example, exports and the inflow of export orders have fallen dramatically and the number of redundancy notices remains at the very high levels from the autumn. Expectations of the future among households and firms are now as low as during the crisis in the 1990s. Recent developments have also led to lower prices for oil and other commodities. Inflation has therefore come down rapidly.

To alleviate the economic effects of the global economic slowdown and to achieve the 2 per cent inflation target, during the autumn the Riksbank cut the repo rate in three steps, by a total of 2.75 percentage points. However, inflation has fallen faster than expected and today the economic downturn looks like being even more marked than seemed likely in December. There is a risk of the recession being the most pronounced in the OECD area for several decades.

The Riksbank considers that both the repo rate and its future path need to be lowered still more in order to fulfil the inflation target and retard the contraction of output and employment. The repo rate is therefore cut to 1 per cent and . Capacity utilisation is still falling rapidly in 2009; an upturn is foreseen in 2010 but the level will be below normal throughout the forecast period. CPI inflation will fluctuate sharply during the forecast period. This is mainly because the repo rate adjustments affect house mortgage rates, which are included in the CPI.

The uncertainty of the assessment is unusually great on account of the dearth of historical parallels to current developments. Economic development may prove to be weaker than the main scenario allows for. But a recovery could instead be faster and inflation higher than predicted here. The stimulus to growth from the fiscal measures and interest rate cuts can be greater than expected. The weak exchange rate's impact on the real economy could also be more positive than in the main scenario.

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

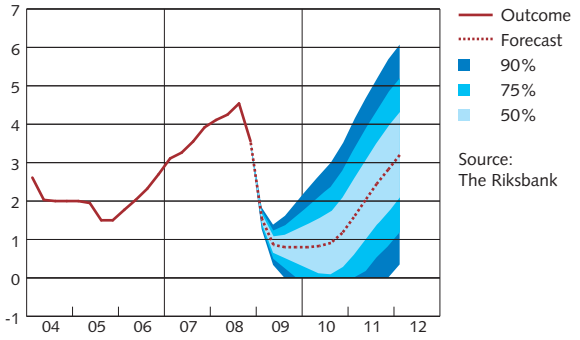


Figure 2. CPI with uncertainty bands
Annual percentage change

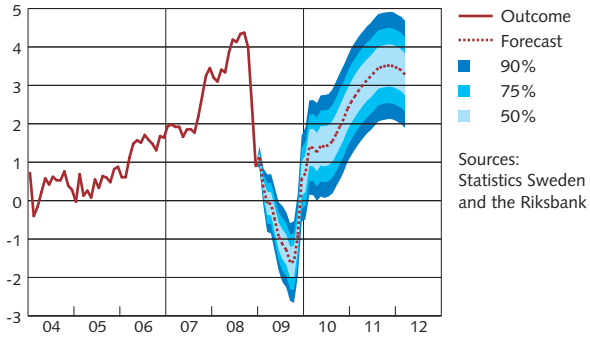
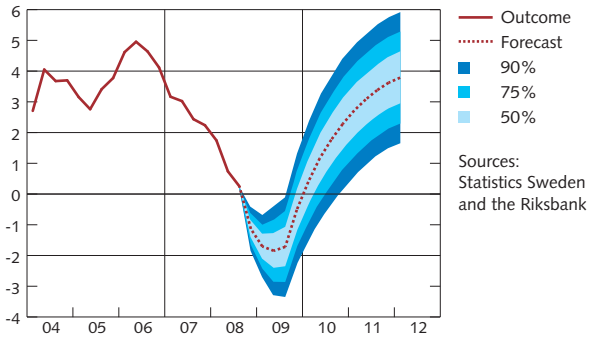


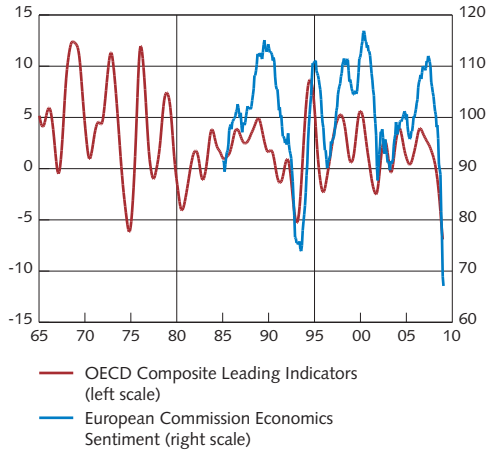
Figure 3. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



Note. The uncertainty bands in the figures are based on historical forecast errors. See the article "Calculation method for uncertainty bands" in MPR 2007:1 The uncertainty bands for the repo rate are based on the ability of risk-adjusted market rates to forecast the future repo rate.

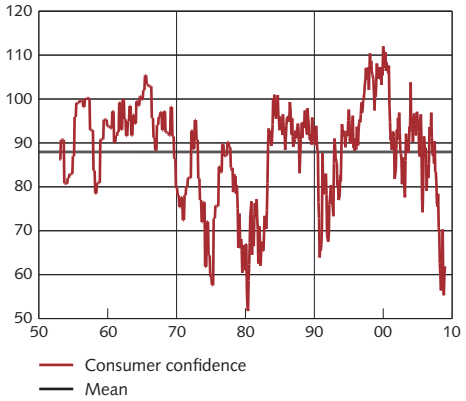
As the repo rate cannot be negative, the normally symmetrical uncertainty distribution instead has a proportion of possible outcomes equal to zero, which grows when the repo rate approaches the lower limit. This has the technical effect that the mean value of the distribution does not coincide with the forecast.

Figure 4. Economic indicators in the Euro area
Index, December 2005 = 100, respective annual percentage change



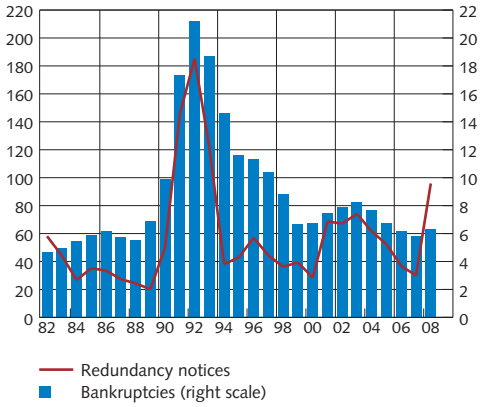
Sources: European Commission and OECD

Figure 5. Consumer confidence in the USA, University of Michigan Consumer Sentiment Index
Index, 1996 Q1 = 100



Source: University of Michigan

Figure 6. Bankruptcies and redundancy notices in Sweden
Thousands



Sources: ITPS and Statistics Sweden

■■ Confidence indicators at lowest levels on record

The crisis in financial markets has spread to households and firms. During the autumn, virtually every confidence indicator around the world deteriorated rapidly. The European Commission's and the OECD's economic indicators for the euro area fell sharply and are weaker than at any time since they were first compiled (see Figure 4). Consumer confidence in the United States also weakened steeply and, apart from after the second oil price shock in the early 1980s, is now poorer than at any time since these measurements started (see Figure 5). In Sweden, too, expectations of the future among households and firms have clearly deteriorated and are now just as low as during the crisis in the 1990s. Some of the companies surveyed by the Riksbank state that never before have they experienced such a rapid economic slowdown (see the article "The Riksbank's company survey" in this report).

■■ Worldwide crisis of confidence in financial markets

The situation in financial markets became drastically worse in mid September when the American investment bank Lehman Brothers filed for bankruptcy. This intensified the crisis that had already spread from American financial markets to other countries and it led to a crisis of confidence in financial markets worldwide. The existing uncertainty about which borrowers were creditworthy immediately increased. Access to credit decreased in financial markets around the world and segments of the financial markets ceased to function entirely.

Indications that the crisis is no longer as acute as in the autumn come from TED and basis spreads, which have both narrowed. These spreads serve as a measure of the degree of uncertainty in financial markets. A TED spread is the difference between the borrowing rate in the interbank market and the interest rate on risk-free government securities. A basis spread is the difference between the interbank rate and the expected policy rate. Both these spreads, which rose sharply in the autumn, have fallen recently in, for example, Sweden, the United States, the euro area and the United Kingdom (see Figures 56 and 57). Meanwhile, the spread between Swedish house mortgage rates and the repo rate has also narrowed. The massive measures taken by central banks have helped to ease the situation in interbank markets. But it is too early to say that the danger is over for the financial sector.

■■ The real economy affects the financial markets

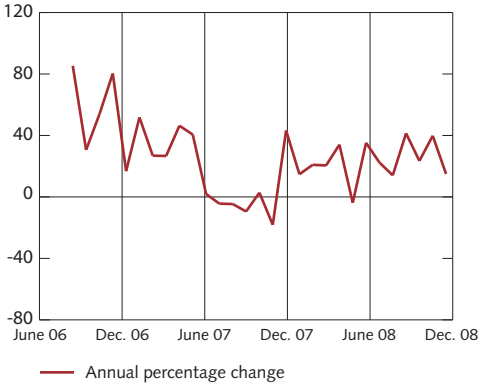
A severe economic slowdown like this entails an increased number of redundancy notices, rapidly rising unemployment and more companies than usual going into liquidation (see Figure 6). This affects banks, which risk loan losses if households and companies find loan repayment more difficult. Banks therefore become more cautious. They require wider margins and more collateral on loans to companies and households, which reduces access to credit and exacerbates the economic downturn even more.

The increased risk of loan losses is not the only matter that affects banks. With falling prices for housing and shares, the financial crisis has reduced household wealth. Lower wealth and greater uncertainty about the future make households and firms unwilling and perhaps also unable to borrow as much. This reduces bank earnings.

■■ Problems with corporate financing

The banks' lack of long-term funding and the desirability of stronger balance sheets have made it increasingly difficult for companies to obtain finance. For example, there are signs that companies have been unable to obtain funds for export business, which may have contributed to the fall in Swedish exports at the end of last year,[3] though the main explanation for this fall is the slowdown in world trade. The Riksbank's company survey also confirms that lack of financing has forced Swedish companies to suspend investments. There are indications, for example, that obtaining loans is particularly difficult for small companies. Large companies that previously borrowed extensively abroad have started to borrow more in Sweden, which may have squeezed out some bank lending to small companies. In total, however, the growth of new borrowing and lending to non-financial companies was still at a high rate in December last year (see Figure 7 and 64).

Figure 7. Companies' new borrowing from Swedish banks
Annual percentage change



Note. New loan contracts, excluding checking and credit card loans. The data cover a large sample of the population of monetary financial insititutions.

Source: Statistics Sweden

■■ Central banks and governments have acted vigorously

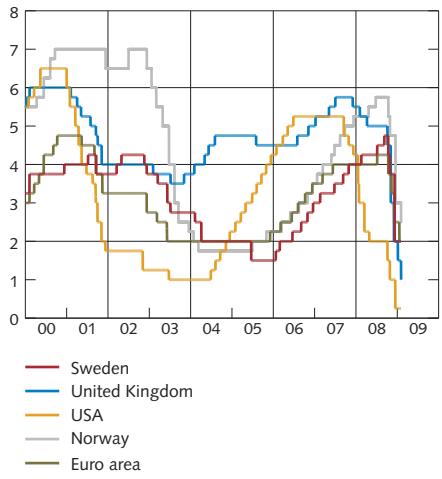
Central banks and governments around the world have taken vigorous measures to stimulate lending. The purpose has been to maintain the functioning of credit markets and promote the supply of credit (see also the article "Monetary policy alternatives in times of financial unrest and concern over deflation").[4] The loans granted by central banks have substantially expanded their balance sheets. In autumn 2008 the Riksbank's balance sheet grew faster than the balance sheet of any of the major central banks (see Figures A1 and A2).

The central banks have also cut policy rates in several large steps. The Riksbank lowered the repo rate by 1 percentage point in October and 1.75 percentage points in December. The US Federal Reserve reduced its policy rate in December by 0.75 percentage points to almost 0 per cent. The cuts in both Sweden and the United States were motivated by the sudden economic downturn in the autumn and the continuing strained financial conditions. For the same reason, considerable rate cuts were made by the European Central Bank, the Bank of England, Norges Bank and others (see Figure 8). Furthermore, governments around the world have launched rescue packages for banks, as well as fiscal measures aimed at helping distressed companies and stimulating household demand.

3 In a competitive market, companies that export such items as machinery, buildings and factories frequently have to offer long-term credit. The contracts are usually for large amounts and the buyer therefore asks for credit over a period of three years or more. As the export company's operating capital is commonly needed to cover production and marketing, it is unlikely to be able or willing to provide such credit. It is also difficult for the company to assess the associated political and commercial risks. Exporters therefore rely on banks and other financial institutions.

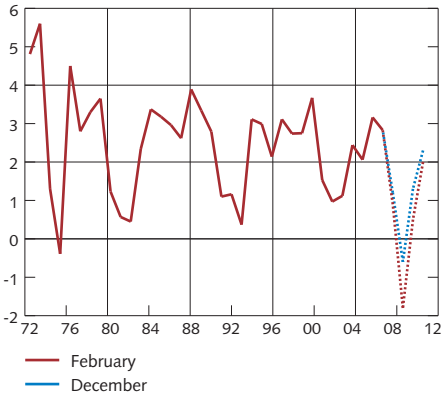
4 Measures taken by the Riksbank are listed on the website under "Financial turbulence – The Riksbank's response".

Figure 8. Policy rates
Per cent



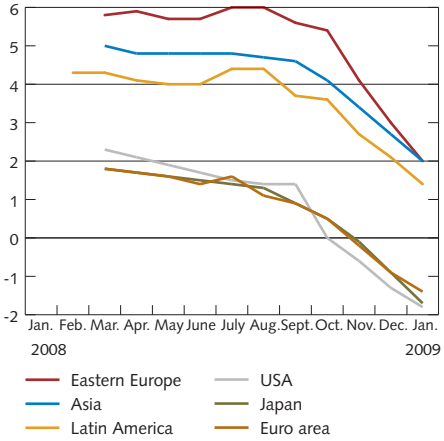
Source: Reuters EcoWin

Figure 9. GDP abroad
TCW-weighted, annual percentage change



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

Figure 10. Consensus and the Riksbank's forecasts for GDP growth in 2009
Annual percentage change



Note. Consensus forecasts are a compilation of predictions by Swedish and international forecasters.
Source: Consensus

■■ Global growth lowest in 2009

Virtually all statistics published since the December Update have been worse than expected, which has led to a downward adjustment of most of the forecasts in this report. Growth in Sweden's most important trading partners is revised downwards and TCW-weighted GDP is expected to fall by almost 2 per cent in 2009 (see Figure 9). Other forecasters have likewise adjusted their GDP growth figures downwards for 2009 (see Figure 10). The forecasts in this report assume that the situation in financial markets will stabilise and improve during 2009. Global GDP growth is assumed to reach a low this year and most countries will begin to see a somewhat brighter development at the beginning of 2010 (see Figure 9).

As in all economic downturns, an upturn will occur sooner or later. The economy will need time to adjust to new conditions on account of rigidities. For example, employment, wages and prices are often more sticky than output. Moreover, it takes time for households and companies to regain confidence in the economy and start consuming and investing again. When that happens, business will recover and GDP will start to grow again. Experience from previous downturns shows that when an upturn does come, things can move fast; however, it is also clear that a downturn can be more protracted when an economy has been hit by a financial crisis. Many countries are now implementing a very expansive monetary and fiscal policy. This may help both to reduce the depth of the downturn and to initiate a recovery in the global economy.

■■ Bleak outlook in the United States…

Global economic development is highly dependent on what happens in the United States. Most indicators of the US economy are pointing downwards. The deterioration in the American labour market that started a year ago has worsened and unemployment has continued to rise. Exports have fallen as a result of the weaker global economy. Expectations of the future among households and companies have dropped sharply to all-time lows. Consumption and investment are falling. Preliminary statistics indicate that in annual terms, 2008 Q4 GDP in the United States fell almost 4 per cent. The forecast is that GDP will fall in every quarter this year, which is a major downward revision compared with the outlook in December (see Table A4). The economic downturn is now predicted to be both deeper and more protracted.

CPI inflation in the United States was just under 5 per cent as recently as in September 2008. A major part of the higher rate came from substantial price increases for oil and other commodities. As a result of the rapidly weakening economic situation, these prices have now fallen (see Figures 11 and 12). This brought the rate of inflation down to almost zero in December. In 2009, consumer prices are expected to fall. In 2010 and 2011, CPI inflation will then pick up and be about 2 per cent (see Table A4).

■■ …but not everything is pitch black

Not everything is dismal in the US corporate sector. Compared with previous recessions, the initial position is favourable in that profits relative to GDP are still historically high. Moreover, economic policy measures as a whole in the forecast period are expected to be the most extensive in modern times. They consist primarily of investment in infrastructure. Implementing public sector investments takes time, so their economic impact will be limited in 2009 and the main effects are expected from 2010 onwards. The economy is also being stimulated by a record low policy rate. Forward market prices indicate expectations that the policy rate will remain very low throughout 2009 and a good way into 2010 (see Figure 58). Since the beginning of December, the policy rate's expected level has fallen by almost 0.5 percentage points.

The very low policy rate, reduced financial market uncertainty and the prospect of a recovery in household confidence should lead in time to increased lending to companies and households. The falling oil price has already helped to enlarge the scope for consumption. With the lower rate of inflation, moreover, real disposable income will continue to rise both in the near future and further on in the forecast period when the labour market improves.

■■ Gradual improvement in the US economy

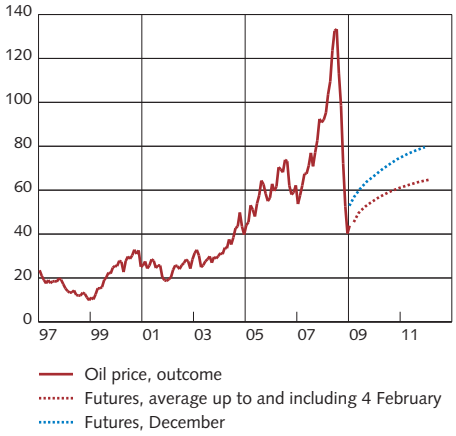
An improvement in the US housing market and labour market is foreseen at the end of 2010. An upturn in the housing market is indicated mainly by the combination of low interest rates and an increased possibility of obtaining loans when the financial turbulence subsides. Another reason is that housing construction has been falling since autumn 2005, while the number of households is growing at an annual trend rate of more than 1.5 per cent. Under these circumstances there is reason to count on increased housing construction.

A return to positive GDP growth in the United States will not occur before the beginning of 2010, when the rate will be marginally above zero (see Figure 13); in 2010 Q4, growth will be in line with the long-term trend. Compared with previous recessions, this is a slow recovery for the US economy (see Figure 14). It also means that the downturn will be more protracted than most of the financial crises in comparable countries.[4] The current financial crisis is global, however, besides being very extensive and severe.

■■ Delayed recovery in the euro area

In the euro area, confidence indicators such as orders and purchasing managers' index show that growth will be markedly negative even in

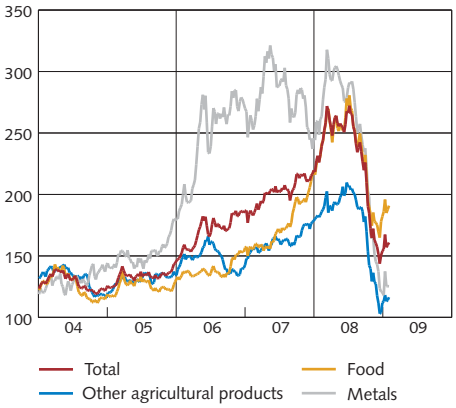
Figure 11. Oil price, Brent crude
USD per barrel



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

Sources: Intercontinental Exchange and the Riksbank

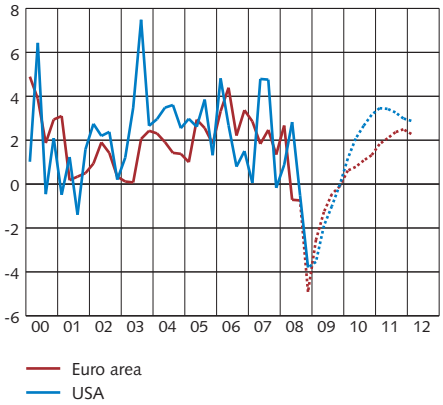
Figure 12. Commodity prices
USD, index, year 2000 = 100



Source: The Economist

4 Studies show that recessions which coincide with falling house prices are usually more protracted than those which accompany stock market corrections. See S. Claessens, M. Kose and M. Terrones (2008), "What happens during recessions, crunches and busts?" IMF Working Paper no WP/08/274.

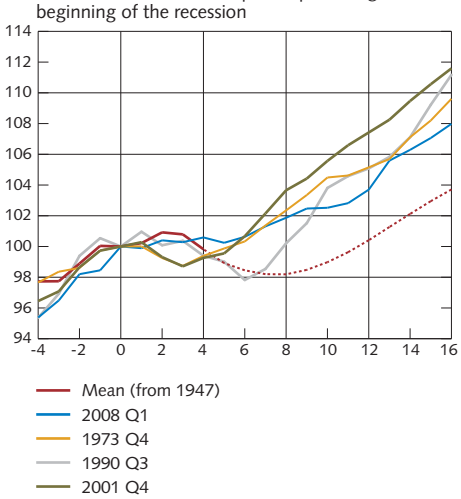
Figure 13. GDP for the USA and the euro area
Quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



Note. Broken lines represent the Riksbank's forecast.

Source: Bureau of Economic Analysis, Eurostat and the Riksbank

Figure 14. Comparison of recovery following various recessions, GDP USA
Level, Index = 100 in the quarter preceding the beginning of the recession



Note. Broken line represents the Riksbank's forecast. Cyclical dating according to NBER. Legends denote the quarter in which the index = 100. X axis: number of quarters. The cyclical dating allows for factors in addition to GDP, for example labour market developments.

Sources: Bureau of Economic Analysis, National Bureau of Economic Research and the Riksbank

2009 Q1. As the effects of the financial crisis are expected to be stronger than previously assumed, the euro area faces a protracted period of weak economic activity and tighter financing terms for households and companies. The credit crunch, together with a poorer outlook for profits and lower capacity utilisation, is expected to lead to weaker investment growth in the future. Moreover, the euro area is affected by the poorer economic outlook in growth economies and the oil-producing countries, which have become increasingly significant markets for euro area exports. The weaker GDP growth in the United States is also affecting the euro area and retarding development.

This is expected to lead to negative quarterly GDP growth throughout 2009 (see Figure 13). The moderate recovery after that will mainly reflect a gradual improvement in the rest of the world. Not until 2011 Q2 is GDP growth expected to return to the trend, which is somewhat later than the United States (see Figure 13). Compared with the December assessment, the downturn in the euro area is now expected to be both deeper and more protracted. Compared with previous recessions in post-war Europe, the present decline will last considerably longer and the recovery will be more gradual (see Figure 15).

Inflation in the euro area has more than halved since the peak in the summer, from 4 per cent in July 2008 to a preliminary figure of 1.1 per cent in January. This is partly due to the falling prices for oil and other commodities. Another factor is the strong euro. In the rest of the forecast period, inflation is expected to remain low, but an increase towards 2 per cent is foreseen in 2011 (see Table A4).

■■ Growth in 2009 also weak in other European countries

A further downward adjustment has been made to the growth forecast for the United Kingdom in 2009: GDP is now expected to decline more than 2 per cent. The economic downturn means that inflation in 2009 is expected to fall well below the Bank of England's 2 per cent target.

Norwegian export companies are being heavily hit by poor international growth. The weakening of the exchange rate, together with fiscal measures, is mitigating the economic downturn but growth in 2009 will nevertheless be very low. With a marked slackening of the housing sector, this points to greatly increased unemployment in 2009.

The Danish economy will be affected in 2009 by a slowdown in the housing market, which will dampen both construction and private consumption. Another negative effect will come from the deterioration in Denmark's most important export markets. The strengthening of the trade-weighted exchange rate worsens the competitive position of Danish companies. As a result of these factors, a fall in GDP and increased unemployment are foreseen in 2009.

■■ Slowdown in the rest of the world

For the rest of the world, too, growth has been adjusted downwards since the Monetary Policy Update in December. Growth slowed noticeably in

the autumn and the downturn has continued at a rapid rate in the growth economies in Asia, as well as in central and eastern Europe. This is evident from the decline in several countries' purchasing managers index (see Figure 16). Difficulties in obtaining export credits, weaker demand and uncertainty about future developments have led to the postponement of investment projects. At the same time, waning household confidence has weakened consumption.

In China, major public sector investments are being carried out but are not sufficient to make up for the downturn in exports and private consumer demand. GDP growth in China is expected to be not quite 7 per cent this year, below the past decade's average rate of about 10 per cent.

In Japan, the revised GDP outcome shows that the economic downturn in 2008 was sharper than expected. Exports have been held back by falling global growth and a stronger yen. Indicators point to a continuation of weak demand.

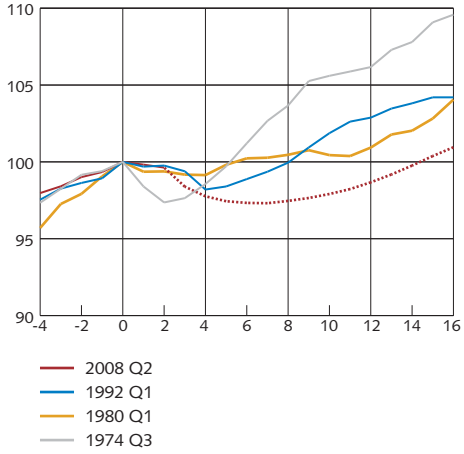
Falling commodity prices (see Figures 11 and 12) are causing the downturn to spread to an increasing extent to the commodity-exporting countries in the Middle East, South America, Africa and Russia.

Since higher capital adequacy requirements have obliged financial institutions in developed countries to cut back lending, investors have reduced exposures to growth economies. Global financial unrest has also placed a strain on countries with fixed exchange rates and led to a weakening of many small currencies against the dollar, thereby posing problems for a number of countries with large foreign-currency loans. In the new East European EU member states, growth is expected to slacken from about 5 per cent last year to almost 0 per cent this year as a result of poorer export demand and effects of the financial crisis.

■■ Marked downward adjustment of international growth forecast

All in all, global GDP growth in 2009 is expected to be just under 0.5 per cent, which is markedly less than last year as well as compared with previous forecasts. World economic growth has not been below 1 per cent since 1982. A negative GDP growth rate in 2009 is foreseen in all the major developed economies. The positive figures will come instead from the growth and developing economies, though rates are declining even there. An upturn in activity, with a resumption of global economic growth, will come when the economy has adapted to new conditions and households and firms resume consumption and investment. Low interest rates and major government initiatives to strengthen demand and normalise the situation in world credit markets will contribute to an upturn. Lower energy and commodity prices will also aid a recovery but this will still be relatively gradual. Global GDP growth in 2010 and 2011 is expected to be approximately 2.5 and 4 per cent, respectively (see Table A3).Not since the early 1990s has world economic growth been below 3 per cent for two consecutive years.

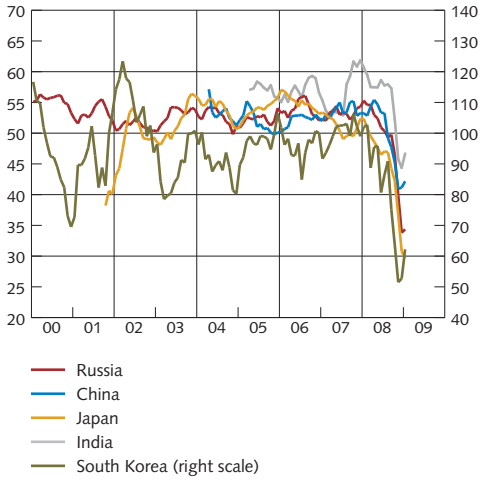
Figure 15. Comparison of recovery following various recessions, GDP euro area
Level, Index = 100 in the quarter preceding the beginning of the recession



Note. Broken line represents the Riksbank's forecast. Assumed start of present recession: 2008 Q2; assumed start of earlier recessions based on official cyclical dating by Centre for Economic Policy Research. Legends denote the quarter in which the index = 100. X axis: number of quarters.

Sources: Eurostat, OECD och Riksbanken

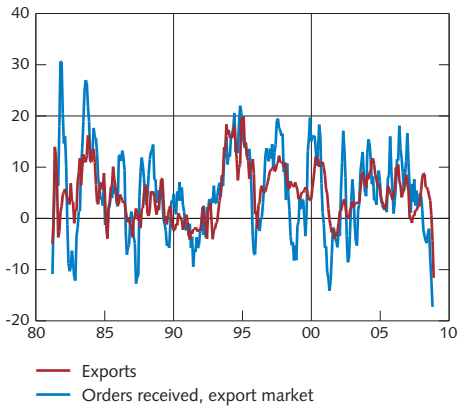
Figure 16. Purchasing managers' index for the manufacturing sector
Seasonally adjusted data and net figures



Note. An index of over 50 means growth, below 50 a decline. For South Korea a value below 100 indicates that the majority of the companies believe the situation will deteriorate. Net figures refer to the percentage of companies stating a positive development minus those stating a deterioration.

Sources: NTC Economics and the Federation of Korean Industries

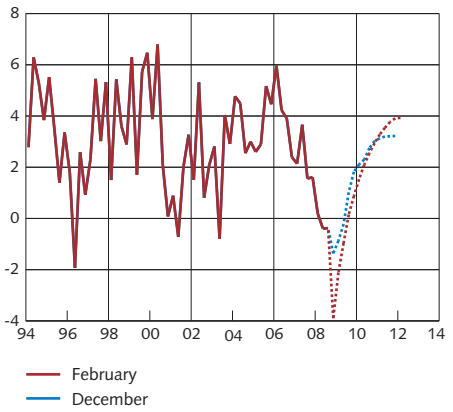
Figure 17. Exports and new export orders
Annual percentage changes, seasonally adjusted data



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

Sources: Statistics Sweden and the Riksbank

Figure 18. GDP
Quarterly changes in per cent calculated in annualised terms, seasonally adjusted data



Note. Broken lines represent the Riksbank's forecasts.

Sources: Statistics Sweden and the Riksbank

The uncertainty in the forecast for the world economy is unusually great. There is a risk of development being even weaker than in the main scenario. In such a scenario, central banks might want to cut policy rates still more in order to stimulate the economy, though they are constrained by the fact that the interest rate cannot be less than 0 per cent. Such a scenario is presented in Chapter 2. However, central banks can take other measures to stimulate the economy when the policy rate is zero. What a central bank can do in such a scenario is discussed in the article "Monetary policy alternatives in times of financial unrest and concern about deflation" in this report.

Another uncertainty lies in the difficulty in assessing the economic impact of the policy measures. It is possible that the effects will be larger than estimated and that the recovery will occur more quickly than is foreseen in the main scenario.

■■ Continued economic slowdown in Sweden

In Sweden, too, there has been an abrupt weakening of economic activity. However, the extent of the financial crisis is not deemed to be as great as in the rest of the world. One indication of this is that risk premiums (measured in terms of TED and basis spreads) in Sweden have not been as large as in the United States and the euro area, for example (see Figures 56 and 57). But Sweden, which is a small, open economy, cannot avoid being affected by a steep fall in growth in the rest of the world (see Figure 17). Exports make up more than 35 per cent of total demand.[5] Up to now, companies that export a large percentage of output have been heavily hit, resulting in cutbacks in production as well as large-scale redundancy notices.

The downturn has also spread to other parts of the Swedish economy. The number of redundancy notices has increased, unemployment is expected to rise rapidly and more companies than usual are expected to fail. Confidence in the future has weakened among households as well as firms (see Figures 81 and 84). This means that banks, just as in the rest of the world, will be more cautious when lending to firms and households, which will further exacerbate the downturn.

GDP growth in Sweden in 2008 was considerably lower than in 2007 (see Figure 18 and Table 3). In 2009, GDP is expected to fall by over 1.5 per cent. Figure 19 shows the Riksbank's forecasts for Swedish GDP growth in 2009 at various points in time together with other forecasts compiled by Consensus. During 2008, both the Riksbank and the Consensus forecasters adjusted their 2009 growth forecasts downwards, particularly in the autumn, as outcome statistics and indicators reflected deteriorating economic developments both in Sweden and in the rest of the world.

■■ Brighter outlook foreseen at the end of 2009

Swedish GDP growth probably reached its lowest level in 2008 Q4, when GDP is expected to have fallen almost 4 per cent in annual terms. Growth

5 Total demand is the sum of exports, household consumption, public sector consumption and investments (which by definition is the same as GDP plus imports)

is expected to remain negative in the three first quarters of 2009 and then become slightly positive in Q4 (see Figure 18). But even in 2010, growth in the Swedish economy will be relatively moderate. As demand in the rest of the world picks up, growth in Sweden will benefit; towards the end of the forecast period, quarterly GDP growth in annual terms is expected to reach almost 4 per cent.

GDP in Sweden is falling almost as fast as in the USA and the euro area (see Figure 20). The forecast is of course very uncertain. There is a risk of a more protracted downturn but a faster recovery is also possible. Experience from previous downturns shows that when an upturn does come, things can move quickly. A comparison with previous downturns is presented in Figure 21. The current downturn is deep but not as deep as during the 1990s crisis. However, there is an important difference between the situation in the early 1990s and now. At present there are no major imbalances in the Swedish economy and the public finances are strong. Economic policy is mitigating the downturn. At the start of the crisis in the 1990s, Sweden had a fixed exchange rate regime and a tighter monetary policy, with a real interest rate that was considerably higher than at present. Moreover, the fact that the current crisis has so much to do with a lack of confidence, for example on the financial markets, means that the economy could improve rapidly when confidence returns. On the other hand, the krona's depreciation was larger in the early 1990s and the global economic slowdown was less pronounced.

■■ The krona remains weak

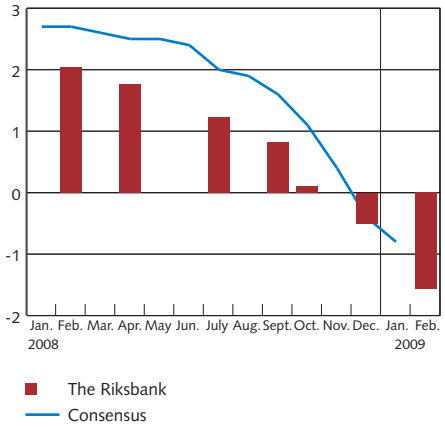
Since the financial crisis intensified in September 2008, Sweden's trade-weighted exchange rate (the TCW index) has weakened considerably. The precise reasons for this are not clear, but small currencies do tend to weaken in times of financial unrest (see the article "The recent weakening of the krona" in this report). Normally a weakening of the exchange rate has a positive effect on exports. As demand is now falling sharply in the rest of the world, there is a risk that the positive effects on growth will not be as great. A weaker exchange rate usually also means that imported goods are more expensive, which entails higher inflation, but this effect is partly counteracted by lower cost pressures and resource utilisation during the forecast period.

The forecasts in this report assume that the krona strengthens in the next few years and returns to more normal levels (see Figure 22). Exchange rate forecasts are, however, highly uncertain. There is a risk that the krona could weaken more and/or continue to be weak for a long time. In that case inflation, but also growth, may be higher than in the main scenario (see the discussion of alternative scenarios in Chapter 2).

■■ Exports, consumption and investments fall

Exports are being hard hit by the downswing in the rest of the world, despite the weaker krona. The export market will contract this year

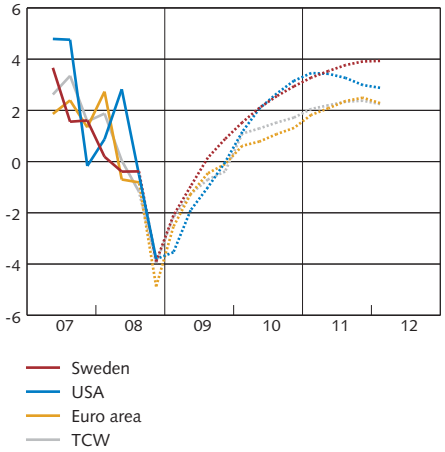
Figure 19. Consensus and the Riksbank's forecasts for GDP growth in Sweden 2009 at different points in time
Annual percentage change



Note. Consensus forecasts are a compilation of predictions by Swedish and international forecasters. The forecasts' dates follow the Consensus compilation which can differ from the acutal publication date by a month or two.

Sources: Consensus and the Riksbank

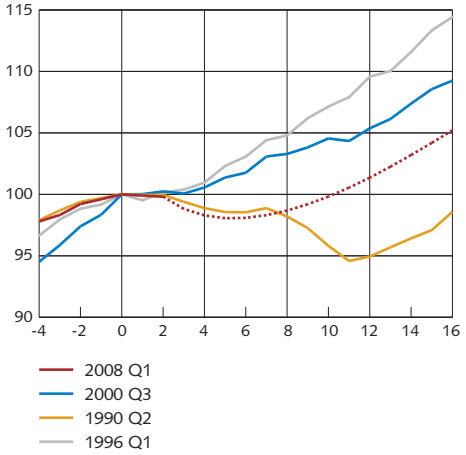
Figure 20. Development of GDP in different regions
Quarterly changes in per cent calculated in annualised terms



Note. TCW entails weighted GDP for Sweden's main trading partners.

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

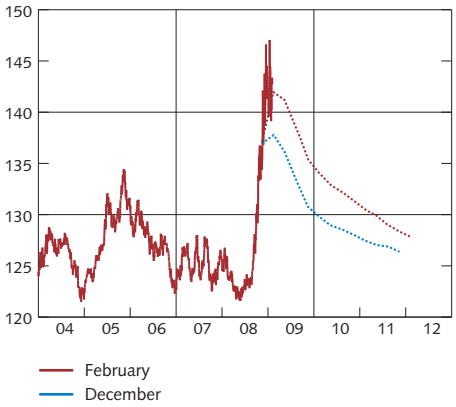
Figure 21. Comparison of recovery following various recessions, GDP Sweden
Index in the quarter preceding the beginning of the recession = 100



Note. Broken line represents the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

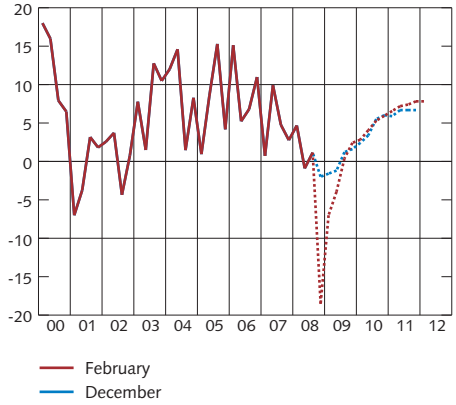
Figure 22. TCW exchange rate
Index, 18.11.92 = 100



Note. Outcome data are daily rates up to 4 February 2009; forecast are quarterly averages. Broken lines represent the Riksbank's forecasts.

Source: The Riksbank

Figure 23. Exports
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecasts. Seasonal adjustment by the Riksbank.

Sources: Statistics Sweden and the Riksbank

but start to expand again in 2010 (see Table A4). This will affect Swedish exports, which will fall relatively sharply in 2009 (see Figure 23). Traditionally export-intensive industries, such as the motor vehicle industry, forest products and commodities, have been hard hit up to now. A slowdown is also expected in exports of services, which for several years have been growing at a much stronger rate than goods exports. When international economic activity turns upwards, the recovery in Sweden will be driven by exports, which is a common cyclical pattern. Exports are forecast to grow by about 3 per cent in 2010.

Household consumption will also decline in 2009. Greater uncertainty about the economic situation points to increased household saving and a fall in consumption despite a relatively favourable increase in household disposable income. This will lead to increased household saving (see Figure 24). Greatly decreased wealth in the wake of falling prices for shares and housing, together with rising unemployment, will have a negative impact on consumption in the immediate future. Another factor is less possibility of borrowing to finance consumption. Economic policy measures, such as interest rate cuts, tax cuts and rising transfers, are expected to contribute to the beginning of a slight increase in consumption from 2009 Q3.

Total investment is falling almost 5 per cent in 2009. Housing investment is expected to drop about 20 per cent. The decline comes mainly from new construction, while renovation has some upward effect. The re-introduction of the tax deduction for building repairs and reconstruction (ROT) and the fact that household interest expenditure is considerably lower than last year will have some positive impact. A reduction in corporate sector investment is also foreseen. With declining export markets and weaker domestic demand, increments to production capacity will not be needed to any great degree. Poorer credit terms also contribute to less investment. However, public sector investment will develop strongly in the next few years thanks to several ongoing infrastructural projects. Towards the end of the forecast period, investment growth is expected to pick up as capacity utilisation rises.

With slower domestic demand and declining exports, imports are expected to fall almost 6 per cent in 2009. Sweden has a large current-account surplus; it will shrink this year when exports fall faster than imports, but the balance will remain positive throughout the forecast period. Falling resource utilisation entails decreased investment and thereby less demand for imported inputs. Like exports, imports will recover during 2010 when the domestic economy improves.

■■ Rapid labour market deterioration

The economic slowdown is now having increasingly clear effects on the labour market. Employment has started to fall and indicators point to a continued, rapid deterioration. The number of redundancy notices has never risen so quickly and the number of vacancies is lower than six months ago (see Figure 30). Unemployment is rising and both the number of people employed and hours worked are decreasing (see

Figure 25). The employment rate will reach a nadir at the beginning of 2011, at the lowest level since the middle of 1998 (see Figure 26).

The number of people in the labour force will also decrease in the next few years (see Figure 25). With a severely weakened labour market, education programmes and vocational training initiatives, the inflow to the labour force will be subdued during the forecast period. As labour demand falls and many redundancy notices are implemented, unemployment will rise sharply and is expected to peak at just over 9 per cent in the second half of 2010 (see Figure 27). Employment will not pick up again and unemployment fall back before 2011.

However, the labour market is not expected to weaken as severely as during the crisis in the 1990s (see Figures 25 and 27). The economic downturn is not expected to be as deep and protracted this time and the contraction of public sector employment will not be as marked. Still, the increase in unemployment will be greater than during the slowdown in the early 2000s.

■■ Rising productivity and falling cost pressure

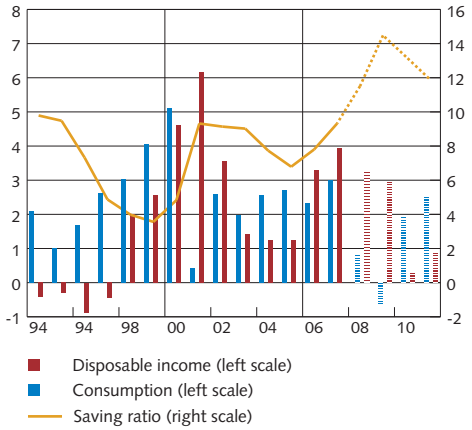
The twelve-month change in labour productivity became negative in 2007 Q1 and is expected to have remained negative up to and including 2009 Q1. This is an unusually long period of weak productivity. Falling productivity is in general very unusual (see Figure 28). However, it is not unusual for productivity growth to weaken in a downswing, when companies adjust output more quickly than their workforce. If the downturn continues, workforces will be adapted; there have been clear signs of this quite recently. During 2009 the change in hours worked will be weaker than GDP growth, which means that productivity will pick up slightly again. Productivity growth will subsequently continue to improve and average just under 3 per cent a year in 2010 and 2011.

Wages are expected to rise relatively slowly in the next few years on account of the poorer situation in the labour market (see Table A7). The reason why the rate of wage increases is not falling in 2009 is that wages are still largely determined by the central agreements from 2007. According to the National Mediation Office, centrally-agreed wages for the total economy will increase by an average of 3.0 per cent in 2009. Wage increases on top of the centrally-agreed levels are expected to amount to only about 0.5 per cent, which is the lowest level since the introduction of short-term wage statistics in 1992.[6] The new wage agreements that will apply in 2010 and 2011 are expected to provide lower wage increases than the agreements for the period 2007–09.

Unit labour costs rose relatively rapidly in 2007 and 2008 (see Figure 29 and Table A7). The rate is expected to slow continuously in 2009 and 2010 due to a combination of rising productivity growth and lower wage increases. In 2011, wages will rise faster again, while productivity does not grow as much, which means that the increase in unit labour costs will be somewhat stronger than in 2010 (see Table A7).

6 According to National Mediation Office statistics, wage increases on top of the central agreements (or the errors and omissions item) were lowest in 1994, 1997 and 2007, when they amounted to an average of just over 0.7 percentage points in each of those years.

Figure 24. Households' disposable incomes, consumption and saving ratio
Annual percentage change, fixed prices and percentage of disposable income



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

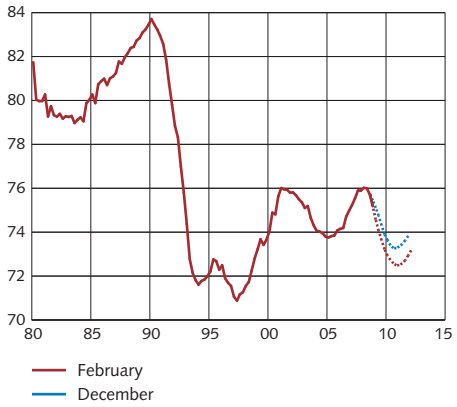
Sources: Statistics Sweden and the Riksbank

Figure 25. Labour force and number of employed
Thousands, seasonally adjusted data

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

Sources: Statistics Sweden and the Riksbank

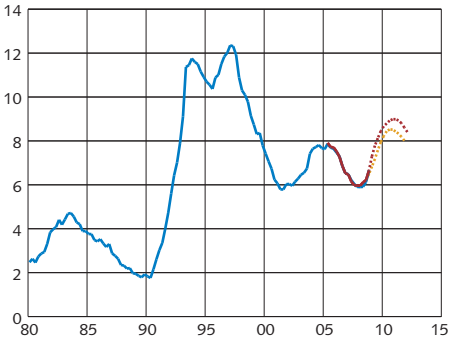
Figure 26. Employment rate
Employment as a percentage of the population, 16-64 years, seasonally-adjusted data



Note. Broken lines represent the Riksbank's forecasts. Pre-1993 data spliced by the Riksbank.

Sources: Statistics Sweden and the Riksbank

Figure 27. Unemployed
Percentage of the labour force, seasonally adjusted data

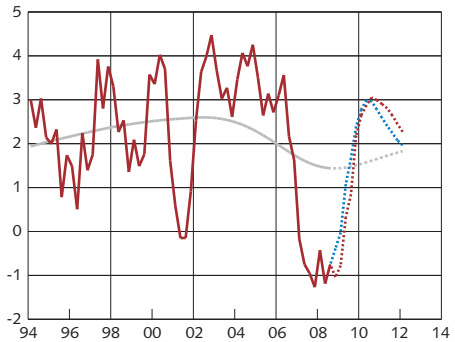


Unemployment 16-64 years
Unemployment 15-74 years
February
December

Note. Broken lines represent the Riksbank's forecasts. Pre-1993 data spliced by the Riksbank.

Sources: Statistics Sweden and the Riksbank

Figure 28. Actual and trend productivity growth in the economy as a whole
Annual percentage change, seasonally adjusted data

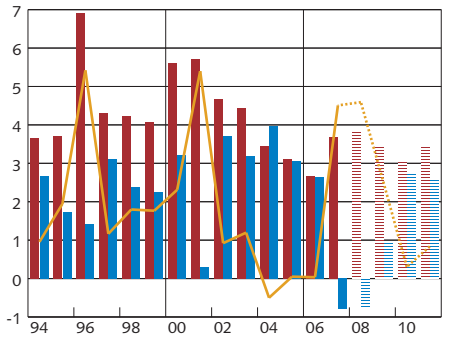


February
December
HP trend

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

Sources: Statistics Sweden and the Riksbank

Figure 29. Unit labour costs for the economy as a whole
Annual percentage change



Labour costs per hour
Productivity
Unit labour costs

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

Sources: Statistics Sweden and the Riksbank

■■ Fiscal policy normal for the economic situation

The change to a more expansionary fiscal policy when the economy weakens is a normal historical pattern. Since December, the Government has presented a package for fiscal stimulation of about the expected size. The Riksbank judges that the Government will present further measures that reduce general government net lending in 2009. More reforms are expected for 2010. The Riksbank's fiscal policy forecasts are based on a normal historical development of fiscal policy over a business cycle (see the article "Fiscal policy: assumptions and forecasts" in MPR08:3).

Tax cuts and the steeper economic downturn imply a reduction of public sector income. All in all, general government net lending falls sharply in 2009 and 2010. Some improvement is foreseen in 2011 as resource utilisation picks up. With the large surpluses from the period 2005–08, deficits can be incurred during the present recession without jeopardising long-term sustainability.

■■ Resource utilisation below normal throughout the forecast period

The primary aim of monetary policy is to stabilise inflation but consideration is also paid to resource utilisation (developments in the real economy), which also has consequences for future inflation. For want of a clear-cut measurement of resource utilisation, the Riksbank uses a variety of indicators to assess its future path, given the economic situation.

Resource utilisation in the labour market is indicated by developments in unemployment and the employment rate, for example. Statistical measures can also serve as indicators. Figure 30 shows GDP, employment and the number of hours worked in relation to the long-term trends. These measurements indicate that resource utilisation will fall rapidly and be below normal throughout the forecast period. An increase in resource utilisation is foreseen towards the end of the period. In other words, the combined picture from all these measurements is that resource utilisation will continue to fall rapidly and will be below normal throughout the forecast period.

■■ Inflation will fall rapidly in 2009 but then rise again

Inflation has fallen rapidly in recent months. In December 2008 the twelve-month change in the CPI was 0.9 per cent, a fall from 2.5 per cent in November and from 4 per cent in October. In the next few months, CPI inflation will continue to fall and reach a low of –1.6 per cent in September (see Figure 31).

The main factors behind such a rapid fall in CPI inflation in 2009 are the large, downward twelve-month changes in house mortgage rates and energy prices. Excluding mortgage expenditure and energy, however, inflation is not expected to fall. Unit labour costs have risen relatively strongly in the past two years and resource utilisation has been

high. Moreover, the exchange rate has weakened. CPIF inflation, which excludes changes in house mortgage expenditure, is expected to be 1.1 per cent in September 2009 and the figure for KPIF inflation excluding energy is 2.2 per cent (see Figure 31). Thus, when CPI inflation is at a low in September this year, the rate will differ from CPIF inflation excluding energy by as much as 3.8 percentage points. For 2009, the annual rate of CPIF inflation excluding energy amounts to just over 2 per cent, which is much the same as for 2008.

From the beginning of 2010 the rate of CPI inflation will quickly rise again and be over 3 per cent towards the end of the forecast period. The reason for the rapid increase is that mortgage rates will first stop falling and then start rising as the Riksbank return to repo rate increases. This is accompanied by a slight upward turn in energy prices. The price of oil is expected to move up during the forecast period, from the current level of less than USD 50/barrel to around US 65 towards the end of 2011, which is in line with forward market prices (see Figure 11). For CPIF inflation excluding energy, however, the rate will slacken during 2010 as a consequence of the fall in cost pressure and resource utilisation. Towards the end of the forecast period, CPIF inflation excluding energy will rise again as the economy rallies; the rate at that time is expected to be close to 2 per cent. This means that towards the end of the forecast period, house mortgage rates contribute to a difference between CPI and CPIF inflation of over 1 percentage point.

■■ Repo rate cut due to low inflation and low resource utilisation

The forecasts in this report are based on the repo rate being cut to 1 per cent in February (see Figure 32). Some further reduction may be called for during 2009. A repo rate increase does not occur before the end of 2010 and the rate towards the end of the forecast period is calculated to be just over 3 per cent. In other words, the assessment is that the interest rate will need to be low for a relatively long time. The real interest rate will also be historically low in the forecast period (see Figure 33).

The repo rate fluctuates to an unusually great extent in the forecast. It is cut initially to around 1 per cent and then increased rapidly again to over 3 per cent. The CPIF, which is not directly affected by the Riksbank's repo rate adjustments, gives a better picture of the more underlying trend inflation. In the longer run, beyond the forecast horizon, when the repo rate stabilises at a more normal long-term level, the rates of CPI and CPIF inflation will coincide.

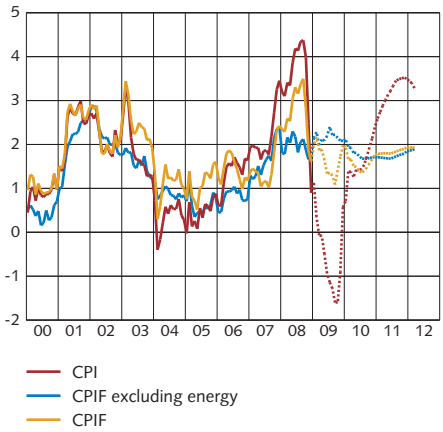
Keeping the repo rate low counteracts the downward effect which the global economic slowdown and financial crisis are exerting on the real economy and inflation in Sweden, and the economy will gradually return to a more normal state. CPIF inflation is expected to be close to the target of 2 per cent at the end of the forecast period. Resource utilisation will be lower than normal for the entire forecast period but will rise in 2011.

Figure 30. Estimated gaps
Percentage deviation from the HP trend

Note. Broken lines represent the Riksbank's forecasts.

Sources: Statistics Sweden and the Riksbank

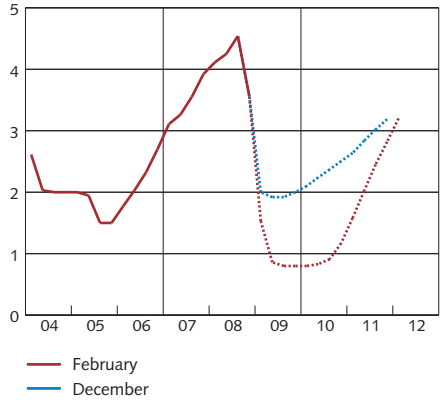
Figure 31. CPI, CPIF and CPIF excluding energy
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

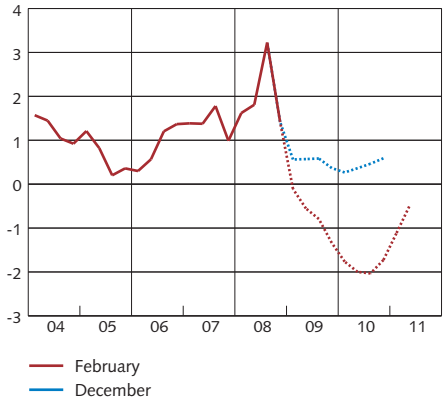
Figure 32. Repo rate forecasts on different occasions
Per cent, quarterly averages



Note. Broken lines represent the Riksbank's forecasts.

Source: The Riksbank

Figure 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.

Source: The Riksbank

This forecast compared with the previous forecast

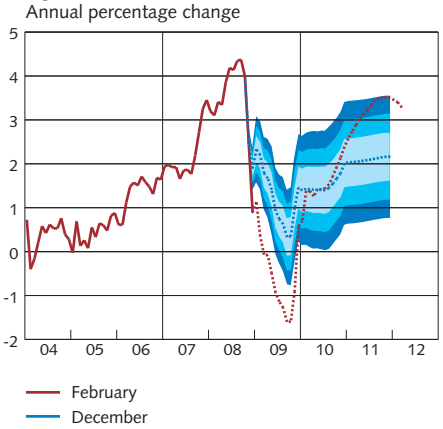
Compared with the Monetary Policy Update in December, the growth forecasts have been adjusted downwards for Sweden as well as for the rest of the world. For Sweden, the downward adjustments primarily concern investment, exports and imports. Most economic indicators have deteriorated rapidly and their levels are now historically low. During the forecast period, the labour market is expected to be worse and the krona weaker than forecast earlier. CPI inflation has been adjusted downwards in the short term but upwards towards the end of the forecast period, mainly because mortgage rates will fall faster this year and rise more quickly towards the end of the forecast period. The adjustment of CPIF inflation is marginal.

In the past six months, both the Riksbank and other forecasters have adjusted their growth forecasts downwards in large steps (see Figures 10 and 19). This is a sign of the present great uncertainty about the economic situation.

Main revisions to forecasts

- GDP in the rest of the world (TCW weighted) is expected to fall 1.8 per cent in 2009 and grow by 0.6 and 2.0 per cent, respectively, in 2010 and 2011. The total downward adjustment of development from 2009 to 2011 amounts to 2.2 percentage points.
- The oil price is expected to average just under USD 60/barrel during the forecast period, which is a downward revision of just under 20 per cent.
- The trade-weighted krona exchange rate (TCW index) is expected to be about 4 percentage points weaker on average in 2009.
- GDP growth in Sweden is revised downwards 1.0 and 0.5 percentage points in 2009 and 2010, respectively, to –1.4 and 1.4 per cent (calendar adjusted). For 2011, GDP growth is adjusted 0.2 percentage points upwards to 3.2 per cent.
- Unemployment is expected to reach 8.0, 9.1 and 9.0 per cent in 2009, 2010 and 2011, respectively, which is an upward adjustment in each of these years by 0.6, 0.7 and 0.8 percentage points.
- The increase in unit labour costs is adjusted upwards by 1 percentage point for 2009 and downwards by about 0.5 percentage points on average for 2010 and 2011.
- The CPI inflation forecast is adjusted downwards 1.7 percentage points for 2009, almost unchanged for 2010 and adjusted upwards 1.1 percentage points for 2011. The main reason for these revisions is that interest rates are now expected to fall faster in the short term and rise faster in the longer term (see Figure 34).
- The CPIF inflation forecast is adjusted downwards 0.1 percentage points for 2009 and upwards by about 0.1 percentage point for 2010 and 2011 (see Figure 35).
- The repo rate path is adjusted downwards by an average of 1 percentage point for 2009, by 1.4 percentage points for 2010 and by 0.7 percentage points for 2011 (see Figure 32).

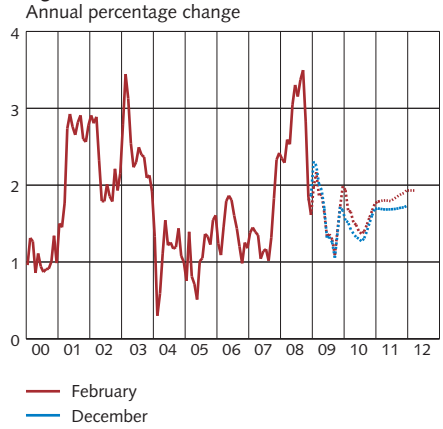
Figure 34. CPI
Annual percentage change



Note. The uncertainty bands refer to the intervals from the Monetary Policy Update in December. Broken lines represent the Riksbank's forecast. Broken lines represent the Riksbank's forecasts.

Sources: Statistics Sweden and the Riksbank

Figure 35. CPIF
Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

Table 1. Inflation, annual average
Annual percentage change

	2008	2009	2010	2011
CPI	3.4 (3.5)	-0.5 (1.2)	1.6 (1.5)	3.2 (2.1)
CPIF	2.7 (2.7)	1.6 (1.7)	1.6 (1.4)	1.8 (1.7)
CPIF excl. energy	2.0 (2.0)	2.2 (2.1)	1.8 (1.6)	1.7 (1.4)
CPIX	2.5 (2.5)	1.3 (1.3)	1.2 (1.1)	1.5 (1.4)

Note. The assessment in the Monetary Policy Update in December 2008 is stated in parentheses. CPIX is CPI inflation excluding household mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies. CPIF is CPI with fixed interest rate.

Sources: Statistics Sweden and the Riksbank

Table 2. Inflation, 12-month average
Annual percentage change

	Mar. -08	Mar. -09	Mar. -10	Mar. -11	Mar. -12
CPI	3.4	-0.1 (1.8)	1.4 (1.4)	2.9 (2.0)	3.3
CPIF	2.6	1.9 (2.0)	1.7 (1.4)	1.8 (1.7)	1.9
CPIF excl. energy	2.2	2.0 (2.1)	1.9 (1.7)	1.7 (1.6)	1.9
CPIX	2.3	1.6 (1.6)	1.3 (1.1)	1.5 (1.4)	1.6

Note. The assessment in the Monetary Policy Update in December 2008 is stated in parentheses. CPIX is CPI inflation excluding household mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies. CPIF is CPI with fixed interest rate.

Sources: Statistics Sweden and the Riksbank

Table 3. Key figures
Annual percentage change, unless otherwise specified

	2008	2009	2010	2011
GDP, world	3.4 (3.5)	0.4 (1.9)	2.6 (3.2)	3.9 (4.1)
Crude oil price Brent, USD/barrel, annual average	97 (98)	50 (60)	59 (71)	63 (77)
Exchange rate, TCW-index, 1992-11-18=100, annual average	127.2 (127.2)	140.0 (134.3)	134.5 (128.8)	131.9 (126.9)
Repo rate, per cent, annual average	4.1 (4.1)	1.0 (2.0)	0.9 (2.3)	2.2 (2.9)
General government net lending, percentage of GDP	2.3 (2.7)	-1.7 (-0.2)	-2.6 (-0.8)	-1.3 (-0.1)
GDP	0.7 (0.9)	-1.6 (-0.5)	1.7 (2.2)	3.2 (3.0)
GDP, calender-adjusted	0.4 (0.6)	-1.4 (-0.4)	1.4 (1.9)	3.2 (3.0)
Number of employed	1.2 (1.2)	-2.0 (-1.3)	-1.6 (-1.3)	0.0 (0.2)
Unemployement 15-74 years, (EU definition)*	6.2 (6.2)	8.0 (7.4)	9.1 (8.4)	9.0 (8.2)
Hourly wage in economy as a whole	4.3 (4.2)	3.5 (3.6)	2.9 (3.2)	3.1 (3.4)

* Percentage of labour force

Note. The assessment in the Monetary Policy Update in December 2008 is shown in parentheses.

Sources: IMF, Intercontinental Exchange, National Mediation Office, Statistics Sweden and the Riksbank

Table 4. Repo rate forecast
Per cent, quarterly average values

	Q4 2008	Q1 2009	Q2 2009	Q1 2010	Q1 2011	Q1 2012
Repo rate	3.6	1.5 (2.0)	0.9 (1.9)	0.8 (2.1)	1.6 (2.6)	3.2

Note. The assessment in the Monetary Policy Update in December 2008 is shown in parentheses.

Source: The Riksbank

CHAPTER 2 – Alternative scenarios and risks

It is very difficult to assess the development of the economy in the years ahead. Although there are, as usual, many risks to consider, the greatest challenge is probably to assess how long the financial crisis will continue and how it will interact with the downturn in the economy. It is possible that the financial crisis and the economic downturn will be worse or longer than assumed in the main scenario. In such a case, inflation and resource utilisation would be even lower than in the main scenario and the Riksbank would need to make further reductions in the repo rate. However, there is also a possibility that the economic policy measures taken in different countries will have a quicker effect than in the main scenario. If so, optimism may rise quickly and confidence return sooner than expected. This could lead to a faster recovery of the economy and to increases in the repo rate being made sooner than in the main scenario. It is also possible that both productivity and the exchange rate develop surprisingly once again so that they are weaker than in the main scenario. This could also result in higher inflation and a higher repo rate path than in the main scenario.

Forecasts of future developments are always uncertain. The situation in the global economy at present is particularly difficult to assess. There is a great deal of uncertainty about how the situation on the financial markets will develop and about how long it will take before conditions return to normal again. It is difficult to judge how badly can things can go or how quickly the situation can improve. Normally, it is possible to analyse what has happened in similar situations in other countries or at other times, but there are few historical parallels to a crisis of this magnitude.

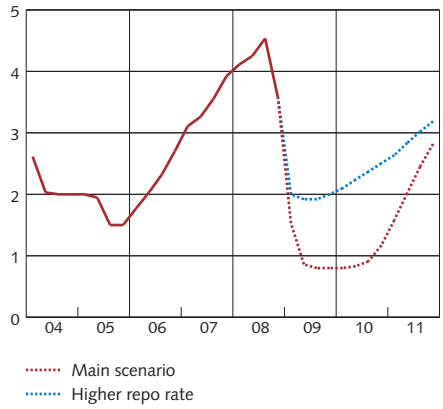
In this Chapter the Riksbank describes several alternative scenarios that differ in various ways from the main scenario. One purpose is to highlight some uncertainty factors that are considered particularly important at present. Another purpose is to illustrate more generally the interplay between monetary policy and economic developments.[8]

The calculations reported here should be regarded as explanatory examples and illustrations. A large number of other alternative development paths are of course also possible, which, all in all, gives rise to the uncertainty that is described by the uncertainty interval (see Figures 1-3 in Chapter 1).

It is important to be aware that an important precondition in the alternative scenarios is that the Riksbank does not have full information from the start regarding the future economic development to which a particular scenario will lead, but instead gradually becomes aware of this during the forecast period. This of course means that the Riksbank adjusts monetary policy more gradually than if all of the information was available immediately. This can be regarded as a reasonable description of the conditions for monetary policy.

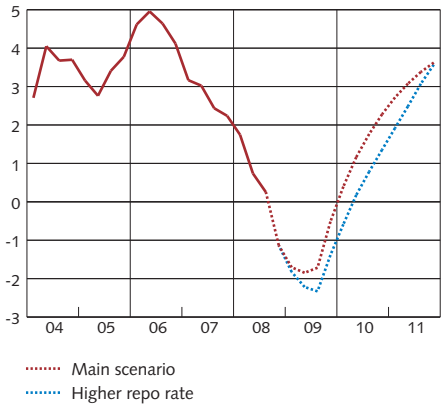
Below, we first present how the Swedish economy could develop if we conducted a different monetary policy than the one in the main scenario. In this alternative, it is assumed that the repo rate follows approximately the repo rate path presented in the Monetary Policy Update published in December 2008.

Figure 36 Repo rate assumption
Per cent, quarterly averages



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

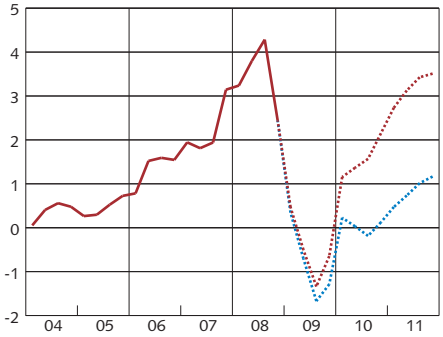
Figure 37 GDP
Annual percentage change, seasonally-adjusted data



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

8 The alternative scenarios are produced with the aid of various models used by the Riksbank, primarily the general equilibrium model RAMSES. See, for instance, the box "RAMSES – a tool for monetary policy analysis" in Monetary Policy Report 2007:1 for a more detailed description.

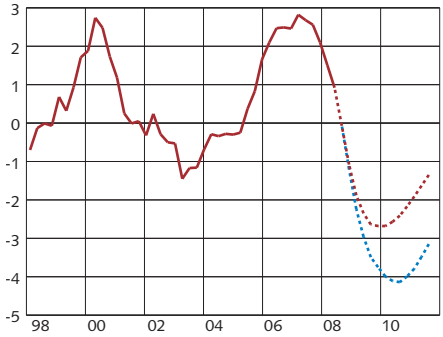
Figure 38 CPI
Annual percentage change



Main scenario
Higher repo rate

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

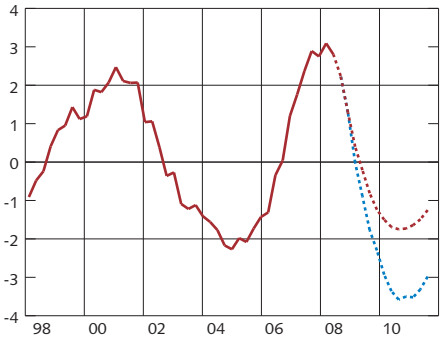
Figure 39 Production gap (GDP)
Percentage deviation from the HP trend



Main scenario
Higher repo rate

Note. See the glossary for a definition of HP filters.
Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 40 Labour market gap (hours worked)
Percentage deviation from the HP trend



Main scenario
Higher repo rate

Note. See the glossary for a definition of HP filters.
Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

We then present three scenarios that are based on a different economic development in Sweden and abroad that that presented in the main scenario. Two of these relate to uncertainty about the development of the financial markets and of the economic situation abroad. In the first scenario, the financial crisis is more prolonged than in the main scenario so that economic development is even weaker. In the second scenario, international growth recovers more rapidly than calculated in the main scenario. This may be the case, for example, if the economic policy measures taken in various countries have a faster or greater impact than expected. The third scenario describes what may happen if both productivity and the exchange rate once again develop in a surprising direction and are weaker than in the main scenario.

Alternative scenario for the repo rate

When the development of the repo rate is determined, a balance is struck between the need to bring inflation back to the target and to stabilise fluctuations in inflation and economic activity.

■■ Higher repo rate path gives lower inflation, GDP growth and resource utilisation

The alternative scenario this time is that the repo rate will remain at 2 per cent for the rest of the year and then be slowly increased (see Figure 36). This alternative corresponds roughly to the interest rate path in main scenario of the December Monetary Policy Update. New information and new outcomes mean, however, that the forecasts are not the same as in December. The statistics that have become available since the Update was published in December indicate a considerably weaker economic development in both Sweden and abroad than the Riksbank and other analysts then expected.

The interest rate in this scenario is higher than in the main scenario for the three years ahead. If the Riksbank were to stick to the repo rate path from December, there would be a further slowdown in GDP growth (see Figure 37 and Table A8). The households would save more and consume less. A higher interest rate would also lead the companies to further reduce their investments. A further fall in demand and investments will also lead to a further decrease in production which means that the demand for labour will be lower than in the main scenario. Wages and thereby companies' costs will then fall. Inflation falls to a lower level than in the main scenario and does not rise above 1 per cent until the end of 2011 (see Figure 38). Resource utilisation, measured as both the production gap and the labour market gap, is already low in the main scenario and with this repo rate path will be even lower (see Figures 39 and 40).

Alternative scenarios for economic development

Already in the first Monetary Policy Report of 2007, the expectation was that there would be a fall off in economic activity and that the growth of GDP would gradually slow down. Since then, the problems on the financial markets have led to an unexpectedly rapid and substantial fall in growth around the world. In the main scenario, it is assumed that the financial crisis has peaked and that the situation on the financial markets will stabilise and improve during 2009. It is assumed that growth in most countries will begin to normalise during the course of 2010. The real consequences will however be tangible for several years to come.

It is very difficult to assess the development of the economy in the years ahead. Although there are, as usual, many risks to consider, the greatest challenge is probably to assess how long the financial crisis will continue and how it will interact with the downturn in the economy. The first two alternative economic scenarios are linked to the development of the financial markets and the economy, while the final scenario describes what happens if the development of productivity and the exchange rate in Sweden is weaker.

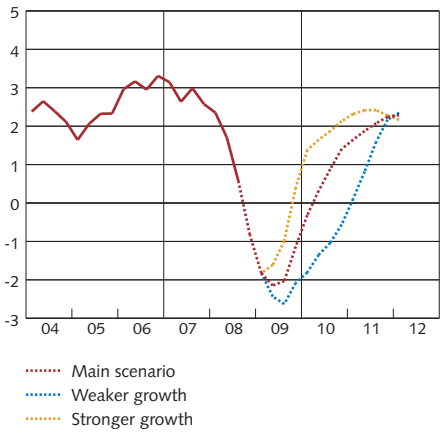
■■ Increased problems on the financial markets may lead to the repo rate being reduced to zero per cent

In the first alternative scenario, the financial crisis has more prolonged and more far-reaching effects than assumed in the main scenario. Many household believe that the course of development in the period ahead is unusually uncertain at the moment and this makes them more cautious. Some households will also be hit by unemployment. Both the uncertainty about the future and the increase in unemployment will lead them to reduce their consumption. Those who become unemployed will also find it more difficult to cover the interest and amortisation payments on their debts, for example their mortgages. This means that the credit risk for a bank that has provided loans for the purchase of flats or houses will increase, and ultimately the bank may make a loss on these loans.

When the households reduce their consumption, the corporate sector will be hit by a fall in demand and their profits will fall. Uncertainty about the future may also make the companies postpone or cancel some investments. This will lead to a further fall in demand in the economy. It is of course natural in a recession that some companies experience difficulties and that some go bankrupt. In an economic downturn, the financial players also normally assume that there will be some credit losses. This increases the risks associated with the banks' lending and may lead the banks to tighten their lending by increasing interest rates and imposing stricter credit conditions.

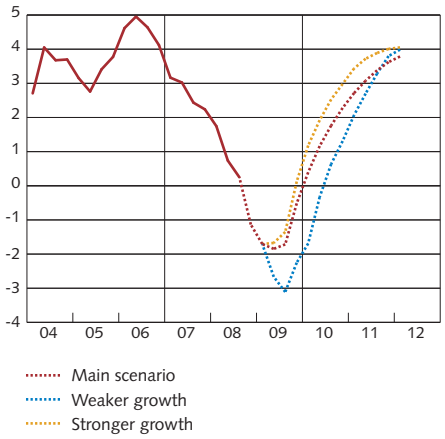
However, in a situation in which the financial system is already in crisis at the start of an economic downturn, it is not inconceivable that some banks and financial institutions will experience major problems. If the crisis worsens, we may see a situation in which the banks become even less willing to lend to households and companies, partly because of

Figure 41 GDP abroad
TCW-weighted, annual percentage change



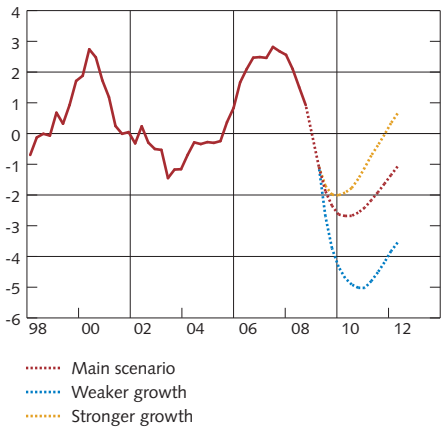
Note. Broken lines represent the Riksbank's forecast.
Sources: National sources and the Riksbank

Figure 42 GDP
Annual percentage change, seasonally adjusted data



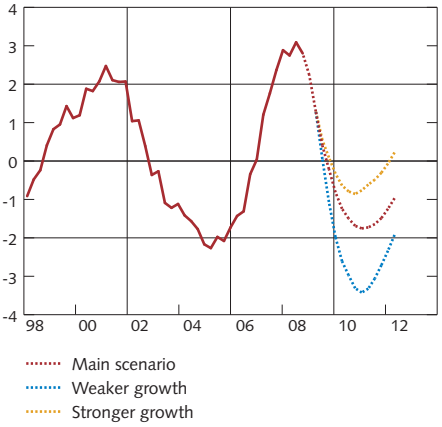
Note. Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

Figure 43 Production gap (GDP)
Percentage deviation from the HP trend



Note. See the glossary for a definition of HP filters.
Broken lines represent the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank

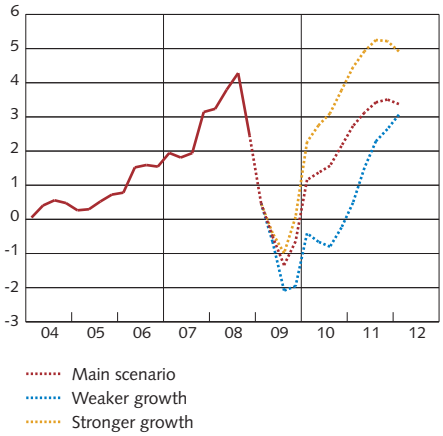
Figure 44 Labour market gap (hours worked)
Percentage deviation from the HP trend



Note. See the glossary for a definition of HP filters. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

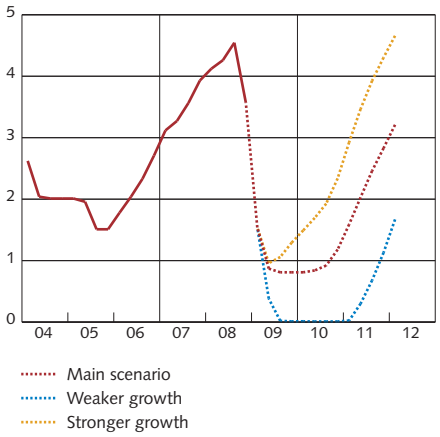
Figure 45 CPI
Annual percentage change



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

Figure 46 Repo rate
Per cent, quarterly averages



Note. Broken lines represent the Riksbank's forecast.

Source: The Riksbank

the increased risk of credit losses and partly because of the shortage of capital. Should the downturn become steeper or longer than in the main scenario, there is thus a risk that the downturn and the financial crisis will continue to reinforce each other. These problems and mechanisms are not specific to Sweden but affect several counties in the world.

In the first alternative scenario, international growth is weaker and inflation lower than in the main scenario (see Figure 41 and table A9). Policy rates are cut significantly abroad. There is a further fall in the oil price as a result of the weaker growth.

Sweden is a small and open economy with extensive foreign trade and a financial market that is well integrated with the international markets. This means that a global financial crisis combined with a significant international economic downturn has a serious impact on the Swedish economy. In this alternative scenario, GDP growth in Sweden is an average of 1.0 and 1.4 per cent lower in 2009 and 2010 (see Figure 42) Thereafter, growth recovers and GDP grows somewhat faster than in the main scenario in early 2012. The lower level of growth means that resource utilisation falls more quickly and is lower than in the main scenario, measured both as the production gap and the labour market gap (see Figures 43 and 44). The weaker economic climate with a lower oil price and lower inflation abroad means that inflation in Sweden is significantly lower than in the main scenario (see Figure 45). Inflation is below the target of 2 per cent for the major part of the forecast period.

In this alternative scenario, the Riksbank makes further cuts in the repo rate. However, during the latter part of 2009 and throughout 2010, the repo rate is at zero and consequently can not be cut any more (see Figure 46). This means that the Riksbank can not by reducing the repo rate alone stimulate the Swedish economy enough to bring up inflation in line with the target and resource utilisation to an acceptable level.

The root of the problem is that the real interest rate is too high in relation to what is justified on the basis of the economic situation (see Figure 47). In order to influence the real interest rate and stimulate the economy, the Riksbank may need to use other measures. In simple terms, the real interest rate consists of a nominal interest rate (including a risk premium) minus expected inflation.[9] One way of keeping the real interest rate down is to ensure that the public's inflation expectations are kept up. Another way is to try to influence the risk premiums on the financial markets. The article "Monetary policy alternatives in times of financial crisis and concern over deflation" contains a discussion of what tools a central bank can use in such a situation.

The effects of using these tools have not been taken into account in the design of this scenario. This means that in such a situation the economic consequences in Sweden may possibly be somewhat milder than described in the scenario.

9 For a more detailed discussion of the term real interest rate, see the article "The development of the real interest rate" in MPR 2008:2 and the comment "The real interest rate in Sweden" on the Riksbank's website.

■■ The recovery in sweden and abroad may be quicker

Central banks and governments around the world have reacted decisively to the financial crisis. Important measures such as cutting policy rates and lending more money to the banking system have been taken. Governments have also presented fiscal policy packages to help companies in crisis and increase household demand. However, a fundamental cause of the financial crisis is the general lack of confidence. It is difficult to predict when the measures taken will be able to reduce uncertainty. It is possible that the problems will be prolonged, but there is also a possibility that optimism may increase quickly and confidence return sooner than expected. In the second alternative scenario, the stimulation packages and measures that have been introduced in various countries have a quicker impact than assumed in the main scenario, with the result that international growth recovers more quickly. When confidence is restored on the financial markets and the situation normalises, some of the banks will increase their lending to households and companies again. The companies will begin to invest and the demand for labour will increase. When the situation on the labour market improves, the households will become more optimistic about the future. The households will reduce their precautionary saving and will consume more again.

In this alternative scenario, international growth recovers more quickly and is higher than in the main scenario (see Figure 41 and table A10). The increase in demand will lead to higher inflation abroad than assumed in the main scenario. During the second half of 2009, interest rates abroad will begin to increase again. Sweden is a small open economy with extensive foreign trade and significant financial links with other countries. This means that a more rapid recovery of the global economy will also have an impact on the Swedish economy.

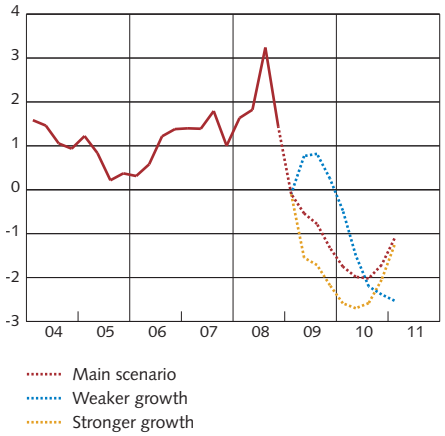
The higher level of growth internationally will lead to a greater increase in Swedish exports. The situation on the labour market will improve and the households will reduce their precautionary saving and increase their consumption. GDP growth in Sweden will increase more than in the main scenario (see Figure 42). As a result of the higher demand, inflation will not fall as much as in the main scenario (see Figure 45). It will still be below the target this year, but will rise quickly at the end of the year and then be above the target of 2 per cent. Increases in the repo rate will begin during the second half of 2009 (see Figure 46).

■■ Weaker exchange rate and productivity leads to higher cost pressures in sweden

The final alternative scenario describes what will happen if the development of both the Swedish exchange rate and productivity is weaker than in the main scenario

The development of productivity has been unusually weak over the last two years. In the main scenario, the growth in productivity recovers rather quickly this year (see Figure 49). However, the latest outcomes have been surprisingly low and it is possible that the strength of the recovery has been overestimated.

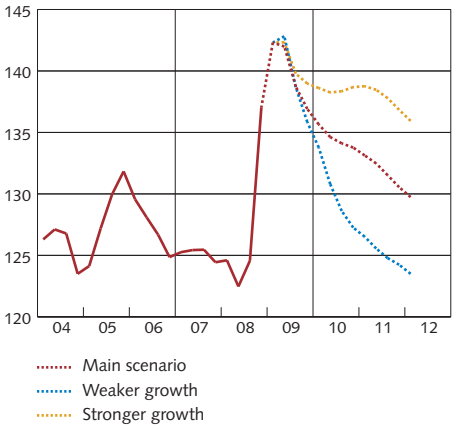
Figure 47 Real repo rate
Per cent, quarterly averages



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

Source: The Riksbank

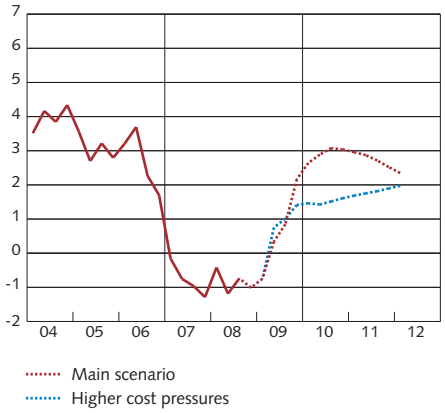
Figure 48 TCW-weighted exchange rate
Index, 1992-11-18=100



Note. Broken lines represent the Riksbank's forecast.

Source: The Riksbank

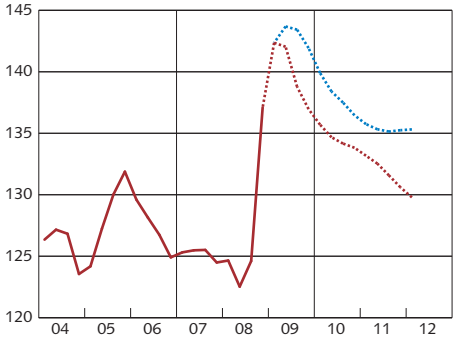
Figure 49 Labour productivity
Annual percentage change



Note. Broken lines represent the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

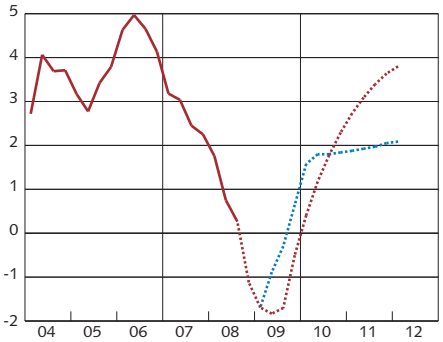
Figure 50 TCW-weighted exchange rate
Index, 1992-11-18 = 100



Main scenario
Higher cost pressures

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

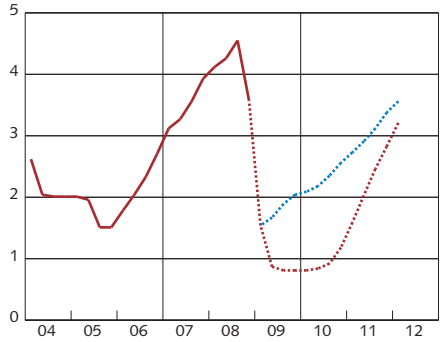
Figure 51 GDP
Annual percentage change, seasonally adjusted data



Main scenario
Higher cost pressures

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

Figure 52 Repo rate
Annual percentage change



Main scenario
Higher cost pressures

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

The exchange rate has weakened during the financial crisis and has been subject to considerable fluctuations. In times of financial turbulence, the Swedish krona and other small countries' currencies are usually considered to be more uncertain than larger currencies and therefore they weaken in relation to the larger currencies (see the article "The recent weakening of the krona"). In the main scenario the krona gradually strengthens during the forecast period, but there is a risk that the exchange rate will weaken (see Figure 50). This means that Swedish export goods will be cheaper in foreign currencies and this will help to increase the demand for these goods. A weaker exchange rate will also make the goods imported into Sweden more expensive in Swedish krona, which will favour domestically-produced alternatives.

It is also difficult to assess what effects a weaker exchange rate will have on the economy. When the public in this scenario understands that the weakening of the krona will be more permanent it will have a greater impact and the effects on the economy will be greater than in the main scenario.

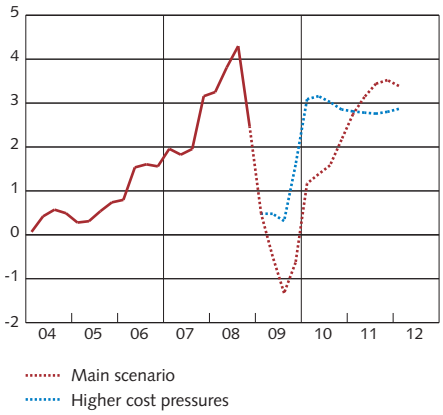
A weaker exchange rate will lead to an increase in demand which means that the companies will want to employ more labour and that the number of hours worked will be higher than in the main scenario (see table A11). GDP growth will increase quickly in the short term, but not as quickly as the number of hours worked, and the growth of productivity will therefore be weaker than in the forecast of the main scenario (see Figure 51). In the slightly longer term, GDP growth will be lower than in the main scenario.

A lower level of growth in productivity means that more labour is required to produce the same quantity of goods. In this scenario, the assessment is that the growth trend will be lower during the forecast period than is assumed in the main scenario. The lower growth in productivity means that the unit labour cost will increase. The companies' costs then increase too. Both higher costs due to lower productivity and higher prices for imported goods lead to an increase in cost pressures in Sweden. Initially, in this scenario, the Riksbank still reduces the repo rate but lets it bottom out in the second quarter of 2009 and then begins to increase it again (see Figure 52). All in all, the increasing cost pressures and the higher interest rate path mean that inflation bottoms out at a higher level during the third quarter of this year (see Figure 53). Thereafter, inflation rises rather rapidly up to approximately 3 per cent. The real interest rate falls initially and is at its lowest approximately minus 1.2 per cent during the second quarter of 2009 (see Figure 54). It then increases slowly again.

■■ The development of oil and commodity prices is still a great risk

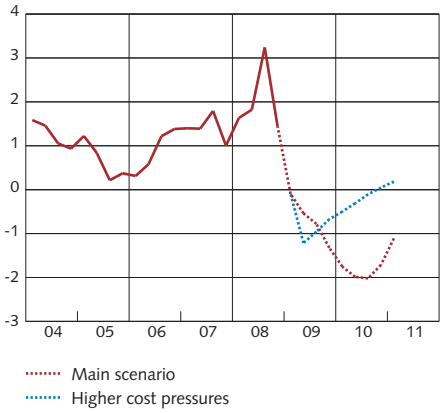
The alternative scenarios presented here should be regarded as illuminating examples and illustrations. A large number of alternative courses of development are also conceivable. Considerable uncertainty still prevails with regard to a number of other variables in the forecast. This applies, for example, to oil and commodity prices, which have fluctuated considerably over the last 12 months. The Monetary Policy Report that was published a year ago contained a scenario in which the oil price increased more than in the main scenario. In the subsequent Report there was a scenario in which the effects of a fall in oil and commodity prices was analysed. It turned out that both of these scenarios managed to capture important features of macroeconomic development in 2008. An oil price that was higher than expected first drove up inflation and the interest rate more than was excpected. This development then reversed direction at the same surprising rate. The oil price remains an important risk factor.

Figure 53 CPI
Annual percentage change



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

Figure 54 Real repo rate
Per cent, quarterly averages



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

CHAPTER 3 – The current state of the economy

The financial crisis is in certain respects, not now as acute as it was in the autumn, but there is still a great deal of uncertainty about the development of the financial markets and global growth. The slowdown in global growth has meant that the fears of a deeper and more prolonged downturn in economic activity have taken over earlier fears of rising inflation. It is rather the risk of deflation that has come into focus on the financial markets. The rate of inflation is falling rapidly in Sweden and abroad and world trade seems to have come to a standstill. The confidence crisis in financial markets has spread to households and firms. During the autumn, almost all of the confidence indicators throughout the world fell dramatically and the data published since the Monetary Policy Update was published in December has been worse than expected. This has led to the downward revision of the forecasts. The increasing international economic downturn has had a rapid impact on the development of the real economy in Sweden. There has, for example, been a dramatic fall in export orders and a rapid increase in redundancy notices to historically high levels. To summarise, the information that has now become available indicates weaker economic growth, a deterioration of the labour market and lower inflation compared to the Monetary Policy Update published in December.

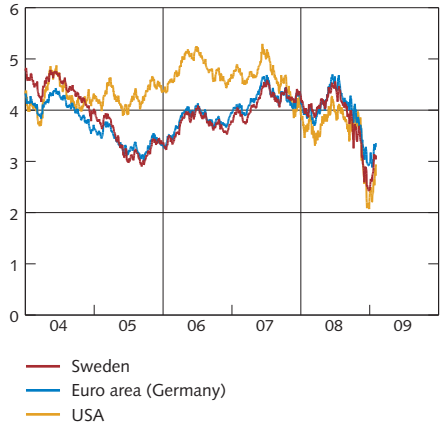
Continuing problems in the financial markets

The uncertainty over how serious and how prolonged the consequences of the financial crisis will be is still affecting the financial markets. Since the Monetary Policy Update in December, the interest rates of government bonds at long maturities have increased in the USA, the euro area and Sweden (see Figure 55). This can partly be explained by expectations of major national budget deficits.The stock market is still weak but volatile and the krona still has a low exchange rate. There are also some signs that that tightening of credit for companies has increased.

However, market rates, in the form of interbank and mortgage rates, have fallen almost as much as the repo rate. The difference between interbank rates and treasury bill rates, what is known as the TED spread, has also declined over the period (see Figure 56). The difference between the interbank rates and the expected repo rate (the basis spread) with three months to maturity is back at approximately the same level as before the crisis worsened in the autumn of 2008 (see Figure 57). In some respects, therefore, the situation in the financial markets has improved. At the same time, the economic downturn has deepened, which aggravates a number of the problems in the financial markets.

The slowdown in global growth has meant that the fears of a deeper and more prolonged downturn in economic activity have taken over earlier fears of rising inflation. It is rather the risk of deflation that has come into focus on the financial markets. The inflation rate is falling quickly both in Sweden and abroad. In the United States and Japan the policy rates are almost zero. All in all, the economic outlook is still gloomy. Some of the negative statistics published since the beginning of December have, however, been expected, judging by the pricing in the financial markets.

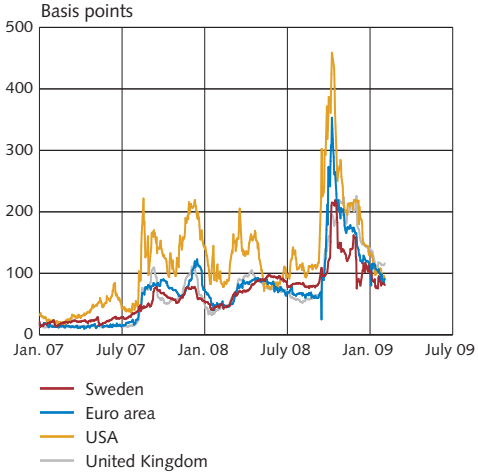
Figure 55. Long-term interest rates
Per cent



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

Source: Reuters EcoWin

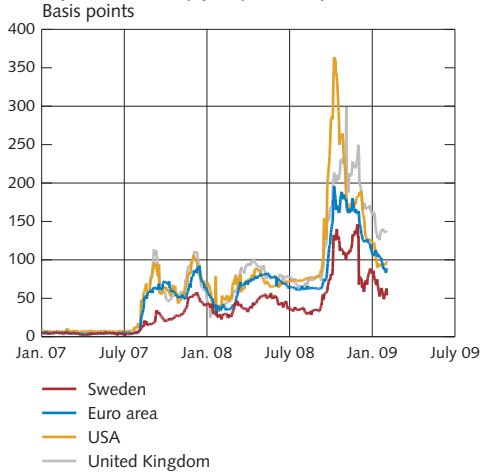
Figure 56. Difference between interbank rates and government bond rates (TED spread)
Basis points



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

Sources: Reuters EcoWin and the Riksbank.

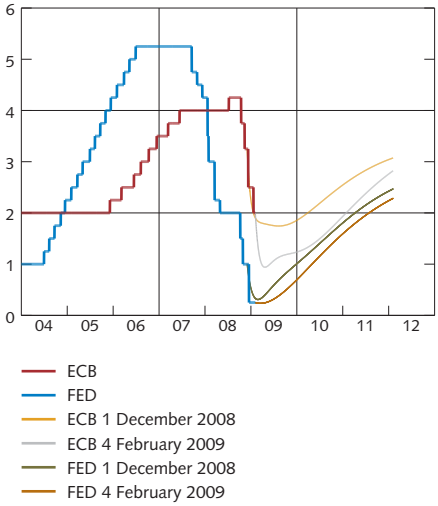
Figure 57. Difference between interbank rates and expected monetary policy (Basis-spread)
Basis points



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

Sources: Reuters EcoWin and the Riksbank.

Figure 58. 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.

Sources: ECB and Federal reserve

Lower monetary policy expectations in the USA, Europe and Sweden

During December many central banks around the world cut their policy rates substantially. The US central bank, the Federal Reserve, cut its policy rate from the already low 1 per cent to a target interval of 0 – 0.25 per cent on 16 December. The policy rate has never been so low in the United States. The reasons given for the cut were the deeper economic downturn during the autumn and the very strained conditions in the financial markets. Market expectations in early February were disposed towards the interest rate remaining at the current level up to the summer of 2009. The US policy rate is not expected to reach a level of 1 per cent until the summer of 2010 (see Figure 58).

The European Central Bank (ECB) has cut its policy rate by 125 basis points to 2 per cent since the Monetary Policy Update was published in December. The reasons given for the ECB's cuts were the declining inflation rate and the increasingly weak economic activity in the euro area. According to market pricing, the expectation is that the interest rate will be cut by a further 75 basis points to 1.25 per cent, and remain at this level throughout the year (see Figure 58).

The Bank of England has cut its policy rate in three stages since the Monetary Policy Update in December, by a total of 200 basis points to 1 per cent. Growth has deteriorated even more quickly in the UK than in the euro area. This has led to expectations of further interest rate cuts to around 0.75 per cent during the first half of 2009.

In Sweden, too, expectations of monetary policy have been lowered. The financial markets are expecting the repo rate to be cut to approximately 1 per cent before increases begin again. These expectations were revised down, primarily in connection with the Federal Reserve's cut in mid-December. Concern about an even weaker economic situation in Sweden is also a reason for the expectations of a lower repo rate in the period ahead (see Figure 59).

Weak stock market development

Share prices have fallen somewhat around the world since the Update in December. But developments have been very volatile. Government measures, such as fiscal policy stimulation packages, loans to the US motor vehicle industry and policy rate cuts are expected to alleviate the recession. This contributed to the increased risk appetite among investors that was noted on the stock markets prior to the year-end. However, the stock market trend since the new year has been downwards on an international scale, partly as a result of profit warnings and poorer statistics (for instance, the US labour market) than expected (see Figure 60).

■■ Mortgage rates have fallen

The variable mortgage rates paid by households in Sweden have fallen since mid-November, especially following the Riksbank's most recent interest rate cut on 4 December. The mortgage spread, the difference between short-term mortgage rates and the repo rate, has also fallen during the period and follows the same pattern as the interbank rates. The average of listed three-month mortgage rates in January was around 140 basis points above the repo rate. This can be compared with around 180 basis points in October when the financial crisis intensified. The difference between the mortgage rates paid by households and the repo rate has thus returned to more normal conditions and is now approximately 20 basis points above the average since 1996 (see Figure 61). During the years 2004-2007, however, the average was much lower (see also the article "The financial crisis and the effects of monetary policy" in this report).

Both the variable and the long-term mortgage rates have fallen since the beginning of December. However, the difference between mortgage bond rates and treasury bond rates is still considerable, compared with the way things were prior to the crisis. Before the financial turbulence started in autumn 2007, the difference between the two bond rates was approximately 35 basis points. During 2008, the average difference increased to 110 basis points when government bond rates fell more rapidly than mortgage bond rates (see Figure 62). The interest on five-year government bonds has fallen by around 150 basis points in the United States, Europe and Sweden since mid-September).

■■ Housing prices have fallen

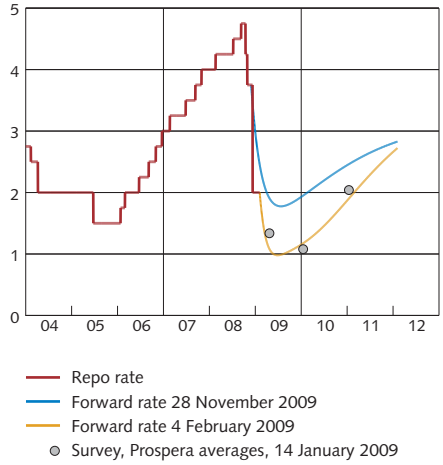
During the first three quarters of 2008 the rate of increase in house prices slowed down substantially, measured as an annual percentage change, according to quarterly data from Statistics Sweden. Monthly data on the purchase price coefficient for house prices indicates a continuing slowdown in the growth rate for house prices (see Figure 63). Between the third and fourth quarters of 2008 house prices fell by almost 3 per cent, according to the purchase price coefficient.

Prices of tenant-owned apartments are also falling. According to estate agents' statistics, the price per square metre for tenant-owned apartments fell on average by approximately 9 per cent between the third and fourth quarters of 2008.

■■ Bank lending to companies increasing more slowly

Financial market statistics show that the increase in lending to households, measured as an annual percentage change, declined in 2008. This is partly explained by a reduction in new lending. It is, however, difficult to know whether this is primarily due to a decline in household demand for new loans or whether it is mainly the banks that have tightened their provision of credit.

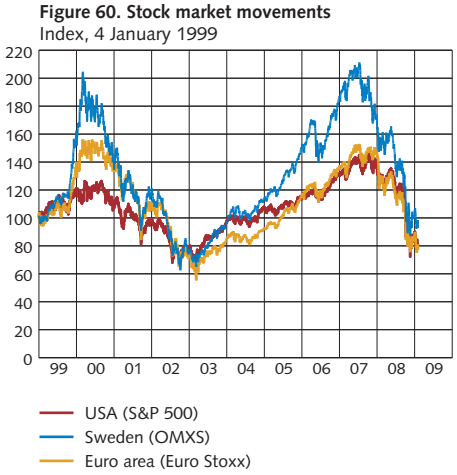
Figure 59. Monetary policy expectations in Sweden according to money market participants
Per cent



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

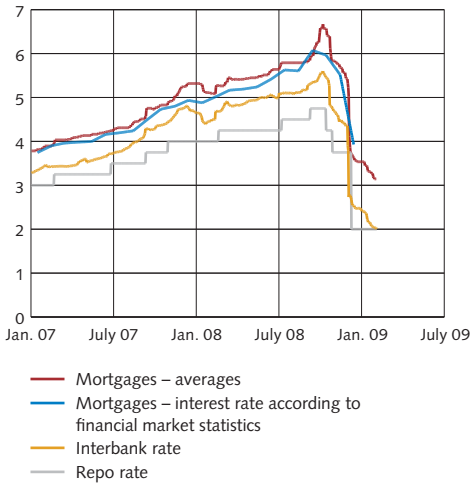
Sources: Retuers EcoWin, Prospera Research AB and the Riksbank

Figure 60. Stock market movements
Index, 4 January 1999



Sources: Reuters EcoWin

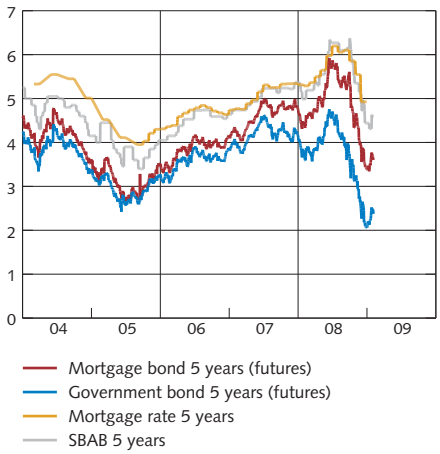
Figure 61. Interest rates in Sweden
Per cent



Note. Refers to the average three month listed mortgage rates from banks and mortgage institutes, the three month interbank rate and the monthly average for three month mortgage rates for new loans according to fi nancial market statisktics.

Sources: Reuters EcoWin, SBAB, Statistics Sweden and the Riksbank

Figure 62.Long-term interest rates
Per cent



Note. Mortgage institution rate for over 5 years, new contracts.

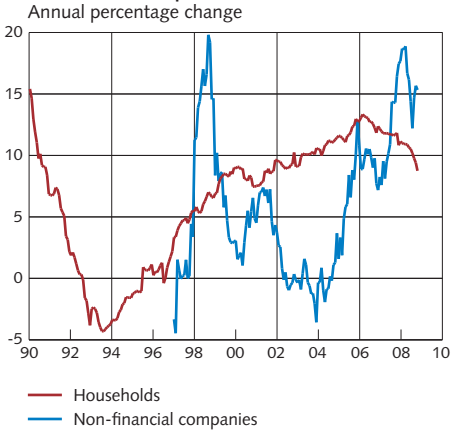
Sources: Reuters EcoWin

Figure 63. Housing prices
Annual percentage change

Note. Quarterly observations of house prices according to property price index and monthly observations of the mean value of the purchase price coefficient (Purchase price/ Taxation value).

Sources: Statistics Sweden

Figure 64. Lending to Swedish households and non-financial companies
Annual percentage change



Source: The Riksbank

The rate of lending to companies declined in 2008 (see Figure 64). Statistics received since the Update in December show that lending fell between November and December. Companies' total borrowing abroad, measured in terms of loans and securities, declined during the second half of 2008. Lending from foreign banks to Swedish companies fell by half between May and June and is still at a low level. Large companies that previously conducted a lot of their borrowing abroad have begun to borrow increasing amounts in Sweden. This means that it is likely that smaller companies will find it even more difficult to borrow as bank lending to small companies is squeezed out. (see Figure 7).

All in all, both the new statistics and economic indicators point to a decline in the rate of increase in bank lending to companies. This can be interpreted to mean that credit granting has tightened since the most recent monetary policy meeting, which also fits in with the National Institute of Economic Research's Economic Tendency Survey and information in the Riksbank's company survey (see the article "The Riksbank's company interviews in December - January 2008 – 2009 in this report.

■■ Growth in the money supply has declined, but the monetary base has grown

The general public's holdings of banknotes and coins, M0, decreased slightly at the end of 2008 (see Figure 65). The broader money aggregate M2 increased by approximately 14 per cent compared with the same period last year. On the other hand, the growth rate in the broadest money aggregate, M3, declined substantially up to the end of November. This is because the general public has reduced its holdings of the money market instruments with short maturities that are included in M3. In December, however the rate of growth in M3 increased somewhat. The large variation in M3 growth over the past year is probably due to a change in investment patterns among households as a result of the financial crisis.

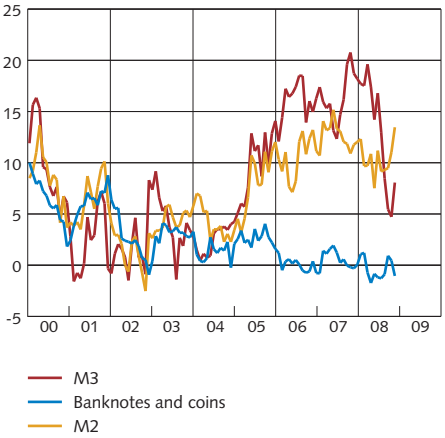
Since last autumn the Riksbank has taken a number of measures to safeguard financial stability and facilitate the supply of credit. The Riksbank has lent both Swedish krona and US dollars, in all cases against collateral and at interest rates determined in an auction. As a result of this increased lending, the Riksbank's balance sheet has expanded substantially. From the beginning of September 2008 to the end of the year, the balance sheet total increased from almost SEK 200 billion to SEK 700 billion, an increase of 250 per cent (see Figure B1 and B2).

Changes in a central bank's balance sheet often affect what is known as the monetary base. To date, the Riksbank has applied and published a very narrow definition of the monetary base – the outstanding stock of notes and coins on the Riksbank's balance sheet. With a broader definition of the monetary base that also includes the banks' deposit at the Riksbank and their holdings of Riksbank certificates, the monetary base has increased by SEK 260 billion, which is an increase of over 240 per cent in January 2009. A general definition

of the monetary base includes the outstanding stock of notes and coins as well as the banks' deposits with the Riksbank (reserves).

The money supply is a measure of the public's holdings of liquid funds. The money supply does not include the banks' deposits with the Riksbank or issued Riksbank certificates. The dramatic increase in the monetary base has thus not had a direct effect on the money supply. The Riksbank's measures have nevertheless had indirect effects on both the money supply and the volume of credit. If the measures had not been taken, the banks' deposits and lending would have grown at a slower rate and market rates would have been higher.

Figure 65. Money Supply
Annual percentage change



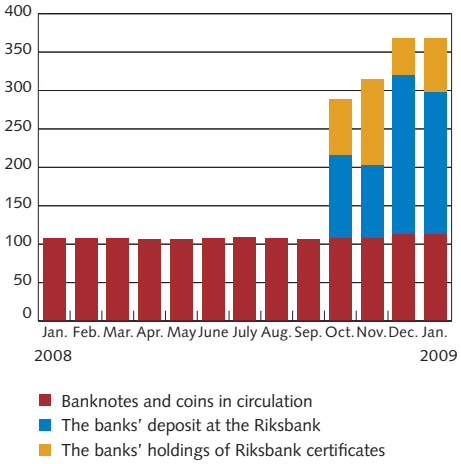
Sources: Statistics Sweden and the Riksbank

■■ Krona exchange rate still low

There has been considerable volatility in the foreign exchange market since the beginning of September. In general, large currencies have been strengthened, while smaller currencies have been weakened. The deeper financial crisis and the global economic downturn have resulted in a flight from smaller to larger currencies that are seen as safer and more liquid (See also the article "The recent weakening of the krona" in this report).

The Swedish krona remains weak against both the US dollar and the euro (see Figure 67). The krona has weakened during the financial crisis and was around 17 per cent weaker at the start of 2009 than it was six months earlier. The lowest value measured was around 14 January, when the TCW index amounted to more than 147. The krona has on average weakened by around 2.5 per cent (measured in terms of the TCW index) since the beginning of December (see Figure 22). However, the day-to-day fluctuations have been substantial. The forecast for the first quarter of 2009 is on average 3 per cent weaker compared to the forecast made at the beginning of December.

Figure 66. Different definitions of monetary base
Billion SEK

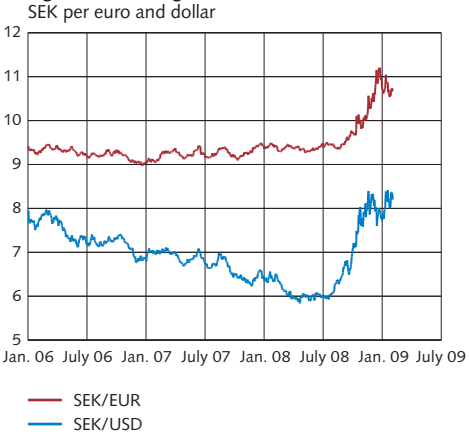


Source: The Riksbank

■■ World trade declining

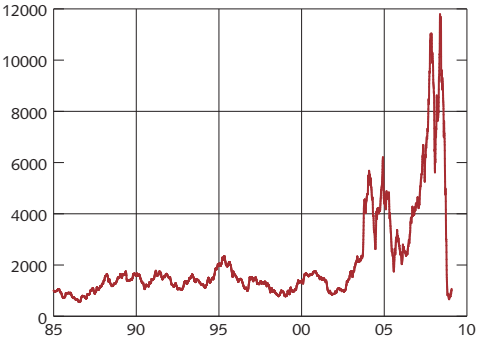
It is now increasingly clear that the growth in world trade has come to a standstill. One sign of a severe slowdown in world trade is that international prices of ship freights fell substantially during the second half of 2008 (see Figure 68). The World trade monitor index, which is produced by the Bureau for Economic Policy Analysis in the Netherlands, and measures export and import volumes in the world, also indicates that world trade declined at the end of 2008. According to this index, the trade volume declined by 6 per cent in November, compared with October, which is the largest fall since the index was introduced in 1991 (see Figure 69). National statistics on foreign trade for November and December, together with leading indicators (for example, the export order components in the purchasing managers' index which have fallen substantially) also point to a very severe slowdown in world trade at the end of 2008 (see Figures 70 and 71). In addition to the weaker global demand, the difficulties in obtaining export credits are said to be a factor that contributes to dampening trade flows.

Figure 67. Exchange rates
SEK per euro and dollar



Source: Reuters EcoWin

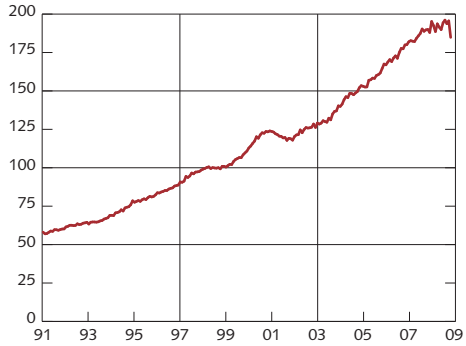
Figure 68. Transport costs indicator (Baltic Dry Index)
Index, 1995 = 1000



Note. The Baltic Dry Index measures the price of transporting commodities by sea.

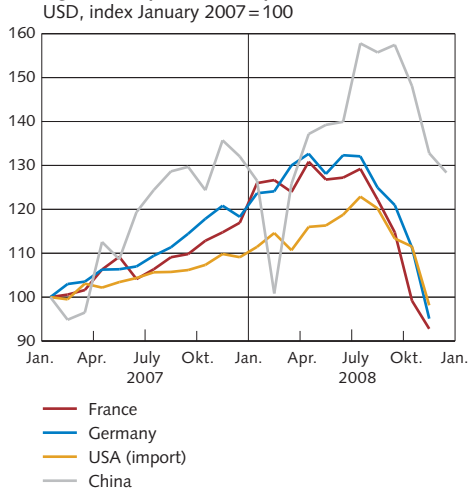
Source: Reuters EcoWin

Figure 69. World trade index
Index



Source: Netherlands Bureau for Economic Policy Analysis

Figure 70. Exports (current prices)
USD, index January 2007 = 100



Sources: Deutsche Bundesbank, Direction générale des douanes et droits indirects, National Bureau of Statistics of China and U.S. Department of Commerce

■■ Deterioration in US labour market

The deterioration that began a year ago on the US labour market has increased in recent months. In January employment fell according to company surveys ("Pay Rolls") by an average of just below 600.000 per month, which is the largest fall since 1945 (see Figure 72). Unemployment is continuing to rise, although a falling labour supply is dampening the upturn. Unemployment has risen from 6.6 per cent in October to 7.6 per cent in January.

GDP in the United States fell according to preliminary statistics by 3.8 per cent calculated on an annual basis during the fourth quarter (see Figure 13). Household consumption expenditure fell by 3.5 per cent and investments by 20 per cent.

The recent statistics indicate lower economic activity in the United States than was expected in the December Monetary Policy Update. Various measures of consumer confidence also remain very low (see Figure 5). Companies' expectations also remain very subdued. The purchasing managers' index for the manufacturing sector fell in December to the lowest level since 1980. There was, however, a slight recovery in January. The sub-index for orders was slightly below 30. The breaking point for growth is an index of 50. For the services sector the total index rose in both December and January, but the level was still low from an historical perspective.

Developments in the US housing market have weakened further since the December Monetary Policy Update. For instance, house prices fell by 18 per cent in November, compared with the same month in the previous year, according to the Case-Shiller Index. Housing construction also fell in both November and December. Housing construction has fallen by more than 75 per cent since the peak in January 2006. Although stocks of unsold houses are declining rapidly, the time it takes to sell houses remains very high in an historical perspective. Sales of both old and new houses fell in November. However, sales of old houses increased in December , while sales of new houses continued to fall. Sales of new houses have fallen by just over 75 per cent since summer 2005.

The oil price is continuing to fall, and forward pricing points to expectations having been revised down since the December Monetary Policy Update (see Figure 11). Petrol prices have also continued to fall. Since the peak level in July, the petrol price in the United States has fallen by over 50 per cent. Falling energy prices have contributed to a fall in inflation and to an increase in real disposable incomes in recent months. On the other hand, last year's substantial stock market fall, together with falling house prices, has led to a decline in households' net wealth. As the labour market has also weakened this indicates that consumption will decline in the period ahead.

In relation to the December Monetary Policy Update it is primarily the weakening in the labour market together with the decline in international demand that has been greater than expected. Given these developments, the forecast for GDP growth for the first quarter of 2009 has been revised down.

■■ Weakened growth in the euro area

As for the United States, newly-received economic statistics and confidence indicators point to weaker developments in the euro area than was forecast in the December Monetary Policy Update.

GDP in the euro area fell by 0.7 per cent calculated as an annual rate during the third quarter, as in the second quarter (see Figure 13). The components that contributed most to this decline were investment and exports. While household consumption stagnated (0.2 per cent calculated as an annual rate), investment fell by 2.5 per cent in the third quarter. Exports increased by a moderate 1.5 per cent, while imports rose by 6.8 per cent calculated as an annual rate.

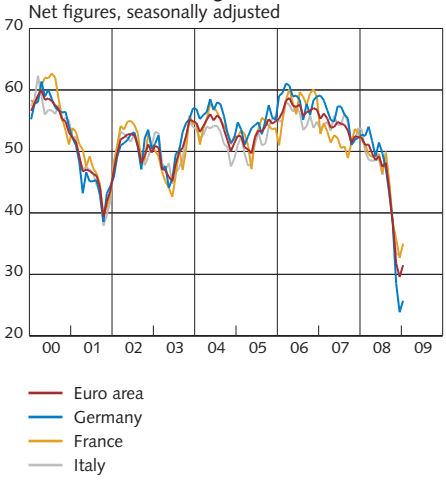
Industrial production and orders in the euro area for November point to weakened growth during the fourth quarter of 2008, even in relation to the forecast in the December Monetary Policy Update. Industrial production in the euro area fell substantially in November. The downturn was broad in terms of both branches and countries. For instance, the situation in the motor vehicle industry has markedly deteriorated, which has led to temporary production stops in several countries. Orders in the manufacturing industry also declined further in November, compared with October.

Retail sales, on the other hand, stabilised somewhat in November and December. Lower petrol prices, which have increased households' scope for consumption, have probably played some role in this. Rising unemployment and concern over the future will probably make households more cautious in the future. During the third quarter of 2008 employment fell by 0.3 per cent calculated as an annual rate. At the same time, unemployment has continued to rise and survey data indicate that this will continue.

Indicators of expectation among households and companies remain very weak. This also indicates that the economic downturn will be deeper than was previously expected. The European Commission's barometer for January shows that expectations in manufacturing and the fell to their lowest levels since the surveys began in 1985. Capacity utilisation in the manufacturing industry fell significantly in the third quarter and is now down to 75 per cent, which is the lowest level ever measured (see Figure 73). The purchasing managers' index in the manufacturing industry also fell to an historically low level in December. Although there was a marginal recovery in January, this occurred from a very low level (see Figure 74). A large part of this downturn is linked to the decline in global trade. This is reflected in the export order components in the purchasing managers' index having fallen heavily (see Figure 71).

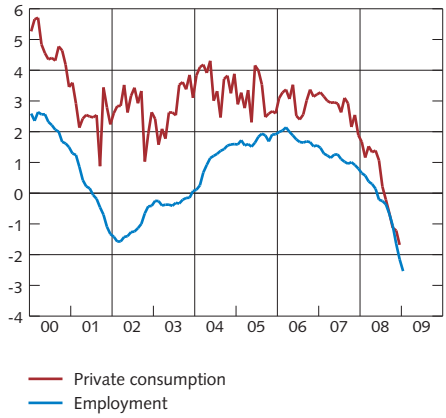
The steeper economic downturn in combination with the worsening problems on the financial markets has dampened lending to the private sector. The annual rate of increase in lending fell to 7.1 per cent in November, which is the lowest figure for 17 years. It is above all bank lending to households that has declined significantly, while the rates of increase in lending to companies are still above 10 per cent (see Figure 75).

Figure 71. Purchasing managers' index, export orders in manufacturing sector
Net figures, seasonally adjusted



Source: NTC Economics

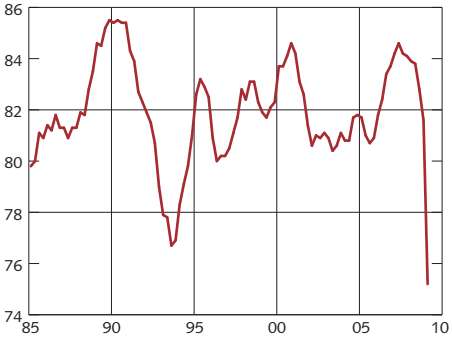
Figure 72. Employment and private consumption in the United States
Annual percentage change



Note. Employment according to employer survey (non-farm payrolls).

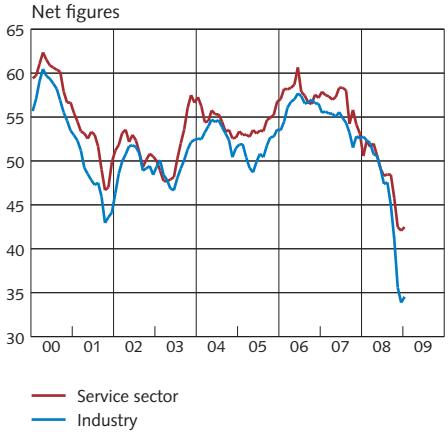
Sources: Bureau of Labor Statistics and Department of commerce

Figure 73. Capacity utilisation in the manufacturing industry
Per cent



Source: DG Ecfin

Figure 74. Purchasing managers' index in the manufacturing industry and the service sector in the euro area
Net figures

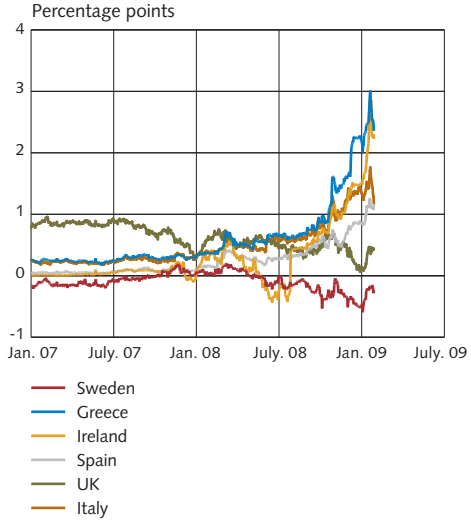


Source: NTC Economics

Figure 75. Lending to companies and households in the euro area
Annual percentage change

Source: ECB

Figure 76. Government bonds in various euro countries (difference compared to Germany)
Percentage points



Note: Government bonds with approximately ten years left to maturity.

Source: Reuters EcoWin

The ECB's January survey showed that the banks continued to tighten loan conditions for companies and households during the fourth quarter last year, mainly as a result of the poorer economic outlook. The percentage of banks reporting more stringent conditions remains at an unchanged high level for companies, while the percentage has increased for households compared with the October survey. The ECB's bank survey also shows that the decline in lending to the private sector observed in the data reflects both the supply situation and the lower demand for loans. According to the survey, the banks are expected to tighten loan conditions to a somewhat lesser extent during the first quarter of this year.

To summarise, both outcomes and indicators point to GDP growth being negative in both the final quarter of 2008 and the first quarter of 2009. The forecast has been revised down compared with the assessment in the December Monetary Policy Update.

■■ Increased differential between government bond rates in different euro countries

A further sign of continued uncertainty in the euro area is the growing differential between bond rates for government securities in the different countries. The difference in rates between, for example, ten-year German and Greek government bonds was relatively stable up to the beginning of 2008 ands was at most just over 0.3 percentage points (see Figure 76). In early February, the difference was over 2.5 percentage points. The difference between the rates for German and Spanish government bonds has been even less and usually only a few points. Since January 2008, however, the Spanish-German differential has increased to over 1 per cent. The fact that government bonds rates are higher in some countries in the euro area than in others can probably be traced to concern about increasing national budget deficits in the period ahead.

The difference between the Swedish and German interest rate levels was not noticeably significant in 2008. Since 2005, the interest rate for Swedish ten-year government securities has on average been approximately 0.2 percentage points less than the German rate. That Swedish and German interest rate levels differ is partly due to monetary policy expectartions. During the autumn of 2008, the difference increased at most to around 0.50 percentage points, but after the turn of the year it has narrowed again to around 0.25 percentage points.

■■ Low growth also in rest of Europe

In the United Kingdom GDP fell by 6 per cent calculated as an annual rate in the fourth quarter of 2008. The labour market deteriorated further in December and unemployment rose to 3.6 per cent compared with 3.3 per cent in the previous month. The number of redundancy notices remains high, which indicates that the labour market situation is still deteriorating. Industrial production continued to fall in November and substantial falls were also noted in the purchasing managers' indexes for manufacturing and services.

However, the purchasing managers' index stabilised in December, albeit at an historically low level. The number of mortgages granted in December was an all-time low. At the same time, house prices continued to fall by more than 2 per cent compared with the previous month. During the whole-year 2008 house prices in the United Kingdom fell by more than 17 per cent.

In Norway GDP fell by 2.8 per cent calculated as an annual rate during the third quarter of 2008. A large part of the decline can be explained by a fall in the extraction of crude oil and natural gas. The mainland economy, on the other hand, showed a weak upswing. The purchasing managers' index for the manufacturing industry remained unchanged in January and is still at the lowest level measured since the surveys began. The labour market situation deteriorated during the autumn. The number of persons employed has stagnated and unemployment has risen, although it is still at an historically low level.

In Denmark GDP fell by 1.6 per cent calculated as an annual rate during the third quarter of 2008. The number of persons unemployed continued to rise in December, but is still at a very low level in historical terms. Indicators of households' and companies' expectations showed a further deterioration in December and are at historically low levels.

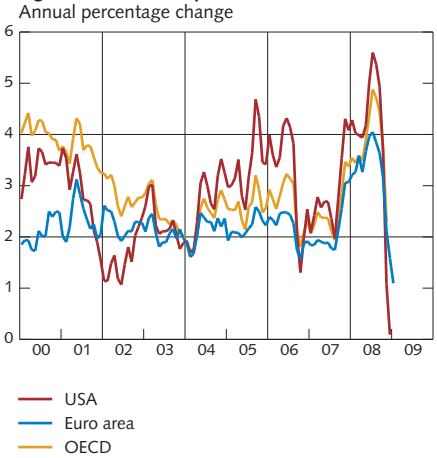
Eastern Europe has also been affected by the economic downturn and growth slowed down substantially during the third quarter of 2008. Several of the countries have been negatively affected by the weakening of the motor vehicle industry. Industrial production in, for instance, Poland and the Czech Republic fell substantially in the late autumn. In Russia, the purchasing managers' index fell substantially in December, which indicates that the fall in industrial production increased at the end of the year. A number of countries have been forced into negotiations for support packages from the International Monetary Fund (IMF) to fund their international payments.

■■ Asia has not escaped the economic downturn

Outcomes and indicators for the final quarter of 2008 thus indicate that the economic situation abroad is deteriorating increasingly and the picture looks even gloomier than in the December Monetary Policy Update. The signs that many Asian growth economies are now being tangibly affected by the declining international economic activity have become more evident. The financial crisis has led to a decline in investment and decreased exports to Europe and the United States. This can now be seen in the export statistics from Asia. In November, China reported the first fall in exports on an annual basis in seven years, and the fall continued in December. Exports have also fallen substantially in Japan. The Bank of Japan's real export index fell by over 24 per cent in December, compared with the same month in the previous year.

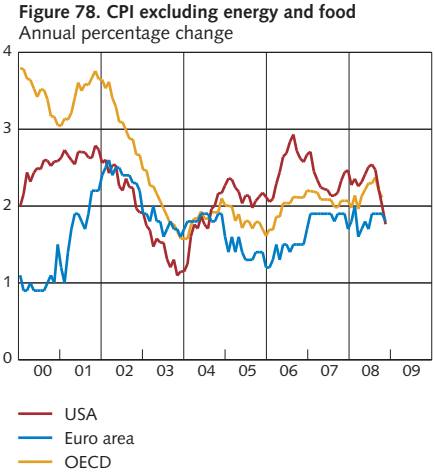
The GDP growth rate in the region has also begun to decline significantly. South Korea reported for the fourth quarter of 2008 the first negative quarterly growth on an annual basis since the Asia crisis at the end of the 1990s. GDP fell by 5.6 per cent on an annual basis compared

Figure 77. Consumer prices
Annual percentage change



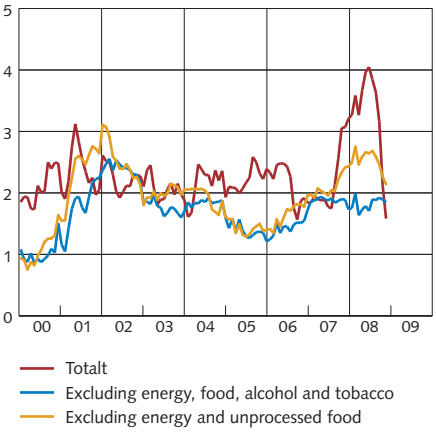
Sources: Bureau of Labor Statistics, Eurostat and OECD

Figure 78. CPI excluding energy and food
Annual percentage change



Source: Bureau of Labor Statistics, Eurostat and OECD

Figure 79. HICP for the Euro area
Annual percentage change



Source: Eurostat

with the third quarter. China's GDP growth during the fourth quarter was relatively weak, the increase was only 6.8 per cent compared with the fourth quarter of 2007. In Japan GDP fell by 1.8 per cent calculated as an annual rate during the third quarter of 2008. The statistics received so far, in the form of outcomes and indicators, points to an even weaker development towards the end of the year. For instance, industrial production fell substantially in December, compared with November, and the Japanese central bank's economic barometer, the Tankan, showed a rapid fall in confidence in Japanese industry in January.

■■ Inflation abroad has declined rapidly

Inflation abroad has fallen, which is primarily explained by falling energy prices. For example, the oil price has fallen from an average of over 130 dollars a barrel in July 2008 to around 44 dollars a barrel on average in January.

In the United States, the annual CPI inflation fell from 1.1 per cent in November to only 0.1 per cent in December. However, core inflation, measured as the CPI excluding energy and food, only declined by 0.2 percentage points to 1.8 per cent (see Figures 77 and 78). The rate of increase in the private consumption deflator (excluding energy and food) also fell by 0.2 percentage points to 1.7 per cent in December.

In the euro area, HICP inflation fell by 0.5 percentage points to 1.6 per cent in December, which is a much faster slowdown in the inflation rate than was expected in the December Monetary Policy Update. Inflation is now at the lowest level for over two years. However, excluding energy, food, alcohol and tobacco, inflation only fell by 0.1 percentage points to 1.8 per cent (see Figure 79). According to preliminary outcomes for HICP, inflation fell to 1.1 per cent in January.

Inflation has also declined in other countries. In the United Kingdom, the inflation rate fell by one percentage point in December to 3.1 per cent. In Norway, inflation fell to 2.1 per cent in December, compared with 3.2 per cent in November. On the other hand, underlying inflation measured as the CPI excluding energy and indirect taxes remained largely unchanged. In Denmark, too, the inflation rate fell by 0.3 percentage points in December to 2.4 per cent. In Japan, inflation has continued to fall and amounted to 1.0 per cent in November. When adjusted for energy and food prices, however, prices stood still with a rate of increase of 0 per cent.

All in all, inflation abroad has fallen substantially (see Figures 77 and 78). However, this can primarily be explained by falling energy prices. The increase in the consumer price index excluding energy is more stable.

■■ Several quarters with falling GDP in Sweden

GDP in Sweden fell during both the second and third quarters of 2008. As in other countries, the outcomes and indicators for the fourth quarter of 2008 are continuing to point to a sharp decline. This points to growth being even weaker at the end of 2008 and the beginning of 2009 than was previously anticipated.

The National Institute of Economic Research's Economic Tendency Indicator, which summarises the companies' and households' view of the Swedish economy, shows that the situation is "much weaker than normal". The survey showed a heavy fall during the latter part of 2008 and in each month of the fourth quarter the indicator reached new lowest levels (see Figure 80). Although there was a marginal recovery in January, this occurred from a very low level. The confidence indicators in most branches of the business sector were at historically low levels (see Figure 81). The purchasing managers' index shows a similar picture. Seen across the index's 14-year history the outcomes for the most recent months have been at all-time lows. Foreign trade and retail sales up to the end of December, as well as orders and industrial production, also indicate a negative development during the fourth quarter, even compared with the forecast in the December Monetary Policy Update.

The Riksbank's company survey shows widespread pessimism among the companies interviewed (see also the article "The Riksbank's company interviews in December 2008 – January 2009 in this report). Several companies state that they have never previously experienced such a widespread "stop" as that which occurred during the final months of 2008. Apart from suffering weaker demand, the companies also consider they have faced financial restrictions. Access to external funding (including bank loans) is stated to have been poorer over the past quarter.

The GDP forecast for the fourth quarter was revised down relatively substantially in the December Monetary Policy Update. Towards the end of 2008 the indicators became even weaker than expected, which justifies a further significant downward revision of the figure for growth in the fourth quarter (see Figure 18). It is difficult to see signs of any rapid recover, although developments in the financial markets have improved compared with the extreme situation prevailing during the autumn. The forecast for GDP growth in the first quarter of 2009 is therefore also revised down. All in all, GDP is expected to have fallen by approximately 4 per cent calculated on an annual basis in the fourth quarter and to fall by just over 2 per cent in the first quarter of 2009.

■■ Household consumption falling

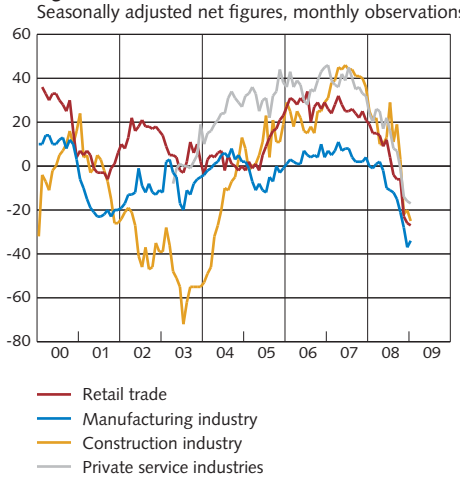
Household consumption declined by 0.2 per cent in the third quarter of 2008, compared with the same period in 2007 (see Figure 82). One reason for the poor result was that purchases of motor vehicles and fuels provided a negative contribution to the development of consumption. Consumption of retail trade goods also slowed down during the third quarter.

Care sales, which are cyclically-sensitive, continued to fall in late 2008 and early 2009. The outcomes for retail trade sales up to the end of December point to a continued slowdown in the consumption of retail goods. Sales of durable consumer goods declined in December compared with the same period in 2007 with the weakest level of development for over 14 years.

Figure 80. The Economic Tendency Indicator

Source: NIER

Figure 81. Confidence indicators in the business sector
Seasonally adjusted net figures, monthly observations



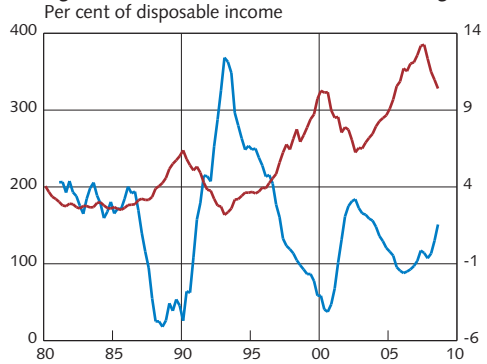
Source: NIER

Figure 82. Retail sales and household consumption
Annual percentage change

Note. Non-calendar-adjusted data.

Source: Statistics Sweden

Figure 83. Household financial wealth and saving
Per cent of disposable income

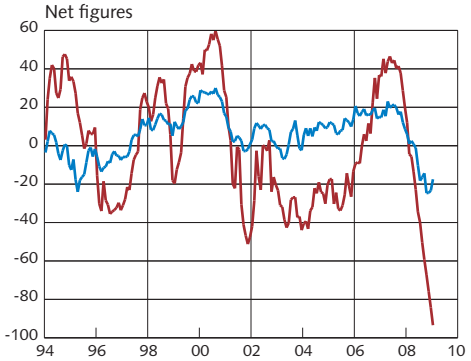


Net assets (left)
Financial saving (right)

Note. Financial wealth is comprised of financial assets, tenant-owned apartments and houses minus liabilities. Financial saving is calculated excluding services and premium pensions.

Source: Statistics Sweden

Figure 84. Households expectation for the future
Net figures

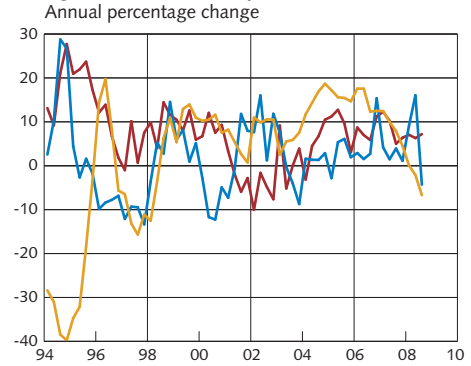


Unemployment
Confidence Indicator

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: NIER

Figure 85. Gross fixed capital formation
Annual percentage change



Business sector excluding housing
Public authorities
Housing

Source: Statistics Sweden

Several factors have contributed to the weak development of consumption. For instance, the situation in the labour market has deteriorated. This, together with a general uncertainty regarding economic developments, leads to households saving an increasingly large share of their incomes. Moreover, households' financial wealth has declined as a result of falling stock market rates, while the price increase on housing has been subdued (see Figure 83).

The National Institute of Economic Research's Economic Tendency Survey clearly shows that households remain pessimistic regarding both economic developments in Sweden as a whole and their own finances (see Figure 84). Although the confidence indicator (CCI) rose for the third consecutive month in January, it is still at a very low level. The fall in mortgage rates has probably contributed to this increase. In relation to the assessment in the December Monetary Policy Update, the indicators for household consumption have been slightly weaker than expected.

All in all, weak indicators, an increasingly sluggish labour market and reduced wealth among households are expected to lead to household consumption continuing to fall over the coming period. Compared with the December Monetary Policy Update, however, the forecast for household consumption has been adjusted slightly downwards in the short term.

■■ Public sector consumption increasing

Public sector consumption increased by 1.2 per cent during the first three quarters of 2008, compared with the same period in 2007. During the third quarter of 2008 public sector consumption increased substantially, which is primarily explained by the dental reform that has led to higher public expenditure. The forecast for public consumption is unchanged compared with that in the December Monetary Policy Update.

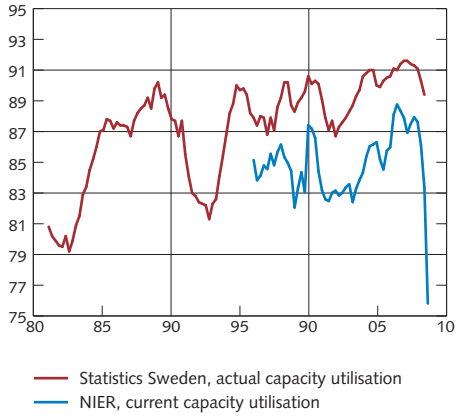
■■ Falling investment

Investment growth (as an annual change) in the Swedish economy has declined and investment is expected to fall in both the fourth quarter of 2008 and the first quarter of 2009. So far it is mainly housing investment that has declined (see Figure 85). There are many indications that developments over the coming quarters will also be weak. Although borrowers are now facing much lower interest rates than was the case in the autumn (see Figure 61), the situation is still strained for many companies. The construction industry, for example, reports a that demand is falling for new partments. However, the re-introduction of the ROT deduction (the possibility of tax deductions for renovation of homes) is expected to contribute to a slightly stronger development in renovation in the future.

The weaker economic situation is expected to lead to a reduction in business sector investment, which is normal when demand and production slow down. Capacity utilisation in the manufacuring

industry fell substantially in the second half of 2008 (see Figure 86). Many companies also state now that they have funding problems and are therefore forced to postpone their investment. Public sector investment, on the other hand, is expected to increase as a result of government investments in infrastructure. The forecast for total investment has been adjusted downwards for the fourth quarter of 2008 and the first quarter of 2009.

Figure 86. Capital utilisation in industry
Per cent, seasonally adjusted data



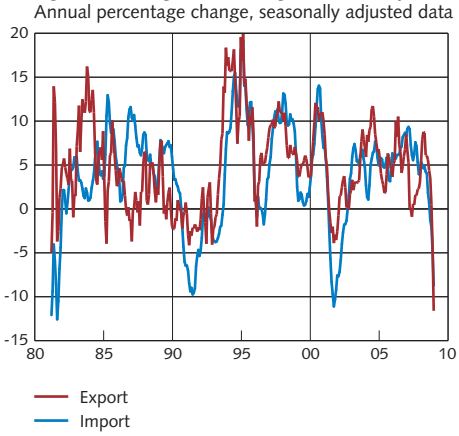
Source: NIER and Statistics Sweden

■■ Falling exports and imports

Monthly statistics for the foreign trade in goods up to and including December indicate a severe slowdown in both exports and imports. The decline in the export of goods during the fourth quarter of 2008 was the largest measured in a single quarter since 1980 (see Figure 87). The weak international development has had a rapid impact on Swedish exports. A substantial proportions of Sweden's exports consists of products that have been hit particularly hard in this downturn, such as motor vehicles.

Indicators for export orders also point to sharp falls on the whole in the period ahead (see Figure 88). During the autumn, however, the krona weakend significantly (see Figure 22). This will help to increase the competitveness of Swedish companies on the export markets and dampen the decline in exports to a certain extent. The forecasts for exports and imports have nevertheless been adjusted downwards significantly for the fourth quarter of 2008. The assessment for the first quarter of 2009 entails a downward revision in both exports and imports compared with the forecasts in the December Monetary Policy Update.

Figure 87. Foreign trade with goods in fixed prices
Annual percentage change, seasonally adjusted data



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

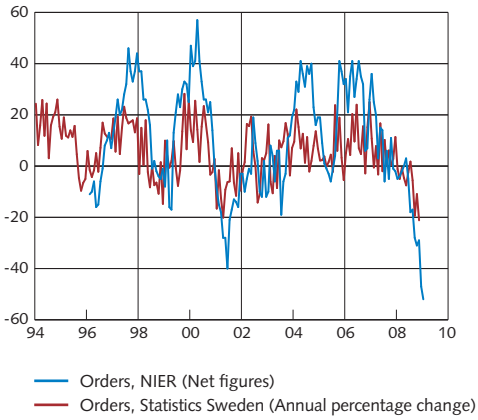
Source: Statistics Sweden and the Riksbank

■■ Public sector finances strong but weakening rapidly

General government net lending is still high from an historical perspective (see Figure 89). The monthly outcomes for the government budget up to the end of December point to continuing large surpluses in public net lending in 2008. However, a weaker labour market and lower capital gains taxes as a result of falling stock market rates and lower corporate profits are expected to subdue incomes rapidly in the period ahead. Compared with the assessment in December, the forecast for general government net lending in 2008 has been revised down slightly.

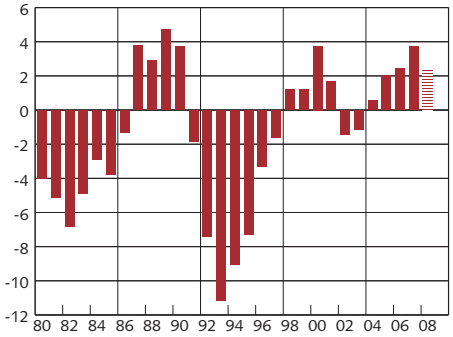
Since the Monetary Policy Update was published in December, the Government has presented a number of fiscal policy stimulation packages. A bill submitted in January 2009, for example, include two stimulation packages. One of these entails strengthening the conditions for the Swedish motor vehicle industry and it is not expected to affect net lending, other than marginally, as it mainly concerns loan guarantees. However, the other one, known as the labour market package, includes measures that it is calculated will worsen net lending by around SEK 8 billion in 2009. The Riksbank assumed in the most recent Monetary Policy Update in December

Figure 88. New export orders
Net figures and annual percentage change



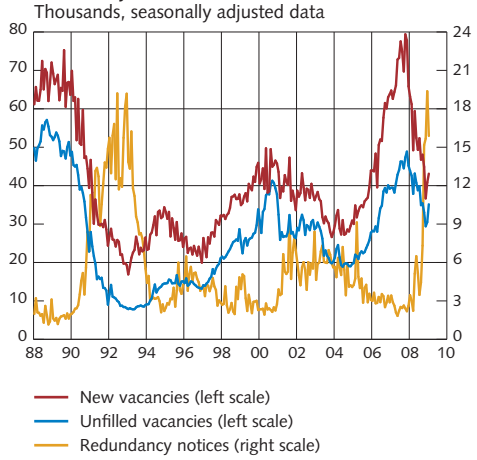
Sources: NIER and Statistics Sweden

Figure 89. General government net lending
Per cent of GDP



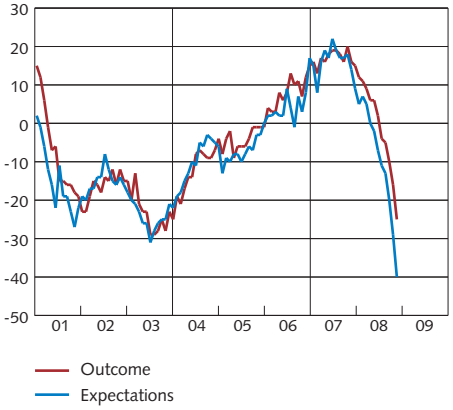
Note. Striped bars represent the Riksbank's forecast.
Source: Statistics Sweden

Figure 90. New and unfilled vacant jobs and redundancy notices
Thousands, seasonally adjusted data



Source: Employment service

Figure 91. Employees in the business sector according to the Economic Tendency Survey
Balance



Sources: NIER and Statistics Sweden

that the government would announce measures to stimulate demand amounting to a further SEK 15 billion for 2009 over and above the measures presented in the budget bill for 2009. This assessment still stands and just over one half of this sum has now been announced.

■■ Labour market situation deteriorating

During the third quarter of 2008, employment began to fall for the first time since 2004. Employment fell further in the fourth quarter compared with the preceding quarter. Compared with the corresponding period last year, the number of persons employed (aged 15-74) increased by 5,300, or 0.1 per cent, according to the labour survey. During the same period the number of persons in the labour force increased by 39,200, or 0.8 per cent, which means that the number of persons unemployed increased by 33,900 (see Figures 25 and 27). In relation to the assessment in the December Monetary Policy Update, the number of persons employed has developed in line with the forecast, while the number of persons unemployed has been slightly higher.

Labour market indicators clearly show that the labour market is now weakening rapidly. The number of persons receiving notice of redundancy has increased rapidly in recent months (see Figure 90). In December, almost 18 000 persons were given notice of redundancy, which means that in total almost 60 000 persons were given notice during the fourth quarter of 2008. The weak development continued in January when over 17,000 redundancy notices were issued. These are the highest figures since the end of 1992. At the same time, the number of new vacancies reported is declining.

Companies' plans for the coming months indicate continued staff cutbacks (see Figure 91). Statistics Sweden's economic statistics regarding vacancies show that recruitment in the business sector continued to decline during the third quarter and the percentage of companies with a shortage of labour has declined rapidly according to the National Institute of Economic Research's Economic Tendency Survey (see Figure 92).

All in all, the outcomes and labour market indicators imply that the weakening in the labour market will be greater than the assessment made in the Monetary Policy Update. The forecasts for labour and employment in the first quarter of 2009 have therefore been revised downwards and the assessment is that unemployment will be higher. Unemployment is expected to rise rapidly to 7.3 per cent (seasonally adjusted), in the first quarter of this year which is 0.5 percentage points higher than the forecast made in December. The forecast for the number of hours worked has also been revised down regarding the final quarter of 2008 and the first quarter of 2009.

■■ Two years of falling labour productivity

Labour productivity in the Swedish economy has fallen for seven quarters in a row. This is an unusually long period of falling

productivity. In 2007 productivity fell by 0.8 per cent and in 2008 it is expected to have fallen by 0.7 per cent (see Figure 29).

Productivity has gone from being surprisingly strong to being surprisingly weak over the past two years. During the years 2002-2006, when productivity growth was at its highest, the rate of increase was on average 3.4 per cent a year. It is normal for the increase in labour productivity to decline during a slowdown in economic activity. This reflects the fact that the companies' labour force and the number of hours worked are being adjusted later than production when there are changes in economic activity. A downturn in productivity from earlier strong growth figures is thus partly expected, given normal cyclical patterns. But the downturn during the past two years has been surprisingly strong and long-lived.

As the economic downturn continues, it is probable that labour productivity will recover. In the short term, however, indicators of GDP and the number of persons employed point to productivity continuing to fall. The productivity forecast for the final quarter of 2008 and the first quarter of 2009 has been revised down compared with the assessment in the December Monetary Policy Update.

■■ Resource utilisation falling rapidly

The development of a large number of indicators is followed in order to assess resource utilisation in the economy.

The employment rate decreased in the third and fourth quarters of 2008, following a long period of strong employment growth. At the same time, unemployment began to increase (see Figures 26 and 27). Indicators of the situation on the labour market, such as a fall in job vacancies and a rapid rise in redundancy notices, point clearly towards a continuing rapid deterioration.

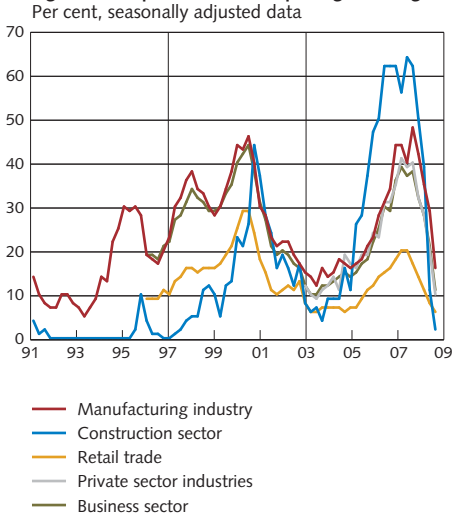
Other indicators that more closely reflect resource utilisation at the companies also indicate that this has fallen rapidly and is now , in the first quarter of 2009, considerably lower than normal. For example, the percentage of companies reporting a shortage of labour has decreased significantly and is now almost down to zero (see Figure 92). This decrease is largest in the construction sector. During the fourth quarter of 2008, there was a further fall in the figure for labour shortages in all sectors and this figure is now lower than the average for the period since 1996, which is when measurements began.

Capacity utilisation in the manufacturing industry, which peaked at a historically very high level in 2007, declined sharply during the third and fourth quarters of 2008 (see Figure 86). The percentage of companies in the service sectors that fully utilise their resources also declined (see Figure 93).

The GDP deviation from trend has also declined significantly and the assessment is that this has been negative since the fourth quarter of 2008. The deviation from trend for employment and the number of hours worked has declined rapidly, but is still positive (see Figure 30).

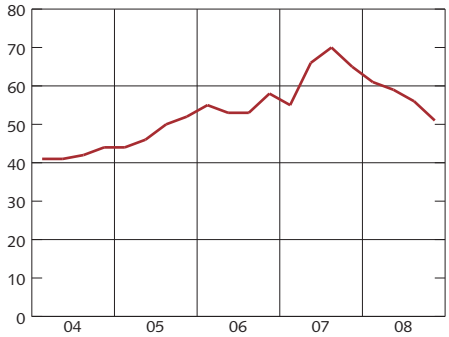
All of the indicators thus paint the same picture, that is that

Figure 92. Proportion of firms reporting a shortage of labour
Per cent, seasonally adjusted data



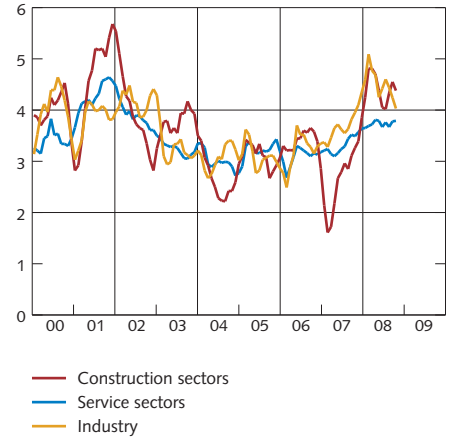
Source: NIER

Figure 93. Full utilisation of companies' resources, private service industries
Proportion of companies, per cent



Source: NIER

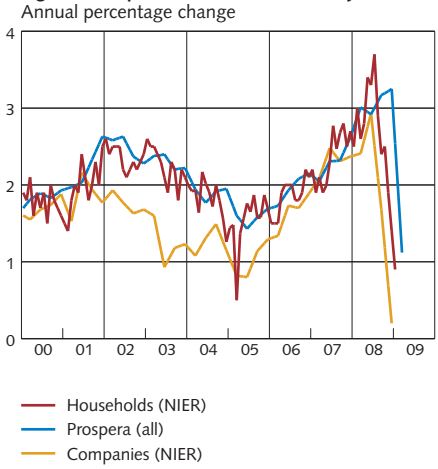
Figure 94. Wages in the business sector
Annual percentage change



Note. Three-month moving average.

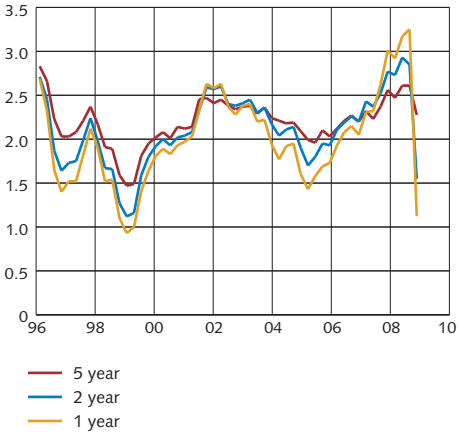
Sources: National Mediation Office and the Riksbank

Figure 95. Expectations of inflation one year ahead
Annual percentage change



Sources: National Institute of Economic Research and Prospera Research AB

Figure 96. All respondents expectations of inflation one, two and five years ahead
Annual percentage change



Source: Prospera Research AB

resource utilisation is falling very rapidly and that it will continue to do so in the period ahead. The Riksbank's overall assessment is that resource utuilisation in the first quarter of 2009 will be lower than normal.

High rate of wage increases in 2008

The increase in resource utilisation on the labour market in recent years contributed to a relatively high rate of wage increases in 2008. According to the short-term wage statistics from the National Mediation Office, wages throughout the economy increased by 3.3 per cent in 2007. Preliminary figures for the first 11 months of 2008 indicate that wages throughout the economy increased by 4.2 per cent. The preliminary rate of wage increase was highest in the primary municipalities, approximately 5.1 per cent, and lowest in the financial sector, approximately 3.1 per cent.

The tangible fall in labour shortages in the manufacturing industry and the construction sector has not yet made its mark on the pay statistics. Wages increased by approximately 4.5 per cent in these sectors in the first 11 months of 2008 (see Figure 94). Wages in the public sector have on average increased by approximately 0.5 percentage points faster than wages in the business sector. Some retroactive wage payments are also missing from the statistics.[10] In the government sector, for example, retroactive wage payments for, above all, the last quarter of 2008 are still expected.

One reason for the high rate of wage increases in 2008 compared to the preceding years is that is that the wage increases in the collective agreements were higher than in previous years. This has probably contributed to the fact that wage increases over and above the levels in the collective agreements during the first 11 months of 2008 were lower in certain sectors, for example the retail, hotel and restaurant sectors, as well as in the financial sector.

The assessment is that the overall rate of wage increase was 4.3 per cent in 2008, which slightly higher than the assessment in the Monetary Policy Update published in December. The relatively high level of wage increase in the central collective agreements will lead to a slower downward adjustment of wages in early 2009 than could otherwise be justified by the rapidly deteriorating situation on the labour market.

Unit labour costs increased substantially in 2008

According to the National Accounts, hourly wages throughout the economy increased by almost 5 per cent during the first three quarters of 2008.[11]

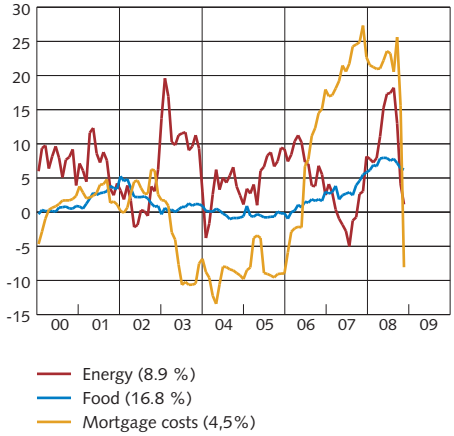
10 In the short-term wage statistics, retroactive wage payments are entered on an ongoing basis over a period of 12 months. In the period 2001-2007, the retroactive payments averaged 0.6 percentage points of the average definitive wage outcome of 3.5 per cent.

11 There are several reasons why the rate of wage increases given in the National Accounts differs from the rate given in the short-term wage statistics of the National Mediation Office. One reason is that term "wages" is more widely defined in the National Accounts. Apart from wages for hours worked, for example, it also includes bonuses, redundancy payments, benefits, sick pay and an estimate of wages paid in the shadow economy. Another reason is that in the short-term wage statistics, retroactive wage payments are allocated to the period in which the wages were earned. In the National Accounts, the wage sums paid are recorded instead.

On the other hand, labour costs per hour, which also include employer contributions, only increased by slightly more than 3.9 per cent in the same period. This is because employer's contributions declined, which can be partly explained by the fact that the ITP premium in the collective pension insurance schemes for white-collar workers in the private sector was reduced in 2008. However, fiscal policy measures such as the reduction of employer's and self-employed person's contributions for 18-24 year olds and the abolition of self-employed person's contributions for certain older people also added to the lowering of employer's contributions.

The weak development of labour productivity has contributed to a high rate of increase in unit labour costs in 2007 and 2008. These costs increased by 4.7 per cent during the first three quarters of 2008, compared with the corresponding period in 2007. The assessment is that unit labour costs increased by just over 4.8 per cent during the fourth quarter, which gives an annual average of almost 4.8 per cent. This is marginally higher than the assessment made in December, which is mainly due to lower productivity.

Figure 97. 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

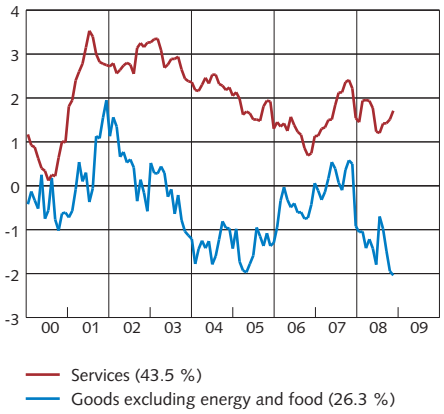
■■ Lower inflation expectations

Households' inflation expectations one year ahead, as they are measured in the National Institute of Economic Research's Consumer Tendency Survey, have continued to fall. Expectations were at 0.9 per cent in January 2009. This is a fall from 1.4 per cent in December 2008 and 1.9 per cent in November 2008 (see Figure 95). The corresponding figure for companies was 0.2 per cent in January 2009.

According to the Prospera survey, inflation expectations decreased in January compared to the figure in the previous survey in October. The assessment of inflation one year ahead is 1.1 per cent. This is a signficant fall compared with the previous survey in which expectations of inflation within a year were at 3.2 per cent. According to the latest survey, inflation is expected to be 1.5 per cent in two years time and 2.3 percent in five years time. In the previous survey, inflation was expected to 2.8 per cent in two years time and 2.6 per cent in five years time (see Figure 96).

Breakeven inflation, that is, the difference between the rates on nominal and real bonds with the same time to maturity, has also fallen significantly recently. Break-even-inflation calculated on the basis of five-year rates in Sweden is currently just over 0.5 per cent. Break even-inflation in the USA calculated on interest rates with the same time to maturity has fallen substantially since the Federal Reserve's major interest rate cuts. Due to the prevailing crisis on the financial markets, however, measurements of this type should be interpreted with great caution.

Figure 98. Prices of goods and services in the CPI
Annual percentage change



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

Source: Statistics Sweden

Inflation falling sharply

In 2008, the CPI increased up to the end of September and peaked at 4.4 per cent. Since the Monetary Policy Update, the outcomes for November and December have been published. The rate of increase in the CPI has fallen considerably in recent months. The rapid fall is largely explained by the downturn in mortgage rates and energy prices.

The annual rate of increase in the CPI amounted to 0.9 per cent in December, which was a fall from 2.5 per cent in November. The outcome in November was in line with the Riksbank's latest forecast, while the outcome for December was 1 percentege point lower than expected (see Figure 34). The reason for the forecast deviation was mainly an unexpectedly large negative contribution from the mortgage cost component in the CPI. Mortgage rates fell more than expected in relation to the repo rate. Petrol prices also fell more rapidly than expected.

The annual rate of increase in the CPIF, in which mortgage rates are held constant, amounted to 1.6 per cent in December (see Figure 35). The rate of increase in the CPIF has also fallen in recent months, although not as much as the rate of increase in the CPI, as the falling mortgage rates do not directly affect the CPIF.

Households' mortgage costs fell by approximately 8 per cent in December 2008 compared to the same month in the previous year (see Figure 97). In the Riksbank's forecast from December, the difference between the level of the measured mortgage rate in the CPI and the level of the repo rate was expected to gradually fall to more normal levels compared to the levels that prevailed in the autumn. The decision by the Riksbank to cut the repo rate by 1.75 per cent in December has, however, been followed by a rapid fall in variable mortgage rates. In many cases, mortgage rates have fallen by even more than 1.75 per cent since December. The difference between the measured mortgage rate in the CPI and the level of the repo rate has thus decreased more than expected in recent months.

Energy prices increased by an average of approximately 1.4 per cent in December 2008 compared to the same month in 2007. The prices of oil products (fuel and domestic heating oil) fell by approximately 12 per cent, while electricity prices increased by around 16 per cent compared with December in the previous year.

Oil prices have fallen considerably on the world market over the last 12 months. The oil price averaged approximately USD 44 per barrel in January, after having peaked at over USD 140 per barrel in the summer. Forward prices for oil, which form the basis for the forecast, have fallen (see Figure 11). Compared with December, the forward prices for oil are approximately 10 per cent lower during the forecast period, expressed in dollars. However, as the krona has weakened against the dollar since December, the downturn calculated in Swedish kronor is not as large. The annual percentage of fuel prices in the CPI is expected to fall quickly over the next few months when the current level of prices is compared to the higher level that prevailed last year.

Electricity prices have fallen on the electricity exchange Nordpool over the last 12 months, but this has not yet had a full impact on

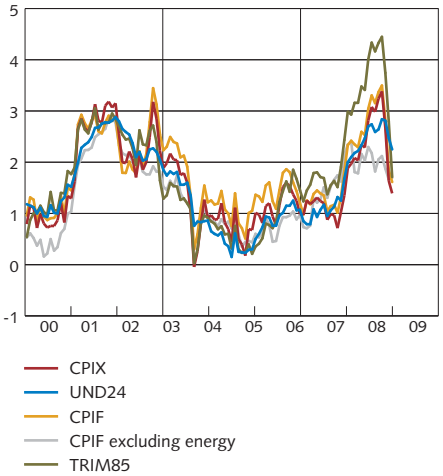
consumer prices which are still rising measured in terms of the annual percentage change. Electricity prices for consumers are expected to fall, however, in the months ahead. Since December, forward prices have increased somewhat on Nordpool.

The prices of other commodities, (metals, food and other agricultural products) have fallen substantially since the summer, although there has been a slight upturn since December (see Figure 12).

The prices of other goods and services in the CPI are still increasing relatively slowly (see Figure 98). When adjusted for households' mortgage costs and energy and food prices, the CPI increased by only approximately 0.3 per cent in December 2008, compared to December 2007. Prices for services increased by around 1.7 per cent while the prices of other goods fell by approximately 2 per cent compared to the situation a year ago.

Compared to the assessment in the Monetary Policy Update, the annual rate of increase in the CPI is now expected to be significantly lower in the months ahead. The CPI is expected to increase by an average of 0.4 per cent in the first quarter of 2009, which is a downward adjustment from 2.1 per cent in the preceding forecast. The most important explanation of this is lower mortgage rates. The rate of increase in the CPIF, in which mortgage rates are held constant, is expected to average 1.9 per cent during the first quarter, which is a downward adjustment from 2.2 per cent in the preceding assessment. Lower energy prices contribute to the downward adjustment of the CPIF in the short term. The CPIF excluding energy is expected to increase to an average of 2.1 per cent in the first quarter, which is a downward adjustment by 0.2 percentage points compared to the assessment in the December Monetary Policy Update.

Figure 99. Different measures of underlying inflation
Annual percentage change



Note. TRIM85 and UND are calculated on the basis of CPI divided into around 70 subgroups. UND24 is weighted and adjusted for the historical standard deviation. In TRIM85 the 7.5 per cent most positive and negative yearly price changes each month have been excluded.

Sources: Statistics Sweden and the Riksbank

■■ Break in trend rise in inflation in Sweden

Inflation has shown a rising trend in Sweden in recent years, which coincides with a rise in resource utilisation and cost pressures in Sweden and abroad. This development has above all been driven by rising commodity and energy prices. In recent months, this trend has been broken.

The Riksbank monitors a number of alternative measures of inflation. The aim of these measures is to try and distinguish the common trend change in the general level of prices. A common method is to remove a number of goods and services from the CPI, whose prices vary considerably due to factors that are often assessed as temporary. Oil products, electricity and certain foods belong to this category. It is also common to calculate underlying inflation by using various statistical methods that eliminate or reduce the significance of certain products whose prices vary the most. Figure 99 presents different measures of underlying inflation. There has been a rising trend in these measures since the middle of 2005 until the end of 2008, when there was a downturn in all of the measures.

Monetary policy alternatives in times of financial crisis and concern over deflation

There are other ways for a central bank to influence the economy than through the policy rate. The central bank can use tools that affect long-term interest rates, risk premiums and inflation expectations. If a central bank finds itself in a position where it must set the policy rate at zero, there are therefore other means at its disposal. Academic studies in this field contain a number of suggestions of measures that can be taken. Some of these have actually been tried out in practice, for instance in Japan and the United States.

The Riksbank conducts a policy of flexible inflation targeting, which aims to stabilise inflation around the inflation target, and also to stabilise the real economy. The repo rate and the expectations of future repo rates that arise from the Riksbank's intentions (as expressed in terms of, for instance, the repo rate path) affect market rates, which in turn affect aggregate demand and inflation.

During the financial crisis the functioning of the financial markets has deteriorated, which has affected both the transmission mechanism from the repo rate to inflation and the real economy as well as the risks of the overall financial stability. In order to improve the functioning of the financial markets the Riksbank has, like many other central banks, taken a number of special measures.[12]

The Riksbank has also, like many other central banks around the world, cut its policy rate relatively quickly. The policy rate is now almost zero in several countries. In the United States the policy rate was cut in December to an interval between 0 and 0.25 per cent, in Switzerland the policy rate is 0.5 per cent and in Japan it is 0.1 per cent.

There are a number of tools a central bank can use to stimulate the economy in a situation where the policy rate is close to zero and cannot be cut much more, or where monetary policy's transmission mechanism is not working as normal.

What is the problem when the policy rate is close to zero and what can be done?

Demand in the economy is affected by the real interest rate, that is, the nominal interest rate minus expected inflation. When the Riksbank cuts the repo rate, the real repo rate normally falls as inflation expectations are in the normal case sluggish. In a situation with a very weak real economy and low inflation, a low and perhaps even negative real interest rate may be needed to stimulate the real economy. Even if the policy rate is set at zero, the real interest rate may be too high to have the desired stimulation effect on the real economy. In such a situation, monetary policy faces a zero interest rate bound and other tools are needed.

12 For a list of the Riksbank's measures see the Riksbank's website, www.riksbank.se, under the heading Financial stability/Financial turbulence – the Riksbank' response.

The situation may be more problematic if the weak real economy coincides with a financial crisis. This is because the spread, the difference between the market rates faced by households and companies and the policy rate, will then be particularly large.[13] It occurs because the market rate is pushed up by spreads consisting of various risk premiums. The market rates then remain positive, even if the policy rate is zero, and the real interest rate becomes even higher in relation to what is desirable to stimulate the real economy.

To put it simply, one can define the market rate as:

Real market rate = policy rate + spread – expected inflation. (1)

Even if the policy rate has been cut to zero or close to zero, the real market rate can become too high. Positive spreads can, for example, contribute to the real interest rate being too high. The real interest rate can also be too high if inflation expectations are too low. The situation is particularly adverse if expectations of deflation, that is, negative inflation, arise. The measures that a central bank can take to reduce the real interest rate when the policy rate is already zero can thus in principle be divided into two categories: those that affect the inflation expectations and those that affect the spreads. The latter largely coincide with measures that are taken to improve the functioning of the financial markets.

The Riksbank's monetary policy framework and inflation expectations

The central bank's target and communication affect expectations regarding inflation and interest rates and therefore always play an important role. A credible numerical inflation target contributes to ensuring that inflation expectations do not become to low. By publishing well-founded forecasts for inflation and the policy rate, the central bank can affect expectations of inflation and future policy rates. This means that the central bank can also show which real policy rate will lead to the inflation target being attained and to the real economy stabilising. The central bank's forecasts are thus important tools for affecting inflation expectations. Central banks that, like the Riksbank, have a well-established numerical inflation target may therefore find it easier to create credibility for their policies. The Riksbank is thus well-equipped, with its current monetary policy system, when it comes to the possibility to counteract excessively high real interest rates and too low inflation.

Other ways of affecting inflation expectations

Alternative ways of influencing inflation expectations are discussed in the academic literature, for example the possibility to introduce a price level target, that is a targeted path for the future level of prices. If the price level target is credible, the long-term inflation expectations will be stable, even if low inflation or deflation is expected in the short term. A price-level target can be regarded as an average inflation target for a longer period of time, for instance a few years.

13 For more information on spreads and risk premiums, see the article "The financial crisis and the effects of monetary policy" in this Report.

Another way of holding up inflation expectations that is also discussed in the literature could be to keep the exchange rate fixed at a low level until a price level target or inflation target is met and then let it float again.[14] If several countries at the same time have a binding zero interest rate constraint they cannot, however, all hold a low exchange rate in relation to one another at the same time. In such a situation, a joint discussion of the countries' monetary and foreign exchange policies is thus needed.

A central bank can affect long-term interest rates and spreads

A central bank normally controls the shortest interest rates in the economy. However, there are many different interest rates and a central bank in principle has the possibility to affect all of them. This can be done by buying or selling government securities or other securities with longer maturities. In a situation where the policy rate is set at zero, the central bank can therefore when necessary affect long-term interest rates in a downward direction. One can also try to affect expectations of the future policy rate and thereby also the longer nominal interest rates. This can be done, for example, by the central bank declaring in its communication that it intends to keep the short-term interest rate low over a relatively long period of time.

In times of financial crisis there may be a substantial difference between the policy rate set by the central bank and the interest rates individuals and companies meet as a result of an increase in the risk premiums (or spreads). As it is the market rates that companies and households meet that are important for investment and consumption, all of the measures taken to bring down the spreads or interest rates on specific markets will also have a stimulating effect on aggregate demand. They can therefore be regarded as a complement to traditional monetary policy, even when they are mainly implemented with the intention of promoting financial stability. The central bank can act directly on various markets that are not functioning by, for example offering loans against collateral and buy purchasing different types of securities. It can also extend the number of counterparties that may borrow directly from the central bank.

Such measures may also be considered when the policy rate is not zero. Since the autumn, a number of central banks, including the Riksbank, have implemented a number of measures to ease credit supply and the general situation on the financial markets. The Riksbank has, for example, increased its lending to banks against collateral in, among other things, mortgage bonds, and extended the type of collateral that banks can provide (for instance to include commercial papers). Another example is the US central bank, the Federal Reserve. The Fed has, for instance, established a programme to buy securities with mortgages as collateral from the government agencies with the aim of bringing down mortgage rates. Another programme, which is a collaboration with the US Treasury Department, entails the Federal Reserve offering loans with assets such

14 This is part of a proposal called "The Foolproof Way" and has been presented, for instance, in Svensson, L. E. O. (2003), "Escaping from a Liquidity Trap and Deflation: The Foolproof Way and Others. Journal of Economic Perspectives 17.

as car loans, student loans and loans guaranteed by the Small Business Administration as collateral. The Fed has also increased the time to maturity for loans and the number of institutions allowed to borrow directly from the central bank, as well as acting directly on, for instance, the commercial paper market.

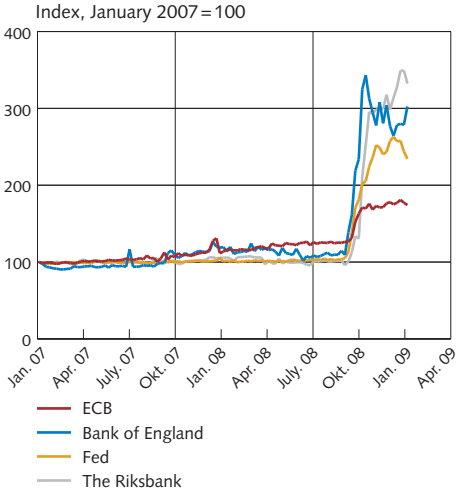
The measures affect the central banks' balance sheets

When a central bank lends money to the banks or purchases different types of financial assets, the bank's access to funding (liquidity) increases. This in turn increases the monetary base, that is the total of the quantity of outstanding notes and coins and the banks' deposits (reserves) in the central bank. This may contribute to an increase in access to credit in the economy. An increase in the monetary base is normally a consequence of the type of measures described above. However, it may also be an explicit strategy when the policy rate is zero. This was, for example, something that was tested in Japan at the beginning of the 2000s. The economic climate there during the late 1990s was marked by relatively weak growth, inflation close to zero or even deflation and problems in the financial sector. In 1999 the Japanese central bank cut its policy rate to zero. In 2001, the central bank began a programme in which it tried to stimulate the economy by increasing the monetary base. The measures continued until 2006 and contributed to a large increase in the Japanese central bank's balance sheet.

An increase in the monetary base may be a way of achieving what has been discussed in the academic literature (price level target and a weak exchange rate). However, despite the large increase in the monetary base in Japan, it is difficult to assess whether the programme really had any significant stimulating effect on the Japanese economy. If an increase in the monetary base is to have any effect on inflation expectations it should be regarded as permanent, but the expansion implemented by the Bank of Japan was apparently perceived to be temporary, which was in fact the case. The monetary base was later reduced considerably before the policy rate was raised above zero.

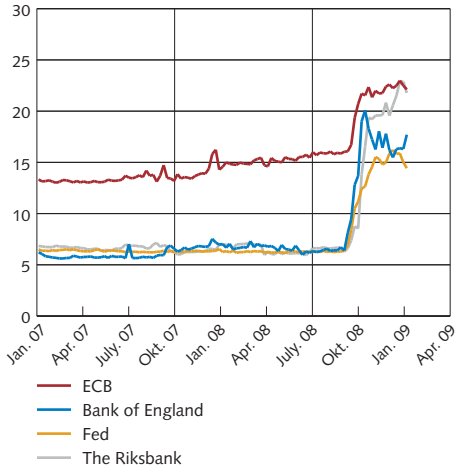
The Federal Reserve's measures in the current crisis have also contributed to a considerable increase in the size of the bank's balance sheet. The aim, however, has not been to achieve any quantitative target for the banks' reserves but to improve credit supply.[15] The same applies to the ECB, Bank of England and the Riksbank, whose balance sheets have also increased (see Figures B1 and B2). The exact reasons for this, and the design of the measures, varies however from country to country and depends, among other things, on the state of the banks and the financial structure in the respective countries. At the same time, the measures taken by the central banks, and their effects, show that there are other ways of affecting market rates, inflation and the real economy than changing the policy rate.

Figure B1. International comparison between central banks' balance sheet totals
Index, January 2007 = 100



Sources: The respective central banks

Figure B2. Central banks' balance sheet totals as per cent of GDP
Per cent



Sources: Bureau of Economic Analysis, Eurostat, Office for National Statistics, Statistics Sweden and the respective centralbank.

15 In the literature, the Bank of Japan's measures have been termed "quantitative easing". The Federal Reserve instead describes its measures as "credit easing". See "The crisis and the policy response", a speech given by B. Bernanke, the Stamp Lecture, London School of Economics, 13 January 2009, www.federalreserve.gov/newsevents/speech/bernanke20090113a.htm.

The financial crisis and the effects of monetary policy

The currently higher difference between the Riksbank's repo rate and the banks' lending rates does not necessarily mean that the effects of monetary policy have declined. The Riksbank's interest rate cut in December was followed by a substantial fall in market rates. No severe credit crunch can yet be seen in the statistics. Various surveys indicate, however, that it has become both more expensive and more difficult to get loans.

Monetary policy affects inflation and economic activity, such as production and employment, via the financial markets. As the financial crisis has affected the functioning of the financial markets, there is reason to wonder how the crisis has affected the impact of monetary policy.

The financial crisis and the decline in economic activity have led to falling asset prices and considerable difficulties for financial companies around the world. At the same time as these companies' assets have declined in value, their possibilities to fund their operations have deteriorated. Investors have sought low-risk assets, primarily government securities. The extra yield in the form of various risk premiums required to invest in higher risk assets has increased. This is because investors have demanded compensation both for the risk that a party taking a loan or issuing a security will not be able to repay (credit risk) and for the risk that it will not be possible to sell the asset if this is necessary (liquidity risk).

Increased spreads do not necessarily mean that monetary policy is less effective

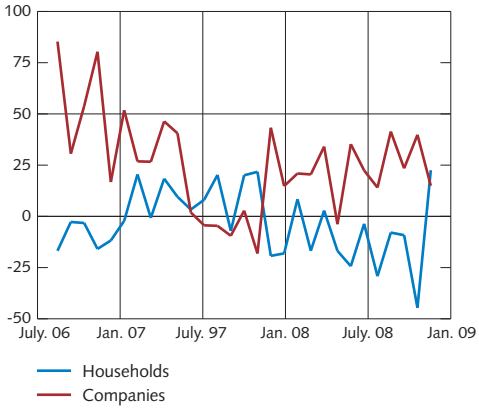
A common measure of the effects of the financial crisis on the functioning of the financial markets is what are known as basis spreads, the difference between the interest on a loan between banks (the interbank rate) for a particular period and the expected policy rate during the corresponding period. Figure 57 shows the basis spread for loans with a three-month maturity in the United States and Sweden. After having been 5 basis points on average in Sweden between 2003 and 2006, the spread rose to almost 50 basis points at the end of 2007, and increased further in 2008, when at its maximum it was almost 150 basis points. In the United States the increase in the basis spread has been even greater. Up to 2007, the basis spread in the USA was at approximately the same level as in Sweden. Thereafter it increased more than tenfold. In 2008 it rose to a difference that at most was 360 basis points. One explanation for the interbank rates beginning to rise was a gradual deterioration in market confidence which became apparent in August 2007. In September 2008, interbank rates rose further in connection with the acute confidence crisis that arose in the wake of Lehman Brothers' collapse. The risk premium then rose much higher than it had been for many years.

The financial crisis has increased banks' and other credit institutions' funding costs, which has led to increased loan costs for companies and households. However, interest rates on loans, particularly loans to households, were unusually low, from an historical perspective, in relation to the risk-free interest rates during the years prior to the financial crisis.

There are several possible causes for this, for instance, a greater degree of competition between the banks, lower loan losses in the wake of the strong economic growth and in global terms a high level of saving and unusually low prices for risk. The rise in interest rates on loans during the financial crisis is probably largely a case of an adjustment to levels that will be normal even when the crisis is over.

The fact that the difference has increased between the Riksbank's repo rate on the one hand and the banks' funding costs and lending rates on the other, does not necessarily mean that the effects of monetary policy have declined. When the repo rate was lowered twice in October this did have a more limited impact on market rates (see Table B1). But this was in an extremely uncertain situation with high and rising risk premiums on the financial markets. Following the Riksbank's reduction of the repo rate by 1.75 percentage points in December, interbank rates and short-term mortgage rates have fallen by approximately 2.50 percentage points. This is due to a decline in risk premiums on the financial markets. A reduction of the repo rate entails a lowering of the "floor" at which risk premiums are set. If the risk premiums increase, as they did in October, this counteracts the impact of reductions in the repo rate. The change in the market rates is then less than it would otherwise have been. When the risk premiums fall, as they did in December, the decrease in the market rates is greater than the change in the repo rate.

Figure B3. New lending to households and companies
Annual percentage change



Source: Statistics Sweden

Table B1. "The impact of monetary policy"
Percentage points

	12 sep	MPR 08:3 (29 Oct)	MPU 08:3 (10 dec)	2 jan	21 jan
Repo rate	4,75	3,75 (-1,00)	2,00 (-1,75)	2,00 (0,00)	2,00 (0,00)
Interbank, 3 month	5,33	4,75 (-0,58)	2,67 (-2,08)	2,39 (-0,28)	2,13 (-0,26)
Mortgage rate (listed), 3 month	5,95	5,83 (-0,12)	3,72 (-2,11)	3,48 (-0,24)	3,30 (-0,18)
Company rates, 3 month		approx. 5.87	approx. 4.97 (approx. -0.90)	approx. 3.38 (approx. -0.59)	

Note. Notes in brackets refer to the change since the immediately preceding date in the table. Company rates from financial market statistics. Final outcomes are December, statistics are presented with at least one month's delay.

Sources: EcoWin, Statistics Sweden and the Riksbank

Surveys indicate that it has become both more expensive and more difficult to get loans.

If one wants to gain an idea of how the financial crisis has affected the access to credit, one cannot only look at developments in market rates. Various surveys indicate that it has not only become more expensive, but also more difficult to obtain loans (see Table B2). The banks may, for instance, have endeavoured to reduce the volume of their lending in relation to their own capital in order to be less sensitive to shocks and to reduce their funding costs. The banks themselves have also experienced greater difficulty in financing their operations, particularly in the longer term, than is reflected in the market rates.

Table B2. Survey results: ALMI, National Institute of Economic Research, the Riksbank

	More difficult to obtain loans?	More expensive to obtain loans?	Increased collateral required to obtain loans?
ALMI Loan indicator, lender (December compared with October 2008)	yes		
National Institute of Economic Research Economic Tendency Survey, borrowers (December compared with November 2008)	yes	yes	yes
The Riksbank Company survey, borrowers (December/January compared with October 2008)	yes	yes	Not included

Sources: ALMI, the National Institute of Economic Research and the Riksbank

So far it is not possible to see any severe credit crunch in the official statistics on bank lending. New lending to households did decline up to the end of November, but increased in December. The rate of new lending to companies declined from November to December, but in terms of volume lending to companies is still very high (see Figure 64). However, these figures can give an exaggeratedly positive picture of the supply of credit. In the first place, the figures for new lending also include the figures for renegotiated loans. In the second place, there is a lag to the extent that it takes time before loans that have been granted (or refused) show in the statistics. The credit crunch reflected in the surveys may thus be seen more clearly at a later date than it has been in the lending figures so far. Thirdly, it is not only Swedish banks that provide funding for households and companies. Large companies in particular also have the opportunity to obtain loans by issuing commercial papers in the market or by borrowing from foreign banks. The continued high level of new loans from Swedish banks to companies may thus reflect both the fact that companies have reduced their borrowing from foreign banks and that they have not been able to issue commercial paper to the same extent as before.

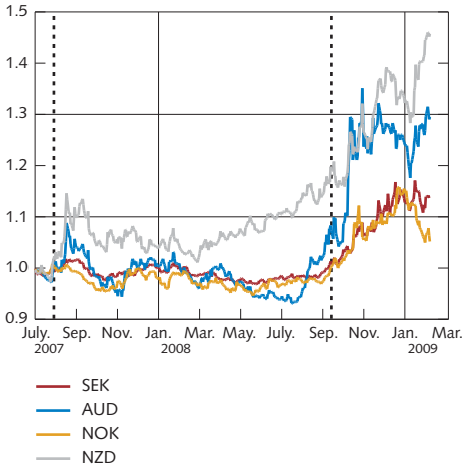
At the same time, credit volumes are normally held back when economic activity weakens, as the demand for loans also declines. The credit boom during the 1980s was followed by a severe slowdown during the crisis at the beginning of the 1990s (see Figure 64) and it is reasonable to expect some slowdown even after the most recent expansion in credit. However, monetary policy is conducted to reduce the risk that a credit crunch will further aggravate an economic downturn.

The repo rate is the interest rate the Riksbank charges on a one-week loan to the banks, against collateral. Under normal circumstances there is a stable relationship between the level of the repo rate and the level of the variable rates that companies and households face, as between interest rates and access to loans. The financial crisis has changed these circumstances, and this must be taken into account in monetary policy. Although some change in the repo rate could still have the same effect on market rates as under more normal circumstances, the variable interest rates are at an unusually high level in relation to the repo rate as a result of the size of various risk premiums. Moreover, the banks may have reason to wish to dampen their new lending even when the Riksbank has cut the repo rate. To affect the supply of credit and thereby inflation, production and employment, the Riksbank therefore needs to supplement changes in the repo rate with other measures. This could involve, for instance, expanding the circle of institutions to which the Riksbank lends, accepting another class of collateral or providing loans at longer maturities than normal.[16] The measures both improve the stability of the financial markets and increase the opportunities for attaining the monetary policy objectives. Although they do not directly reduce the direct cost of borrowing, they contribute to increasing access to credit. As long as the financial crisis, the economic slowdown and the low inflationary pressures continue, the Riksbank will take various measures to complement changes in the repo rate (see also the article "Monetary policy alternatives in times of financial crisis and concern over deflation").

16 For a description of such measures that the Riksbank has taken since the previous Monetary Policy Report see the Riksbank's website, www.riksbank.se, under the heading Financial stability/Financial turbulence – The Riksbank's response.

The recent weakening of the krona

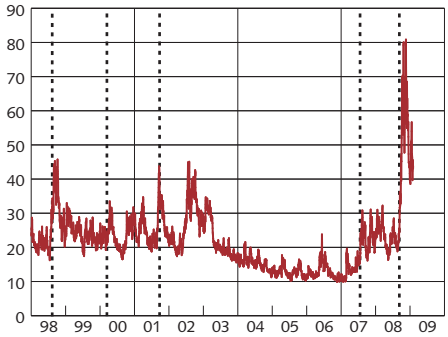
Figure B4. Trade-weighted exchange rates
Index, 1 July 2007



Note. A value greater than (less than) 1 indicates a weakening (strengthening) of the exchange rate. The vertical lines show when the financial turmoil began and when it became a financial crisis (26 July 2007 and 15 September 2008).

Source: Reuters EcoWin

Figure B5. Implicit volatility in US shares, VIX (volatility index)
Per cent



Note. The vertical lines show the beginning of previous financial crises and two episodes of the current financial crisis, that is when the turmoil began and when the transition to an acute crisis took place.

Source: Reuters EcoWin

Since the aggravation of the financial crisis in September 2008, the Swedish krona has weakened significantly. Previous experience shows that small currencies tend to weaken in periods of financial unease but that this weakening is often temporary. Comparisons with other financial crises that have occurred over the last 10 years show that the impact on exchange rates has been greater during this crisis. How great the impact will be on inflation in Sweden largely depends on whether the weakening of the krona is perceived as temporary or lasting. Experience indicates that there is a relatively weak link in the short term between inflation and changes in the exchange rate in countries with well-founded inflation expectations. The assessment is, however, that in the long term, permanent exchange rate changes will have a full impact on inflation.

The financial crisis and the drastic deterioration in the global economic outlook that has followed in it s wake has in recent months given rise to significant movements on the international foreign exchange market. Over the last few months, the Swedish krona has suffered its greatest depreciation since the floating exchange rate was introduced in November 1992. Compared to a basket (TCW) containing the currencies of Sweden's most important trading partners, the krona has, in nominal terms, declined in value by 15 per cent in early February since the beginning of September last year. The krona has weakened most against the yen (approximately 55 per cent) and the US dollar (approximately 28 per cent). Against the euro, the krona weakened by approximately 13 per cent between the start of September last year and the beginning of February this year.

The development of the exchange rate in the longer term is often explained in terms of fundamental factors such as differences in productivity or the growth of GDP, the net external position and the development of the current account. The basic assumption is that similar products will in the long term cost approximately the same in countries with similar economic conditions. The exchange rate is also affected by how monetary policy is conducted in different countries, which in turn depends on differences in the economic outlook and the outlook concerning inflation. In the short term, the exchange rate may be driven by other factors and deviate from what may be regarded as a justified development in the long term. It is difficult to explain the recent weakening of the krona in terms of changes in fundamental factors. The statistical models with macro variables that the Riksbank uses to forecast the exchange rate have not indicated anything like the weakening of the krona that actually took place in late 2008.

In periods of financial unease, large currencies are usually regarded as more liquid and secure by investors, and the demand for such currencies has therefore increased. This has led to the weakening of the Swedish krona and of other small currencies.

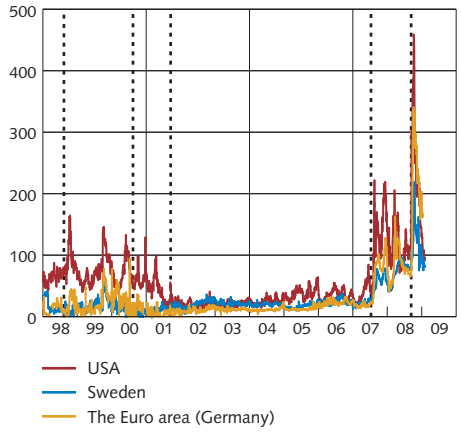
The currencies that it is interesting to study for the purposes of comparison include the New Zealand dollar, the Australian dollar and the Norwegian krona. These countries are similar to Sweden in that they have substantial foreign trade and apply an inflation target. When the financial turmoil began in July 2007, this led to a short-term weakening of the krona and the other three currencies (see Figure B4). But it was only when the turmoil developed into an acute financial crisis in mid-September 2008 that the exchange rates weakened tangibly.

In this article, the current crisis is compared to the Russian/LTCM crisis of 1998, the IT crash of 2000 and the crisis following the terrorist attacks on 11 September 2001.[17] Although these crises all have different causes, the factors that have triggered them have never been directly related to the foreign exchange markets. A common feature of all these periods is a declining appetite for risk expressed in terms of increased volatility, greater spreads in relation to government securities (see Figures B5-B7) and a flight to quality. Developments on the financial markets since 15 September 2008, particularly in the USA, have been much more dramatic than in other financial crises that have occurred over the last 10 ten years. With regard to the effects of financial crises on the foreign exchange markets, previous experience shows that the currencies of small, open economies tend to weaken in such periods. The level of depreciation appears to be partly related to the duration of the crisis. How long the depreciation lasts differs between the different currencies. Figure B8 shows that the currencies studied began to recover four months after the Russian/LTCM crisis in 1998. The recovery after 11 September 2001 was quicker, while the IT crisis of 2000 on the other hand was followed by a more prolonged weakening of the exchange rate.

Figure B8 also shows that the average weakening of the exchange rate during the current financial crisis, that is since September 2008, is much more substantial than in the other crises. If the krona follows the same pattern as after these crises, a recovery could nevertheless begin in early 2009. An argument against this is the fact that the crisis began already in July 2007. In this sense, the present situation is more reminiscent of that during the IT crisis of 2000, which was also more prolonged. If so, the indications are that the recovery will not begin until the second half of 2009.

An important question is what impact the weakening of the krona can be expected to have on inflation in Sweden. Empirical studies show that there is a relatively weak link in the short term between inflation and depreciation in countries with well-founded inflation expectations. The conduct of a credible monetary policy in which the central bank reacts to inflation impulses from import prices means that companies will be less likely to pass on cost increases. [18]

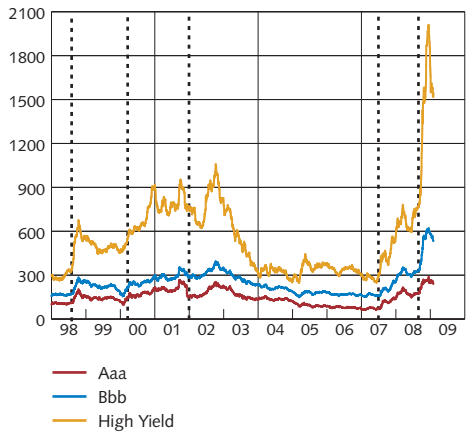
Figure B6. TED spreads in the USA, the Euro area and in Sweden
Basis points



Note. The TED spread is defined as the difference between the three-month interbank rate and the corresponding treasury bill rate. The vertical lines show the beginning of previous financial crises and two episodes of the current financial crisis, that is when the turmoil began and when the transition to an acute crisis took place.

Sources: Bloomberg and Reuters EcoWin

Figure B7. The spread between corporate bonds in the USA and corresponding US government rates
Basis points



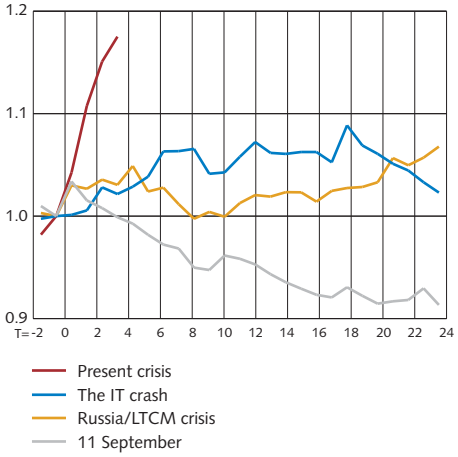
Note. The vertical lines show the beginning of previous financial crises and two episodes of the current financial crisis, that is when the turmoil began and when the transition to an acute crisis took place.

Source: Reuters EcoWin

17 The starting dates of the previous financial crises are given as follows: 17 August 1998 for the Russian/LTCM crisis, 13 March 2000 for the IT crash and 11 September 2001 for the crisis stemming from the terrorist attacks. The starting dates for the two different episodes of the current crisis are 26 July 2007 and 15 September 2008, that is when it broke out for the first time and when the transition to an acute crisis occurred.

18 See, for example, Taylor, J., "Low inflation Pass-through and Pricing Power of Firms", European Economic Review, vol. 44, 7, 2000, s. 1389-1408; Gagnon, J.E. och J. Ihrig, (2004), "Monetary Policy and Exchange Rate Pass-Through", International Journal of Finance and Economics, vol. 9, pp. 315-38; Burstein, A., M., Eichenbaum and S., Rebelo, (2007), "Modelling Exchange Rate Passthrough after Large Devaluations", Journal of Monetary Economics, vol. 54, pp 346-68.

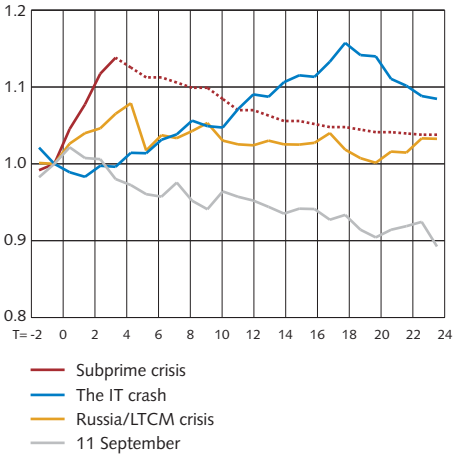
Figure B8. Unweighted average of development of AUD, NZD, NOK and SEK during various crises
Monthly data, t=0 when the crisis broke out, index=1 at t-1 by respective crisis



Note: Index based on trade weighted exchange rates for respective currency.

Source: Reuters EcoWin

Figure B9. Development of TCW during various crises and forecast from MPR09:1
Monthly data, t=0 when the crisis broke out, index=1 at t-1 by respective crisis



Note: Forecast February.

Source: Reuters EcoWin

Consumer prices may also be sluggish for other reasons. A conceivable reason why the impact may be limited in the short term is that companies can use currency hedging. They adapt their profit margins instead while waiting for the exchange rate to return to, in their view, a more normal value. For example, the Swedish krona weakened in 2000 and 2001 without this having any significant effect on import prices for consumers.[19] It is often assumed that the moderate impact reflects a desire on the part of foreign export companies to stabilise prices for domestic buyers, so-called pricing-to-market, in order to avoid losing market shares to domestic producers.[20] However, in the long term a foreign exporter has no reason to charge a lower price in Sweden (in order to limit the effects of the weakening of the krona for Swedish consumers) than the exporter can charge in other countries. In the long term, therefore, there are many indications that permanent changes in the exchange rate will have a full impact on prices.

The krona has weakened during the financial crisis and has not developed as well as previously assessed by the Riksbank. Compared to the forecast produced in early September last year, the krona has on average been approximately 11 per cent weaker since then. Compared to the Riksbank's latest forecast from early December 2008, the krona was up to the beginning of February an average of 4 per cent weaker than expected. Since the turn of the year, the krona has weakend by around 1 per cent. In the main scenario, it is assumed that the krona will continue to be weak in the short term (see Figure B9). As the situation on the financial markets stabilises, it is expected that the development of the krona will reflect long-term economic fundamentals. At the end of the forecast period, it is assumed that the krona will be approximately 10 per cent stronger in relation to the exchange rate at the beginning of February 2009. The assessment is that the temporary weakening of the krona will increase inflation mainly in 2009 but that this effect will be partly counteracted by lower cost pressures and resource utilisation during the forecast period.

The historical average impact of the exchange rate on inflation is the result of a number of different shocks to the economy. It provides no guide as to how great the impact will be after a specific shock. To answer questions like this, a structural macro model must be used. In the Monetary Policy Report published in October 2008, an alternative scenario was presented in which the Riksbank's general equilibrium model for the Swedish economy (Ramses) was used to simulate what effects a more lasting weakening of the krona would have on the Swedish economy.

19 See Adolfson, M., and Söderström, U. (2003) "How is the economy affected by the inflation target?", Sveriges Riksbank Economic Review 1, 2003.

20 Krugman, P., "Pricing to Market when the Exchange Rate Changes", in Arndt, S., W., & Richardson, J., D., Real-financial Linkages among Open Economies, MIT-press, 1987.

In the scenario it is assumed that the weakening is not justified by fundamental factors but the result of a risk premium shock, that is a change in the excess return that investors require to retain Swedish krona.

In the alternative scenario in the October report, a process was assumed with a greater weakening of the krona in the short term and the krona being 4 per cent weaker three years ahead compared to the level in the main scenario. The weaker krona makes imports more expensive in krona at the same time as Swedish goods and services become less expensive for buyers abroad. This stimulates exports, which in turn strengthens the growth of GDP. The weakening of the krona acts as a shock absorber in the economy, although it can be assumed that the stimulating effect on exports will be more limited in a situation where demand declines globally. CPI inflation will therefore increase in Ramses, partly as a result of higher import prices and partly due to an increase in resource utilisation. On average, CPI inflation will be 0.4 per cent higher than in the main scenario during the forecast period. In to order to counteract the increasing inflationary pressure, monetary policy needs to be tighter and the repo rate an average of 0.2 percentage points higher than in the main scenario over the next two years.

In conclusion, it can be noted that the impact of the recent weakening of the krona on inflation is largely dependent on whether it is perceived by the companies to be of a temporary or more lasting nature. In the present main scenario, it is assumed that the krona will strengthen again when the most acute phase of the financial crisis is over. There is, however, a considerable degree of uncertainty relating to when conditions on the financial markets will stabilise.

The Riksbank's company interviews in December 2008 – January 2009

The companies in the Riksbank's survey report that economic activity has declined further during the autumn. This can be seen, for example, in a rapid fall in order intake and a tightening of access to credit. Half of the companies in the survey state that access to external funding, including bank loans, has deteriorated over the past quarter. The companies' view of the future is generally pessimistic. Two out of three companies believe that the economic climate will be even worse in six months time.

The Riksbank's interviews with Swedish companies were mainly conducted in December 2008. Approximately one fifth of the total of 60 interviews were conducted in early January. A detailed account of the result of the interviews was published on 2 February on the Riksbank's website, www.riksbank.se, under the heading Press & published\Reports.

More than one in two of the companies interviewed by the Riksbank state that the current economic situation is poor and two out of three companies expect the situation to be even worse in six months' time. The largest deterioration is among manufacturing companies. There are very few manufacturing companies in the survey that say that the situation is good. The situation in the construction sector and the retail trade is also considered to be poor. Among the companies in the private services sector the dominant response is "poor", but not as clearly as in the other sectors.

In the course of the Riksbank's discussions with the companies, many of the company representatives state that the decline in economic activity has been both exceptionally rapid and extensive. The weaker demand has also led the companies to radically change their investment plans during the autumn. In the manufacturing industry, for example, a large majority of the companies stated that investments will decline over the next six months. An increased focus on the companies' liquidity situation in the wake of more expensive borrowing opportunities and poorer credit supply are also said to have affected the companies' willingness to invest.

Almost half of the companies interviewed reported that access to external funding (including bank loans and issues of corporate bonds) has deteriorated during the autumn. The opportunities for funding have become both more expensive and more problematic during the autumn. Many of the companies interviewed by the Riksbank also stated that it is a problem that funding can not be arranged or guaranteed at longer maturities.

The companies point out that several important costs have fallen recently. This applies to various commodities that previously were subject to dramatic price increases, for example different metals, oil and food. When asked about the development of wage costs, most of the companies stated that wage increases are expected to be in line with those stipulated in the collective agreements but that wage drift, on the other hand, is expected to be lower this year than last year. On the whole, the companies' plans indicate that prices will be increased to a lesser degree in the period ahead compared to the results in the previous survey.

Appendix

Tables

The figures in parentheses show the forecast in the previous Monetary Policy Update (December 2008).

Table A1. Inflation, annual average
Annual percentage change

	2008	2009	2010	2011
CPI	3.4 (3.5)	-0.5 (1.2)	1.6 (1.5)	3.2 (2.1)
CPIF	2.7 (2.7)	1.6 (1.7)	1.6 (1.4)	1.8 (1.7)
CPIF excl. energy	2.0 (2.0)	2.2 (2.1)	1.8 (1.6)	1.7 (1.4)
CPIX	2.5 (2.5)	1.3 (1.3)	1.2 (1.1)	1.5 (1.4)

Note. CPIX is CPI inflation excluding household mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies. CPIF is CPI with fixed mortgage interest rate.
Sources: Statistics Sweden and the Riksbank

Table A2. Inflation, 12-month rate
Annual percentage change

	Mar. -08	Mar. -09	Mar. -10	Mar. -11	Mar. -12
CPI	3.4	-0.1 (1.8)	1.4 (1.4)	2.9 (2.0)	3.3
CPIF	2.6	1.9 (2.0)	1.7 (1.4)	1.8 (1.7)	1.9
CPIF excl. energy	2.2	2.0 (2.1)	1.9 (1.7)	1.7 (1.6)	1.9
CPIX	2.3	1.6 (1.6)	1.3 (1.1)	1.5 (1.4)	1.6

Note. CPIX is CPI inflation excluding household mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies. CPIF is CPI with fixed mortgage interest rate.
Sources: Statistics Sweden and the Riksbank

Table A3. Summary of financial forecasts, annual average
Per cent, unless otherwise specified

	2008	2009	2010	2011
Repo rate	4.1 (4.1)	1.0 (2.0)	0.9 (2.3)	2.2 (2.9)
10-year rate	3.9 (3.9)	2.9 (3.3)	3.6 (3.7)	4.1 (4.1)
Exchange rate, TCW-index, 18 Nov. 1992=100	127.2 (127.2)	140.0 (134.3)	134.5 (128.8)	131.9 (126.9)
General government net lending*	2.3 (2.7)	-1.7 (-0.2)	-2.6 (-0.8)	-1.3 (-0.1)

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

Table A4. International conditions
Annual percentage change, unless otherwise specified

GDP	2008	2009	2010	2011
USA	1.3 (1.3)	-2.0 (-0.7)	1.0 (1.9)	3.2 (3.6)
Japan	0.0 (0.6)	-2.3 (-0.1)	0.2 (0.7)	1.6 (1.6)
Euro area	0.8 (1.0)	-2.0 (-0.8)	0.4 (1.1)	1.7 (2.1)
OECD	1.1 (1.3)	-1.9 (-0.3)	0.9 (1.6)	2.5 (2.9)
TCW-weighted	0.9 (1.2)	-1.8 (-0.6)	0.6 (1.3)	2.0 (2.3)
World	3.4 (3.5)	0.4 (1.9)	2.6 (3.2)	3.9 (4.1)

CPI	2008	2009	2010	2011
USA	3.8 (4.1)	-0.5 (0.8)	1.8 (2.2)	2.2 (2.2)
Japan	1.4 (1.6)	0.0 (0.6)	0.5 (0.8)	1.0 (1.0)
Euro area (HICP)	3.3 (3.4)	0.8 (1.5)	1.4 (1.8)	1.8 (2.1)
OECD	3.6 (3.7)	0.8 (1.6)	1.7 (2.1)	2.0 (2.2)
TCW-weighted	3.2 (3.3)	0.8 (1.4)	1.5 (1.8)	1.8 (2.0)

	2008	2009	2010	2011
Crude oil price, USD/barrel Brent	97 (98)	50 (60)	59 (71)	63 (77)
Swedish export market growth	1.7 (1.8)	-3.0 (-0.3)	1.6 (3.2)	5.4 (6.3)

Note. Market growth for Swedish exports refers to growth in imports of goods for around 70 per cent of the countries that are recipients of Swedish exports. The forecast is weighted together on the basis of each country's share of Swedish export of goods.
Sources: IMF, Intercontinental Exchange, OECD and the Riksbank

Table A5. GDP by expenditure
Annual percentage change, unless otherwise specified

	2008	2009	2010	2011
Private consumption	0.8 (0.8)	-0.6 (-0.7)	1.9 (2.2)	2.5 (2.6)
Public consumption	0.9 (0.9)	0.7 (0.7)	0.8 (1.3)	0.8 (1.0)
Gross fixed capital formation	3.9 (4.1)	-5.4 (-3.5)	-1.2 (1.8)	4.2 (3.7)
Inventory investment*	-0.2 (-0.4)	0.2 (-0.3)	-0.2 (0.0)	0.1 (0.1)
Exports	2.0 (3.2)	-6.0 (-0.7)	3.2 (3.1)	6.4 (6.0)
Imports	3.3 (4.1)	-5.6 (-2.3)	1.4 (2.6)	5.3 (5.4)
GDP	0.7 (0.9)	-1.6 (-0.5)	1.7 (2.2)	3.2 (3.0)
GDP, calendar-adjusted	0.4 (0.6)	-1.4 (-0.4)	1.4 (1.9)	3.2 (3.0)

*Contribution to GDP growth, percentage points
Note. The figures show actual growth rates that have not been calendar-adjusted, unless otherwise stated.
Sources: Statistics Sweden and the Riksbank

Table A6. Production and employment
Annual percentage change, unless otherwise stated

	2008	2009	2010	2011
Population. aged 16-64	0.8 (0.8)	0.5 (0.4)	0.2 (0.2)	0.0 (0.0)
GDP, calendar-adjusted	0.4 (0.6)	-1.4 (-0.4)	1.4 (1.9)	3.2 (3.0)
Number of hours worked, calendar-adjusted	1.2 (1.2)	-2.1 (-1.6)	-1.5 (-1.0)	0.4 (0.7)
Employed (EU-definition)	1.2 (1.2)	-2.0 (-1.3)	-1.6 (-1.3)	0.0 (0.2)
Labour force (EU-definition)	1.3 (1.2)	-0.1 (-0.1)	-0.5 (-0.2)	0.0 (0.0)
Unemployment aged 15-74 (EU-definition) *	6.2 (6.2)	8.0 (7.4)	9.1 (8.4)	9.0 (8.2)
Labour market programmes*	1.5 (1.5)	2.2 (1.9)	2.4 (1.9)	2.0 (1.9)

* Per cent of labour force
Source: Employment Service, Statistics Sweden and the Riksbank

Table A7. Wages and unit labour cost for the economy as a whole
Annual percentage change, unless otherwise stated, calendar-adjusted data

	2008	2009	2010	2011
Hourly wage, NM	4.3 (4.2)	3.5 (3.6)	2.9 (3.2)	3.1 (3.4)
Hourly wage, NA	4.9 (4.8)	3.6 (3.8)	3.0 (3.5)	3.4 (3.7)
Employer's contributions*	-1.0 (-1.0)	-0.1 (-0.1)	0.1 (0.1)	0.1 (0.1)
Hourly labour cost, NA	3.9 (3.8)	3.5 (3.7)	3.1 (3.6)	3.4 (3.8)
Productivity	-0.8 (-0.7)	0.6 (1.3)	2.9 (2.9)	2.7 (2.4)
Unit labour cost	4.7 (4.5)	2.8 (2.4)	0.1 (0.6)	0.7 (1.4)

* 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. Due to rounding the contributions may not add up.
Sources: National Mediation Office, Statistics Sweden and the Riksbank

Table A8. Scenario with higher repo rate
Annual percentage change, unless otherwise specified

	2008	2009	2010	2011
GDP, calendar-adjusted	0.4 (0.4)	-1.9 (-1.4)	0.4 (1.4)	2.8 (3.2)
CPI	3.4 (3.4)	-0.8 (-0.5)	0.0 (1.6)	0.8 (3.2)
Repo rate, per cent	4.1 (4.1)	2.0 (1.0)	2.3 (0.9)	2.9 (2.2)
Real repo rate, per cent	2.0 (2.0)	2.0 (-0.7)	1.7 (-1.9)	
Exchange rate, TCW-index, = 100	127.2 (127.2)	137.7 (140.0)	127.4 (134.5)	122.4 (131.9)

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

Table A9. Scenario with weaker growth
Annual percentage change, unless otherwise specified

	2008	2009	2010	2011
GDP, calendar-adjusted	0.4 (0.4)	-2.4 (-1.4)	0.0 (1.4)	3.0 (3.2)
CPI	3.4 (3.4)	-1.1 (-0.5)	-0.5 (1.6)	1.7 (3.2)
Repo rate, per cent	4.1 (4.1)	0.5 (1.0)	0.0 (0.9)	0.5 (2.2)
Real repo rate, per cent	2.0 (2.0)	0.4 (-0.7)	-1.7 (-1.9)	
Exchange rate, TCW-index, 1992-11-18 = 100	127.2 (127.2)	139.9 (140.0)	130.1 (134.5)	125.3 (131.9)
TCW-weighted interest rate, per cent	3.8 (3.8)	0.7 (1.2)	0.1 (1.8)	1.1 (3.0)
TCW- weighted CPI	3.2 (3.2)	0.5 (0.8)	1.1 (1.5)	1.4 (1.8)
TCW- weighted GDP	0.9 (0.9)	-2.2 (-1.8)	-1.2 (0.6)	1.2 (2.0)

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

Table A10. Scenario with stronger growth
Annual percentage change, unless otherwise specified

	2008	2009	2010	2011
GDP, calendar-adjusted	0.4 (0.4)	-1.2 (-1.4)	2.2 (1.4)	3.8 (3.2)
CPI	3.4 (3.4)	-0.2 (-0.5)	3.0 (1.6)	5.0 (3.2)
Repo rate, per cent	4.1 (4.1)	1.2 (1.0)	1.9 (0.9)	3.6 (2.2)
Real repo rate, per cent	2.0 (2.0)	-1.4 (-0.7)	-2.5 (-1.9)	
Exchange rate, TCW-index, 1992-11-18 = 100	127.2 (127.2)	140.9 (140.0)	138.5 (134.5)	138.0 (131.9)
TCW-weighted interest rate, per cent	3.8 (3.8)	1.5 (1.2)	3.2 (1.8)	5.2 (3.0)
TCW- weighted CPI	3.2 (3.2)	0.8 (0.8)	1.9 (1.5)	2.4 (1.8)
TCW- weighted GDP	0.9 (0.9)	-1.0 (-1.8)	1.8 (0.6)	2.4 (2.0)

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

Table A11. Scenario with higher cost pressures
Annual percentage change, unless otherwise specified

	2008	2009	2010	2011
GDP, calendar-adjusted	0.4 (0.4)	-0.6 (-1.4)	1.7 (1.4)	1.9 (3.2)
CPI	3.4 (3.4)	0.7 (-0.5)	3.0 (1.6)	2.8 (3.2)
Repo rate, per cent	4.1 (4.1)	1.8 (1.0)	2.3 (0.9)	3.0 (2.2)
Real repo rate, per cent	2.0 (2.0)	-0.7 (-0.7)	-0.2 (-1.9)	
Exchange rate, TCW-index, 1992-11-18 = 100	127.2 (127.2)	142.8 (140.0)	138.0 (134.5)	135.3 (131.9)
Productivity	-0.8 (-0.8)	0.6 (0.6)	1.5 (2.9)	1.8 (2.7)
Number of hours worked, calendar-adjusted	1.2 (1.2)	-1.2 (-2.1)	0.3 (-1.5)	0.2 (0.4)

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

Outline of boxes published 2006-2008[21]

2006

2006:1 The path of the krona and inflation
2006:1 Material for assessing monetary policy 2003-2005
2006:1 Uncertainty regarding future interest rate movements
2006:2 Monetary policy in Sweden
2006:2 What is a normal level for the reporate?
2006:2 Resource utilisation, costs and inflation
2006:3 Monetary policy in Sweden
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2006:3 Perspectives on the quantity of unutilised resources in the labour market
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21 A list of the boxes published since 1993 can be found on our website www.riksbank.se.

Earlier interest rate decisions[22]

Date of meeting	Repo rate (per cent)	Decision (percentage points)	Monetary Policy Report
2004			
5 February	2.50	-0.25	no report
31 March	2.00	-0.50	2004:1
28 April	2.00	0	no report
27 May	2.00	0	2004:2
23 June	2.00	0	no report
19 August	2.00	0	no report
13 October	2.00	0	2004:3
8 December	2.00	0	2004:4
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

22 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.

Basis spread: Shows the difference between the three-month interbank rate and the expected policy rate.

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 the annual percentage change of the CPI.

CPIF: CPI with a fixed mortgage 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.

Credit spread: Refers to the difference between different types of interest rates on securities with the same time to maturity but different credit risks.

Currency swap: An agreement to buy a currency at the current rate and to sell the same currency back at a specified exchange rate on a specific day in the future.

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.

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

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

Investment bank: A bank that issues and sells financial assets. They also give financial advice to their customers and trade on their own behalf.

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.

Policy rate: The interest rates set by central banks for monetary policy purposes. In Sweden these are the repo rate, the lending rate and the deposit rate. The repo rate is the most important interest rate.

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.

Purchase price coefficient: The purchase price of a property in relation to its assessed value.

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

Refi: 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 requires as compensation for risk.

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 fl ow 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.

Subprime mortgages: Mortgages granted to households with low or non-verifiable incomes.

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

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

TED spread (Treasury/euro-dollar spread): States the difference between the interbank rate on a particular maturity and the corresponding rate on a treasury bill.

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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