Inflation Report

2004:3

14 October 2004

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Foreword

The Riksbank's monetary policy is targeted at keeping inflation at 2 per cent, with a tolerance for deviations from this level of +/- 1 percentage point. The Riksbank gives its collective view of the inflation outlook in the Inflation Report. The Executive Board's monetary policy decisions and discussions are presented in separate press releases. Executive Board members may differ in their opinions on inflation prospects. The Board members' assessments and individual stances on monetary policy decisions are presented in the minutes of the Executive Board's monetary policy meetings. Any differences of opinion regarding the inflation outlook will thus be recorded in the separate minutes of the Executive Board meeting on 13 October, to be published on 27 October 2004.

This Report presents forecasts for inflation up to the end of 2006 Q3. The Report gives the main features of the presentations and discussions at the Executive Board meetings on 29 September and 7 October 2004.

The purpose of the Inflation Report is not merely to produce background material for monetary policy decisions, but also to spread knowledge about the Riksbank's assessments. The Bank aims to make it easier for external parties to follow, understand and assess monetary policy.

In order to elucidate the consequences for monetary policy, the analyses in the Report are based on the assumption that the repo rate will remain unchanged during the forecast period. The forecasts are also based on several other important assumptions, which are described in more detail in the Report.

The Report begins with a summary. This is followed by a discussion of the most probable development of inflation's principal determinants. Finally, the Riksbank gives its overall assessment of inflation prospects in the main scenario and the key risks surrounding this assessment. The Report also contains a number of boxes, which aim to provide more in-depth knowledge about matters of importance for the inflation assessment.

Stockholm, October 2004
Lars Heikensten
GOVERNOR OF SVERIGES RIKSBANK

■ Summary

International growth has been slightly higher than expected, despite the rise in oil prices. At the same time, Swedish exports have shown an unexpectedly rapid growth rate and this has led to an upward revision in the forecast for Swedish growth this year. A more expansionary fiscal policy will contribute to a stronger increase in domestic demand in the near future. Upward revisions have also been made in the Swedish GDP growth forecasts for 2005 and 2006. Resource utilisation is therefore expected to rise more rapidly during the forecast period, which together with the increase in oil prices will lead to higher inflation. However, inflation is low to start with and cost conditions are favourable, which indicates that inflation will be relatively moderate over the coming two years. Two years ahead, UND1X inflation is expected to rise to 2 per cent.

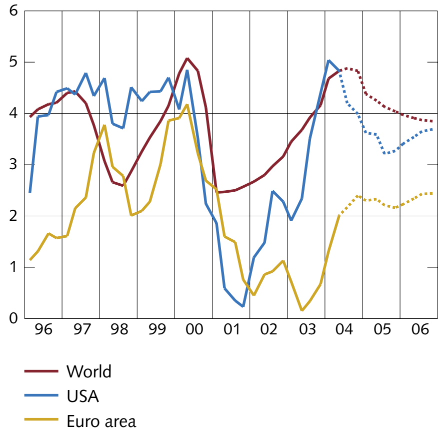
■■ Continuing strong international recovery.

The Riksbank's assessment in the May Inflation Report was that international economic activity would continue to strengthen this year and over the coming two years. The prospects for economic activity were bright and resource utilisation was expected to continue to rise. At the same time, GDP growth in most countries was expected to decline slightly as the result of a changeover to less expansionary economic policy (see Figure 1). The current assessment is that there is reason to be slightly more optimistic with regard to economic growth this year, although there are factors indicating the reverse.

One factor that has had a negative influence on the assessment of GDP growth is that oil prices have reached record-high levels. An important driving force behind the gradual upturn in oil prices during the year has been an unexpectedly strong increase in the global demand for oil. However, the rapid upturn in oil prices over the summer can probably to some extent be attributed to other factors, such as concern over developments in the Middle East. Provided that the risk of acts of terrorism declines, it is reasonable to expect that oil prices will fall again. In the slightly longer term, capacity will be extended, which should have a restraining effect on oil prices. However, the assessment is that oil prices will be higher over the coming years than was forecast in May. This is in line with most analysts' assessments of future oil prices and the pricing in the forward market.

What effects can high oil prices be expected to have on the global economy? It is reasonable that a price rise that is largely due to a high rate of international growth will have less negative real economy consequences than one that is due to a pure supply shock. Moreover, the Swedish economy and most of the other economies in the western world are now less dependent on oil than they were during the oil crises in the 1970s. This should mean that the impact of increases in oil prices on both the real economy and inflation is much more limited, compared to the earlier episodes. In many countries

Figure 1. GDP for the euro area, the United States and the world.
Percentage 12-month change



Note. The broken line is the Riksbank's forecast.

Sources: Eurostat, the US Department of Commerce, the National Institute of Economic and Social Research and the Riksbank.

there is confidence in the low-inflation policy. The risk that an increase in oil prices will spread to other parts of the economy should be lower if the general public expects inflation to remain low and the central banks act in accordance with these expectations. To summarise, the higher oil prices should mainly cause a limited rise in the rate of price increase and have relatively slight effects on the real economy. The assessment most analysts appear to be making now is that the oil price rises in 2004 will not cut short the economic recovery.

The assessment in May was that US growth would slacken towards the end of 2004 (see Figure 1). Less expansionary fiscal policy following the US presidential election, combined with gradually rising interest rates, was expected to have some modifying effect on private consumption and housing investment. New data indicates that private consumption has slackened somewhat earlier than expected. One reason may be that consumer prices, in particular oil prices, have risen more quickly than anticipated, which has reduced households' real incomes. The Riksbank has therefore made a slight downward revision to its forecast for GDP growth in the United States this year, although growth is still expected to be relatively high. Growth has also been revised down somewhat for 2005 and 2006, mainly due to the effects of oil prices. This applies to the euro area as well. However, growth in this region is expected to increase gradually after a weak year in 2003. New data received over the summer largely confirms this picture.

Growth prospects for most other countries look slightly brighter than they did in May, despite the high oil prices. Many analysts have made upward revisions to their growth forecasts for the Nordic countries, the UK, other parts of Europe, Latin America and Asia over the summer. New data has been received from these areas, indicating stronger developments than expected. In addition, GDP growth in Russia and some Latin American countries benefits from high commodity prices.

All in all, the Riksbank's assessment is that there is now reason to be slightly more optimistic with regard to international economic growth this year and the conditions for Swedish exports this year and in 2005. Although the high oil prices subdue the upturn slightly at the same time as some less positive signals have been received regarding the US economy, the assessment is that this will be counterbalanced by apparently stronger growth in other parts of the world than was anticipated in May. At the same time, it is important to point out that there are some risks connected with international economic activity that could lead to weaker growth than assumed in the main scenario, related to, for instance, oil prices and the savings imbalances in the United States.

The forecast in the May Inflation Report was that international inflation would increase over the course of the year, as a result of rising global resource utilisation and high commodity prices. Since then, prices have risen slightly more than expected, which is partly due to the unexpectedly high oil prices. The forecasts for global producer prices have therefore been revised upwards. Over the coming years, the increase in global producer prices is expected to fall somewhat as the price of oil and other commodities declines.

During the summer, the international financial markets were affected by uncertainty over the strength of the economic upturn in the United States and by the impact of high oil prices on global growth. Long term interest rates fell, and so did share prices. However, more recent statistics from the US labour market reduced uncertainty over economic activity in the United States, and stock markets around the world have made a recovery. Interest rates are still low, which is probably connected with a downward revision to inflation expectations in the United States. It could also be related to participants in the fixed income market having a less optimistic view of international economic activity than they had in May. The krona weakened slightly against its most important competitors (the TCW index) in June and July, but has since strengthened again. It is reasonable to expect that the krona will continue to strengthen somewhat, given the improved surplus in Sweden's international trade.

■■ Higher growth and resource utilisation in Sweden.

The assessment in May was that economic activity in Sweden would continue to strengthen as a result of the expected international economic upturn and of relatively expansionary monetary and fiscal policy. GDP growth was expected to be just under 3 per cent a year for 2004 and the following two years. Now growth is expected to be stronger. During the summer, exports continued to grow at a surprising rate, due to higher international demand than anticipated. Swedish exports have also benefited from the recovery in IT and telecommunications. Moreover, the Government has put forward a proposal in its Budget Bill that entails more expansionary fiscal policy in the near future. Demand is therefore expected to increase further, partly because of the stimulation in private consumption from higher disposable incomes. The proposals will also lead to an increase in public sector consumption. New data from the National Accounts also indicates that the upturn in investment long expected by the Riksbank and other analysts has now begun. Higher GDP growth means that there is good reason to expect a slightly stronger upturn in investment than was assumed in May.

GDP growth is now expected to be 3.6 per cent in 2004 and 3.2 per cent in the following two years. This year, the main contribution to the growth in demand comes from net exports and private consumption. During the coming two years, private consumption and investment will be the driving forces.

Property prices and household indebtedness have continued to rise since the May Inflation Report. The Riksbank's assessment is that house prices in Sweden as a whole are not significantly out of balance. As before, the assessment is that the increase in house prices will slow down in future. Property price trends and increased indebtedness are expected to stimulate private consumption to some extent over the coming year.

The historical pattern is for employment to respond with some lag to a change in output. It also appears to have taken longer than usual for employment to accelerate in this economic upturn. Despite production being stronger than expected, the labour market has essentially developed in line with the forecast in the May report. On the other hand, the number of hours worked has increased more rapidly than expected. Firms have thus increased production with the aid of the employees they already have instead of through new recruitment. The number of temporary employees is now increasing, which may indicate that a turnaround in the labour market is imminent. Moreover, employment appears to have ceased declining during the summer and is expected to begin increasing at the turn of the year. As before, unemployment is expected to decline as economic activity strengthens. In 2006, open unemployment is expected to be lower than was assumed in May. This is partly a result of more people being expected to participate in labour market policy programmes following the Government's proposals in the Budget Bill.

Good growth and a subdued labour market have usually been reflected in high productivity growth and low cost pressure in the Swedish economy. The assessment has been that the good productivity growth in recent years has been linked to changes that will endure over the coming years and to circumstances of a transitory nature. New data once again indicate surprisingly strong productivity growth. Some upward revision has therefore been made to the forecast for this year and the coming two years.

The assessment in May was that wages would increase by just over 3 per cent this year, which is low from a historical perspective. The rate of increase for wages is expected to accelerate in future as a result of the central wage agreement profile and the fact that demand for labour will increase. Rising wage costs and subdued productivity growth as the economic upturn progresses will lead to an increase in unit labour costs over the coming years.

It is important to have a good picture of resource utilisation in order to assess how demand in the economy affects future inflation. The assessment in the May Inflation Report was that total resource utilisation would be relatively low, but that it would rise during 2006 to levels where it could no longer restrain price and wage increases. New data indicate that resource utilisation is still relatively low, although indicators have been somewhat mixed. Stronger GDP growth indicates that the unutilised resources will soon be employed at a slightly more rapid rate than was anticipated in May.

Inflation assessment

Inflation is low at present (see Figure 2). Imported inflation has been negative over the past year, and the rate of price increase on domestic production has been moderate. Developments have been largely in line with the forecast made in May.

One important explanation for the relatively low domestic inflation rate has been the rapid increase in productivity. This, combined with moderate wage increases, has resulted in subdued cost pressure in the Swedish economy. Over the coming months, domestic inflation is expected to continue to fall as a result of low cost pressure and capacity utilisation. After that, domestic inflation is expected to grow gradually as unit labour costs increase and resource utilisation rises.

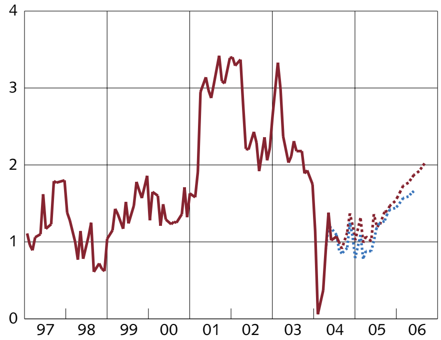
Imported inflation has also been weak in recent years. The weak international price pressure is one reason why Swedish inflation has been overestimated. The fact that international price pressure has been low in recent years could be due, for instance, to stiffer international competition, which will contribute to keeping down inflation in the near future. Moreover, the krona is much stronger now in terms of the TCW index than it was a few years ago. This has contributed to restraining import prices for consumers. The sharp decline in import prices has come to a halt recently, which was mainly due to the rise in oil prices. Other import prices have remained weak. The unexpectedly steep rise in international producer prices has not yet had an impact on Swedish consumer prices. This is as expected; effects on import prices usually come gradually. Imported inflation, excluding oil products, is therefore expected to rise gradually over the forecast period.

Compared with the assessment in May, the inflation forecast has been revised upwards slightly (see Table 1 and Figure 2). The higher oil prices are expected to have both short-term and long-term effects on imported inflation. Towards the end of the forecast period, higher international resource utilisation contributes to the slightly higher forecast. Resource utilisation in Sweden is expected to be somewhat higher than was anticipated in May. This should lead to higher domestic inflation; particularly in 2006 (see Table 1). Moreover, the forecast horizon has been extended a few months and the assessment thus covers a later stage in the economic cycle.

■■ The inflation risks are balanced.

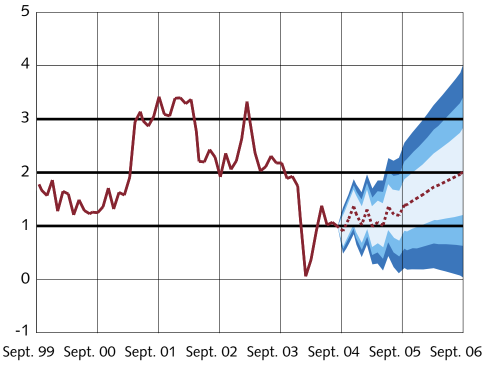
Assessments of inflation are always uncertain. A number of factors can cause developments to follow other paths than those forecast above. In the May Inflation Report, the overall assessment was that the risks of inflation increasing at a faster rate than in the main scenario outweighed the risks of a slower increase. The overall assessment now is that the risks are balanced around the main scenario. In May, the risk of higher inflation was primarily linked to

Figure 2. UND1X inflation, comparison of forecasts. Percentage 12-month change.



Note. The broken line is the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank.

Figure 3. UND1X inflation with uncertainty bands. Percentage 12-month change



Note. The uncertainty bands show the 50, 75 and 90 per cent probabilities of UND1X inflation being within the respective range. The broken line represents the forecast in the main scenario. The horizontal lines at 2, 1 and 3 per cent, respectively, are the Riksbank's inflation target and the tolerance limits for the annual change in the CPI.

Sources: Statistics Sweden and the Riksbank.

developments in international and domestic economic activity. There was also judged to be a risk that higher world market growth or a deterioration in the geopolitical situation would give rise to higher oil prices. Some consideration has been given to these risks in the main scenario this time; as it includes a faster economic upswing and higher oil prices than that in the previous Inflation Report.

The assessment in the main scenario is that the higher oil prices only push up inflation to a limited extent and have relatively slight effects on the real economy. However, there is a risk that the effects could be greater. The main scenario assumes that oil prices will fall again in future. However, the low reserve capacity in the oil market means that there is a risk of continuing high oil prices. This could, particularly if oil prices affect inflation expectations, lead to higher international price pressure and greater effects on the real economy than anticipated in the main scenario.

At the same time, there are factors in the world economy that could contribute to lower inflation and slacker economic activity than in the main scenario. First and foremost, these concern a number of financial imbalances and their conceivable effects. There have been steep rises in property prices for a number of years in many countries, and these have been accompanied by a sharp increase in household debt. It is conceivable that this will affect demand from households. In the United States, uncertainty remains over the effects of the large deficits in the federal budget and the current account. The deficits could lead to a weaker dollar than assumed in the main scenario, with consequences for growth in other parts of the world, including Sweden. Lower imported inflation could also result from the abolition of the EU's import quotas on clothing in 2005 and the increase in imports from Asia, and in particular China. Although the inflation forecast in the main scenario takes this into account, it is difficult to determine how quickly and how much this will affect prices.

One contributory cause of inflationary pressure in the Swedish economy that has been overestimated in recent years is the surprisingly strong growth in productivity. The assessment in the main scenario is that the strong productivity is partly due to economic conditions, and is thereby of a transitory nature. However, if it is more a sign of permanent growth improvements in the Swedish economy, there is a risk that domestic inflationary pressures have been overestimated. There is considerable uncertainty in this regard, however, and there is also a possibility of the case being the reverse.

To summarise, the Riksbank's assessment is that the risks stemming from domestic and international cost pressure are balanced (see Figure 3). Taking into account the risk outlook, CPI inflation is expected to be 1.6 per cent one year ahead and 2.5 per cent two years ahead. The corresponding forecasts for UND1X inflation are 1.4 per cent and 2.0 per cent, respectively.

Table 1. Inflation forecast in the main scenario. Percentage 12-month change

	12-month average		12-month rates		
	2004	**2005**	**Sept. 04**	**Sept. 05**	**Sept. 06**
KPI	0.5 (0.4)	1.3 (1.2)	0.6 (0.4)	1.6 (1.5)	2.5
UND1X	1.0 (0.9)	1.2 (1.1)	0.9 (0.9)	1.4 (1.3)	2.0
UNDINHX	1.7 (1.7)	1.6 (1.6)	1.4 (1.4)	2.0 (1.9)	2.8
UNDIMPX	-0.5 (-0.6)	0.5 (0.1)	0.0 (-0.2)	0.2 (0.0)	0.5

Note. The figures in parentheses are the forecasts in the May Inflation Report. UND1X is CPI inflation excluding household mortgage interest expenditure and the effects of changes in indirect taxes and subsidies. UNDINHX refers only to prices of mainly domestically produced goods and services in UND1X. UNDIMPX refers to prices of mainly imported goods and services in UND1X.

Sources: Statistics Sweden and the Riksbank.

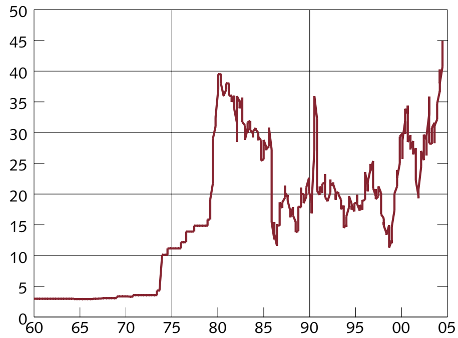
Oil prices and monetary policy

During 2004, oil prices have risen substantially. This has led to fears of negative economic repercussions, similar to those during earlier periods with soaring oil prices. This box discusses how rises in oil prices can affect the macro economy and what problems monetary policy faces. There is also discussion of a number of factors indicating that the macro economic effects will be more limited than during earlier periods, and of a number of risks.

The oil crisis in 1973-74 brought clearly into focus the western world's vulnerability to disruptions in the oil supply. Oil prices then rose to previously unsurpassed levels (see Figure B1) in connection with OPEC curbing its oil exports drastically as a reaction to the western world's support for Israel in the Yom Kippur war in October 1973. Since the first oil crisis, the price of oil has soared on a number of other occasions, most notably 1979-80 in connection with the revolution in Iran and the outbreak of war between Iraq and Iran (known as the second oil crisis), and also, more briefly, as a result of the Gulf War 1990-91. However, oil prices have also fallen dramatically on occasion, for instance in 1986, when the cooperation within OPEC wavered and Saudi Arabia increased its oil production significantly.[1]

During 2004, oil prices have in nominal terms once again attained record-high levels, which has lead to fears of negative repercussions on the global economic upturn. Oil prices today, when viewed in terms of current prices, are at approximately the same levels as during the oil crisis in 1979-80. However, in real terms the present situation appears somewhat less dramatic. When adjusted for inflation, oil prices are almost as high as following the oil crisis in 1973-74, but much lower than during the oil crisis of 1979-80 (see Figure B2). The percentage increase of the nominal price has furthermore been much less than those in 1973-74 and 1979-80. Although the recent price increases have been significant, they are thus not exceptional from an historical perspective.

Figure B1. Nominal oil prices.
USD/Barrel West Texas Intermediate



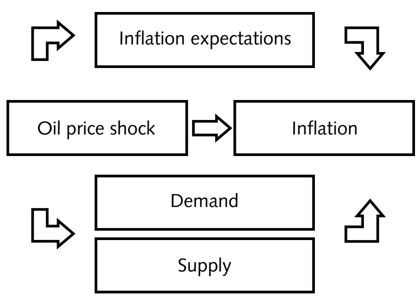
Source: Federal Reserve Bank of St Louis.

Oil prices affect the economy in many ways.

Increases in oil prices can affect the macro economy in a number of different ways. Diagram BD1 provides a suitable point of departure for a discussion on the effects of oil prices on the economy. The flow chart can be seen as a version of the standard model for determining inflation, where inflation is governed by three factors: expectations, resource utilisation (or output gap) and different types of shock, in this case an oil price shock.

Perhaps the most obvious and immediate effect of raising oil prices is that measured inflation rises, in terms of, for instance, CPI (the arrow in the centre of Diagram BD1). This is a result of the largely direct link between oil prices and certain sub-components of CPI, mainly petrol and fuel oil.

Diagram BD1. Flow chart of oil prices' effects on the economy.



1 A more detailed description of factors affecting oil price trends during different periods can be found in the box "Oil prices" in Inflation Report 2003:3.

A rise in oil prices can affect the real economy, and thereby indirectly inflation, in several ways.[2] Textbooks on macro economy usually regard an increase in oil prices as a typical example of a negative supply shock, i.e. a shock that increases companies' costs and thereby the prices at which they are willing to offer their products. When prices are higher, there is less demand for goods and services, which subdues production and employment. Negative supply shocks can thereby lead to both higher inflation and a decline in production and employment.

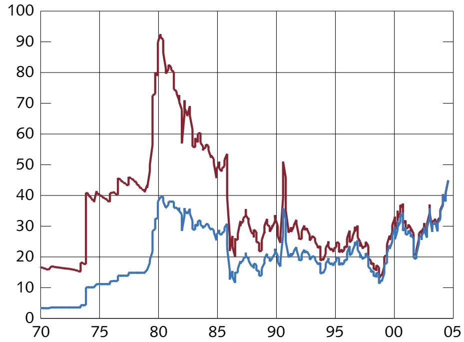
An increase in oil prices can also lead to resources being reallocated within the economy. When oil becomes more expensive in relation to other intermediate goods, this can start a process where energy-intensive sectors shrink, while sectors where energy is a less important production factor, or is used more efficiently, expand. This type of structural shift between different parts of the economy can be both costly and time-consuming. The result can be a period of adjustment with increased unemployment and under-utilisation of resources.[3]

An increase in oil prices also affects demand in the economy. Higher prices in practice entail a transfer of income, or transfer of purchasing power, from countries that import oil to countries that export oil. Although the reduced demand this causes in the oil-importing countries can be partly counterbalanced by increased import demand from oil-exporting countries, the total effect tends to be negative for the countries that import oil.

Demand can also be subdued if a large increase in oil prices creates greater uncertainty over future oil prices and perhaps even over economic trends as a whole. If it is not clear how relative oil prices will develop in future, it may be rational for households to postpone some consumption decisions until the situation improves. Perhaps the most marked example is car purchases, where the choice may be between a car that is economical on petrol and one that is more expensive to run. Similarly, companies may wish to postpone some investment decisions if the choice is between real capital with different degrees of energy intensity. All in all, this uncertainty results in restrained demand in the economy.

The effects on aggregate supply and demand are illustrated in Diagram BD2. An increase in oil prices causes a shift to the left in both the demand curve and the supply curve. Both types of effect entail lower production. However, while supply effects push up prices, demand effects subdue them. As price increases

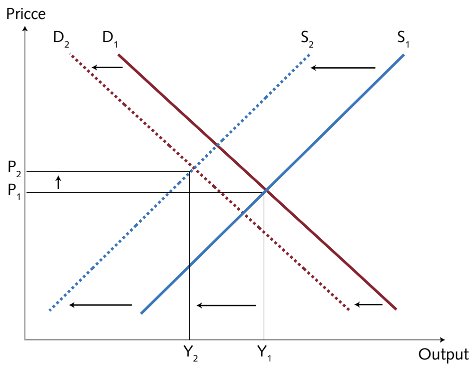
Figure B2. Nominal and real oil prices. USD/Barrel West Texas Intermediate



Note. The real oil price has been calculated by deflating the nominal oil price by CPI for the United States, normalised to 100 in August 2004.

Sources: Federal Reserve Bank of St Louis and Bureau of Labor Statistics.

Diagram BD2. Effects of an increase in oil prices.



2 See, for instance, Brown, S.P.A, M.K. Yücel and J. Thompson, "Business Cycles: The Role of Energy Prices", Research Department Working Paper 0304, Federal Reserve Bank of Dallas, 2003, and Mork, K.A., "Business Cycles and the Oil Market", *Energy Journal* 15, Special issue, 1994, 15-38, for a more in-depth discussion of the different channels through which changes in oil prices can affect the real economy.

3 Reallocation effects are identified as significant in the summary of the research situation made in Jones, D.W., P.N. Leiby and I.K. Paik, "Oil Price Shocks and the Macroeconomy: What Has Been Learned Since 1996?", *Energy Journal* 25, 2004, 1-32.

on oil have a tendency to coincide with rising inflation, it is reasonable to assume that the supply effects have been dominant.[4]

Oil prices can also affect inflation expectations within the economy. The more an increase in oil prices spreads to other parts of the economy, the greater the risk that inflation expectations will be adjusted upwards. The effects can also be the opposite; the more inflation expectations are affected, the greater the risk of repercussions on other prices. The degree to which changes in oil prices spread to other prices and have an effect on expectations depends largely on the monetary policy conducted and confidence in this policy.

Oil price rises a challenge for monetary policy.

As an increase in oil prices tends to push up inflation at the same time as it subdues the real economy, it is often problematic for monetary policy. Central banks have only one instrument, their key interest rate, and can use this to influence demand and inflation in the same direction; when the interest rate is cut, demand in the economy rises, which makes inflation rise, and when the rate is raised, demand and inflation are subdued. If there is a shock that affects the real economy and inflation in different ways, the central bank thus experiences difficulty in stabilising inflation and production at the same time. If monetary policy is aimed at rapidly bringing down inflation (which in Diagram BD2 could be illustrated by the demand curve being shifted even further to the left), this could entail a further weakening of the real economy.[5] If the central bank instead considers there is scope to stimulate demand in order to counteract the downturn in the real economy (shifting the demand curve in Diagram BD2 back towards the right), the consequence will be that inflation rises. If such a more expansionary policy means that inflation expectations also rise, it may be difficult to bring down inflation further ahead.

In countries with central banks that conduct flexible inflation-targeting, like the Riksbank, monetary policy tries to stabilise inflation at a low level, while trying to avoid unnecessary fluctuations in real economy variables such as production and employment.[6] When there is a large increase in oil prices, or some other shock that tends to simultaneously press up inflation and weaken the real economy, it is necessary to try to find a policy that is sufficiently "tight" to prevent the inflationary impulse from the rise in oil prices gaining a lasting hold by spreading to wages and other prices and to expectations, and yet sufficiently "easy" to avoid unnecessary negative effects on production. This is a fairly loosely formulated policy rule, but it is probably difficult to be more concrete. The question of which policy is most appropriate must be determined from case to case, depending on the macro economic effects the oil price rise may be expected to have and what other factors are currently affecting inflation.

One specific difficulty that monetary policy faces when oil prices rise is in assessing to what extent the economy's production capacity will be affected more permanently, i.e. if the increase in oil prices also has effects on potential production. This may be the case if the increase in oil prices means, for instance, that parts of the real capital in the economy become obsolete and take time to replace. In this situation the negative effects on the real economy need not entail lower resource utilisation, as the reference point for what is normal resource utilisation, potential production, has also fallen. At a given

4 Some research indicates that increases in oil prices primarily affect the real economy via demand; see, for instance, Hamilton, J.D., "What is an Oil Shock?", *Journal of Econometrics* 113, 2003, 363-398. However, it is not clear to what extent this hypothesis is compatible with the observation that inflation tends to rise when there are increases in oil prices. A substantial shift to the left in the aggregate demand curve in Diagram BD2 would more likely mean that inflation was subdued in the event of an oil price shock.

5 It may be worth pointing out in this context that, according to some research, the recessions that have tended to arise in the United States after large increases in oil prices are not due to the oil price increases themselves, but to the tighter monetary policy conducted in connection with the price shocks; see Bernanke, B.S., M. Gertler and M. Watson, "Systematic Monetary Policy and the Effects of Oil Price Shocks", *Brookings Papers on Economic Activity*, 1997, 91-157. According to this hypothesis, while the Federal Reserve's interest rate hikes could not prevent inflation from rising, they were sufficient to generate a recession. However, these conclusions have recently been criticised on methodological grounds by Hamilton, J.D. and A.M. Herrera in "Oil Shocks and Aggregate Macroeconomic Behavior: The Role of Monetary Policy", *Journal of Money, Credit, and Banking* 36, 2004, 265-286.

6 See, for instance, Heikensten, L., "The Riksbank's inflation target – clarifications and evaluation", Sveriges Riksbank *Quarterly Review* 1, 1999.

level of total demand, inflationary pressure will then be higher than it would have otherwise been. This may mean that relatively tighter monetary policy is needed to bring inflation back in line with the target. It should be pointed out that where increases in oil prices affect the potential production of the economy, these effects will only be visible after a time lag.

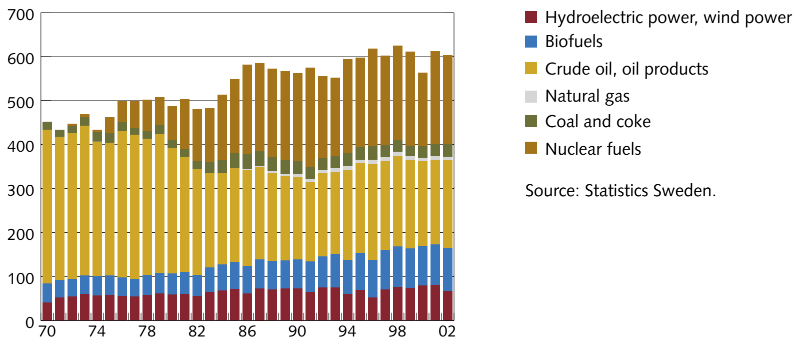
Several reasons for relatively moderate macro economic effects.

There are a number of differences between the present situation and earlier periods of large rises in oil prices that suggest that the macro economic effects may be relatively limited, at least if oil prices do not rise further but fall slightly over the coming years. These differences apply to both the increase in oil prices in itself and the functioning of the economy and economic policy.

One reason given above as to why the effects can be expected to be relatively moderate is that the present situation does not after all appear too dramatic from a historical perspective. As already observed, oil prices are much lower in real terms than they were during the oil crisis years of 1979-80 and the increase has been much less than in both 1973-74 and 1979-80.

Another difference is that the driving forces behind the upturn in 2004 have differed to some extent from those behind other price increases. The increases in oil prices in 1973-74, 1979-80 and 1990 were all essentially due to reductions in the supply of oil in connection with armed conflicts. The increase in 2004 appears mainly due to an unexpectedly large increase in global demand for oil, particularly from the rapidly growing Chinese economy. This has meant that unutilised production capacity is at a historically low level, which has meant that events that could reduce the supply have had substantial effects, such as sabotage against the oil transport system in Iraq and the problems regarding the Russian company, Yukos. It is

Figure B3. Gross supply of energy per year 1970-2002.
Twh



Source: Statistics Sweden.

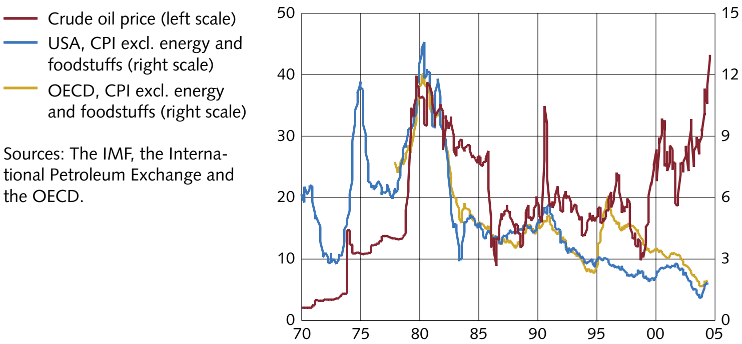
difficult to determine exactly how much weight should be allocated to the various factors, but one should be able to conclude that the recent price rise was demand-driven to a much greater extent than on most of the other occasions when oil prices rose substantially.

An increase in oil prices that is largely the result of a high international growth rate will probably have less negative real economy consequences than a pure supply shock, as demand in the economy will be better maintained. This could be illustrated in Diagram BD2 by the actual cause of the increase in oil prices, the high international growth, causing an initial shift to the right of aggregate demand. If the increase in oil prices was entirely supply-driven, there would be no such shift. The international increase in demand thus contributes to ensuring that the total effects on the real economy are less than if the price increase was entirely supply-driven. However, from this follows that the effects on inflation may be greater than in the case of a purely supply-driven price increase. The motive for conducting tighter monetary policy is therefore stronger if the increase in oil prices is largely demand-driven. At present, however, the issue is further complicated by a number of other circumstances, which indicate that oil prices are now making less impact on inflation than they have previously.

The above reasoning indicates that it is important to analyse each shock separately. An increase in oil prices that is largely demand-driven will have other consequences for inflation and the real economy than an increase that is due to limitations in the supply of oil.

One factor that indicates that the real economy consequences of the recent upturn in oil prices will probably be limited, and which also gives reason to believe that the effect on inflation will be moderate, is that most economies in the western world are now much less dependent on oil than they were in the 1970s. The experiences from the two oil crises in the 1970s led to increased use of other energy sources. Figure B3 shows that oil's percentage of the energy supplied in Sweden has fallen sharply, from around 75 per cent in 1970 to around 30 per cent in 2002, mainly due to the development of nuclear power. The declining significance of oil as an intermediate factor in production would be expressed in Diagram BD2 as the shift to the left in the supply curve becoming smaller.

Figure B4. Oil prices and inflation in the United States and OECD area 1970-2004.
USD and percentage 12-month change, respectively



Sources: The IMF, the International Petroleum Exchange and the OECD.

One of the more central factors indicating a relatively limited impact on inflation is connected with the way in which economic policy is conducted at present. As observed above, monetary policy plays a central role with regard to the size of the contagion effects from oil prices on other prices in the economy and on expectations. One reason why oil price shocks had such a large impact on inflation in many countries during the 1970s was that the policy conducted was systematically too expansionary. In such an inflationary environment there is no credible anchor for inflation expectations. The increases in oil prices therefore had a rapid impact through expectations of higher inflation and thereby a higher rate of increase for wages and other costs.

Since the oil price shocks of the 1970s there has been a change in economic policy regime in many countries, which has meant that a low, stable inflation rate has been made one of the most prioritised macro economic targets. The risk of an increase in oil prices spreading is likely to be less if the economic agents assume that inflation will remain low in future. One consequence of this is that the opportunities for taking into account real economy considerations in the monetary policy stance are probably greater than during periods of higher inflation expectations. However, it should be pointed out that even if the central banks' task of keeping inflation under control may be easier now than it was before, this does not mean they can reduce their vigilance with regard to signs of inflationary impulses becoming entrenched. Preserving confidence in a low, stable inflation rate is a central task for monetary policy.

Empirical studies indicate that the impact of oil prices on inflation has been lower in the United States since the beginning of the 1980s.[7] One interpretation of this result is that the US economy has maintained a credible low-inflation regime during this period, and the contagion effects from higher oil prices have been moderate. In Sweden, too, the low-inflation regime appears to be well-established. Some analysts consider that the policy of an explicit inflation target also gives further assistance in establishing inflation expectations and therefore provides a good protection against inflationary impulses gaining a permanent hold.[8] The limited impact of oil prices on inflation in the United

7 See, for instance, Hooker, M.A., "Are Oil Shocks Inflationary? Asymmetric and Nonlinear Specifications versus Changes in Regime", *Journal of Money, Credit, and Banking* 34, 2002, 540-561.

8 See, for instance, Mishkin, F.S. and K. Schmidt-Hebbel, "A Decade of Inflation Targeting in the World: What do We Know and What do We Need to Know"", in Loayza, N. and R. Soto (ed.), *Inflation Targeting: Design, Performance, Challenges*, Central Bank of Chile, 2002.

States and the OECD area over the past 20 years is shown in Figure B4.

The effects of an increase in oil prices also depend on the economy's initial situation. According to most measures, resource utilisation in the Swedish economy is at present moderate, and despite a relatively high growth rate, there are as yet few signs of production bottlenecks. At the same time, inflation is low. This kind of macro economic environment ought reasonably to contribute to reducing the risk that extensive contagion effects on other prices and on expectations would threaten the inflation target. In addition, central wage agreements have been signed for the greater part of the labour market for 2004 and 2005, which reduces the risk of demands for compensation and of price increases caused by wage trends.

There are nevertheless a number of factors that could lead to developments being rather more adverse than most analysts are assuming. The oil market's supply side is strained and reserve capacity is lower than it has been for a long time. In this situation, acts of terrorism and armed conflicts could have significant repercussions for oil prices. There are also other risks. For example, US households' savings are at a low level and they may thus be sensitive to increases in oil prices. It is also uncertain what impact the high oil prices will have on countries with oil-intensive production, such as China, which has so far been one of the growth engines behind the international economic upturn.

All in all, however, prospects are good that the recent increase in oil prices will be reflected in a fairly moderate rise in inflation in Sweden and that the real economy effects will be relatively limited.

■ Determinants of inflation

The financial markets

Since the May Inflation Report, long-term rates have fallen, particularly in the United States. At the same time, the Federal Reserve raised its key rate in June, August and September. Further hikes are expected, although expectations are now slightly lower for the longer term than they were in the spring. Pricing in the money market reflects expectations that the Riksbank and the European Central Bank (ECB) will begin raising their interest rates around the turn of the year. The krona has appreciated slightly against both the euro and the dollar since the May Inflation Report. The Riksbank's forecast is, as before, that the trade-weighted exchange rate will strengthen during the forecast period.

■■ Interest rates raised in USA.

When the May Inflation Report was published, favourable labour market statistics had contributed to indications of a strong economic upturn in the United States. At the same time, the US key rate had been as low as 1 per cent since June last year. The Federal Reserve raised its rate by 0.25 percentage points to 1.25 per cent on 30 June. This was entirely in line with the expectations prevailing at the time regarding short-term interest rates, as reflected in the Fed Funds contract on 28 May (see Figure 4). In line with its earlier signals, the Federal Reserve followed up the June interest rate hike with further increases in August and September, and the Fed Funds rate is now at 1.75 per cent. However, at the same time the money markets' expectations of future interest rate hikes have been adjusted downwards somewhat (see Figure 4).

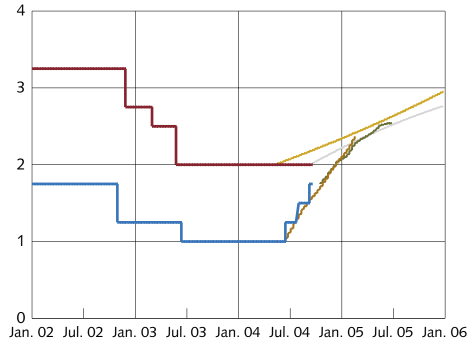
Implied forward rates indicate that both the Riksbank and the ECB are expected to raise their key rates around the turn of the year (see Figures 4 and 5). With regard to all three central banks, the money markets now appear to believe that interest rates will be raised at a slightly slower rate than was expected in May. One possible explanation for this is that it reflects a less optimistic view of economic activity (particularly in the United States) than was held in May, despite the more positive data received recently. Another interpretation could be that inflation expectations have been revised downwards.

As interest rates are now at historically low levels to begin with, the pricing in the money market means that there are no expectations of significantly tight monetary policy in the near future. The short-term real interest rate is around zero in both the United States and the euro area.

■■ Long-term rates have fluctuated.

The upturn in long-term interest rates that began in early April stopped short soon after the previous Inflation Report was published on 28 May (see Figure 6). Since then, long-term interest rates have

Figure 4. Monetary policy expectations in the euro area and the USA according to implied forward rates and Fed Funds futures.
Per cent

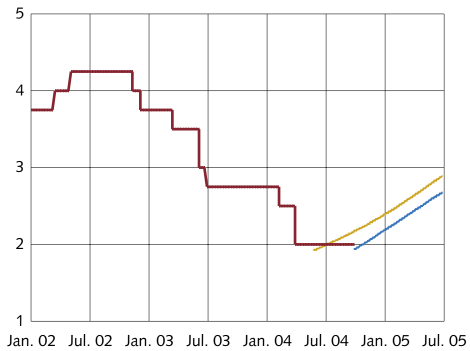


Refi
Implied forward rates 4 October 2004
Implied forward rates 28 May 2004
Fed Funds
Fed Funds futures 4 October 2004
Fed Funds futures 28 May 2004

Note. Fed Funds futures are priced in terms of the average rate during the respective month.

Source: The Riksbank.

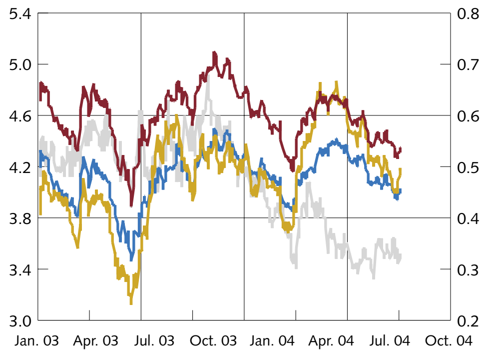
Figure 5. Monetary policy expectations in Sweden according to implied forward rates.
Per cent



Repo rate
Implied forward rates 4 October 2004
Implied forward rates 28 May 2004

Source: The Riksbank.

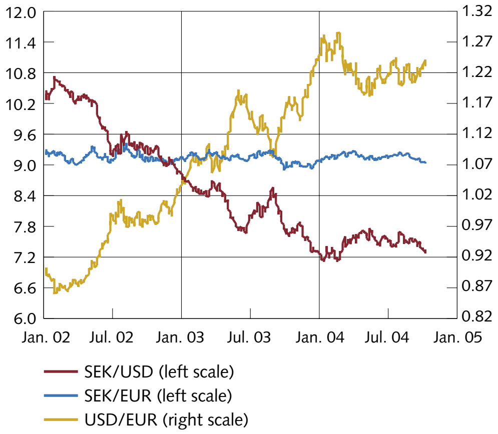
Figure 6. Yields on 10-year government bonds in Sweden, Germany and the United States.
Per cent



Sweden (left scale)
Germany (left scale)
USA (left scale)
Swedish-German differential (right scale)

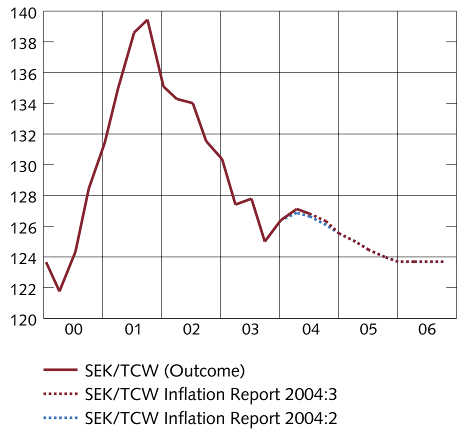
Source: The Riksbank.

Figure 7. Exchange rate developments for SEK/USD, SEK/EUR and USD/EUR.



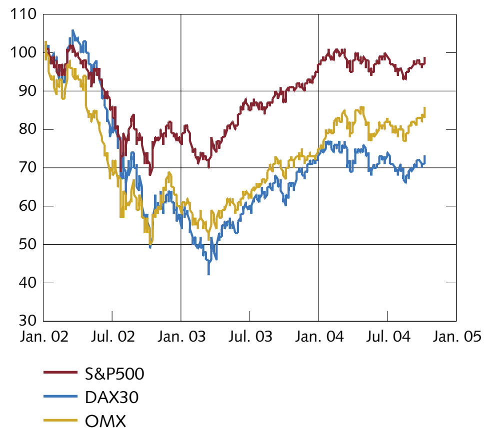
Source: The Riksbank.

Figure 8. SEK/TCW exchange rate. Quarterly average, index 18 November 1992 = 100



Note. The broken line is the Riksbank's forecast.
Source: The Riksbank.

Figure 9. Share price developments in Sweden, the United States and Germany. Index 1 January 2002=100



Sources: Datastream and the Riksbank.

fallen by around 0.3 percentage points in Sweden and the euro area and by around 0.5 percentage points in the United States. The decline in long-term rates gives reason for a downward revision to the forecast for Swedish long-term rates over the coming year. However, as before, Swedish long-term interest rates are expected to begin rising as economic activity strengthens. The forecast for the Swedish long-term rate is on average 4.5 per cent during 2004, 5.1 per cent in 2005 and 5.6 per cent in 2006. This entails a reduction of around 0.1 percentage points for 2004 and 0.2 percentage points for 2005, compared with the previous Inflation Report.

■■ Krona stable.

Exchange rates have on the whole been relatively stable since the May Inflation Report. The euro has cost an average of around 1.22 dollars. The krona has appreciated marginally against the euro and the dollar (see Figure 7).

In terms of an average of Sweden's most important trading partners' currencies, the TCW index, the krona has at the same time strengthened by around one per cent since the previous Inflation Report, after weakening at the beginning of the summer. When regarded over the period as a whole, developments have been largely in line with the assessment made in May. The forecasts for future developments remain unchanged, which means that the krona's TCW rate is calculated on average to be just under 125 during 2005 and just under 124 in 2006 (see Figure 8). This appreciation is primarily based, as before, on good growth prospects and an improved external position as a result of the current account surplus in recent years.

■■ Stock markets wait and see.

The upturn in the Swedish stock market that has been under way since the beginning of 2003 came to a halt at the beginning of this year. This also occurred in other countries, such as Germany and the United States (see Figure 9). The stock market upturn was first checked when long-term rates rose substantially during the spring. Over the summer, share prices fell due to concern that the economic upturn would be broken, particularly given the high oil prices. Later statistics regarding the US labour market then reduced uncertainty over economic activity in the United States, and stock markets around the world have shown a recovery. The total change in the OMX index since the turn of the year is now an increase of approximately 14 per cent. In relation to profits, Stockholmsbörsen's valuation is now close to the average for the past 20 years (see Figure 10). Pricing in the Swedish options market indicates that participants expect the OMX index to continue to develop in a stable manner over the coming months. The expected (implied) volatility, which can be estimated with the aid of options prices, is relatively low (see Figure 11).

■■ House prices continue to rise.

House prices have risen more rapidly than was expected in the May Inflation Report and the June Financial Stability Report. According to Statistics Sweden and Lantmäteriet, house prices rose by 11 per cent, if the three-month period June-August is compared with the same period last year. The Riksbank's assessment is still that developments in the house market can be explained relatively well by factors such as low interest rates, rising income and high construction costs. However, house prices differ considerably from region to region and among sub-markets, and they are significantly higher in metropolitan areas than in the rest of the country. Looking at potential risks in this trend, there do not appear to be any evident tendencies towards serious imbalances that could lead to a sharp fall in house prices. However, the Riksbank assesses, as before, that the price increase will be subdued as interest rates rise and the housing supply increases.

■■ Households continue to borrow at a high rate.

While house prices have risen and interest rates have been low, households have continued to borrow at the same high rate as before (see Figure 12). The fastest increase has been in lending by mortgage institutions; a rise of almost 13 percentage points on an annual basis in August. During the same month, total lending to households increased by just over 11 per cent on an annual basis, while borrowing by non-financial companies declined by around 1.5 per cent (see Figure 13). Thus, the business sector does not yet appear to have begun borrowing money for investment on a significant scale.

A change in the growth rate of the money supply could be a sign that inflationary pressure in the economy will change 2-3 years ahead. The annual growth rate in M3 has fallen since the beginning of 2002, and was 1.5 per cent in August (see Figure 14). This indicator in itself does not therefore imply any appreciable inflationary pressure.

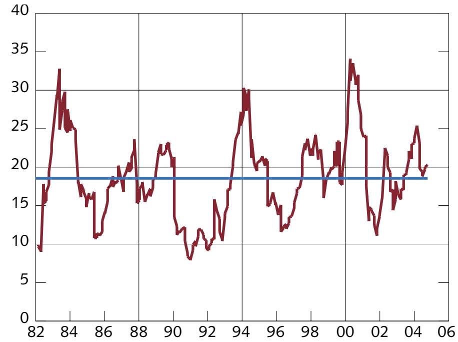
■■ Financial conditions support growth.

Real interest rates in Sweden are now relatively low, for instance, when compared with a couple of years ago (see Figure 15). The low real interest rates enable households to borrow cheaply, and companies to finance investment, especially as corporate indebtedness is also low. However, the Riksbank's assessment is that long-term rates will rise slowly as economic activity strengthens.

Rising house prices should have some stimulation effect on private consumption over the coming year. This effect will probably subside in future as housing prices are not expected to continue rising at the same rapid rate.

The krona is still valued at a relatively low level in terms of the real TCW index (see Figure 15), and this contributes to creating an export surplus. However, over the next few years the krona is expected to strengthen against the TCW index.

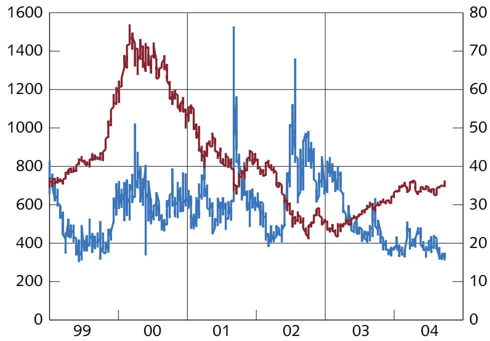
Figure 10. P/E ratios for Stockholmsbörsen, 1982-2004.



Note. P/E ratios are calculated on actual profits, not forecast.

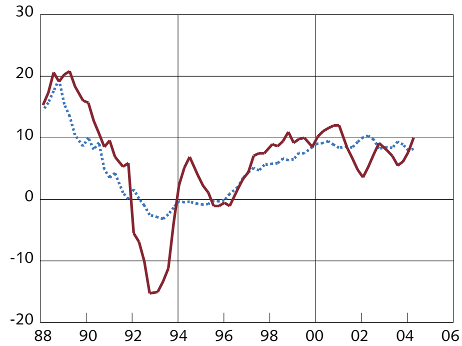
Sources: Datastream and the Riksbank.

Figure 11. Implied volatility and share price developments (OMX) in Sweden 1999-2004.
Per cent and index units respectively



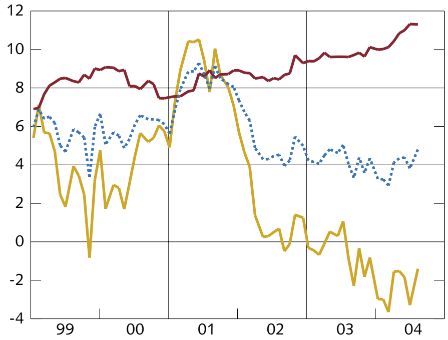
Sources: Bloomberg and the Riksbank.

Figure 12. House prices and total lending to Swedish households.
Percentage 12-month change



Sources: Lantmäteriet, Statistics Sweden and the Riksbank.

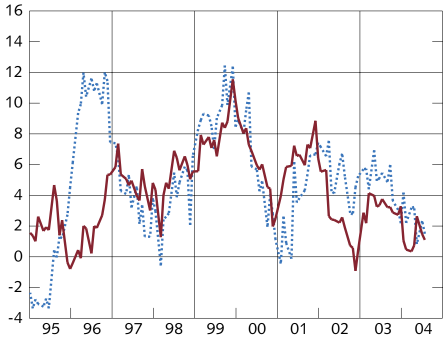
Figure 13. All credit institutions' lending to the general public in Sweden, sector breakdown. Percentage 12-month change



Household sector
Swedish general public
Corporate sector

Source: Statistics Sweden.

Figure 14. Money supply measured as M0 and M3. Percentage 12-month change

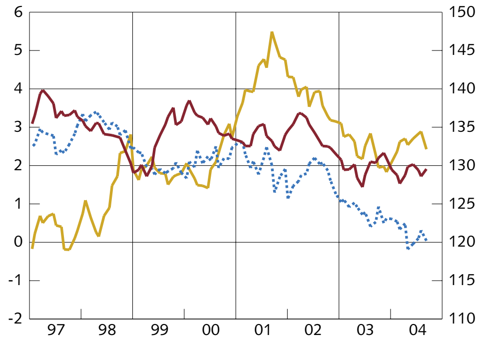


M0
M3

Note. The narrow money aggregate M0 consists of the general public's holdings of banknotes and coins. The broad money aggregate M3 also contains the Swedish general public's deposits in banks and holdings of bank certificates.

Source: Statistics Sweden.

Figure 15. Real interest rate with 5-year and 3-month maturity respectively and real TCW-weighted exchange rate.
Per cent respective index, 18 November 1992 = 100



Real 5-year yield (left scale)
Real 3-month yield (left scale)
Real TCW exchange rate (right scale)

Note. When calculating real interest rates, inflation expectations have been taken from the National Institute of Economic Research's HIP surveys for the three-month rate, and from Prospera for the five-year rate. The interest rates refer to treasury bills with a 3-month duration and treasury bonds with a 5-year duration.

Sources: The National Institute of Economic Research, Prospera and the Riksbank.

To summarise, as in the May Inflation Report, financial conditions are thus expected to support growth in aggregate demand in the short term – interest rates are low, the krona is valued at a relatively low level and house prices remain high. The Riksbank's assessment is still that interest rates will rise as economic activity strengthens further and the krona appreciates.

Revised forecasts since the May Inflation Report.

- The forecast for the Swedish long-term rate is revised down to an average of 4.5 per cent during 2004 and 5.1 per cent in 2005.

- Minor adjustments have been made in the forecast for the krona in the short term, because of the outcome so far, but the forecasts for 2005 and 2006 remain unchanged.

International economic activity and inflation

Despite the high oil prices, international economic activity has been stronger than expected. Growth prospects for the Nordic countries, the UK, central and eastern Europe, Asia and Latin America have improved gradually over the summer. Economic activity in the euro area has continued its gradual recovery, underpinned by expansionary monetary policy and strong global demand. However, future growth is expected to be slightly weaker as a result of oil prices. In the United States, where the recovery began much earlier, the growth rate is now assessed to have reached its peak. Swedish export market growth has nevertheless been revised upwards during the forecast period, as a result of improved prospects for other important export markets. The unexpectedly high oil prices have contributed to global inflation increasing at a more rapid rate than expected.

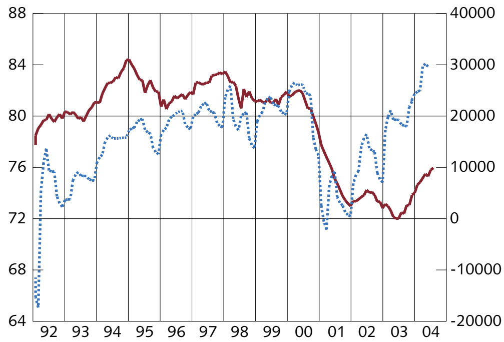
The assessment made in the May Inflation Report was that international economic activity would continue to strengthen this year and over the coming two years, resulting in a continued increase in resource utilisation. At the same time, the rate of GDP growth in most countries was expected to fall over the coming years, partly due to less expansionary economic policy. The usual economic pattern is that the growth rate at the beginning of an economic upturn is relatively high and then slows down. One exception was the euro area, where growth was expected to increase during the forecast period. This was because the economic upturn has not progressed as far there.

The assessment now is that there is reason to be slightly more optimistic with regard to economic growth, particularly this year. Although oil prices have been unexpectedly high, and there have been some less positive signals from the United States, this is counteracted by the fact that growth in other parts of the world will be stronger than was anticipated in the May assessment. The Riksbank, like many other analysts, therefore has a somewhat more optimistic view of international economic activity now than it had in May. This is despite the unease in the financial markets over the summer.

■■ Some slackening in US growth rate.

In May the assessment was that the US growth rate would slacken somewhat at the end of the year, partly due to the expectation that less expansionary fiscal policy and gradually rising interest rates would subdue private consumption and housing investment. However, despite the slackening, continued strong economic activity was anticipated over the coming years. At the beginning of the summer in particular, some less than positive signals were received regarding the US economy. According to the most recent national accounts figures, GDP during Q2 increased by 3.3 per cent on an estimated annual

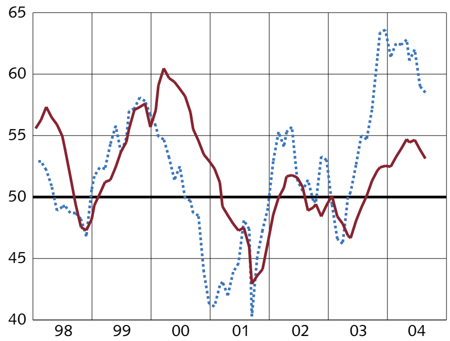
Figure 16. Capacity utilisation and profits in the US manufacturing industry.
Per cent and USD million



Capacity utilisation (left scale)
Profits (right scale)

Sources: Federal Reserve Board and US Department of Commerce.

Figure 17. United States and euro area: purchasing managers index in manufacturing.
Index, seasonally-adjusted



Euro area
USA

Note. Purchasing managers index: figures above 50 state that the manufacturing industry is expanding, figures below 50 that it is contracting.

Source: NTC Research Ltd.

rate. This was higher than the figures published earlier, but still lower than had been expected. The weaker growth was mainly explained by private consumption slowing down slightly earlier than anticipated. One possible explanation for this is that consumer prices, and especially oil prices, had increased more rapidly than expected, which hampered growth in households' real incomes. Housing investment has proved to be a positive surprise, probably due to continued low real interest rates and rising house prices. As before, the expansionary effects of fiscal policy are expected to abate and this, together with gradually rising interest rates, is expected to contribute to subduing household demand over the coming year. Higher oil prices mean that private consumption is expected to continue increasing at a slightly slower rate than was assumed in May.

Business sector investment rose strongly during Q2, as expected. There are several indications that it will continue to increase in future - expectations of continuing strong GDP growth, a favourable cashflow situation, rising profits, higher capacity utilisation and low financing costs (see Figure 16). A high level of international demand and a relatively weak dollar are also expected to contribute to an increase in US exports. However, the expected change towards less expansionary economic policy and some slackening in domestic demand indicate that investment and production will not grow as rapidly next year as this year.

Inflation has increased at an unexpectedly rapid rate in the United States, which is primarily due to the high oil prices. The forecast has therefore been revised upwards for this year. However, inflation adjusted for foodstuffs and energy has remained moderate.

All in all, the assessment is that GDP growth in the United States will be marginally lower during the forecast period than was assumed in May (see Table 2).

■■ Gradual recovery in the euro area.

The assessment in the May Inflation Report was that growth in the euro area would gradually increase this year, after a weak year in 2003. New data largely confirm this picture. Private consumption provided the main contribution to demand and GDP growth during Q1. A significant contribution from net exports and an unexpectedly large contribution from public sector consumption meant that growth during Q2 was also relatively strong, despite a weak development in private consumption.

The total growth figures for the euro area hide significant differences between the countries. France has had a surprisingly strong growth in domestic demand during the first half of the year, and the prospects for future investment growth appear to be good. In Germany it has instead been net exports that have contributed to slightly stronger growth than assessed in the May Inflation Report. This could be because Germany has benefited from the improvement in global investment activity and because unit labour costs have been subdued somewhat. Private consumption in Germany is expected to remain weak throughout the remainder of the year. However, as the strong export activity leads to rising capacity utilisation and higher corporate profits, investment is expected to increase and new jobs be created. In the longer term, this is expected to lead to an increase in private consumption.

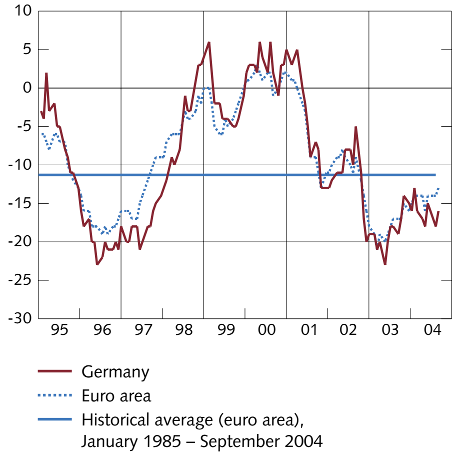
International developments are expected to continue to contribute to a good demand for exports in the euro area. At the same time, it should be easy for companies to finance their expansion given the low key interest rates. The real interest rate is also low, which is expected to contribute to an increase in investment and a gradual strengthening of domestic demand. However, the new assessment for oil prices during the forecast period is that they will lead to households' real disposable incomes being somewhat undermined. In addition, the labour market appears to be lagging behind, and consumer confidence is relatively low (see Figure 18). Given these developments, private consumption is expected to be slightly weaker than was assumed in the May Inflation Report. All in all, the Riksbank is still expecting that growth in the euro area will increase, although it is now expected to be slightly weaker in 2005 and 2006 than anticipated in the previous Inflation Report.

■■ Stronger growth in the rest of the world.

Many analysts have made upward revisions to their growth forecasts for the Nordic countries, the UK and other parts of Europe, as well as Latin America and Asia over the summer (see Figure 19). This is partly due to new statistics being stronger than had been expected. In addition, growth in Russia and some Latin American countries benefits from high commodities prices. The turbulent oil market does not appear to have subdued demand in other central and eastern European countries. Consumer confidence has also increased. The increase in activity in German industry has probably entailed further stimulation for export companies in these countries.

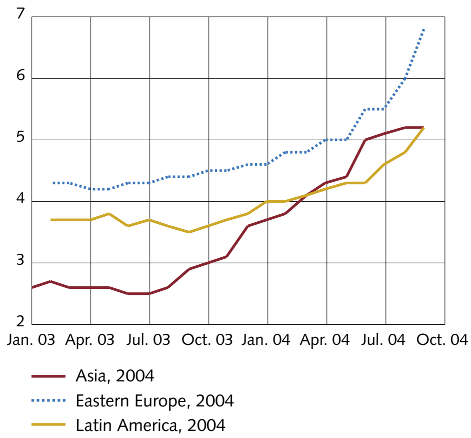
With regard to Asia, it is mainly the view of the Japanese economy that has become more optimistic. During Q4 last year Japan experienced its most powerful expansion in fifteen years, underpinned by strong domestic and foreign demand. However, the national accounts for Q2 indicate somewhat weaker growth. In relation to developments in recent years, the growth rate is nonetheless high and the assessment is that conditions for continued relatively strong growth are good. In the short-term perspective, several confidence indicators show strength; the Bank of Japan's company survey Tankan is at its highest level since 1991. Exports have also increased significantly at the beginning of Q3. However, the contribution from foreign trade is expected to decline as growth in the markets most important to Japan – the United States and China – slows down.

Figure 18. Household sector confidence in the euro area. Seasonally-adjusted net figures



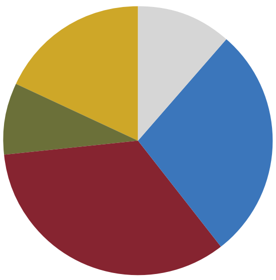
Source: Directorate General for Economic and Financial Affairs.

Figure 19. Consensus Forecasts during 2004 for Latin America, eastern Europe and Asia. Percentage 12-month change



Source: Consensus Economics Inc.

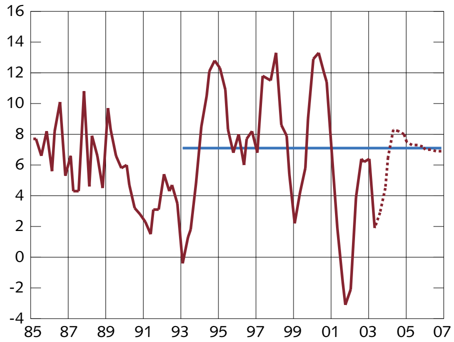
Figure 20. Swedish exports: country breakdown. Percentage of Swedish goods exports 2002-2003



- EMU excl. Finland 33.7%
- Nordic countries & UK 28.1%
- World excl. Europe & USA 17.9%
- USA 11.6%
- Rest of Europe 8.7%

Source: Statistics Sweden.

Figure 21. Swedish export market growth. Percentage 12-month change

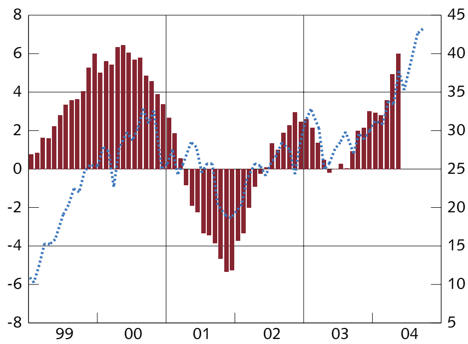


Swedish export market growth
Historical average 1993-2002 (7.1%)

Note. The broken line is the Riksbank's forecast.

Sources: National Institute for Economic and Social Research and the Riksbank.

Figure 22. Total industrial output in OECD and oil prices. Percentage 12-month change and USD/barrel respectively



Industrial output OECD (left scale)
Oil prices (right scale)

Sources: The OECD and the International Petroleum Exchange.

China is continuing to undergo rapid industrial expansion. GDP growth has been at an average of almost 10 per cent a year over the past 10 years, partly due to a substantial acceleration in investment. At the beginning of 2004, investment in fixed real capital increased by nearly 50 per cent. To avoid overheating, the authorities have taken various measures to subdue investment in certain sectors. During the first half of the year, industrial activity slackened somewhat, but now there are signs that investment is accelerating again. As both exports and imports showed strong growth at the beginning of Q3, the assessment is that the economy is growing rapidly once again. However, most analysts assume that China will enter a slightly calmer growth phase over the coming years, partly as a result of renewed efforts by the authorities.

■■ Very strong export market growth.

All in all, the conditions for Swedish exports have improved further. The strong growth in export markets important to Sweden (see Figure 20), that is, the Nordic countries, the UK, central and eastern Europe, Asia and Latin America, has meant that the Riksbank is revising its forecast for export market growth upwards, both with regard to 2004 and 2005 (Figure 21). Swedish exports benefit from increasingly strong global industrial activity, combined with a recovery in the IT and telecom sector. Trade with the euro area is also expected to increase this year and in 2005, as domestic demand gradually rises in the region. All in all, Swedish export market growth is expected to amount to 7.8 per cent this year and 7.3 per cent next year, which is higher than the previous assessment. The figure for 2006 is 6.9 per cent, which is the same as the assessment made in May.

■■ Higher oil prices.

At the time of the May Inflation Report, oil prices were just below USD 40 a barrel. The assessment then was that the upturn was largely due to increased global demand (see Figure 22). However, it was assessed that factors of a non-recurring nature were also behind the high oil prices, which indicated that they should fall again relatively soon. A gradual decline in oil prices, to just over USD 26 a barrel was forecast as annual average for 2006. However, over the summer oil prices began to rise again. The rise was connected with an unexpectedly strong global demand for oil (see Figure 23). This contributed to reserve capacity in this sector being lower than it has been for a very long time (see Figure 24). In this situation, acts of terrorism and conflicts, such as the problems with the Russian oil company Yukos, have had relatively substantial repercussions for oil prices. Moreover, some analysts consider there is an element of speculation in the oil market, which may have reinforced the fluctuations in oil prices. The assessment that the higher oil prices are partly affected by factors of a transitory nature therefore still holds.

However, there may be more permanent elements in the high oil prices than we had reason to believe in the May assessment. Pricing in the futures market also gives reason to be slightly more pessimistic with regard to how quickly oil prices will fall again. The Riksbank is therefore making an upward revision in oil prices for the entire forecast period. In December 2006, oil prices are expected to be at USD 33 a barrel, compared with the earlier forecast of USD 26 in the May Inflation Report (see Figure 25).

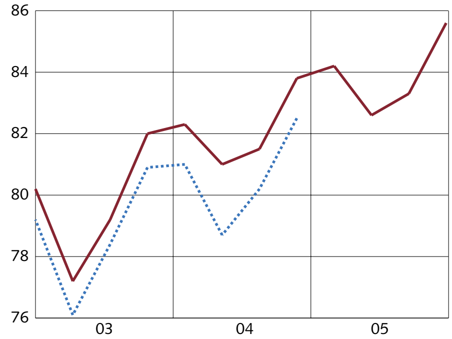
■■ Higher international inflation.

It was assumed in the previous Inflation Report that the economic upturn would gradually lead to higher international resource utilisation and growing global price pressure (see Table 2). During the summer the upturn in both international economic activity and prices has exceeded the assessment made in May. Rising prices for oil and commodities have contributed to a more rapid rise in inflation than expected in the euro area and the United States, and also in other parts of the world. This has led to an upward revision in the inflation forecasts, primarily for the current year (see Table 2). Inflation in the OECD-19 is now expected to be 1.9 per cent in 2004. Global producer prices for manufactured goods are now expected to increase by 2.3 per cent this year, which is almost one percentage point more than the forecast in the May Inflation Report (see Figure 26). Slightly higher global inflation is also expected next year. This is connected with both an upward adjustment in the forecast for oil prices and a slightly higher forecast for international resource utilisation.

Revised forecasts since the May Inflation Report.

- Oil prices, and to some extent international producer prices, are expected to be higher this year and over the coming two years.
- An upward revision is being made for Swedish export market growth in 2004 and 2005, as a result of stronger growth being expected in markets important to Sweden - in the Nordic countries, the UK, central and eastern Europe, Asia and Latin America.
- The forecast for US growth has been revised down somewhat throughout the forecast horizon, because of the higher oil prices.
- The forecast for growth in the euro area in 2004 is being revised upwards due to stronger results. The growth forecast for 2005 and 2006 is being revised down slightly because of oil prices.

Figure 23. Forecasts for global demand for oil according to International Energy Agency. Millions of barrels a day

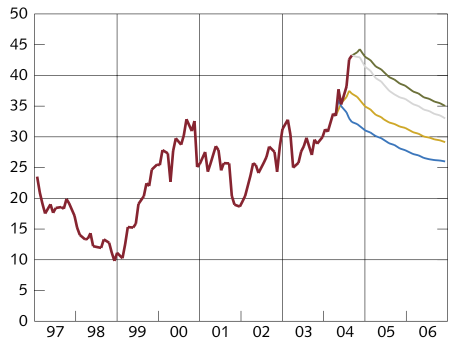


Source: International Energy Agency.

Figure 24. OPEC's unutilised capacity. Millions of barrels a day

Source: International Energy Agency.

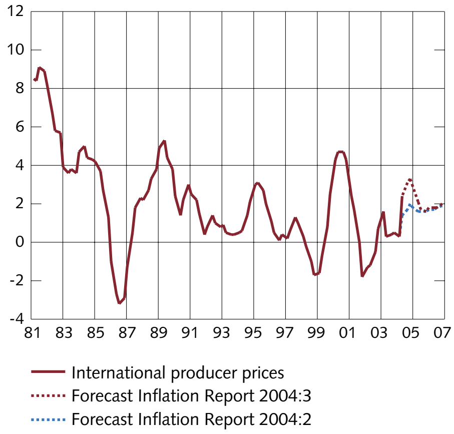
Figure 25. Oil prices, outcome and forecasts. USD



Note. The horizontal lines refer to OPEC's price intervals.

Sources: The International Petroleum Exchange and The Economist.

Figure 26. International producer prices: manufactured products, outcome and forecast. Percentage 12-month change



Note. The broken line is the Riksbank's forecast. The note to Table 2 indicates what is meant by international producer prices.

Sources: The OECD and the Riksbank.

Table 2. International conditions. Percentage 12-month change

	GDP 2003	2004	2005	2006	CPI 2003	2004	2005	2006
United States	3.0	4.5 (4.6)	3.4 (3.5)	3.6 (3.7)	2.3	2.6 (1.7)	2.2 (2.0)	2.3 (2.3)
Germany	-0.1	1.9 (1.5)	1.9 (2.0)	2.2 (2.2)	1.0	1.8 (1.6)	1.3 (1.3)	1.5 (1.5)
France	0.5	2.5 (2.0)	2.3 (2.2)	2.3 (2.5)	2.2	2.3 (2.0)	1.8 (1.6)	1.8 (1.8)
UK	2.3	3.3 (3.0)	2.9 (2.8)	2.7 (2.6)	1.4	1.6 (1.7)	1.8 (2.0)	1.9 (2.0)
Denmark	0.0	2.2 (2.0)	2.4 (2.4)	2.5 (2.5)	2.0	1.5 (1.5)	1.9 (1.9)	2.0 (2.0)
Finland	1.9	2.8 (2.5)	3.0 (3.0)	3.0 (3.0)	1.3	1.3 (1.3)	1.8 (1.8)	2.0 (2.0)
Norway	0.6	3.3 (3.1)	2.9 (2.9)	2.7 (2.6)	2.5	0.6 (0.6)	2.0 (2.0)	2.5 (2.5)
Euro12	0.5	2.0 (1.9)	2.2 (2.3)	2.4 (2.5)	2.1	2.1 (2.0)	1.8 (1.8)	2.0 (2.0)
TCW-weighted	1.1	2.7 (2.5)	2.5 (2.5)	2.6 (2.7)	1.7	1.7 (1.6)	1.7 (1.7)	1.9 (1.9)
OECD 19	2.0	3.5 (3.3)	2.8 (2.8)	2.8 (2.9)	1.8	1.9 (1.5)	1.7 (1.6)	1.9 (1.9)

	2003	2004	2005	2006
GDP World	3.8	4.9	4.2	3.9
Swedish export market growth	3.9	7.8 (6.5)	7.3 (6.8)	6.9 (6.9)
Global PPI	0.8	2.3 (1.4)	2.1 (1.6)	1.8 (1.7)
Crude oil price (USD/barrel Brent Blend)	28.9	37.3 (32.9)	37.8 (29.4)	34.4 (26.6)

Note. CPI refers to HICP for Germany, the United Kingdom (as of December 2003), Denmark, France, Euro12 and Finland. In Norway GDP refers to the mainland economy. OECD 19 refers to the EU countries (excluding Luxembourg), the United States, Canada, Japan, Norway and Switzerland. The figures in parentheses are the assessments in the December Report. Market growth for Swedish exports is measured in terms of imports of goods to all countries that are recipients of Swedish exports, weighted with each country's share of Swedish exports of goods 2002-2003. International producer prices in national currencies refer to aggregates of national PPI series for manufactured goods. This aggregate includes 11 countries and is achieved using TCW weights. The countries included are the United States, Germany, the United Kingdom, Norway, Finland, Denmark, Belgium, Japan, Canada, France and the Netherlands. These together comprise approximately 85 per cent of the total TCW weighting.

Source: The Riksbank.

Economic developments in Sweden

Compared with other forecasters, the Riksbank has been relatively optimistic about the Swedish economy in the past year. Despite this, the forecast for GDP growth has been revised up gradually, in this Inflation Report as well. The current revisions reflect mainly two factors: firstly, international economic activity - and thereby also Swedish exports- have been better than expected and, secondly, the Government's various proposals in the Budget Bill imply a more expansionary fiscal stance in the period ahead. Partly due to relatively weak developments in the labour market, productivity growth has been better than expected. The labour market has stabilised over the summer and the decline in employment seems to have stopped. Total resource utilisation, which is forecast to be comparatively low this year, is now assumed to rise somewhat faster over the forecast period compared with the assessment in the previous Inflation Report.

The Swedish economy grew by 4 per cent in Q2 this year compared with the corresponding quarter last year. This was more vigorous than anticipated in the May Inflation Report. In 2004-2006, GDP growth is estimated to be over 3 per cent a year. Compared with the forecast in the previous Inflation Report this implies more robust growth mainly this year and next year. Export demand has risen more than expected owing to higher international growth. Consequently, the forecasts for exports this year and next year have been revised up. The higher GDP growth in these years has in turn prompted an upward revision in the forecast for growth in gross fixed capital formation for the same period. Private consumption, too, is now forecast to grow somewhat faster. Higher output, as well as the tax cuts and allowance hikes recently announced in the Government's Budget Bill, will contribute to higher disposable incomes. Increasing wealth due to rising prices of houses and financial assets is expected also to contribute to higher household consumption. Furthermore, increased central government grants to local governments imply higher growth in public consumption next year. This year, growth in demand is driven roughly equally by net exports and private consumption. As in the previous Inflation Report, private consumption and investment are expected to account for a large share of GDP growth in 2005-2006, while the contribution from net exports will decrease.

Although there has not yet been a clear turnaround in the labour market, the situation is now deemed to have stabilised since the previous Inflation Report. Labour market developments have been largely in line with the forecast at that time. The number of temporary employees is now increasing relatively sharply, suggesting that a turnaround in the jobs market may be on the way.

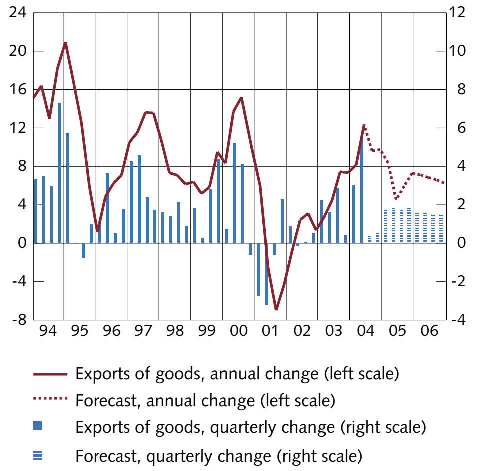
New data have indicated that resource utilisation is still relatively low, although indicators have been somewhat mixed. Indicators

**Figure 27. Purchasing managers' index and the NIER's confidence indicator.
Index and balance, seasonally adjusted**

Note. The balance is the proportion of firms that have reported an improvement minus the proportion that have reported a deterioration.

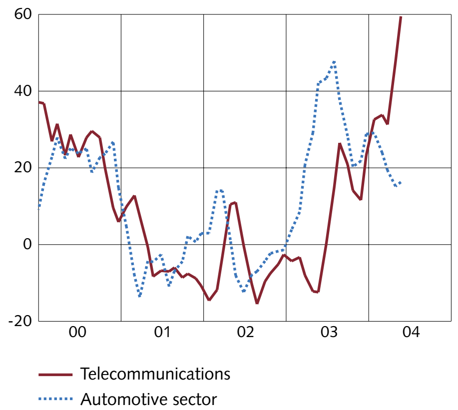
Sources: Föreningssparbanken and NIER.

**Figure 28. Exports of goods: outcomes and forecasts for seasonally adjusted series.
Quarterly and annual changes in per cent**



Sources: Statistics Sweden and the Riksbank.

**Figure 29. Export volumes: telecommunications and automotive sector.
Percentage 12-month change, three-month moving average**



Note. The change in volume is calculated using monthly data as a 12-month change in current prices deflated by the change in price during the same period. Thereafter, a three-month centred moving average has been calculated.

Sources: Statistics Sweden and the Riksbank.

of labour market conditions, however, all point to low resource utilisation. The stronger expected GDP growth in the years ahead suggests, however, that the spare resources in the economy will be employed at a faster rate than forecast in the previous Inflation Report.

**Table 3. GDP by expenditure in the main scenario.
Percentage 12-month change**

	2003	2004	2005	2006
Household consumption	1.9	2.5 (2.6)	2.9 (2.4)	3.0 (2.6)
Public authority consumption	0.6	1.0 (1.1)	1.3 (0.7)	1.4 (1.3)
– central government	0.6	0.5 (1.3)	0.4 (0.3)	1.4 (1.6)
– local government	0.6	1.2 (1.0)	1.7 (0.8)	1.4 (1.2)
Gross fixed capital formation	-2.0	3.5 (3.2)	8.0 (7.7)	6.3 (6.4)
Change in inventories	0.2	-0.1 (-0.1)	0.0 (0.0)	0.0 (0.0)
Exports	5.5	9.6 (7.0)	6.3 (6.1)	6.5 (6.5)
– goods	5.5	10.0 (7.4)	6.5 (6.2)	6.7 (6.7)
– services	5.6	8.5 (5.7)	5.6 (5.6)	5.6 (5.6)
Imports	5.0	6.8 (5.7)	7.2 (6.6)	6.9 (6.8)
– goods	6.2	7.4 (5.9)	7.9 (7.1)	7.5 (7.3)
– services	1.6	5.3 (5.3)	5.2 (5.2)	5.2 (5.2)
GDP at market prices	1.6	3.6 (2.9)	3.2 (2.8)	3.2 (3.1)

Note. The figures in parentheses are the forecasts in the May Inflation Report. The data refer to actual, non-calendar-adjusted, growth rates.

Sources: Statistics Sweden and the Riksbank.

■■ Robust industrial activity.

Industrial activity has continued to be vigorous over the summer. The order situation seems to be generally robust and production volumes have risen in line with firms' expectations. The National Institute of Economic Research's (NIER) confidence indicator for manufacturing increased in September compared with the previous month (see Figure 27). However, the purchasing managers' index has dropped somewhat since last spring (see Figure 27). The Association of Swedish Engineering Industries' business activity survey for Q3 also points to slightly slower growth in both the domestic and export market. However, the survey shows that firms have increased their order stock and that their demand for key staff has risen. The various indicators are somewhat mixed but the Riksbank nevertheless forecasts industrial activity to develop robustly over the forecast period, despite a slackening growth rate.

■■ Export growth higher than expected.

Compared with the assessment in the previous Inflation Report, exports of goods have been unexpectedly robust. Export volumes increased by around 10 per cent in the first half of this year compared with the same period last year (see Figure 28). This growth mainly reflects stronger than expected international demand. The sharp rise in exports is clearly evident in the telecommunications and automotive sectors (see Figure 29). According to the NIER's September business tendency survey and Statistics Sweden's data on new orders, it seems prospects will continue to be bright for exporters of goods in the near term. New statistics show that exports of services have also been stronger than expected. Against this background the growth rate for exports has been revised up for the current year and next year. In 2006, export growth is assumed to be unchanged from the forecast in the previous Inflation Report.

■■ **Surplus target for the general government sector not met.**

In the previous Inflation Report, the forecast for general government net lending was revised down for this year and next year as a result of the proposals in the Spring Fiscal Policy Bill 2004. Since then the Government has presented its Budget Bill for 2005, with new proposals that affect local government consumption, disposable incomes and private consumption. The more significant measures include increased child allowances, a higher ceiling for parental benefit, increased grants to local governments, and lower taxes on inheritances/gifts and wealth. Apart from the tax shift that involves higher energy taxes and lower tax on work, which the Riksbank took into account in the previous Inflation Report, the announced reforms are unfinanced. This will have a negative impact on net lending. At the same time, GDP growth is expected to be higher, resulting in a positive effect on net lending. Compared with the assessment in the previous Inflation Report, revenues are expected to rise faster at the start of the forecast period, and this has prompted a relatively sharp upward revision in the forecasts for net lending for this year and next year (see Table 4).

**Table 4. The public finances.
Per cent of GDP**

	2004	2005	2006
Net lending	0.7 (-0.1)	0.5 (0.0)	0.4 (1.3)

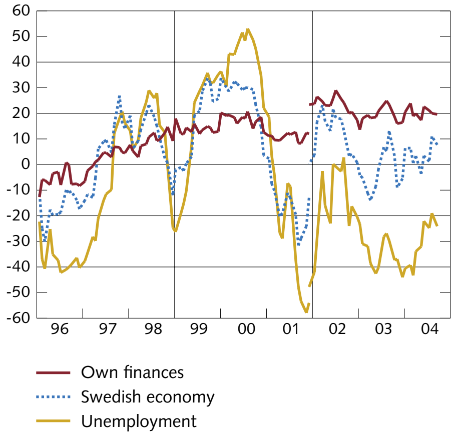
Note. The figures in parentheses are the forecasts in the May Inflation Report.
Source: The Riksbank.

As in the previous Inflation Report, net lending is judged to be lower than necessary for the Government to meet the surplus target.[9] Whether the target seems to be met during the forecast period can also be studied by estimating the structural balance, which indicates how large actual net lending would be in the event of normal resource utilisation. The structural balance should normally be around 2 per cent if the surplus target is to be attained. In the previous Inflation Report, the structural balance was deemed to be too low in relation to the surplus target. The unfinanced measures announced in the Budget Bill consolidate this assessment.

The outcome for public consumption in the first half of 2004 is in line with the forecast in the previous Inflation Report. Owing to the increased support to local governments, the forecast for growth in public consumption in 2005 has been revised up by just over a half percentage point, to 1.3 per cent.

9 The surplus target is 2 per cent general government net lending on average over an economic cycle.

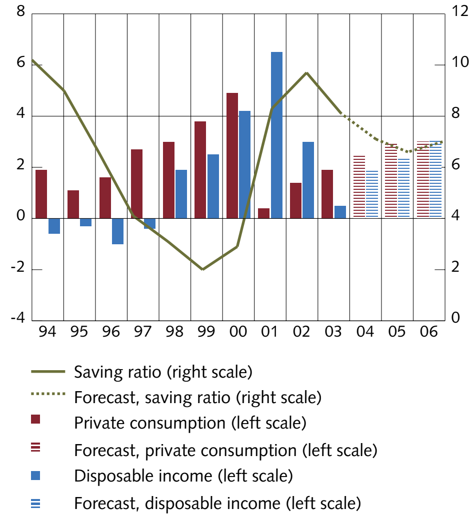
Figure 30. Households' expectations of their own finances, Sweden's economy and unemployment. Balance



Note. The balance is the proportion of households that have reported an improvement minus the proportion that have reported a deterioration.

Source: NIER.

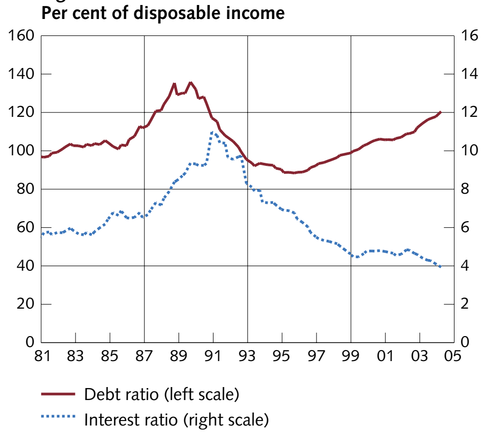
Figure 31. Private consumption, disposable income and saving ratio. Percentage 12-month change



Note. The saving ratio is calculated as saving including negotiated pension supplements. The broken line is the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Figure 32. Households' debt ratio and interest ratio. Per cent of disposable income



Sources: Statistics Sweden and the Riksbank.

■■ Continued stable growth in private consumption.

Growth in private consumption has been comparatively robust so far this year, standing at an annual rate of around 2.3 per cent. That is a rise on 2003 and suggests that the increase in consumption growth predicted in the previous Inflation Report is now materialising. This picture is also supported in substance by recent indicators of consumption. Households have continued to be optimistic over the summer about their own finances and are more optimistic about the Swedish economy and the labour market (see Figure 30). Retail sales data are also relatively high in a historical perspective.

Consumption growth is forecast to rise further in the next two years and stand at about 3 per cent, which is somewhat higher than the forecast in the previous Inflation Report. Growth in consumption will be fuelled partly by a stable increase in disposable incomes and by the low level of interest rates. Employment is expected to pick up, mainly towards the end of the forecast period, contributing to a rise in household incomes. Also providing a fillip are the tax cuts and allowance hikes for households announced by the Government in the Budget Bill. These measures are estimated to boost households' disposable incomes by about 0.8 percentage points in both 2005 and 2006. Against this background, real disposable incomes are forecast to rise by 1.9 per cent this year, 2.5 per cent in 2005 and 3.1 per cent in 2006 (see Figure 31).

The relatively low level of interest rates at present is bolstering consumption in different ways. Households that have variable-rate loans or that refinance their loans at fixed rates have greater scope to consume. At the same time it is also contributing to higher house prices, which gives homeowners greater scope to borrow. The low interest rates also make it less attractive to save and fuel mainly consumption of consumer durables.

Growth in wealth is also expected to contribute positively to households' willingness to consume in the years ahead. Rising equity prices and house prices resulted in an increase of around 12 per cent in households' real wealth (gross) in 2004 Q1 compared with the same quarter in 2003. Were households to perceive the rise in the property and equity markets as lasting, it should contribute to increased consumption, as households' long-term saving requirements would decrease. Households' saving ratio is anticipated to fall somewhat in the coming two years (see Figure 31).

Household indebtedness is also highly significant for developments in consumption. Households have continued to borrow more and more but it seems that the loans have largely been used to finance housing purchases. Moreover, mortgage institutions are those that have increased their lending most. Due to the rapid rise in house prices, households' debts in relation to the value of their assets have not increased to such a large extent. The low interest rates have also meant that households are using a low share of their disposable incomes to pay interest (see Figure 32).

■■ Pickup in gross capital formation seems to have begun.

In the first half of the year, gross fixed capital formation increased by 1 per cent compared with the same period last year. In seasonally adjusted terms investment has strengthened in recent quarters, in line with the forecast in the previous Inflation Report (see Figure 33). Housing investment rose by almost 15 per cent during the first half of the year compared with the corresponding period last year. Manufacturing investment, which declined in annual terms up to and including Q1 this year, increased during the second quarter. The NIER's business tendency surveys indicate high utilisation of the capital stock in manufacturing. The same surveys also show that manufacturing firms are optimistic about the near future. It is thus likely that the pickup in manufacturing investment will continue. Investment is also expected to rise in other areas of the business sector, and the increase in housing investment is anticipated to continue in the next few years. Public investment, too, is expected to increase throughout the forecast period, albeit at a slow rate. In total, gross fixed capital formation is forecast to rise somewhat more in mainly 2004 and 2005 compared with the assumption in the previous Inflation Report (see Figure 33). The principal reasons for this are that the rate of GDP growth has been revised up and that housing investment has been larger than expected.[10] The low level of interest rates and higher corporate profits should stimulate business investment in the years ahead.

■■ Imports boosted by rise in demand for exports, consumption and investment.

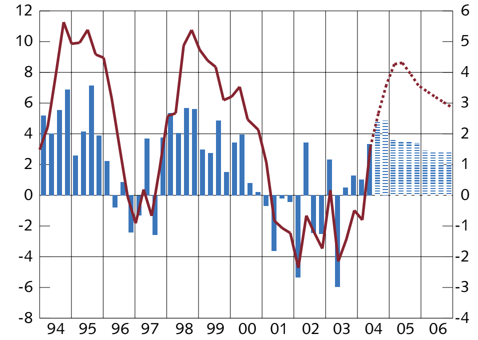
In the previous Inflation Report imports of goods were expected to grow relatively weakly in Q1. The assessment at that time was based on monthly outcomes from the foreign trade statistics. However, National Accounts data up to and including Q2 this year show stronger growth in imports of goods. Imports of goods increased by 4.5 per cent in the first half of this year compared with the corresponding period last year. Growth in imports of goods in both the second half of 2004 and 2005 is now forecast to be somewhat more robust than assumed in the May Inflation Report (see Figure 35). Besides a stronger than expected outcome, this is motivated by the upward revisions in the forecasts for export demand, consumer demand and investment demand.

■■ Employment lagging behind.

Labour market developments have been largely in line with the forecast in the last Inflation Report. During the first eight months of

10 The National Board of Housing, Building and Planning and the Swedish Construction Federation have both revised up their forecasts for housing construction.

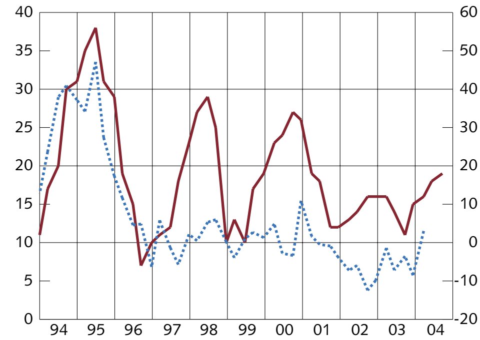
Figure 33. Gross fixed capital formation: outcomes and forecasts for seasonally adjusted series. Quarterly and annual changes in per cent



Gross fixed capital formation, annual change (left scale)
Forecast, annual change (left scale)
Gross fixed capital formation, quarterly change (right scale)
Forecast, quarterly change (right scale)

Sources: Statistics Sweden and the Riksbank.

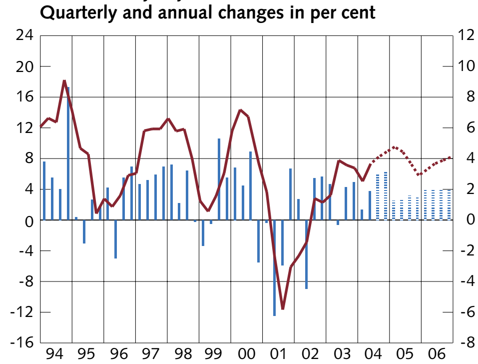
Figure 34. Manufacturing investment and proportion of firms reporting machinery and plant as primary limiting factor (lagged by two quarters). Percentage 12-month change and seasonally adjusted balance



Machinery and plant, limiting factor (left scale)
Manufacturing investment (right scale)

Sources: NIER and Statistics Sweden.

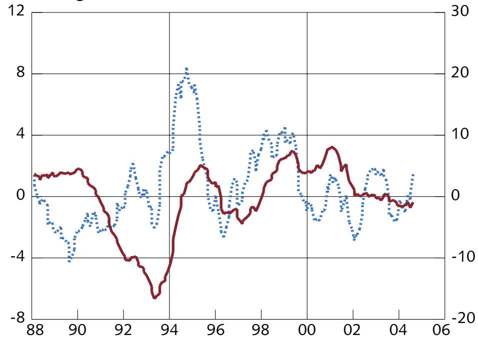
Figure 35. Imports of goods: outcomes and forecasts for seasonally adjusted series. Quarterly and annual changes in per cent



Imports of goods, annual change (left scale)
Forecast, annual change (left scale)
Imports of goods, quarterly change (right scale)
Forecast, quarterly change (right scale)

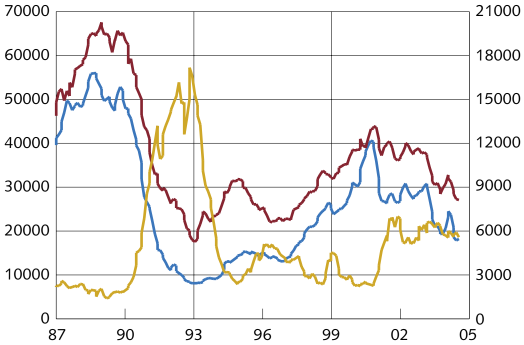
Sources: Statistics Sweden and the Riksbank.

Figure 36. Number of employed and temporary staff.
Percentage 12-month change, three-month moving average



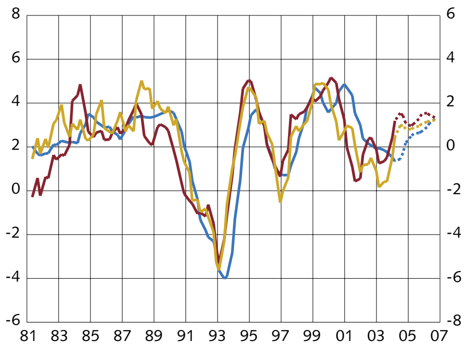
Source: Statistics Sweden.

Figure 37. New and unfilled job vacancies with a duration of more than 10 days and number of redundancy notices.
Seasonally adjusted, three-month moving average



Source: National Labour Market Board.

Figure 38. GDP, hours worked and employment.
Percentage 12-month change, three-quarter moving average



Note. The broken line is the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank.

this year, the number of employed fell on average by 19,000 people or 0.4 per cent compared with the corresponding period in 2003. It is the number of permanent employees that has declined, while the number of temporary workers has risen (see Figure 36). However, an increase in the number of temporary employees can also be taken as a sign that employment is about to pick up again. Usually, the number of temporary workers rises at the beginning of an economic upswing before firms gradually begin to employ staff on a permanent basis. According to the National Accounts' for the first six months, the number of hours worked increased by more than expected, which is also positive for labour market developments in the long term. The number of redundancy notices also declined somewhat in August. At the same time, though, the number of new job vacancies continued to drop on an annual basis (see Figure 37). Furthermore, the NIER's most recent business tendency survey showed that the majority of sectors had not yet begun to hire new employees. The proportion of firms that were expecting cutbacks, however, was lower than at the beginning of the year. Even though labour demand is still weak and the various indicators are mixed, the labour market is now deemed to have stabilised somewhat.

The assessment in this Report is that economic activity is progressing and strengthening gradually, but that employment growth continues to be weak. Okun's law can be used as a point of departure for analysing how economic activity affects the jobs market on average. The historical pattern is for employment to respond with some lag to a change in output. The box "Economic activity and the labour market" in the May Report this year presents different estimates of Okun's law. One conclusion was that employment had developed normally or somewhat stronger in relation to the economic situation in 2002 and 2003 than indicated by these estimates. In 2003 Q4, however, there were tendencies that employment instead had begun to lag behind. New estimates of Okun's law indicate that employment was also somewhat weaker in the first half of the year than what could be expected on the basis of the estimated relationship. One conceivable explanation could be a reduction in sick leave, which means that those already employed are participating in production to a greater extent than before. In other words the rise in employment seems to have been delayed by a drop in sick leave in the same way that employment was held up for a number of years by an increase in such absence. Meanwhile, firms have been able to meet the increased demand in the economy by raising productivity, which has resulted in relatively weak demand for labour.

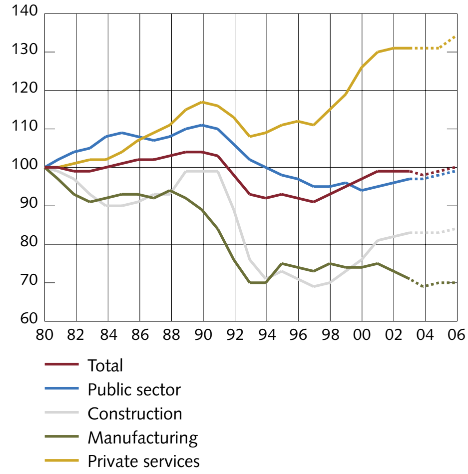
Employment is expected to start to rise weakly around the turn of the year and then develop in line with the historical relationship (see Figure 38). The number of employees in manufacturing and construction is judged to increase moderately over the forecast period, while the number of jobs in the private services sector is expected to rise more (see Figure 39). In the public sector, too, employment is predicted to increase over the forecast period, mainly due to higher grants to local governments. Taken together, the number of employed in the whole economy is expected to rise by 0.6 per cent in 2005 and 1.2 per cent in 2006 (see Figure 40).

During the first half of the year, the average working time per employee increased on average by 1.5 per cent compared with the same period in 2003.[11] The rise was much faster than anticipated in the last Inflation Report. Some of the increase is due to calendar effects (i.e. due to public holidays falling on weekends), but it is also part of a normal cyclical pattern. At the beginning of an economic upturn the demand for labour increases mainly because the number of hours worked rises, partly due to increased overtime by those already employed, and only at a later stage through a rise in the number of newly hired staff. For that reason, average working time is anticipated to increase in 2005 as well. Towards the end of the forecast period, however, the rise in average working time is forecast to stop as 2006 has fewer working days than 2005. At the same time, the demand for labour is expected to be met to a larger extent through recruitment.

So far this year the number of people in the labour force has risen on average by 0.5 per cent compared with the corresponding period last year. This growth is somewhat more robust than forecast in the previous Inflation Report, mainly because the increase in labour market policy measures that was expected at the time materialised at a later stage. Presently, the labour force is forecast to rise by almost 1 per cent during the period 2004-2006. Population growth is expected to be stable throughout the forecast period. However, the sharp rise in the younger age groups is expected to result in an increase in the number of students participating in regular education during the forecast period. Furthermore, the labour supply is judged to be dampened by an increase in the number of the long-term sick (people receiving sickness and activity benefit, formerly the early retirement pension) during the forecast period, as these are not included in the labour force. The supply of labour is also expected to be restrained by an increase in the number of participants in training programmes. Owing to larger appropriations in the Budget Bill, the number of people in labour market policy programmes as a proportion of the labour force is forecast to rise in 2005 and 2006.

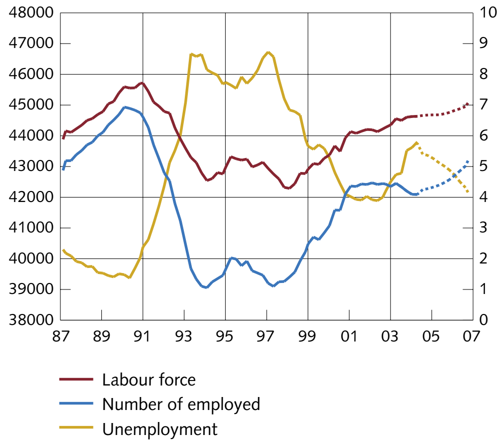
Open unemployment is expected to fall towards the end of the year. This is mainly due to a higher number of participants in labour market policy programmes but also because employment may begin to rise weakly. As economic activity strengthens, it is estimated that open unemployment will continue to drop. However, total unemployment is not expected to fall quite as much.[12] In 2006, open unemployment is forecast to be lower than assumed in May,

Figure 39. Number of employed in different sectors. Index: 1980=100



Note. The broken line is the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank.

Figure 40. Labour force, employment and open unemployment. 100s of people and share of the labour force, seasonally adjusted

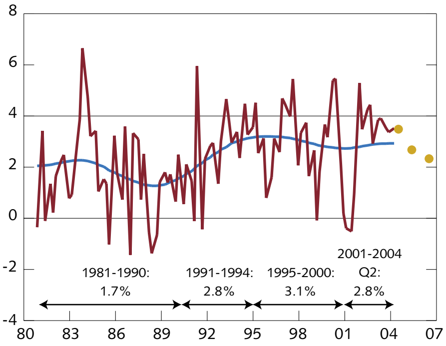


Note. The broken line is the Riksbank's forecast.
Sources: Statistics Sweden and the Riksbank.

11 Average working time is measured as the total number of hours worked according to the National Accounts divided by the average number of employees according to the labour force surveys.

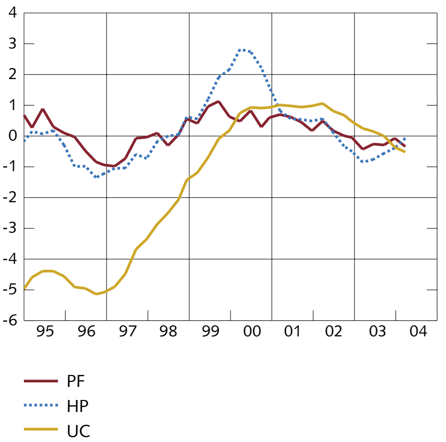
12 Total unemployment is calculated as the number of open unemployed and participants in labour market policy programmes divided by the total of the number of people in the labour force and the number of participants in labour market training programmes.

**Figure 41. Productivity growth in the business sector since 1980 and its HP trend.
Percentage 12-month change**



Sources: Statistics Sweden and the Riksbank.

Figure 42. Econometric estimates of the output gap. Per cent of potential GDP



Note. UC is the Unobserved Components method, HP stands for the Hodrick-Prescott filter and PF is the production function approach.

Sources: Statistics Sweden and the Riksbank.

chiefly because the number of participants in labour market policy programmes is expected to rise as a result of the Government's proposals in the Budget Bill.

■■ Continued strong productivity growth.

The robust GDP growth and the subdued labour market have been reflected in a continuation of high productivity growth and low cost pressures in the Swedish economy. It is difficult to determine the extent to which the continued robust productivity growth is temporary and due to cyclical factors, and to what extent it is due to more long-term factors. Productivity growth has fluctuated sharply between different years but the average development in the 1990s has been clearly higher than in the 1980s (see Figure 41). The Riksbank's assessment is still that the strong productivity growth in the recent period is somewhat due to the economic situation and is thereby of a transitory nature. Thus, as before, productivity growth is forecast to decrease over the forecast period as the economic upswing becomes broader-based and takes hold in more sectors of the economy, which is also anticipated to lead to increased employment. The forecast for average productivity growth during the forecast period has therefore been revised up somewhat and is expected to be on a par with the average rate in the 1990s.

**Table 5. Labour market forecast.
Percentage 12-month change**

	2003	2004	2005	2006
Labour force	0.7	0.3 (0.2)	0.1 (0.3)	0.5 (0.5)
Number of employed	-0.2	-0.4 (-0.5)	0.6 (0.7)	1.2 (1.1)
Average working time	-1.2	1.2 (0.6)	0.3 (0.0)	0.0 (0.2)
Number of hours worked	-1.3	0.9 (0.1)	0.9 (0.7)	1.2 (1.3)
Open unemployment. per cent of labour force	4.9	5.5 (5.5)	5.1 (5.2)	4.4 (4.6)
Labour market policy programmes. per cent of adjusted labour force	2.1	2.3 (2.3)	2.4 (2.1)	2.4 (2.0)

Note. The figures in parentheses are the forecasts in the May Inflation Report. The adjusted labour force is the total of the number of people in the labour force and the number of participants in labour market educational programmes (excluding special initiatives for persons with occupational disabilities).

Sources: The National Labour Market Board, Statistics Sweden and the Riksbank.

■■ Resource utilisation still low.

The Riksbank estimates resource utilisation in the economy by calculating the output gap using different methods and by analysing other indicators such as business tendency surveys in which firms report labour shortages, etc. (see the box "Indicators of resource utilisation" in the previous Inflation Report). The various indicators can produce markedly different results. As in May, the overall assessment is that resource utilisation in the economy as a whole is still comparatively low.

Estimates of the output gap based on data up to and including Q2 this year suggest that resource utilisation is lower than a couple of years ago. According to the HP method, which estimates the output gap by producing a gently varying trend for GDP growth, the gap closes (see Figure 42). The UC method, however, which estimates the gap on the basis of developments in the labour market and inflation, shows a widening negative output gap (see Figure 42). This reflects the different signals that have come from output, on the one hand, and from the labour market and inflation on the other. Despite a rapid rise in output recently, employment growth is weak and inflation is low.

In manufacturing, the level of recorded capacity utilisation has risen to a record-high (see Figure 43), but since the expected increase in employment is still lagging behind, it seems to be primarily the rate of utilisation of the physical capital that has risen. In the NIER's business tendency surveys there are still few manufacturing firms citing the supply of labour as the primary limiting factor in production (see Figure 44). In construction and service sectors it is first and foremost the supply of labour with particular skills that can cause a shortage, but in these sectors too the proportion of firms reporting labour shortages is small. In the computer consultants and computer services sector, the shortage of labour has increased markedly, but the proportion is still modest in comparison with the situation in 1999 and 2000 (see Figure 45).

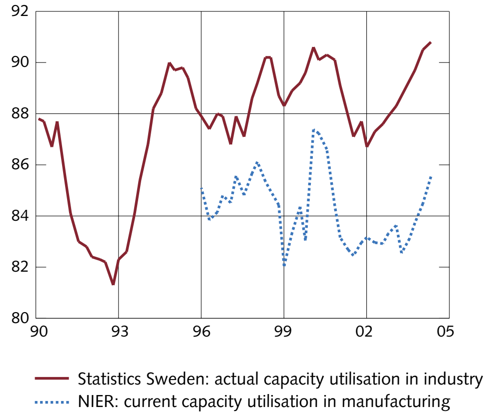
The upward revision of the growth forecast for the Swedish economy in the coming years is judged to result in a faster employment of idle resources than predicted in the previous Inflation Report. In 2006, resource utilisation is expected to rise to levels at which it no longer restrains increases in prices and wages.

■■ Rate of wage increases to rise somewhat towards end of forecast period.

Since the Inflation Report in May, the National Mediation Office has released preliminary short-term wage statistics for the period March-July. Wages in the business sector rose by 2.7 per cent in the first seven months of this year compared with the same period last year (see Figure 46). The statistics are still preliminary, however. During the winter and spring, a large number of wage agreements in the business sector were renegotiated, giving rise to retroactive wage increases of which a substantial part has not yet begun to be paid. Wage inflation can thus be expected to rise when these retroactive wage increases are included in the data. In the public sector, wage increases have held up and have continued to increase faster than in the business sector despite the strained finances of local governments. So far this year, wages in the public sector have risen by 4.1 per cent, which is 0.4 percentage points more than the same period in 2003.

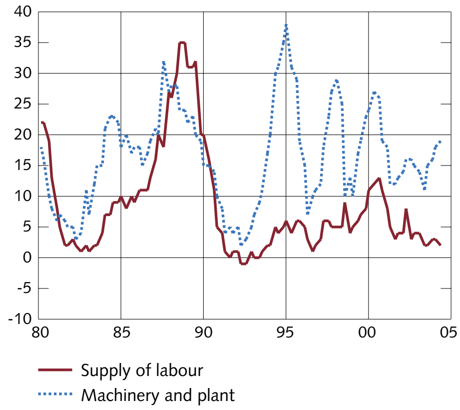
Wages in the business sector are forecast to rise by 3.2 per cent this year, which is the same rate of increase as in 2003 (see Table 6). This implies a marginally slower rate of increase compared with the forecast in the previous Inflation Report. In 2005 and 2006, wage inflation is expected to rise due to both the structure of the collective agreements and a rise in resource utilisation. Total wage

Figure 43. Capacity utilisation in industry according to Statistics Sweden and the NIER.
Per cent, seasonally adjusted



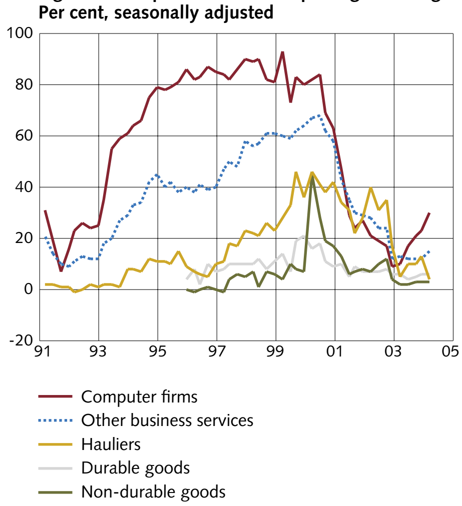
Sources: NIER and Statistics Sweden.

Figure 44. Proportion of manufacturing firms reporting machinery and plant or the supply of labour as primary limiting factor.
Per cent, seasonally adjusted



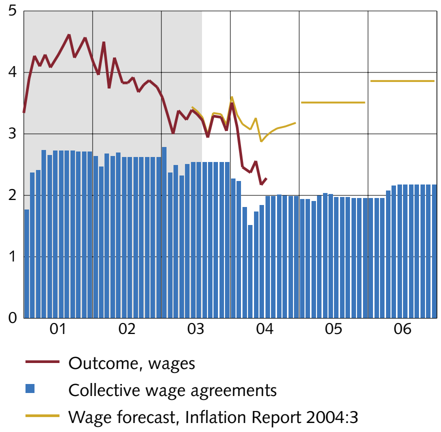
Source: NIER.

Figure 45. Proportion of firms reporting a shortage of staff.
Per cent, seasonally adjusted



Source: NIER.

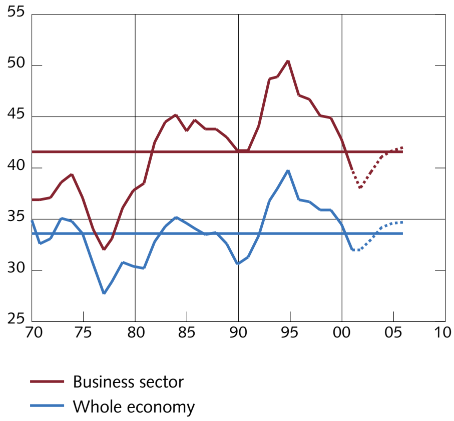
Figure 46. Wages, collective agreements and forecast for the business sector.
Percentage 12-month change



Note. The shadowed area refers to final outcomes for the short-term wage statistics. The statistics are supplemented gradually with retroactive payments and the final outcome is established only after 12 months.

Sources: The National Mediation Office and the Riksbank.

Figure 47. Profit share according to the National Accounts.
Per cent



Note. The horizontal lines are the averages for 1970-2001. The broken line is the Riksbank's forecasts.

Sources: Statistics Sweden and the Riksbank.

costs in the business sector are expected to rise by 3.7 and 4.0 per cent, respectively, in 2005 and 2006. There have been no significant adjustments of the wage forecast since May, since the employment forecast has not been changed appreciably either in spite of the upward revision of the forecast for GDP growth.

On 30 September, collective wage agreements for around 200,000 central government employees expired. The agreements in the business sector are expected to serve as a norm for the central government sector according to the sector's cooperation agreement. In spring 2005, approximately 600,000 local government employees will sign new wage agreements. Public sector wages are forecast to continue to rise relatively sharply in 2005. This is because the local government sector is expected to increase its demand for labour, partly as a result of the proposals announced in the Budget Bill for higher central government grants. Compared with the previous estimate, the forecast for wage inflation in the public sector has been revised up somewhat for the forecast period.

Owing to stronger productivity growth and a lower rise in wage costs than expected during the year, unit labour costs in the business sector will fall somewhat more than forecast in May (see Table 6). Productivity growth is anticipated to continue to be robust throughout the forecast period but to be dampened somewhat in the period ahead. Coupled with rising wage costs, this implies that unit labour costs in the business sector will increase. This year and next year, unit labour costs are assumed to rise slower than prices, which means that the profit share in both the business sector and the whole economy will continue to increase during the same period (see Figure 47).

Table 6. Wages and unit labour costs.
Percentage 12-month change

	2004	2005	2006
Nominal wage, whole economy	3.4 (3.4)	3.6 (3.6)	3.8 (3.7)
Nominal wage, business sector	3.2 (3.3)	3.5 (3.5)	3.9 (3.8)
Other wage costs (contribution), business sector	0.3 (0.3)	0.2 (0.2)	0.2 (0.2)
Total wage costs, business sector	3.4 (3.5)	3.7 (3.7)	4.0 (3.9)
Total hourly wage costs, business sector, adjusted for the number of working days	2.6 (2.7)	3.7 (3.7)	4.4 (4.3)
GDP in the business sector	4.1 (3.3)	3.6 (3.3)	3.6 (3.5)
Number of hours worked, business sector	0.6 (0.1)	0.9 (0.7)	1.3 (1.2)
Average labour productivity, business sector	3.5 (3.2)	2.7 (2.5)	2.3 (2.2)
Unit labour costs, business sector	-0.8 (-0.4)	1.0 (1.2)	2.1 (2.2)

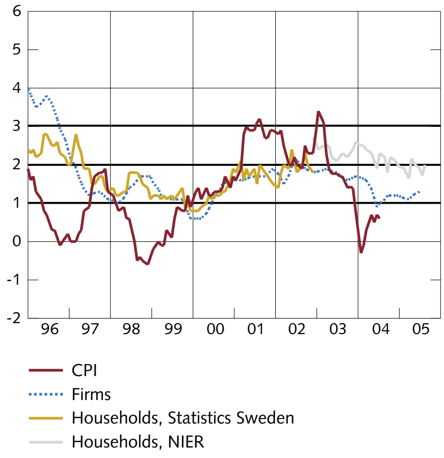
Note. The figures in parentheses are the forecasts in the May Inflation Report. The forecasts are based on the National Mediation Office's short-term wage statistics. The items do not sum up due to rounding.

Sources: Statistics Sweden and the Riksbank.

Revised forecasts since the May Inflation Report.

- The forecast for GDP growth has been revised up for all years in the forecast period.
- The forecast for export growth has been revised up for this year and next year owing to stronger international demand.
- The forecast for growth in gross capital formation has been revised up for the current year and next year. This is because GDP is now expected to grow faster and housing investment has been higher than anticipated.
- The forecast for growth in private consumption has been revised up somewhat for 2005 and 2006. This is due to an upward revision in disposable incomes as a result of more robust GDP growth and the tax cuts and allowance hikes announced in the Budget Bill.
- The forecast for growth in goods imports has been revised up for all years because the demand for consumption, investment and exports is now expected to be higher.
- The forecasts for the labour force, employment and average working time have been revised up for the current year.
- The more vigorous GDP growth is assumed to result in an increased number of hours worked but not in a corresponding rise in employment next year.
- The forecast for unemployment in 2006 has been revised down mainly because more people are expected to participate in labour market policy programmes.
- The forecast for productivity growth in the economy this year has been revised up somewhat owing to stronger outcomes than expected, and this also affects the forecast for the period ahead.
- Wages in the business sector are expected to rise somewhat more in 2006 as a result of more robust growth and lower unemployment. Unit labour costs are judged to increase somewhat less due to somewhat stronger productivity growth.
- The upward revision of the forecast for economic growth in the years ahead is judged to result in the idle resources in the economy being employed somewhat faster.

Figure 48. Actual CPI inflation and households' and firms' expectations of inflation one year ahead. Per cent



Note. The curves for inflation expectations have been shifted ahead12 months to coincide with the CPI outcomes to which the expectations refer. The procedure for surveying households' purchasing plans was changed in January 2002.

Sources: NIER and Statistics Sweden.

Inflation expectations

The inflation expectations of different economic agents are a cornerstone of the Riksbank's monetary policy analysis. Because inflation expectations influence, for example, firms' pricing and wage formation they also have direct effects on actual inflation. If households believe that inflation is going to rise, it may result in higher wage demands, which in turn may push up inflation. The expectations can be affected by a number of different factors, such as the actual recorded inflation rate, the stance of economic policy and macroeconomic developments in general.

Households' expectations of inflation one year ahead have fluctuated around 2 per cent in the past year (see Figure 48). In September, expectations were anchored at 2.0 per cent, which is a rise of 0.4 percentage points since the previous Inflation Report. Firms' expectations of inflation one year ahead have varied little recently and are still low, as indicated by the National Institute of Economic Research's (NIER) business tendency survey in July (see Figure 48). Their expectations have been revised up to 1.3 per cent, compared with 1.1 per cent in the April survey. Households' inflation expectations are somewhat higher than the Riksbank's inflation forecast for September 2005, while those of firms do not differ appreciably from the forecast for July 2005. The Riksbank's forecast is based on an assumption of an unchanged repo rate, however.

The results of Prospera's survey in September point to marginally higher inflation expectations compared with the May survey (see Table 7). Expectations of inflation one and two years ahead have been adjusted up by 0.1 percentage points, currently averaging 1.9 and 2.1 per cent, respectively. Expectations five years ahead are still 2.2 per cent. Purchasing managers in manufacturing still have the highest expectations over all time horizons. Money market agents' expectations were historically low in May, but they have now revised up the expected inflation rate. According to this group, inflation is expected to be 1.6 per cent one year ahead and 2.0 per cent two and five years ahead. Money market agents base their inflation expectations on the assumption that the repo rate will be unchanged in the next three months.[13] The repo rate is expected to be raised to 2.75 per cent within one year and to 3.50 per cent within two years.

13 Money market agents' expectations regarding the repo rate were surveyed on 15 September 2004.

Table 7. Expected 12-month rates of inflation according to Prospera's survey in September 2004, unless otherwise specified.
Per cent

1 year ahead	
Money market agents	1.6 (0.2)
Employer organisations	1.6 (-0.2)
Employee organisations	1.7 (0.2)
Purchasing managers trade	2.0 (0.1)
Purchasing managers, manufacturing	2.2 (0.2)
Households (HIP) in September (April)	2.0 (0.4)
Firms (business tendency survey) in July (April)	1.3 (0.2)
2 years ahead	
Money market agents	2.0 (0.1)
Employer organisations	1.8 (-0.1)
Employee organisations	1.9 (0.1)
Purchasing managers, trade	2.1 (0.0)
Purchasing managers, manufacturing	2.3 (0.1)
5 years ahead	
Money market agents	2.0 (0.0)
Employer organisations	2.0 (0.1)
Employee organisations	2.1 (-0.1)
Purchasing managers, trade	2.2 (-0.1)
Purchasing managers, manufacturing	2.3 (-0.1)

Note. The figures in parentheses are the change in percentage points from the previous survey in May 2004, unless otherwise specified.

Sources: NIER and Prospera.

Recent developments in inflation

Inflation in line with expectations

Following a sharp drop in inflation since the beginning of 2003, the inflation rate, measured in terms of UND1X, has recently remained around 1 per cent (see Figure B5). The low inflation partly reflects a fast rise in productivity, which together with moderate wage increases has resulted in subdued domestic cost pressures. The low UND1X inflation is also due to the fact that imported inflation has been negative. This in turn can be explained by muted international price pressures and an appreciation of the exchange rate in recent years.

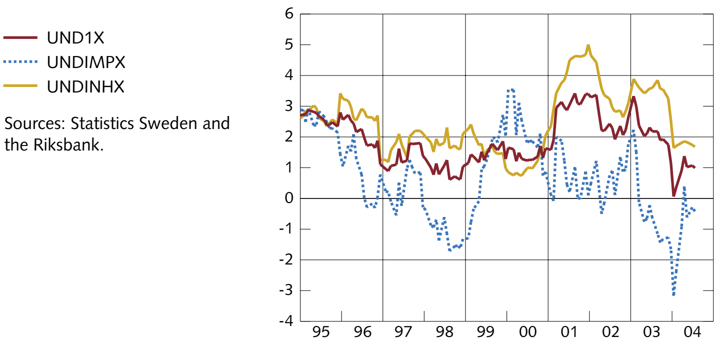
Inflation developments in the past months have been in line with the assessment in the previous Inflation Report. The forecast then was that inflation had bottomed out and would be relatively stable over the next year, rising gradually thereafter as resource utilisation picked up. In August, UND1X inflation stood at 1.0 per cent, a tenth of a percentage point higher than the forecast in the May Report.

Domestic inflation is being characterised by a low rate of increase for goods prices but a higher rate of increase for the prices of services, notably administered prices (see Figure B6). The latter is not always related to increased demand pressures in the economy. Sometimes the relationship appears, if anything, to be the opposite; during an economic slowdown local government finances become strained, which leads to higher charges for local government services.

Compared with the assessment in the previous Inflation Report, domestic inflation has been somewhat higher than expected. This is mainly due to developments in electricity prices. In the May Report, electricity prices were forecast to drop somewhat further this year since they were still considerably higher than before the sharp rise in winter 2003. Electricity prices have indeed continued to fall, but the price decline has not been quite as large as assumed in May. Prices of other domestic goods, however, have risen slightly slower than forecast (see Figure B7). This is probably because cost pressures, as reflected by unit labour costs, have been weaker than anticipated.

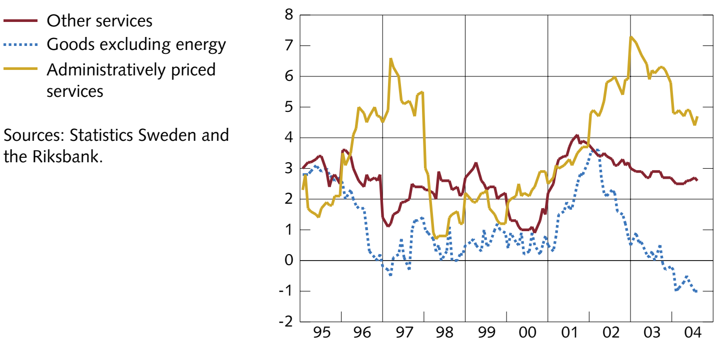
The inflation rate for imported goods has been somewhat lower than assumed in the previous Inflation Report, even though the oil price, contrary to the forecast last spring, has risen sharply. The direct effect of the unexpected rise in the oil price is higher consumer prices for oil and motor fuel. The rate of price increases for oil products in the CPI has increased from negative figures at the beginning of the year to just over 5 per cent in August (see Figure B8). However, these rises have been more than offset by the fact that the prices for other imported goods, such as clothing and footwear, have dropped more than anticipated (see Figure B7).

Figure B5. Different measures of inflation. Percentage 12-month change



Sources: Statistics Sweden and the Riksbank.

Figure B6. Prices of goods and services. Percentage 12-month change



Sources: Statistics Sweden and the Riksbank.

Underlying inflation still low

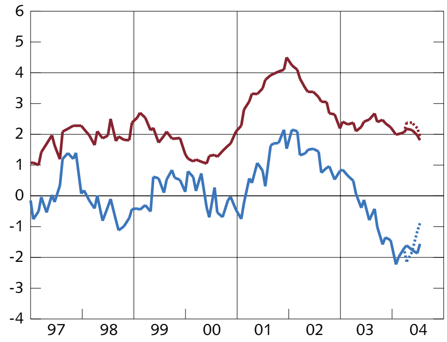
In order to analyse developments in inflation excluding various temporary effects, the Riksbank studies different measures of underlying inflation. Underlying inflation is not an unambiguously defined concept and can be measured in different ways. One common method is to exclude from the CPI certain components that are considered to be more transitory in nature in order to distinguish the trend, or cyclical, component of inflation. UND1X is arrived at by excluding from the CPI households' mortgage interest expenditure and the direct effects of changes in indirect taxes and subsidies. Another way of measuring underlying inflation is to use statistical methods to exclude or lessen the significance of groups of goods and services whose prices have previously exhibited sharp fluctuations. Figure B9 shows different measures of underlying inflation. According to all measures, underlying inflation has fallen since the beginning of 2002. In recent months the underlying inflation rate has remained around 1 per cent.

Low inflation also in an international perspective

Another way to study developments in Swedish inflation is to see it in an international perspective. Figure B10 shows how underlying inflation excluding energy prices has developed in Sweden, the euro area and the United States since 2002. The slowdown in price increases in Sweden since 2002 has been bigger than in the United States and in the euro area. Inflation in the euro area has remained around 2 per cent since the start of 2003. In the United States, the rate of price increases fell in 2002 and in the first half of 2003 roughly as in Sweden, but has risen since then.

When considering the different inflation rates, some account should be taken of the fact that the countries are in somewhat different stages of the business cycle and that they have had different cost developments. In the United States, as in Sweden, developments in unit labour costs have been very weak in recent years, resulting in low cost-push inflationary pressures (see Figure B11). At the same time the economic upswing has been more robust in the United States than in Sweden. This should have led to higher resource utilisation in the US economy,

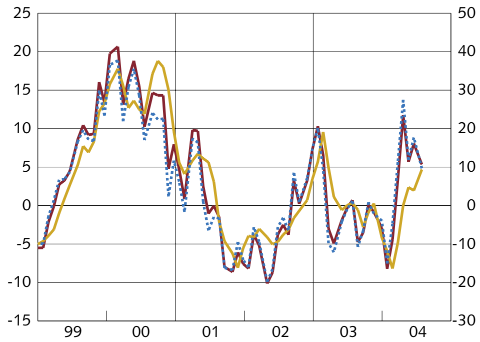
Figure B7. UNDINHX excluding electricity and UNDIMPX excluding oil products. Percentage 12-month change



UNDINHX excluding electricity
Forecast, Inflation Report 2004:2
UNDIMPX excluding oil products
Forecast, Inflation Report 2004:2

Sources: Statistics Sweden and the Riksbank.

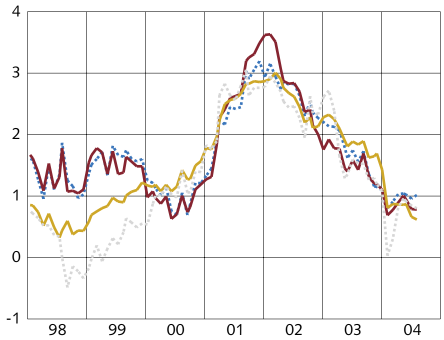
Figure B8. Oil products in the CPI. Percentage 12-month change



Oil products, i.e. motor fuel and heating oil (left scale)
Motor fuel (left scale)
Heating oil (right scale)

Source: Statistics Sweden.

Figure B9. Different measures of underlying inflation. Percentage 12-month change

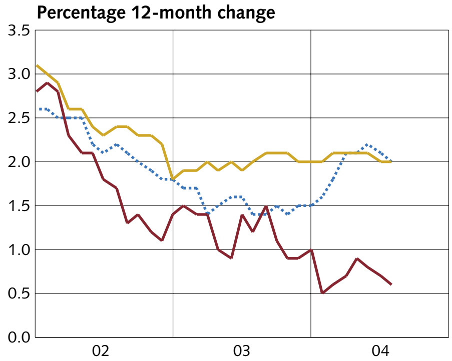


UND1X excluding energy
UND1X excluding food and energy
UND24
trim85

Note. The alternative measures are calculated on the basis of the CPI divided into approximately 70 different subgroups. UND24 is weighted together using weights adjusted for the historical standard deviation for the deviation between the annual rate of increase in the total CPI and the respective subgroup over the past 24 months. 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.

Figure B10. Inflation in Sweden, the euro area and the United States.
Percentage 12-month change

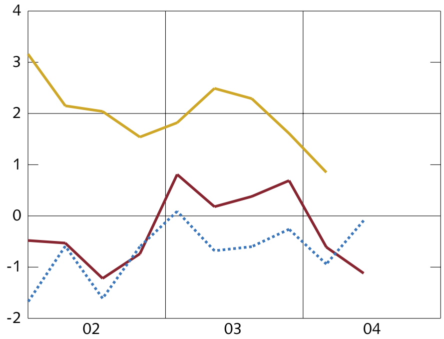


— Sweden
······ USA
— Euro area

Note. Inflation here refers to HICP inflation for Sweden and the euro area and to CPI-U (Consumer Price Index for all Urban Consumers) for the United States. Both measures have been adjusted to exclude energy prices.

Sources: The Bureau of Labor Statistics and Eurostat.

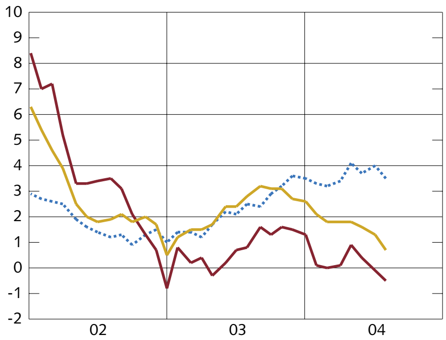
Figure B11. Unit labour costs in Sweden, the United States and the euro area.
Percentage 12-month change



— Sweden (business sector)
······ USA (business sector)
— Euro area (whole economy)

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

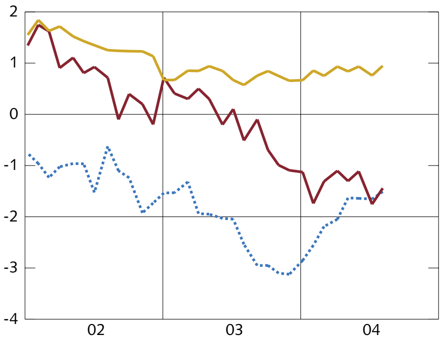
Figure B12. Developments in food prices.
Percentage 12-month change



— Sweden
······ USA
— Euro area

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

Figure B13. Developments in the prices of other goods.
Percentage 12-month change



— Sweden
······ USA
— Euro area

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

which in turn could probably explain the rise in US inflation in the past year. There may also be more structurally determined price changes affecting inflation in the shorter run. One such factor is changes in competitive conditions. In some sectors the Swedish price level has been higher than in the euro area, partly due to inadequate competition. Competition-boosting changes could have an impact on inflation in the short term, even though this in reality involves relative price changes that are not due to macroeconomic developments.

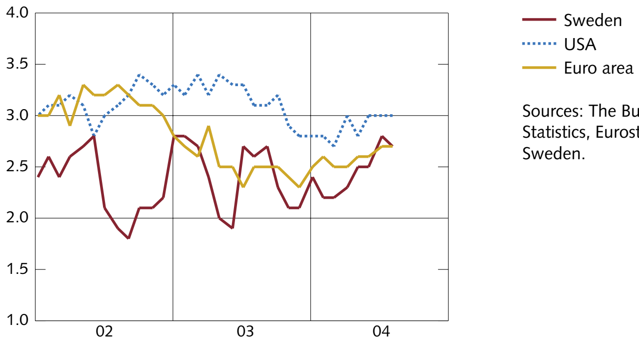
One way to try to understand changes in relative prices is to break down consumer price developments into different components. Figures B12, B13 and B14 show the price developments broken down into food, other goods, and services. All the categories include both domestically produced and imported goods. It is evident from Figure B12 that the rate of increase for food prices in the United States has been rising. In Sweden and the euro area the reverse has been the case. Price inflation for food in Sweden has slowed from around 8 per cent at the beginning of 2002 to almost zero today. This development is somewhat due to the fact that the rate of increase for food prices at the start of 2002 was driven up by temporary factors that have gradually dissipated. But one reason for the fall in Sweden has also likely been that the competition in the Swedish food market has intensified in recent years, partly owing to the emergence of several low-price alternatives. This should have dampened the rate of the price increases.

In all three markets, the rate of price increases for other goods has been subdued and decreasing, even though the downward trend is stronger in Sweden and the United States than in the euro area (see Figure B13). Price inflation for services has been higher than that for food and other goods for a long time. In the United States, the rate of price increases has been higher than in Sweden and the euro area.

For Sweden, the low increases in goods prices can be partly explained by the stronger exchange rate in recent years, which has resulted in Swedish import prices rising slowly and even falling in the past few years. However, it also seems likely that the globalisation of the world's goods markets and the resultant price squeeze has contributed to the low price inflation for goods that has been observed in Sweden, the United States and the euro area. The service sector has probably not been exposed to growing global competitive pressure to the same extent, which may be one reason for the higher rate of increase for services prices. It is also likely that lower productivity growth in the service sector compared with goods-producing sectors has played a part.

What impact these price trends will have on the overall inflation rate in different countries depends on the components' weights in the consumption basket. The weights in turn reflect differences in consumption patterns and the structure of society as regards, for example, private versus public sector. Food, for instance, constitutes just over 20 per cent of the Swedish consumption basket, compared with around 15 per cent of the US basket, which means that price developments in this group of goods have a larger impact on the Swedish inflation rate. The rest of the goods component also has a bigger weight in the Swedish consumption basket than in the

Figure B14. Developments in services prices. Percentage 12-month change



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

US one. This implies that the subdued price developments for these goods have had a greater impact on Swedish inflation than on US inflation. For the US rate, the higher rises in services prices have instead played a bigger part, since services have a bigger weight in the US consumption basket than the Swedish one.

To sum up, price developments in the shorter term can be affected by both cyclical and structural factors. The low inflation partly reflects a fast rise in productivity, which together with moderate wage increases has resulted in subdued domestic cost pressures. Furthermore, international price pressures have been low and the krona has strengthened in recent years. In addition, it seems likely that changed competitive conditions in the Swedish food market have also contributed to more subdued developments in Swedish inflation compared with abroad in recent years.

■ Inflation assessment

Inflation is currently low. In the years ahead it is expected to increase gradually owing to mounting international and domestic cost pressures. Compared with the assessment in May, the forecast for inflation has been revised up. This is mainly due to the higher oil price and higher resource utilisation. However, the low initial level of inflation as well as favourable cost conditions suggest that inflation will nevertheless be relatively moderate over the coming years. UND1X inflation a couple of years ahead is expected to stand at around 2 per cent. The risks of higher or lower inflation are judged to be balanced.

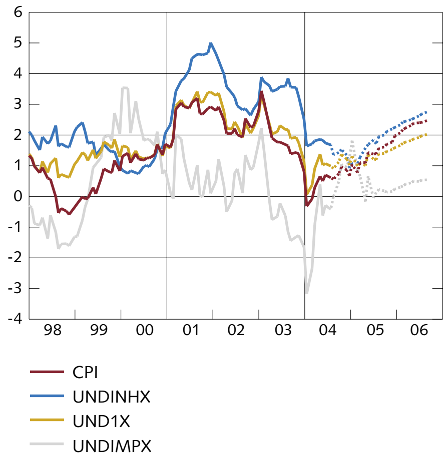
Inflation prospects in the main scenario

Inflation is currently low. The prices of imported goods and services in the CPI have fallen in the past year, and price inflation for domestic output has been modest. The relatively weak domestic price pressures reflect in turn both relatively low resource utilisation and favourable cost developments due to robust productivity gains and a moderate rate of wage increases. Imported inflation is being restrained by low global price pressures and by the krona's appreciation in recent years. Developments since the previous Inflation Report have largely been in line with the forecast (see the box "Recent developments in inflation").

■■ Inflation forecast revised up somewhat.

Partly owing to low cost increases in the economy, the weak rate of increase in CPI and UND1X inflation is expected to persist somewhat into 2005. Thereafter, the domestic inflation rate is judged to rise as productivity growth slackens and resource utilisation in the economy picks up. At the same time, accelerating international price pressures are expected to lead to a rise in imported inflation, excluding oil. All in all, both CPI and UND1X inflation are forecast to rise gradually in the coming two years. Compared with the assessment in the previous Inflation Report, the forecast for inflation has been revised up somewhat, primarily owing to the higher oil price and because the economic upswing is now anticipated to be slightly stronger. In the main scenario, UND1X inflation is expected to be 1.4 per cent one year ahead and 2.0 per cent two years ahead (see Table 8). The corresponding figures for CPI inflation are 1.6 and 2.5 per cent, respectively.

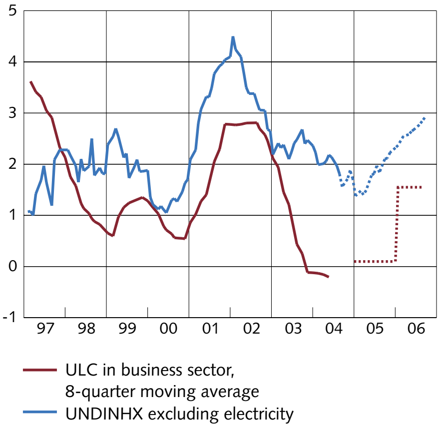
Figure 49. Different measures of inflation: outcomes and forecasts in the main scenario. Percentage 12-month change



Note: The broken line is the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

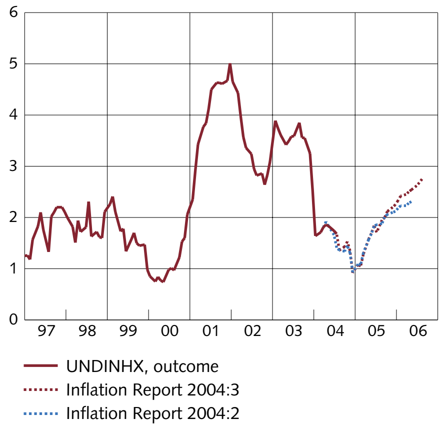
Figure 50. UNDINHX excluding electricity, and unit labour costs in the business sector.
Percentage 12-month change



Note. The broken line is the Riksbank's forecast. The figures for unit labour costs in 2005 and 2006 are averages of annual forecasts for 2004/2005 and 2005/2006, respectively.

Sources: Statistics Sweden and the Riksbank.

Figure 51. UNDINHX: outcome and forecasts in the main scenario.
Percentage 12-month change



Note. The broken line is the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

Table 8. Inflation forecast in the main scenario.
Percentage 12-month change

	12-month average		12-month rates		
	2004	2005	Sept. 04	Sept. 05	Sept. 06
CPI	0.5 (0.4)	1.3 (1.2)	0.6 (0.4)	1.6 (1.5)	2.5
UND1X	1.0 (0.9)	1.2 (1.1)	0.9 (0.9)	1.4 (1.3)	2.0
UNDINHX	1.7 (1.7)	1.6 (1.6)	1.4 (1.4)	2.0 (1.9)	2.8
UNDIMPX	-0.5 (-0.6)	0.5 (0.1)	0.0 (-0.2)	0.2 (0.0)	0.5

Note. The figures in parentheses are the forecasts in the May Inflation Report. UND1X is CPI inflation excluding household mortgage interest expenditure and the effects of changes in indirect taxes and subsidies. UNDINHX refers only to prices of mainly domestically produced goods and services in UND1X. UNDIMPX refers to prices of mainly imported goods and services in UND1X.

Sources: Statistics Sweden and the Riksbank.

The following describes the inflation forecast in more detail, as well as the reasons why it has been revised up. Domestic inflation is discussed first, followed by imported inflation, with special emphasis on the effects of the high oil price.

■■ Increase in resource utilisation implies rising domestic inflation.

The prices of domestically produced goods and services have risen modestly recently. In August, the underlying domestic inflation rate stood at 1.7 per cent. The developments in domestic inflation can be seen in the light of the high productivity growth which, coupled with moderate wage increases, has resulted in cost pressures continuing to be low (see Figure 50). Domestic inflation is expected to fall somewhat further during the remainder of the year. This is partly because of muted cost pressures and low capacity utilisation and partly because electricity prices in the months ahead are expected to be somewhat lower than during the corresponding months last year. In 2005, however, domestic inflation is anticipated to rise gradually as resource utilisation in the economy picks up and productivity growth slackens (see Figure 51).

Compared with the assessment last spring, cost developments in the business sector are expected to contribute to even lower price inflation for domestically produced consumer goods in the short run. Developments so far this year point to somewhat more robust productivity growth in the business sector and slightly lower wage increases in 2004 than in the previous forecast. As a result, unit labour costs in the business sector this year will be lower than previously anticipated.

This short-term tendency towards lower domestic inflation compared with the previous Inflation Report is countered to some extent by the fact that electricity prices are judged to dampen the inflation rate somewhat less than expected by the Riksbank last spring. As anticipated, electricity prices have fallen back this year from the high levels seen in 2003. However, the drop in consumer prices has been somewhat smaller than forecast in May. In the period ahead, consumer prices for electricity are expected to rise slowly, roughly in accordance with the previous forecast. But as the current level is somewhat higher, the electricity prices will increase at a slightly faster rate in the short run.

In the longer-term, the forecast for underlying domestic inflation has been revised up somewhat. This is mainly because the economic upswing is forecast to be more vigorous: the real economy is now expected to grow by 3.6 per cent this year compared with almost 3 per cent in the forecast last spring. Growth prospects have been revised up for 2005 and 2006, too, though by somewhat less. This means that the idle resources in the economy will be employed at a faster rate. Consequently, demand-driven inflationary pressures will be slightly higher than forecast in the previous Inflation Report, albeit after a certain lag. The forecast of inflation two years ahead is also higher since the forecast horizon has been moved ahead a few months and the forecast thus extends further into the business cycle.

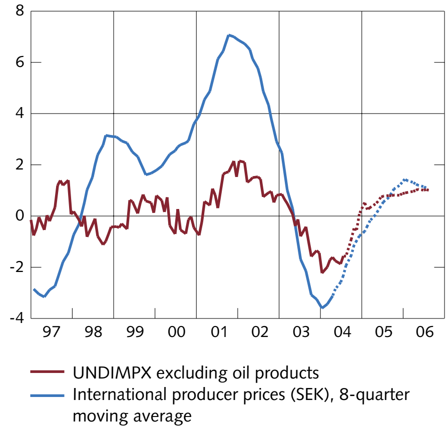
■■ Somewhat higher imported inflation due to higher oil price.

Imported inflation has also been weak in recent years (see Figures 52 and 53). One reason for this is that international producer price inflation for manufactured goods has been low in recent years. This in turn is probably related to both toughening international competition and the economic slowdown in 2001-2002. Also, the krona has a higher valuation in TCW terms today than a few years ago. However, the rate of increase of international producer prices has accelerated relatively quickly in the past year owing to rising commodity prices and increased international resource utilisation (see Figure 26). In the period ahead, this is expected to feed through gradually to import prices for consumers. Higher unit labour costs for import firms will also contribute to a rise in imported inflation for consumer goods, excluding oil, in 2005 and 2006 (see Figure 52). As in the previous forecast, the exchange rate is expected to strengthen somewhat in trade-weighted terms, partly countering increases in costs and prices. At the end of the forecast horizon, imported inflation excluding oil is predicted to stand at an annual rate of around 1 per cent.

Besides the indirect effect that the oil price has on imported inflation, as described above, it also has a direct impact though its influence on the price of domestic heating oil and petrol. The steep rise in the oil price since the middle of 2003 has caused the price changes for oil products in the CPI to increase from negative figures at the beginning of this year to just over 5 per cent in August (see Figure B8). Thus, the picture of imported inflation is somewhat different if oil prices are included as well. Imported inflation in that case is currently not as low (see Figures 52 and 53).

Compared with the assessment last spring, the forecast for imported inflation has been revised up. This is largely due to the higher oil price. Since the forecast in May, the oil price has risen unexpectedly sharply and is now anticipated to be higher throughout the forecast period. This implies that the price of oil products in the

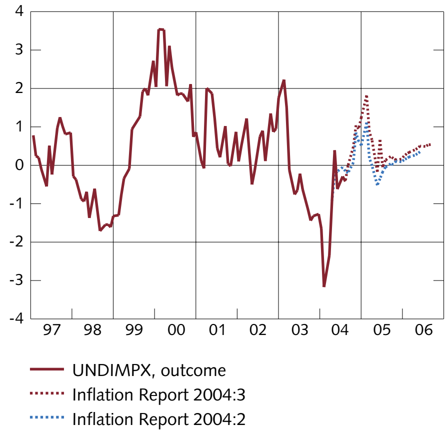
Figure 52. International producer prices of manufactured goods in SEK and UNDIMPX excluding oil products.
Percentage 12-month change



Note: The broken line is the Riksbank's forecast.

Sources: OECD, Statistics Sweden and the Riksbank.

Figure 53. UNDIMPX: outcome and forecasts in the main scenario.
Percentage 12-month change



Note: The broken line is the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

CPI will be slightly higher around one year ahead. A higher oil price as well as higher resource utilisation abroad also makes it reasonable to expect somewhat steeper rises in the prices of international manufactured goods. This in turn is predicted to result gradually in a higher rate of increase in the prices of imported consumer goods in the years ahead.

■■ Little difference between UND1X and CPI inflation on average over forecast horizon.

Like the previous assessment, CPI inflation in the short run is expected to be considerably lower than UND1X inflation due to lower short-term interest rates reducing interest costs for households. This effect will peter out gradually, however. In 2005, the situation is expected to change to one of increasing interest costs for households, owing to the forecast of rising long-term interest rates. Thus, towards the end of the forecast period, CPI inflation is instead judged to exceed UND1X inflation by 0.5 percentage points – a tendency that would be reinforced if short-term rates were also to rise in line with market expectations. Hikes in indirect taxes – mainly higher energy taxes as part of the green tax shift – are, like the previous assessment, anticipated to raise CPI inflation somewhat in relation to UND1X inflation. On average over the forecast period, however, the difference between the two inflation measures is small; roughly the same as in the previous Inflation Report.

Table 9. Change in the CPI compared with UND1X. Percentage 12-month change and percentage points

	Sept. 04	Sept. 05	Sept. 06
UND1X	0.9 (0.9)	1.4 (1.3)	2.0
+ Effects of changes in mortgage interest expenditure	-0.5 (-0.5)	0.0 (0.1)	0.3
+ Effects of changes in indirect taxes and subsidies	0.2 (0.1)	0.2 (0.2)	0.2
=CPI	0.6 (0.4)	1.6 (1.5)	2.5

Note. The figures in parentheses are the forecasts in the May Inflation Report.
Source: The Riksbank.

Revised forecasts since the May Inflation Report.

- The oil price is expected to be higher throughout the forecast period.
- Imported inflation is forecast to be somewhat higher in 2005 and 2006, mainly owing to the higher oil price.
- Domestic inflation is judged to be somewhat higher in 2006, chiefly as a result of stronger real growth.
- UND1X and CPI inflation is forecast to be somewhat higher in 2005 and 2006.

The balance of risks

The main scenario describes what the Riksbank forecasts to be the most likely path for inflation assuming that the repo rate is held unchanged at the current level. The forecast is uncertain, however, and when formulating monetary policy the Bank takes account of the risk of inflation deviating from the main scenario.

Unlike the previous Inflation Report, the overall assessment now is that the risks of lower inflation than in the main scenario are equally large as the risks of higher inflation. The overall balance of risks can be seen in Figures 54 and 55. These show that the probability of an inflation outcome above the main-scenario forecast is equal to the probability of an outcome below the forecast. The risk-adjusted inflation forecast is therefore the same as in the main scenario (see Table 10). Tables 11 and 12 show the probabilities of the risk-adjusted forecasts for CPI and UND1X inflation being within different ranges.

■■ **Balanced international risk.**

In the previous Inflation Report, international and domestic economic developments were judged to entail a risk of underestimating the strength of the upswing and thereby also a risk of higher inflation than in the main scenario. There was also judged to be a risk that higher world market growth or a deterioration in the geopolitical situation would give rise to a higher oil price. Some consideration has been taken of these risks in the main scenario, which includes a faster economic upswing and a higher oil price than in the previous Inflation Report.

The rise in the oil price in 2004 appears largely to be a result of an unexpectedly sharp increase in global demand for oil, even though the geopolitical situation and other supply restrictions have also been highly significant (see the box "Oil prices and monetary policy" in this Report). In the main scenario the oil price is forecast to fall back in the period ahead. The assessment is that the higher oil price will give rise to a moderate increase in inflation and that the restraining effects on the real economy will be limited. However, due to the low reserve capacity in the oil market, there is a risk that oil prices will continue to be high, resulting in higher international price pressures and bigger real economic effects than assumed in the main scenario. There is also uncertainty over the contagion effects of the oil price rise so far, which is at least as important. The impact on inflation and on inflation expectations may prove higher than estimated and the restraining effects on GDP growth may be larger. This applies to both the Swedish economy and the world economy in general. Households' consumption of cars, for instance, could drop if they are unsure of what is going to happen with the oil price. Similarly, firms may decide to postpone investment decisions.

Thus, there is still a risk that the increase in the oil price will give rise to higher inflation, while the inflationary risks associated with faster economic activity can be considered to have diminished. The latter is both due to a somewhat more positive assessment of economic activity in the main scenario and because the oil price rise implies a risk of a quicker moderation of economic growth.

There are also factors in the world economy that could contribute to lower inflation and slacker economic activity than in the main scenario. First and foremost, these concern a number of financial imbalances and their conceivable effects. In order to bolster demand during the economic slowdown the world's central banks have maintained low interest rates. The low rates have helped sustain private consumption and have contributed to higher housing prices. There have been steep rises in property prices for a number of years in many countries, and these have been accompanied by a sharp increase in household debt. This development can be explained relatively well by the previous deregulations of the financial markets, low interest rates, firm income growth and structural changes. Nevertheless, it cannot be ruled out that the expected rise in interest rates, less expansionary policy and a gradual slackening of the economic upswing could result in changes in property prices and thereby lower household demand.

In the United States, uncertainty remains over the effects of the large deficits in the federal budget and the current account. The deficits could precipitate a rise in interest rates that would hold back consumption and investment. Such an adjustment could also be associated with a weakening of the dollar. The effects on the dollar could be amplified by the fact that there is also a need to dampen the current account surpluses in Asian countries. While a substantial weakening of the dollar could facilitate the adjustment in the United States and Asia, it could also risk checking the economic upswing in Europe and restricting growth in Sweden's export markets. In addition, it may cause the trade-weighted krona exchange rate to strengthen faster than in the main-scenario forecast. This implies that the risk of higher imported inflation would decrease.

Another factor that could result in lower than expected imported inflation is the increased competition in the world market and its repercussions for Swedish consumer prices. The EU's import quotas on textiles and clothing will be abolished in January 2005. In practice this means that imports of clothing from mainly China could rise. The inflation forecast in the main scenario does take account of this to some extent, but it is difficult to ascertain how large the impact will be on consumer prices and how quickly it will come about. Since Norway abolished its quotas in 1994, clothes prices have dropped by around 30 per cent in total, but this occurred gradually over a 10-year period and from a position with lower competition than today. In the forecast in the main scenario the Riksbank does not estimate the effect to be that big, which on the other hand means that imported inflation may be even lower. The fact that the recent years' slowdown in Swedish inflation can probably be attributed in part to changed competitive conditions in the Swedish food market indicates the importance of this kind of structural change (see the box "Recent developments in inflation" in this Report).

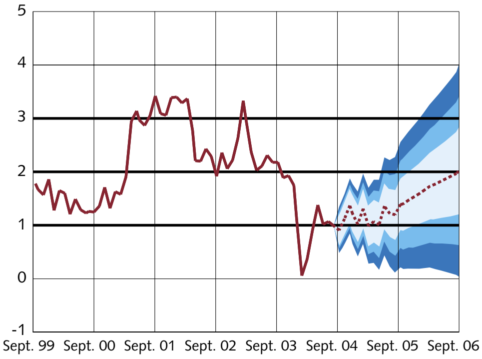
The risks of higher inflation stemming from international economic developments and particularly the oil price are judged roughly to balance the risks of lower inflation which could result from slower international growth, a weaker dollar or reduced import prices due to increased competition. All in all, against this background, the inflationary risks associated with international developments are judged to be balanced.

■■ The domestic risks are balanced.

The domestic risks of inflation being higher or lower than in the main scenario are also estimated to be approximately balanced. The most significant risk factor at present is judged to be developments in productivity. Experiences in recent years indicate clearly that inflation can be lower than expected, even if output and demand develop as forecast. Productivity gains have been unexpectedly strong, mirroring the fact that the labour market has been weaker than forecast. The situation has been similar in the United States and a number of other countries. As can be seen in Figure 41, productivity varies sharply over time, but it is also evident that the average growth rate since the beginning of the 1990s has been higher than during the 1980s. It is difficult to determine with certainty why productivity has risen so much, and thereby also how much of the rise is permanent and how much depends on the usual cyclical pattern: that productivity is normally high in the initial stage of an economic upswing. The Riksbank's assessment is that the favourable productivity is partly due to the economic situation, and that the rate of increase therefore will fall in the years ahead, albeit to a markedly higher level than the average for the 1980s. Here there is obviously a risk of underestimating productivity growth and of overestimating inflationary pressures. There is considerable uncertainty in this regard, however, and there is also a risk of overestimating future productivity in the main scenario and thereby of underestimating the rise in inflation.

To sum up, the Riksbank judges the probability of inflation being higher than in the main scenario to be as large as the probability of it being lower. Taking into account the risk outlook, CPI inflation is expected to be 1.6 per cent one year ahead and 2.5 per cent two years ahead. The corresponding forecasts for UND1X inflation are 1.4 per cent and 2.0 per cent, respectively.

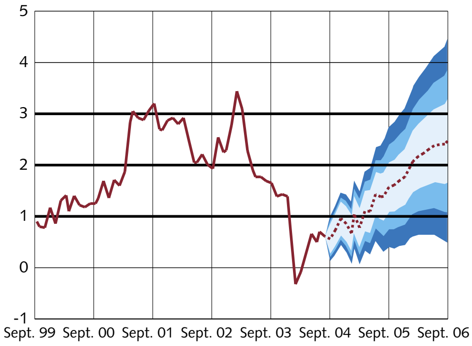
Figure 54. UND1X inflation with uncertainty bands.
Percentage 12-month change



Note. The uncertainty bands show the 50, 75 and 90 per cent probabilities of UND1X inflation being within the respective range. The broken line represents the forecast in the main scenario. The horizontal lines at 2, 1 and 3 per cent, respectively, are the Riksbank's inflation target and the tolerance limits for the annual change in the CPI.

Sources: Statistics Sweden and the Riksbank.

Figure 55. CPI inflation with uncertainty bands.
Percentage 12-month change



Note. The uncertainty bands show the 50, 75 and 90 per cent probabilities of CPI inflation being within the respective range. The broken line represents the forecast in the main scenario. The horizontal lines at 2, 1 and 3 per cent, respectively, are the Riksbank's inflation target and the tolerance limits for the annual change in the CPI.

Sources: Statistics Sweden and the Riksbank.

Table 10. Inflation forecasts adjusted for the balance of risks. Percentage 12-month change

	12-month average		12-month rates	
	2004	2005	Sept. 05	Sept. 06
CPI	0.5 (0.5)	1.3 (1.2)	1.6 (1.6)	2.5
UND1X	1.0 (1.0)	1.2 (1.2)	1.4 (1.4)	2.0

Note. The table gives the mean values of the probability distributions for the inflation forecasts in Figures 54 and 55. The figures in parentheses are the corresponding forecasts in the May Inflation Report.

Source: The Riksbank.

Table 11. UND1X inflation (12-month rates). Percentage probability of different outcomes

	UND1X<1	1< UND1X <2	2< UND1X <3	UND1X >3	Total
Sept. 2005	29 (46)	51 (44)	18 (10)	1 (0)	100
Sept. 2006	20 (26)	29 (32)	30 (26)	21 (16)	100

Note. The figures show the probability of UND1X inflation being within the given range. The figures in parentheses show the corresponding figures in the May Inflation Report.

Source: The Riksbank.

Table 12. CPI inflation (12-month rates). Percentage probability of different outcomes

	CPI<1	1< CPI <2	2< CPI <3	CPI >3	Total
Sept. 05	21 (44)	51 (45)	25 (11)	2 (1)	100
Sept. 06	11 (15)	24 (27)	32 (31)	33 (27)	100

Note. The figures show the probability of CPI inflation being within the given range. The figures in parentheses show the corresponding figures in the May Inflation Report.

Source: The Riksbank.

Developments in the longer term

Monetary policy is normally based on inflation prospects one to two years ahead. However, this does not imply that the situation either in the year ahead or beyond two years has no significance for monetary policy decisions. It is important to have a reasonably good idea of developments in a somewhat longer perspective in order, for example, to see if there are particular factors that could affect inflation beyond the forecast horizon. One obvious example in this regard is that the total impact on inflation of a temporary shock is only discernible after two years. This box discusses this briefly and then gives an assessment of the economic outlook beyond the two-year forecast horizon.

The main scenario discusses the economic outlook in the coming two years, which is the time horizon over which monetary policy is normally assumed to have its greatest impact on the economy. Even though this means that greatest importance is attached to prospects one to two years ahead when making monetary policy decisions, the economic outlook for both the shorter and somewhat longer term is of course also taken into account.[14] In general, it is important to allow the longer-term trends in the economy to play a part in the assessment of the current economic situation. Since it is normally more difficult to achieve precision in longer-term forecasts, such outlooks are usually of a more qualitative nature. Sometimes, however, the forecast developments are such that the total effect of a shock on inflation can only be seen beyond the two-year horizon, for example if the impact of a temporary shock is not expected to dissipate within two years. It can then be important to extend the forecast a number of years ahead so as to illustrate this more clearly.

One example of such a temporary shock is last year's rise in the electricity price. Even though the forecast for UND1X inflation as a result of the shock was still below target two years ahead, it was judged to be a temporary shock that did not call for any monetary policy action. In order to explain this, the Riksbank decided on that occasion to publish an inflation forecast that excluded energy prices. The forecast was 2 per cent two years ahead. Extending the forecast horizon for the headline inflation rate is another way of making these kinds of considerations even clearer.[15]

As is evident from the main scenario, the Inflation Report does not discuss any such shock on this occasion, even though the oil price and its impact on inflation have been studied particularly carefully.[16] According to the assessment, the price of oil is expected to fall during the forecast period but nevertheless stand at a higher level than previously forecast. However, there are factors that suggest that the effects of the oil price rise will be mainly limited. The higher oil price does affect Swedish inflation throughout the forecast period but the effects are judged to be relatively small, both on prices and on the real economy. The economic upswing in some European countries and in the United States could be slowed somewhat, but the assessment is that the recovery will not be derailed. The period up to 2006 is characterised by stronger global and domestic economic activity. Swedish economic growth is estimated to be just over 3 per cent a year, and as resource utilisation picks up,

14 For a more in-depth discussion, see the memorandum, "The Riksbank's inflation target – clarifications and evaluation", 4 February 1999, registration number 1999-00351 DIR, and Heikensten, L. (1999), "The Riksbank's inflation target – clarifications and evaluation", *Sveriges Riksbank Quarterly Review* 1.

15 See the box "The Riksbank's monetary policy – target and indicators" in Inflation Report 2003:3 and Deputy Governor Irma Rosenberg's speech at the 50th anniversary of the Swedish CPI committee on 4 May 2004 entitled "The inflation target and the CPI".

16 See, for example, the box "Oil prices and monetary policy".

inflationary pressures will rise. UND1X at the end of 2006 is forecast to be around 2 per cent.

As regards the outlook for the year after the two-year horizon, no dramatic changes are expected compared with the picture in the main scenario; rather, economic activity is likely to continue to be robust. Demand in the economy is anticipated to mount further, with growth rates over the potential one. Resource utilisation will pick up, thereby fuelling inflationary pressures in the economy. It is therefore likely that inflation will be somewhat above target beyond the forecast horizon. The assumption is based on a constant repo rate. However, it is realistic to believe that the Riksbank, will act to dampen demand, raising the repo rate concurrently as inflationary pressures are expected to increase. Such a development is also consistent with market expectations, at least if indicators such as implied forward rates are used to estimate an expected future path for the interest rate. With well-balanced policy, actual growth is likely to develop in line with a long-term sustainable level around a year beyond the two-year horizon.

When discussing GDP growth, resource utilisation and inflation in the longer term, the assumption made about potential growth in the economy is important. The higher the long-term growth in the economy's production capacity, the faster production can grow without inflation accelerating. One problem is that the potential growth rate is not directly observable, and the estimates of it are uncertain and variable over time. This is partly because the factors that determine potential growth change; mainly the rate of technological progress and the long-term growth of the factors of production. But data revisions and differences in results between different calculation methods also contribute to the uncertainty.

For these reasons the Riksbank has decided not to specify any exact figure for the potential growth rate; rather, the forecasting work is carried out under the assumption that the growth rate is somewhere in the range 2-2.5 per cent. The recently strong productivity growth has raised questions about whether structural factors have raised the long-term productivity growth rate and whether this could affect the economy in coming years as well.[17] This has been taken into account in the assessment of developments in the period ahead, but at the same time productivity in the short-term is expected to be influenced by the traditional cyclical pattern and slacken as the recovery continues. More information about the persistence of the rise in productivity will thus come as the business cycle continues and employment picks up.

So, the potential or sustainable rate of growth in productivity and in the economy as a whole is of great significance when forecasting resource utilisation and inflationary pressures a few years ahead. Potential growth varies over time and is determined by supply-side conditions in the economy: the stock of production resources in the form of labour and capital and how efficiently we utilise these resources – total factor productivity. Based on experience, the latter is the most important component for the long-term growth rate but is also the most difficult to explain and forecast. Developments in both the labour force and employment a few years ahead are governed by conditions such as demographic developments, tax and social insurance systems and the functioning of the labour market. Forecasts for GDP growth, resource utilisation and inflation a few years ahead should therefore also take such factors into account. At the same time, these are conditions that cannot be influenced by monetary policy.

17 For a discussion of this, see the box "How persistent is the recent rise in productivity?" in Inflation Report 2004:1.

The stock of capital affects both developments in potential growth and the cyclical variations in economic activity around the long-term trend. After foreign trade, investment is the most volatile component of aggregate demand. The forecast for GDP growth up to 2006 that is discussed in the main scenario assumes a pickup in investment. In an historical perspective, the share of GDP accounted for by investment is currently low. There are many explanations for this, including relatively low housing construction, but it is also reasonable to expect that the investment upswing that will follow from the rise in demand up to 2006 will imply that the share of GDP accounted for by investment will increase in the longer term. The contribution made by consumption to GDP growth can also be expected to increase in the coming years even though its share of GDP is unlikely to be affected to any sizable degree. A reasonable assumption is that consumption will continue to comprise about 50 per cent of GDP in a somewhat longer perspective as well.

To sum up, economic activity is likely to be vigorous beyond the two-year horizon. With an unchanged repo rate, inflation is forecast to rise further and to be above target beyond the forecast horizon. Economic growth is likely to slacken somewhat but capacity utilisation will remain high and GDP growth will be above its potential rate.