Inflation Report

SVERIGES RIKSBANK

JUNE
1996

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Contents

Foreword

The objective of monetary policy is price stability. The Riksbank has operationalised this as 2 per cent inflation, with a tolerance interval of ±1 percentage point.

Because of the time lag before measures of monetary policy affect inflation, we work with a time horizon of one to two years. Assessments of future inflation are therefore a central issue.

Our appraisal of future economic development and inflation is presented in these inflation reports, which the Riksbank has been publishing since October 1993. The reports serve to make our deliberations known to a wider public, and thereby contribute to a more stable situation in financial markets. They are also intended to provide material for a broad debate on matters relating to monetary policy.

Over the years, the inflation reports have been developed and are now the Riksbank's principal policy document, issued four times a year.

The present report is somewhat shorter than its predecessors. It has been designed to provide a more coherent picture of policy's guiding perspective. The text concentrates on events since the March report and the ensuing conclusions for monetary policy. All the underlying material that has previously been included in the text is presented in this report in an annex in the form of diagrams.

The work on the report has been done, as before, mainly in the Economics Department of the Riksbank. It has been led by the head of the Department, Claes Berg, and the head of the Price Analysis Division, Jonas Ahlander.

The inflation report provided a basis for the Governing Board's discussion of monetary policy on 23 May, 1996. The conclusions are presented in Chapter 3.

Stockholm, June 1996

Urban Bäckström
Governor of Sveriges Riksbank

Summary

Inflation in April 1996 was somewhat lower than expected but its course has largely corresponded to the assessment in the previous report. The downward inflation tendency during the spring was primarily a consequence of the krona's appreciation and lower house mortgage rates.

The economic slowdown to date this year has been more marked than envisaged in March. Exports have developed less well on account of weaker international demand. The tendency in domestic market has also been slack.

The main scenario is based on increased activity in the autumn. Conditions for a recovery are evident above all in the export sector, while domestic demand will probably remain relatively subdued. The weakening of economic activity is being countered by the easing of the monetary stance and the lower market rates of interest. It seems unlikely, however, that the economy will reach full capacity utilisation even in the course of 1997.

Conditions are considered to be good for a development of inflation in the coming two years that is in line with the 2 per cent inflation target.

In the main scenario there is some room for a further easing of the monetary stance. Some room for this will also exist if the economy turns out to be weaker, while signs of a stronger tendency work in the opposite direction.

CHAPTER 1

Developments since the March report

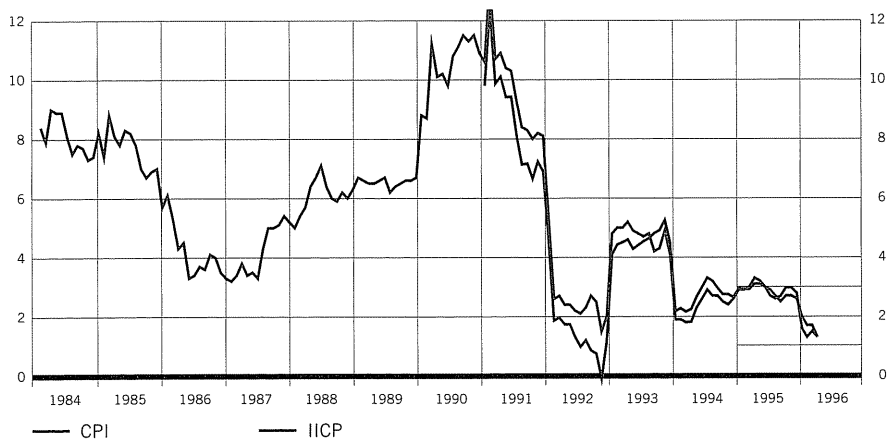
Various factors that have a bearing on future inflation are discussed in this chapter. These factors include the state of demand and supply, inflation expectations and monetary policy. The account opens with a picture of how inflation has developed since the previous report. The following chapters deal with the Riksbank's assessment of future inflation and the conclusions for monetary policy.

Inflation

In the previous inflation report, published at the beginning of March 1996, it was noted that in the winter and early spring the outlook for inflation had continued to improve. Good conditions were therefore considered to exist for a development of inflation in the coming years that would be in line with the target rate of 2 per cent. The assessment was based on assumptions of no change in economic policy and a strengthening of the effective (TCW) exchange rate from 120.

The rate of inflation, measured with the CPI, dropped to 2 per cent in January 1996 from over 2.5 per cent at the end of 1995. The main factors behind this were the krona's appreciation, a downward tendency in mortgage interest rates and subdued prices for some components of services. In the March

Figure 1.
CPI and IICP*.
Percentage 12-month change



*Interim index for international comparisons of consumer prices.
The lines indicate the tolerance interval of the Riksbank's inflation target.
Source: Statistics Sweden.

report it was considered probable that during the spring the rate of inflation would go on falling below 2 per cent. In April, inflation as measured by the CPI had dropped to 1.3 per cent (Fig. 1). The EU-harmonised measure of inflation (IICP) for April 1996 likewise showed a twelve-month rate of 1.3 per cent.[1]

The recent development of inflation has been broadly in line with our prediction in the March report, except that the rate for April is somewhat lower than expected. Inflation's downward tendency this spring has come above all from a continuation of subdued import prices and lower house mortgage costs (Fig. 2). These factors were also largely responsible for inflation being lower than expected. In March 1996 import prices tended to rise somewhat faster as a result of the krona's temporary depreciation and rising crude oil prices earlier in the year; this was offset, however, by a further fall in interest costs.

Inflation somewhat lower than expected.

During the spring of 1996 inflation has decreased to levels that are historically low. Inflation in Sweden has not been as low as this since 1968. The retardation of registered inflation this spring has come mainly from temporary effects of the krona's appreciation and falling house mortgage rates. In keeping with this, the various measurements of underlying inflation show rates during 1996 that are fairly stable, around 1.5 per cent (Annex, Figs. 3 and 4).

The rate of price increases for services and goods that are largely produced in Sweden has also been more or less stable, just over 2 per cent (see Box). Here, too, the level is historically low. It seems that a clear adjustment of prices to a low-inflation economy has occurred above all for services and rents.

A stronger exchange rate and lower house mortgage rates were important for the fall in inflation this spring.

Factors of importance for future inflation

Industrial activity weaker than expected

Economic growth in Sweden slackened sharply towards the end of 1995 and early in 1996. The weaker international demand, combined with a

[1] The IICP and the European harmonisation of CPIs have been described in the two preceding inflation reports.

Figure 2.
Components of the CPI.
Percentage 12-month change

Note. The figures in parentheses are the component's CPI weight in 1996.
Sources: Statistics Sweden and the Riksbank.

stronger exchange rate and stock adjustments, contributed to a marked fall-off in industrial activity. In the first quarter of 1996 the average level of industrial production was 0.3 per cent higher than a year earlier.

However, investment – the driving force, together with exports, behind the economic upswing in recent years – was still rising at the end of 1995. This has added to production capacity, particularly in manufacturing. Together with the lower demand, this meant that industrial capacity utilisation fell in the second half of 1995; but in the fourth quarter the level still seemed to be relatively high, even compared with the period of overheating in the late 1980s (Annex, Fig. 5).

The inflationary impulses from industry have decreased.

A BREAKDOWN OF THE CPI

In the context of monetary policy there is a need to assess both the extent to which registered inflation comes from occasional effects on the price level and the degree to which it is generated in Sweden rather than being imported. For the first purpose, use is made of various estimates of underlying inflation and these are analysed continuously in the inflation reports. For the other purpose the CPI has been broken down into a number of components; this procedure is to be developed and extended for future reports. The result of the present breakdown is presented in Fig. 2.

A breakdown of the CPI into domestic and imported goods and services is bound to be imperfect because, unlike producer prices, the statistics on consumer prices do not distinguish between imported and domestic products. Our breakdown therefore separates product groups that mainly comprise goods and services produced in Sweden from groups that are mainly imported. Due to the differences in the composition of these categories, there is a limit to the comparisons that can be made between them. For the CPI, all services, for instance, are assigned to the domestic prices category. For various reasons, historical price increases for services have exceeded those for goods.

The items in the category of mainly imported goods include clothing, footwear, certain food products, vehicles, and radio and television products. Items that are processed in Sweden but have a large import content, e.g. coffee and petrol, are also assigned to this category. The mainly imported category comprises 24 per cent of the products in the CPI. The domestic category, which comprises 66 per cent, includes all services, housing rents, most food products, and miscellaneous goods such as books, newspapers and household appliances.

Monetary policy analysis also needs to allow for the immediate CPI effects of interest-rate adjustments. For this reason, house mortgage interest costs, which make up 10 per cent of the CPI, are treated as a separate category. In the short run, mortgage interest costs are affected mainly by movements in variable interest rates, which apply to roughly one-fifth of the loan stock. In the longer run, total interest costs respond to fixed mortgage rates (as the loans are renewed), real estate prices and interest subsidies.

As shown in Fig. 2, the rate of price increases generated in Sweden has been virtually stable, at around 2–3 per cent, since 1992, when the retardation of inflation began. The upsurge in 1993 came primarily from the krona's depreciation and illustrates the difficulty in separating imported from domestic products.

Changes in indirect taxes and subsidies in connection with budget consolidation have also had temporary effects on price movements generated in Sweden. This means that in recent years the trend for domestic inflation has been around 2 per cent.

A domestic inflation trend around 2 per cent is historically low, particularly as it includes price increases for services, which have tended to be higher than for goods. This suggests that the Swedish economy's inflation propensity has decrease.

As the stimulus from the krona's depreciation fades, it is natural that growth in the internationally oriented sector should slacken. The industrial slowdown has been accentuated, however, in that international demand has been weaker than expected and stocks are being adjusted. For inflation this implies less risk of the impulses spreading to other sectors, for instance via wage and price formation.

As a consequence of the industrial slowdown and the krona's appreciation during the winter and spring, producer price increases have been checked. In the first three months of 1996 domestic product prices actually fell in export markets as well as the home market (Fig. 3). Import prices rose just over 1 per cent in this period. Compared with the same period a year earlier, however, the level of import prices was almost 2 per cent lower, while home market prices were almost 2 per cent higher.

Besides the effect of a temporary depreciation of the krona in January and February, the upward tendency in import prices had to do with the international price rise for crude oil and petroleum products. World market prices for oil, however, appear to have moved down again, though they remain higher than in March 1996.

Producer prices have been subdued as a result of the weaker industrial activity and the krona's appreciation.

Falling retail turnover

Activity in the services sector has also slackened, above all in wholesale and retail trade. In the first quarter of 1996 retail turnover was just over 1 per cent lower than a year earlier (Annex, Fig. 7).

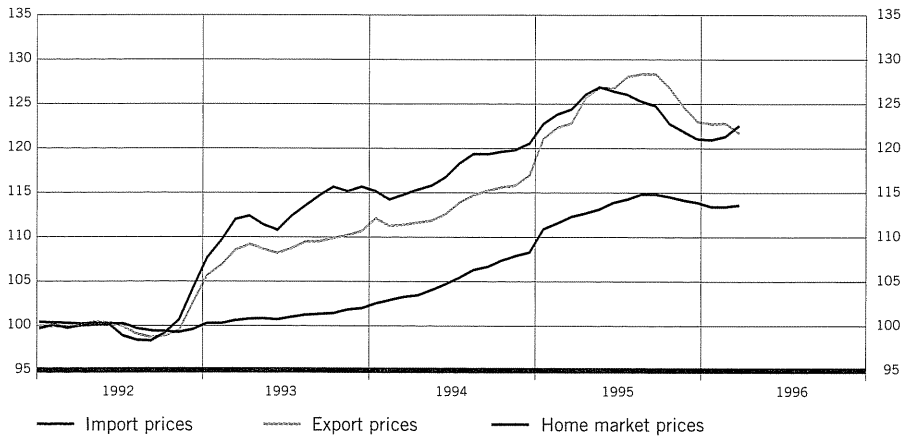
The weakening of activity in the services sector stems mainly from subdued consumption. Since the autumn of 1995, household expectations[2] – particularly as regards the labour market – have been marked by pessimism and uncertainty. These expectations may also have been influenced by continued concern about government finance, as well as by uncertainty about the magnitude of future public spending cuts and their effects on household budgets.

Recently, however, *house prices* have shown an upward tendency and share prices have continued to rise (Annex, Fig. 13). This increase in household wealth may provide a basis for higher future demand for consumption. Other signals in the same direction are that in recent months households have become somewhat less pessimistic about the economic future and central government tax revenue has been higher than expected.

The development of wealth may provide a basis for increased consumption.

[2] As reported in Statistics Sweden's surveys of household purchasing plans (HIP).

Figure 3.
Import, export and home market prices.
Index: 1992=100



Source: Statistics Sweden.

Low growth of the money supply and lending

The subdued demand and low inflationary pressure in the Swedish economy are underscored by the latest statistics on the money supply and lending.

The *narrow money-supply aggregate, M0* (the non-bank public's holdings of banknotes and coins), is closely related to the development of consumption even though cash is used for just a small proportion of the value of all payments. The weak tendency – M0 fell 0.1 per cent in the twelve months through April 1996 – is therefore a sign that consumption may remain subdued in the second quarter of 1996 (Annex, Fig. 11).

Weak M0 one sign of subdued consumption.

The growth of the *broader money-supply aggregate, M3,* has picked up sharply during the spring, to a 12-month change figure of 10 per cent in April 1996 (Annex, Fig. 11). The course of M3 is affected, however, by portfolio rearrangements between assets that are included in this aggregate (bank deposits, repos and certificates of deposit) and those that are not (treasury bills, housing certificates and private bonds). This complicates the assessment of M3 and also makes it more difficult to tell what any changes may imply for general economic development.

In that the increase in M3 this spring was mainly a result of portfolio rearrangements in the business and household sectors, it is not considered to indicate increased inflationary pressure. No equivalent increase has been registered in the broadest measure of liquid assets.[3] In connection with growing competition for deposits, since the autumn of 1995 the banks have raised their deposit rates even though interest rates in general have been falling. As a result, the marked reduction of bank deposits has turned into an increase. It is mainly firms that have built up deposits, in conjunction with a decreased stock of certificates and treasury bills. With the fall in bond rates, moreover, households have become less interested in private bonds, so that bank deposits of households have also grown.

The borrowing tendency has also been weak. In April 1996 net *lending* to the resident non-bank public was 1.0 per cent lower than a year earlier (Annex, Fig. 12). The drop in lending to households was particularly marked, around 2 per cent. An important explanation for the reduction is to be found in the low level of residential construction and the weak house prices.

Labour market still weak

Since our March report the situation in the labour market has not changed appreciably. Registered unemployment has pointed downwards this spring, partly due to additional measures of labour market policy. In April 1996 the registered unemployment rate was almost 8 per cent. The total unemployment rate (the registered component plus participants in labour market programmes) tended to rise, to almost 12 per cent (Fig. 4).

However, both the number in employment and the volume of hours worked in the first five months of 1996 were higher than in the same period a year earlier. This was the case above all in manufacturing and private services. But the number in employment has tended to fall this spring.

There are many indications that the level of unemployment which is compatible with stable inflation – the equilibrium rate of unemployment[4] – has shifted upwards. Besides depending on historical unemployment, the equilibrium level of unemployment is mainly conditioned by how the labour market and wage formation function. The most recent round of wage negotiations provided evidence of the problems in wage formation and is a sign that equilibrium unemployment has moved up in recent years. Despite high unemployment, the wage settlements resulted in a development of wage costs that is ultimately incompatible with low inflation and high employment.

[3] M3 plus the non-bank public's other interest-bearing assets: treasury bills, certificates, national savings accounts, National Debt Office accounts, premium bonds and private bonds.

[4] Also known as the non-accelerating inflation rate of unemployment, NAIRU.

The present rate of wage increases is ultimately incompatible with low inflation and high employment.

Including wage drift, the registered wage rise for private sector worker moved up to over 6 per cent in February 1996 (Annex, Table 1). This is in line with our estimate in the March report and therefore does not call for any change in the assessment that in 1996 and 1997 unit labour costs will rise by around 3–4 per cent. During 1995 the rate of increase in these costs accelerated, to almost 3 per cent in the fourth quarter. The annual level of labour costs for 1995 was just over 1 per cent higher than a year earlier (Annex, Fig. 10).

Inflation expectations still low

Besides reflecting relationships between demand and supply, inflation is influenced to an important extent by expectations of its future development. The indicators of these expectations include developments in money and foreign exchange markets, as well as surveys of various economic agents.

Since the autumn of 1995 inflation expectations have fallen markedly. Since the March report, however, the expectations of the various groups, at least as registered in surveys, have developed somewhat differently.

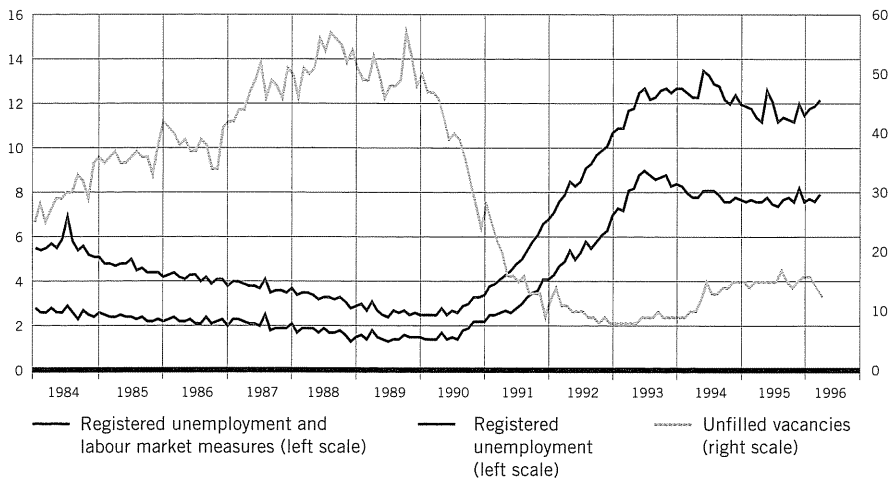
Households' expectations of inflation one year ahead have moved up from just over 2 per cent at the beginning of 1996 to 2.5 per cent this April. In industry, on the other hand, inflation expectations have continued to fall; in March 1996 industrial firms counted on average on a consumer price rise in the coming twelve months of 1.8 per cent, which is 0.8 percentage points lower than in the previous survey, in December 1995 (Annex, Fig. 14).

Inflation expectations have gone on falling in industry and the services sector but some increase has been observed among households.

According to the services survey by the National Institute in March 1996, the downward tendency in inflation expectations has also continued in the services sector. The expected one-year increase in consumer prices had dropped from around 2.5 per cent in December 1995 to just over 1.5 per cent in March. With the exception of freight transport firms, all parts of the services sector now believe inflation in the coming year will be below 2 per cent. As in December 1995, these expectations are lowest in retail trade.

Among agents and organisations in markets for money, labour and goods, the May 1996 survey by Prospera indicates that inflation expectations have moved down since the March report (Table 1). On average, the expectations are still above the 2 per cent inflation target but inside the tolerance interval. The downward tendency mainly concerns the

Figure 4.
Unemployment and job vacancies.
Per cent or thousands, seasonally-adjusted data



Sources: Statistics Sweden and National Labour Market Board.

expectations of inflation one and two years ahead. The most optimistic agents are those in the money market. This result tallies with the latest survey by Aragon (Annex, Fig. 15). The degree of unanimity within and between various groups has continued to grow and there are expectations that in the coming two years the inflation target will be met. The expectations for the longer run have also fallen but are still a bit above the inflation target, which possibly reflects persistent fears of increased inflation among some agents.

Interest and exchange rate movements suggest increased confidence

The krona's effective (TCW) exchange rate has strengthened since the March report by 2.5 per cent and is currently just above 115 (Annex, Fig. 17).[5] This appreciation has led to lower import prices, which lessens inflationary pressure. When assessing the strengthening of the exchange rate in the past year it should be borne in mind that the krona has been markedly undervalued.

The krona's appreciation has led to falling import prices, which lessens inflationary pressure.

Information about inflation expectations can be derived from nominal interest rates in the form of implied forward rates. The medium-term forward rates (one to two years) have gone on falling (Annex, Fig. 16); in the case of loans commencing in January 1998 the drop in the past year amounts to about 3.5 percentage points. Inflation expectations, however, have not fallen to the same extent. Part of the reason for this is that, compared with the assessments a year ago, an easing of monetary policy is now considered more likely and this accentuates the downward movement of forward rates. Lower medium-term forward rates have also been promoted by the increased confidence in the Swedish economy, in that this implies less risk of a departure from the low-inflation policy.[6]

A quantitative indication of economic policy's credibility is provided, as mentioned in earlier inflation reports, by the forward bond rate differential with Germany. There is a strong covariation between this difference and the SEK/DEM exchange rate (Annex, Fig. 19). It seems that the Swedish economy's problem of confidence, besides pushing Swedish bond rates up in recent years, has been a major explanation for the weakness of the krona.[7] Since the March report, however, the development of interest and exchange rates suggests that inflation expectations have continued to fall, accompanied by a further enhancement of confidence in the Swedish

[5] The average rate in the period 13–21 May.

[6] Confidence in the Swedish economy's long-term commitment to combating inflation can be formalised with the aid of regime shift premia, see Dillén, H., Regime shift premia in the Swedish term structure: theory and evidence. Working Paper 28. Sveriges Riksbank, 1996.

[7] For a theoretical model that explains such a relationship between exchange rates and bond rates, see Dillén, H. & Lindberg, H., Interest and exchange rates in an economy with regime shifts and sticky prices. Working paper (forthcoming). Sveriges Riksbank.

Table 1. Inflation expectations in May 1996, with the change from February 1996 in parentheses. Average figures, per cent

	Annual change in CPI, per cent, in:		
	–1 year	–2 years	–5 years
Employer organisations	2.6 (–0.2)	2.6 (–0.2)	2.8 (–0.2)
Employee organisations	2.4 (–0.4)	2.5 (–0.3)	2.8 (–0.1)
Purchasing managers, industry	2.4 (–0.3)	2.5 (–0.2)	2.7 (–0.1)
Purchasing managers, trade	2.4 (–0.5)	2.6 (–0.3)	2.8 (–0.1)
Money market agents	2.0 (–0.5)	2.2 (–0.3)	2.5 (–0.3)

Source: Prospera Research AB.

economy. This conclusion is underpinned by this spring's survey data on the inflation expectations of various groups.

The difference between the nominal and the real long-term forward interest rate is currently just under 6 percentage points (Annex, Fig. 18). This is too large a difference to be solely an inflation risk premium; it indicates that bond investors do not find the inflation target entirely credible in the long term.

The combination of a stronger exchange rate and the favourable development of interest rates relative to other countries must be considered to reflect increased confidence. This confidence can be maintained by continuing to focus monetary policy on price stability and by carrying out the consolidation of the government budget as planned by the Government and the Riksdag. It is worth noting, however, that the tendencies in the past six months have been underpinned by a favourable development in international financial markets.

The stronger krona and lower interest rates have to do with increased confidence in economic policy.

Major consolidation measures

In recent years the development of confidence in the Swedish economy has had much to do with government finance. With the successive implementation of the consolidation programme and the concurrent economic growth, the situation for government finance now looks better. Recently, moreover, government finance has been improved by the favourable interest and exchange rate movements, which in turn probably stem from increased confidence as a result of the measures.

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At the end of April 1996 the central government borrowing requirement, in cumulative 12-month terms, was about SEK 83 billion, which is a reduction of 157 billion from the peak requirement in December 1993 (Annex, Fig. 20). In the 12-month period through March the primary borrowing requirement[8] was actually negative, for the first time since the autumn of 1991. For 1995 the GDP ratio for general government gross debt was 79 per cent, which represents a stabilisation.

In the Spring Bill the Government proposes additional permanent budget reinforcements totalling SEK 8 billion. For the period 1995–98 the various measures for consolidating government finance accordingly add up to SEK 126 billion. Of the budget reinforcements proposed in the bill, revenue enhancements account for about 40 per cent. The tax ratio will move up during 1996 and 1997, approaching the levels before the 1991 tax reform.[9]

The Government's convergence programme contains a mechanism for a six-monthly monitoring of budget policy. In this context the Government has undertaken to propose additional budget measures if these are required to restore central government financial balance by 1998. That is part of the background to the measures that were presented this April.

A protracted economic slowdown could entail a risk of additional strains on central government finance, thereby accentuating the demands on economic policy. Sustained confidence in economic policy no doubt requires that the work of consolidating government finance continues in accordance with the convergence programme and the goals established by the Government and the Riksdag. This also improves the long-term conditions for price stability and creates more room to manoeuvre in monetary policy.

A protracted economic slowdown may accentuate the demands on fiscal policy.

[8] The borrowing requirement excluding interest expenditure.

[9] The tax ratio, defined as the GDP share for total general government revenue from taxes and charges, was 50.0 per cent in 1994. Estimates in the Spring Bill, excluding effects of the proposals presented there, put the ratio in 1996 at 53.3 per cent. In 1989 and 1990 the tax ratio was 56.2 and 55.7 per cent, respectively.

ESTIMATING POTENTIAL GDP AND THE OUTPUT GAP [1]

Potential GDP is a measure of what an economy is capable of producing in the long run. Actual GDP is liable to deviate from its potential course but returns to this as the effects of any macroeconomic shocks subside. The temporary deviations may be a consequence of the business cycle and are commonly termed the output gap.

For the output gap estimates in earlier inflation reports, the GDP data have been treated with a Whittaker-Henderson filter. The present report also includes preliminary results for a new method, where data on inflation as well as actual GDP are used in the calculation of the non-observable level of potential GDP. The relationships between potential GDP, the business cycle and inflation are specified so that a positive output gap (actual GDP is above its long-term potential) gives rise to an upward shift in inflation and vice versa. It is only when actual GDP coincides with potential GDP that the rate of inflation is stable.[2]

This method, like the Whittaker-Henderson filter, permits variations in potential GDP's underlying trend. Using the specified relationships and other data, a level of potential GDP is estimated for the given points in time. In the next step this level is used to predict the observable variables in the coming quarter.[3] For each point in time this gives a forecasting error in the form of the discrepancy between the predicted and the observed values. This information is then used to compute the potential GDP time series that minimises this forecasting error.

Notwithstanding some differences for earlier periods, the output gap calculations with the new and the earlier, filter method indicate that with the weak development of GDP in the fourth quarter of 1995, the output gap widened once more (Fig. 5).

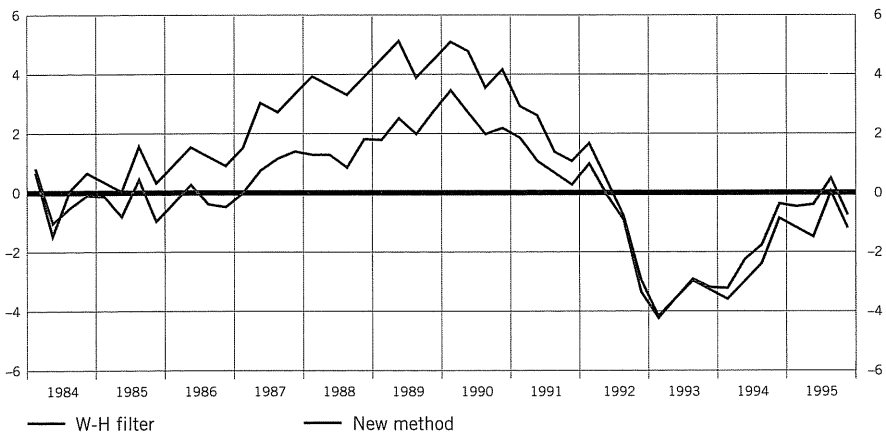
Both methods, however, give a potential GDP growth rate during 1995 that is lower than appears probable. This is all the more so in that the production potential is likely to have been improved by the structural changes in recent years. At present, therefore, the risk of inflationary demand pressure is probably smaller than the calculations suggest.

[1] In practice an econometric estimation cannot encompass all the factors that contain information about the state of the economy in relation to its long-term potential output. Examples of these factors are industrial capacity utilisation, labour market flexibility and effects of structural reforms. Econometric estimations of potential GDP and the output gap should therefore be seen as an adjunct to other information about relationships between demand and supply.

[2] A model based on this method is described in Kuttner, K.N., Estimating potential output as a latent variable, Journal of Business & Economic Statistics, July 1994, Vol. 12, No. 3.

[3] The time series for potential GDP is calculated in practice with a recursive Kalman filter algorithm.

Figure 5.
Output gap calculated with alternative methods



Note. The Whittaker-Henderson filter alternative is based on a projection of actual GDP with the National Institute's forecasts for 1996 and 1997, that is, 1.0 and 2.4 per cent, respectively, and for 1998–99 with 2.5 per cent. Source: The Riksbank.

Monetary policy

The full effects of monetary policy measures take a considerable time to materialise (see Box). Monetary policy judgements therefore have to be made in the light of how inflation is likely to develop in the coming one to two years.

In the inflation report in November 1995 it was noted that during the autumn the conditions for price stability had improved and that confidence in the inflation target had been enhanced. Important factors here were subdued producer price movements, in conjunction with the krona's appreciation, and a continuation of good productivity growth. The inflation expectations and forecasts of various observers had also moved down but at that time they were still above the inflation target's upper tolerance limit of 3 per cent. It was therefore considered that sufficient conditions were not in place for an easing of the monetary stance.

During the winter the inflation outlook continued to improve and in January a period of cuts in the instrumental rates was initiated. In the March report it was noted that confidence in economic policy, as expressed in interest and exchange rate movements, had grown. The tendency in inflation expectations had also remained favourable. Moreover, the signs of weaker industrial activity, in Sweden as well as internationally, meant a decreased risk of inflationary impulses spreading from exposed to domestically-oriented parts of the economy. It was considered in March that there was a good possibility of inflation developing in line with the 2 per cent target in 1996 and 1997.

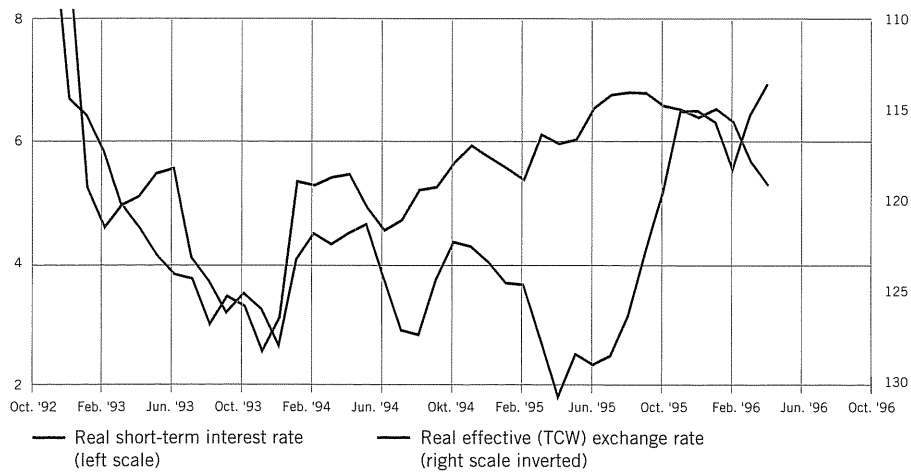
In March it was considered that inflation would develop in line with the 2 per cent target in 1996 and 1997.

Since the March report the repo rate has been lowered by a total of 155 basis points to 6.5 per cent. The cuts were spread over seven occasions (Annex, Fig. 21). In the same period the Riksbank's lending and deposit rates have been reduced by 1.5 percentage points. Since the beginning of January 1996, when the downward path began, the repo rate has been lowered 241 basis points.

Monetary policy affects demand and inflation via interest and exchange rates, which are referred to collectively as the monetary conditions. The impact of the monetary conditions is essentially dependent on the real level of interest and exchange rates. A weighted combination of these factors provides a picture of how monetary policy impinges on the economy.

Between the end of February and the end of May 1996 the Swedish ten-year treasury bond rate has moved down about 0.3 percentage points, to 8.5 per cent, and the three-month treasury bill rate has dropped 1.1 percentage points, to 6.2 per cent. At

Figure 6.
Real short-term (3 month) interest rate and real effective (TCW) exchange rate.
Per cent and index:
Oct. 1992 =100



Source: The Riksbank.

the same time the krona's effective (TCW) exchange rate has strengthened almost 3 per cent (Annex, Fig. 17).

Bond rates have not fallen to the same extent as the short market rates. One explanation is that international bond rates have moved up during the spring, partly due to expectations of a tighter monetary stance in the United States. Even though the international tendency was upwards, Swedish bonds rates have gone on falling. As a result of this development, which differs from the pattern in 1994 and 1995, in recent months the forward bond rate differential with Germany, for instance, has narrowed (Annex, Fig. 19). A similar tendency has been observed in other high-yield countries.

In real terms the short-term interest rate fell more than 1 percentage point from February to April 1996 and the real exchange rate appreciated about 4 per cent (Fig. 6). Since April the real interest rate has continued to fall, while the real exchange rate has weakened. Thus, even with the cuts in interest rates, since the March report the impact of interest and exchange rate movements on inflation and demand one year ahead has been broadly neutral.

The time lag before exchange rate movements have their full effect on demand, via the transmission

MONETARY POLICY TRANSMISSION MECHANISM

Monetary policy influences inflation indirectly via its effects on demand for and the production of goods and services. This means that during the period of adjustment, changes occur in prices as well as in quantities. In practice the interactions are difficult to foresee and interpret.

Another complication concerns the time lag before effects of monetary policy measures materialise in full. Swedish and international studies show that the full effects of monetary policy on demand and inflation – the transmission mechanism – take an average of about 12–18 months to show up. [1] Monetary policy therefore has to focus on future economic development and future inflation.

The two main "channels" through which monetary policy acts are interest rates and the exchange rate. An increase in the instrumental rate (a tightening of the monetary stance) that has not been foreseen elicits much the same increase in the short market rates. Higher interest rates lead in turn to decreased demand from households and firms, which tends to ease inflationary pressure. The studies show that a change in the interest rate has its full effect on demand after approximately 4 to 6 quarters. The time profile is broadly the same for all the countries that have been studied. It is primarily by affecting asset values (real estate and shares) that interest rate movements may influence demand more quickly.

With a flexible exchange rate, an increase in the instrumental rate normally leads to an appreciation of the currency. This in turn affects the economy in two main ways. Firstly, goods produced abroad become cheaper relative to domestic products, with the result that demand for the latter diminishes, thereby easing inflationary pressure. The time lag for this indirect exchange-rate effect is approximately the same as for the interest-rate effect, 4 to 6 quarters. Secondly, an exchange rate movement has direct effects on the price level. An appreciation also tends to subdue inflation via lower prices for imports and goods that compete with imports.

The direct exchange-rate effects generally show up in registered inflation sooner than the indirect effects. Substantial effects may be noted in a matter of months and most of the direct impact on prices is evident within a year.

[1] For example Bernanke, B.S. & Gertler, M., Inside the black box: the credit channel of monetary policy transmission. Journal of Economic Perspectives, Volume 9, No. 4, 1995, and Gerlach, S. & Smets, F., The monetary transmission mechanism: evidence from the G-7 countries. Bank for International Settlements, 27 October, 1994.

mechanism, is much the same as for interest rate adjustments. In addition, however, the exchange rate affects inflation via import prices. These temporary effects normally materialise earlier than the permanent effects via demand. Interest rates likewise have initial effects on registered inflation via variable-interest loans. Initially, therefore, a lower money rate leads to an easing of registered inflationary pressure; in the longer run, however, its impact on demand may generate rising inflation if tensions arise between supply and demand.

The recent tendencies, with a fall in interest rates and a stronger krona, will affect the economy by degrees, with different effects at different times. In the coming twelve months the direct effects on costs and prices will tend to lower registered inflation, while the restrictive demand effects of the stronger krona will last longer and probably go on contributing to a subdued development of prices in the internationally oriented sector.

This is offset by expansionary effects, in a larger segment of the economy, of the lower interest rates. It will be cheaper to finance consumption and investment with loans, accompanied by rising asset prices, with a positive impact on aggregate demand. In time, if the output gap closes, inflation may move.

CHAPTER 2

Inflation assessment, June 1996

The Riksbank's assessment of future inflation is presented in this chapter in the form of a main scenario; two alternative scenarios are outlined in Chapter 3 in connection with the discussion of monetary policy conclusions. The analysis below is made in the light of the new information since the March report, presented in Chapter 1.

A technical assumption for the assessment is that economic policy remains unchanged. We also presuppose unchanged confidence in economic policy, as expressed by price setting in financial markets. Some appreciation of the effective (TCW) exchange rate is assumed, from the level around 115.

The main factors to consider in an inflation assessment, as pointed out earlier, are relationships between demand and supply and the expected development of inflation. Movements in interest and exchange rates are important in this context because they influence the development of demand and also say something about economic policy's credibility.

THREE IMPORTANT CIRCUMSTANCES

The review in Chapter 1 shows that the assessment of future inflation is affected by information which has become available since March 1996. Three circumstances seem particularly relevant.

Firstly, *real economic activity* has been slacker than expected. The indicators, moreover, point to a development that will probably be somewhat more subdued than appeared likely earlier.

International demand has remained weak. Together with the stronger exchange rate, this has meant that activity in Swedish manufacturing has been somewhat poorer than expected. At the same time, households appear to be as pessimistic about the economic future as before and there are only faint signals of an imminent upswing in consumption. The weak picture is underscored by the low retail turnover and the situation in financial markets.

Three circumstances are particularly relevant. Firstly, real economic activity has been poorer than expected.

Secondly, *confidence in economic policy*, as expressed in the development of interest and exchange rates, has improved during the spring. The krona has appreciated by almost 3 per cent since the March report and by almost 2 per cent compared with the assumptions at that time for the first half of 1996. This has had an appreciable effect on prices during the spring and also brightens the outlook for future inflation.

The ten-year bond rate has tended to fall even though the international movement has been upwards. Since the March report the differential between German and Swedish bond rates has narrowed by 0.4 percentage points. Meanwhile, short-term interest rates have fallen more than 1 percentage point.

The increased confidence has to do with the conduct of policy. For example, as they became

known, the Government's economic proposals in the Spring Bill seem to have contributed to a further fall in bond rates. At the same time it should be mentioned that currency appreciation and falling interest rates have been noted in other European countries with a history of inflation and problems with government finance.

Secondly, confidence in economic policy has been enhanced.

Thirdly, with the continued cuts in the repo rate, totalling 155 basis points since the beginning of March 1996, *interest rate policy* has become more expansionary. As registered inflation has fallen, however, the downward movement in the real interest rate has been less marked. The stronger exchange rate affects the internationally oriented sector. Since the March report, the effects of interest and exchange-rate movements on demand one year ahead have been broadly neutral.

Thirdly, interest rate policy has become more expansionary.

Main scenario: Recovery towards the end of 1996

Any assessment of how expected growth will relate to the economy's potential (the level that can be achieved without boosting inflation) is bound to be uncertain. The available information suggests that at the beginning of 1996 capacity utilisation in the Swedish economy was somewhat below the level at which inflation could be expected to accelerate. In that economic activity has weakened since then, the output gap should have become somewhat wider.

The *export sector* was approaching full capacity utilisation during 1995, with a risk of inflationary impulses that might have spread to other parts of the economy, for instance via wage formation. In the second half-year, however, development was such that this risk became appreciably smaller. The slowdown in international activity and the krona's appreciation contributed to this.

The prospects of an international economic upswing in the latter part of 1996 must still be regarded as good. Growth in North America is currently in the interval of 2–3 per cent and is accompanied by clear signs of a recovery both in Japan and in some European countries, above all the United Kingdom but also the Netherlands, for instance. The main exception to this pattern is Germany but even there, the exchange and interest rate shifts suggest that the situation should improve.

For Swedish exports this may lead to increased activity before the turn of 1996, a prospect that could explain the optimism which firms have nevertheless displayed in the National Institute's recent business tendency surveys. The attendant inflationary risks are reduced, however, by the widespread investment in recent years, the stronger krona and the still relatively large stocks.

Rising international demand may mean that activity in the export sector will already be picking up in the latter part of 1996.

As regards *domestic demand*, the basic conditions are also comparatively favourable. The high profitability in recent years in manufacturing and associated service industries favours investment, for which, moreover, loan financing should be stimulated by the recent fall in interest rates.

Some growth of household income can be expected in the coming years, despite the fiscal withdrawals. Moreover, the average financial situation in this sector is considerably better than in the early 1990s. Sluggish borrowing in recent years has been accompanied by increased loan repayment. The better picture also includes a stabilisation of house prices, which have recently even tended to pick up, and rising share prices.

Limited increase in consumption in 1996.

In the main scenario we believe in some growth of consumption in 1996 but most of the evidence suggests that this will be limited. Increased personal risks in social security systems and uncertainty about the future pension system mean that household saving will probably remain high. The situation in

the labour market also gives cause for concern, with tendencies that are more unfavourable than in 1995; unemployment has stopped falling and may turn upwards from the present levels if economic activity fails to pick up.

The underlying tendency in the economy as a whole seems to be weaker than most observers assumed earlier. But the slowdown is being countered by the easing of monetary policy and the fall in market interest rates. Moreover, the lower interest rates – if they are perceived as sustainable – should lead to less economic pessimism among households and firms, which would add to the chances of an upswing in demand.

All in all, however, growth in 1996 and 1997 is likely to be somewhat lower than envisaged in the March report. In these two years the economy will probably grow at less than its potential rate, which means that the present output gap will not close.

Inflation in line with the target

In the coming six to twelve months there is reason to believe that the krona's appreciation and the fall in interest rates this spring will have temporary downward effects on inflation. To some extent this should also counter the impact of the rising rate of wage increases in 1996. If consumer demand were to be weaker than expected earlier, the offsetting effect will be all the greater.

It is probable, however, that in the latter part of 1996 inflation (measured with the CPI) will tend to move up as the temporary effects fade away but that the rate during the main part of the year will be below 2 per cent. This means that the average level of inflation during 1996 is judged to be somewhat below the rate of 2 per cent that was envisaged in the March report.

Inflation somewhat lower than the March assessment of 2 per cent.

The retardation of registered inflation from 2.5 per cent in the autumn of 1995 to less than 2 per cent this spring was mainly a consequence of temporary effects from interest and exchange rate movements. As these effects gradually disappear, inflation is expected to approach 2 per cent. That approximately corresponds to the rate of domestically generated consumer price increases in recent years.

Conditions exists whereby interest and exchange rate movements can contribute to subdued inflation in the foreseeable future. In time, however, a complete adaptation to the lower inflation is necessary in every part of the economy. The main cause for concern in this respect is wage formation.

In conclusion, the conditions for a development of inflation in line with the 2 per cent target in the next two years are judged to be good.

The conditions for a development of inflation in line with the 2 per cent target in the coming years are judged to be good.

CHAPTER 3

Monetary policy conclusions

Monetary policy has the task of promoting price stability. Price stability provides conditions for economic growth, with high employment, and counters an arbitrary distribution of income and wealth.

Sweden is now in the fourth year of economic growth and structural changes after the deep recession in the early 1990s. Inflation has been low during the recovery and its current level is the lowest for several decades. This is an achievement for economic policy.

Inflation is now at its lowest level in several decades, which is an achievement for economic policy.

To date in 1996, activity has been weak. Earlier international slowdowns have tended to coincide with high and rising inflation in Sweden. In the 1970s and '80s this exacerbated the downturns in the Swedish economy. In this respect the present situation is better and conditions for renewed economic growth in the second half of 1996 are good.

The target for monetary policy is to limit the annual increase in the consumer price index to 2 per cent, with a tolerance interval of ±1 percentage point. As there is a time lag of one to two years before monetary policy measures elicit their full effect, a central consideration in monetary policy decisions is the assessment of *future inflation.*

The main factors for future inflation are the current state of supply and demand, the expected future situation in this respect and expectations about future inflation and exchange rate movements.

Inflation in the course of 1996 should average somewhat less than 2 per cent. The *current demand situation* is subdued as a consequence of weak international demand and stock adjustments. Capacity is not being fully utilised at present in either the export or the domestic market sectors. The inflationary impulses from industrial production have decreased as a result of the lower capacity utilisation, which is also expected to remain below the level that generates increased inflationary pressure in the rest of 1996. There are still no clear signs of an upswing in domestic consumption. Moreover, the krona's appreciation and the fall in market interest rates in the spring of 1996 should restrain the rise of import prices and housing costs in the coming year.

In 1997 inflation will be contingent on the future course of economic activity. The main scenario envisages a recovery during the autumn of 1996; as demand is subdued at present and growth during 1996 is expected to be low, even by the end of 1997 the economy is unlikely to reach full capacity utilisation. This suggests that, even if new orders and production were to rise as industrial firms expect in the rest of 1996, during 1997 inflationary pressure will remain weak.

Inflation expectations among all groups except households have fallen since the March report and

their level for inflation one year ahead is around 2 per cent. This adjustment is recent, however, and the expectations for inflation further ahead still exceed the target. This means that even if earlier patterns of inflation are in the process of being broken, a close watch for incipient inflationary tendencies is still needed. The development of wages in particular is liable to generate inflationary impulses. If the rate of wage increases is not brought down to a level that is compatible with the inflation target even in the longer run, an appreciable reduction of unemployment will not be feasible.

Inflation expectations among all groups except households have fallen since the March report and the level for inflation one year ahead is around 2 per cent.

The *krona's* appreciation since the March report has contributed to falling import prices and decreased inflationary pressure. This favourable development of the exchange rate has to do with increased confidence in economic policy. The value of the krona is now relatively close to a level that can be judged to be compatible with internal and external balance. The inflation assessment in the main scenario assumes some appreciation of the effective (TCW) exchange rate from the level around 115.

The krona's appreciation has contributed to falling import prices and decreased inflationary pressure.

Under these circumstances there is a good possibility of the average rate of inflation being in line with the 2 per cent target in both 1996 and 1997.

Risks exist, however, of *future demand being more subdued* than in the main scenario. An international slowdown which is longer and deeper than generally expected could lead to a further fall-of in Swedish manufacturing and a persistently weak labour market. Contrary to the expectations of industrial firms, new orders and production would then fail to turn upwards in the coming quarters. Private consumption might also be weaker. In that case, given no change in economic policy, inflation in 1997 would be lower than in the main scenario.

Risks exist of future demand being more subdued than in the main scenario.

The labour market in Sweden may also remain weak even if international industrial activity does pick up. The high increases in wage costs could lead to rationalisation and a weak development of employment. A slack labour market can contribute in turn to a more pessimistic mood among households and firms, thereby resulting in a weaker development of investment and consumption. In a scenario of this type, wages have less impact on inflation. If the economic slowdown were to be deeper and more protracted than expected, there would be room for more stimulatory monetary conditions.

In a scenario with weaker economic activity, problems for monetary policy could arise on account of renewed anxiety about central government finance and budget policy. Today, however, the risk of this happening is appreciably smaller than in the earlier periods of unrest in 1994 and 1995. The central government financial deficit has been reduced to more manageable levels, accompanied by a stabilisation of government debt. In the convergence programme for general government finance, moreover, the Government has undertaken to bring down the central government financial deficit to below 3 per cent of GDP in 1997. Additional proposals for strengthening central government finance in accordance with the principles for the convergence programme were presented most recently in the budget this April. Measures that enhance confidence in budget policy in this way help to enlarge the room to manoeuvre in monetary policy.

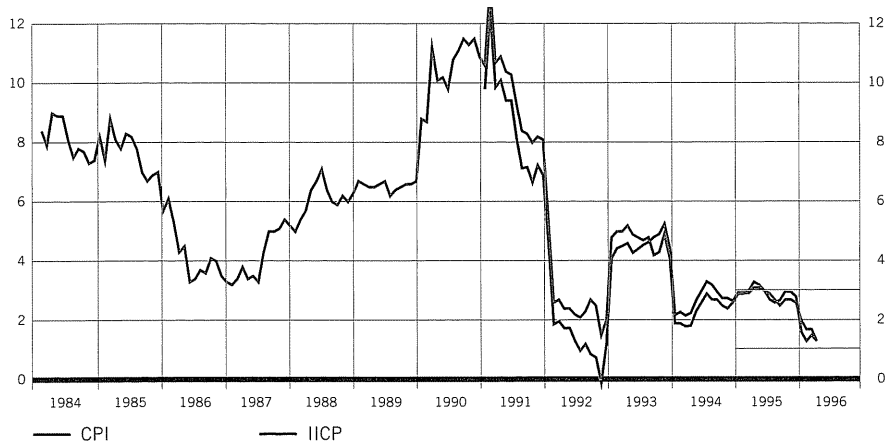
Another risk scenario involves *higher inflation in 1997* (compared with the main scenario) due to a faster increase in private consumption. The financial situation of households is good and an increase in real wages can be expected in the coming years. If consumer demand were to be stronger than in the main scenario, the inflationary impact of wage costs might be greater. The weak economic tendency, in Sweden as well as internationally, has contributed, however, to persistent pessimism among households. The scenario with a rapid increase in consumption has therefore become less probable than in March 1996.

Another risk scenario involves higher inflation in 1997 in that consumption rises more rapidly but this alternative has become less probable.

The future development of the economy and the conditions for inflation are important factors for the construction of monetary policy. In the main scenario, discussed earlier, it is considered that inflation in the coming two years will be in line with the Riksbank's target of 2 per cent. This scenario provides some room for a further easing of monetary policy. Some room for this will also exist if the economy turns out to be weaker, while signs of a stronger tendency work in the opposite direction.

Annex

Figure1.
CPI and IICP*.
Percentage 12-month change

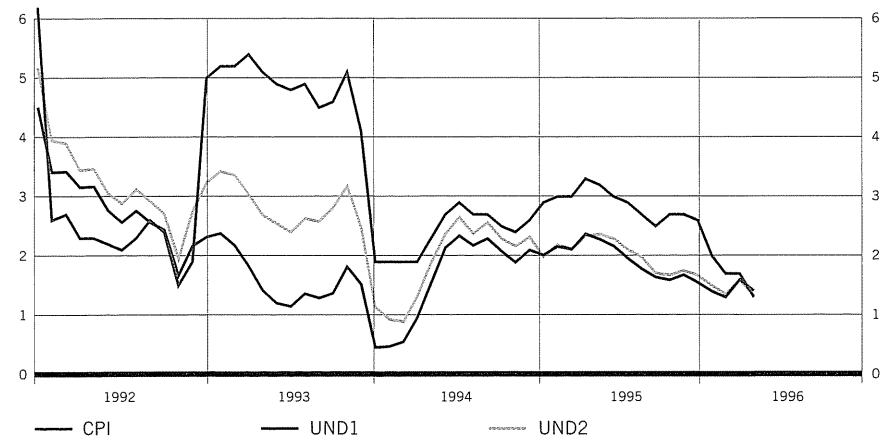


*Interim index for international comparisions of development of consumer prices.
The lines indicate the tolerance interval of the Riksbank's inflation target. Source: Statistics Sweden.

Figure 2.
Components of the CPI.
Percentage 12-month change

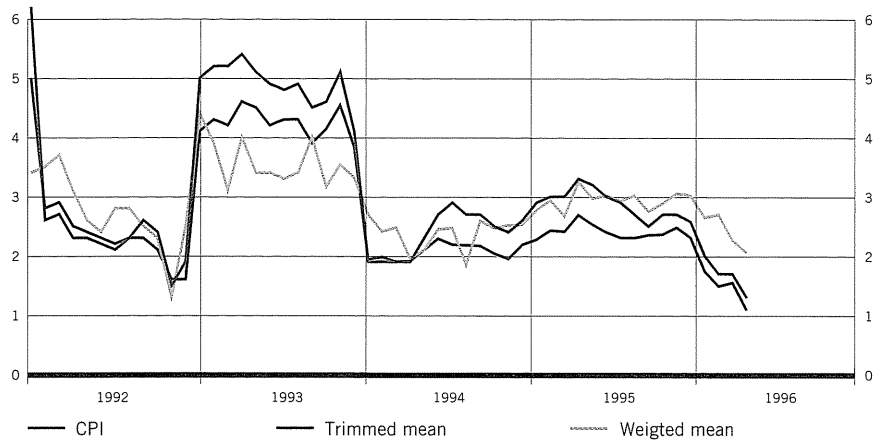
Note: The figures in parentheses are the component's CPI weight in 1996. Sources: Statistics Sweden and the Riksbank.

Figure 3.
CPI and underlying inflation.
Percentage 12-month change



Sources: Statistics Sweden and the Riksbank.

Figure 4.
CPI and underlying inflation.
Percentage 12-month change

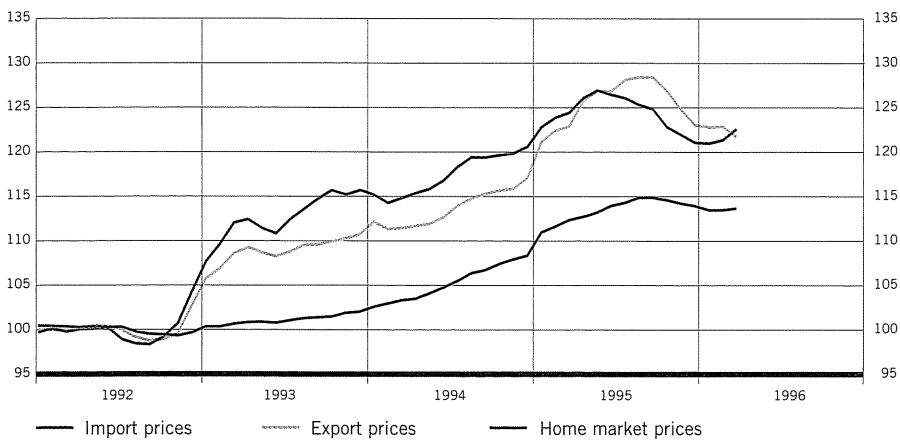


Sources: Statistics Sweden and the Riksbank.

Figure 5.
Industrial capacity utilisation*.
Per cent

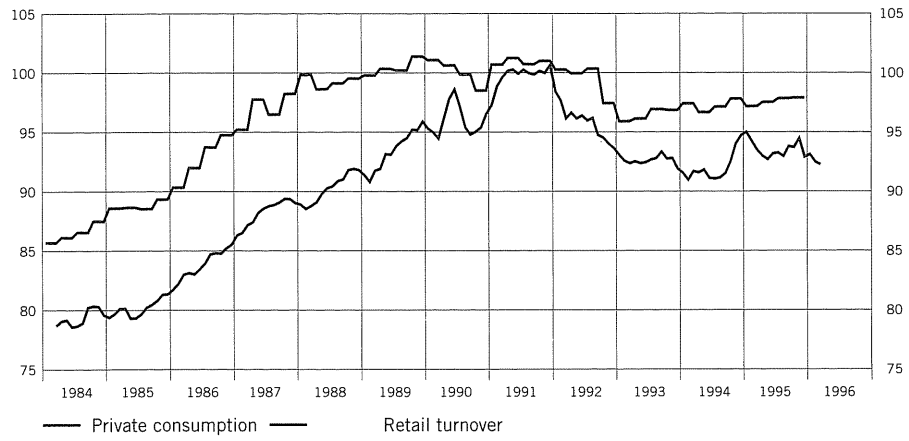
*The National Institute measures the proportion of firms operating at full capacity utilisation and Statistics Sweden average industrial capacity utilisation.

Figure 6.
Import, export and home market prices.
Index: 1992=100



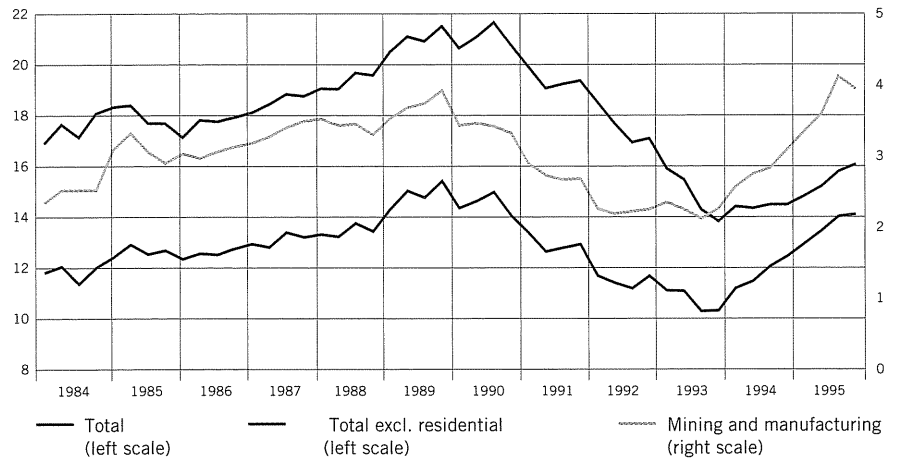
Source: Statistics Sweden.

Figure 7.
Private consumption and retail turnover.
Volume, seasonally-adjusted quarterly data and moving 3 month average, respectively; index 1991=100



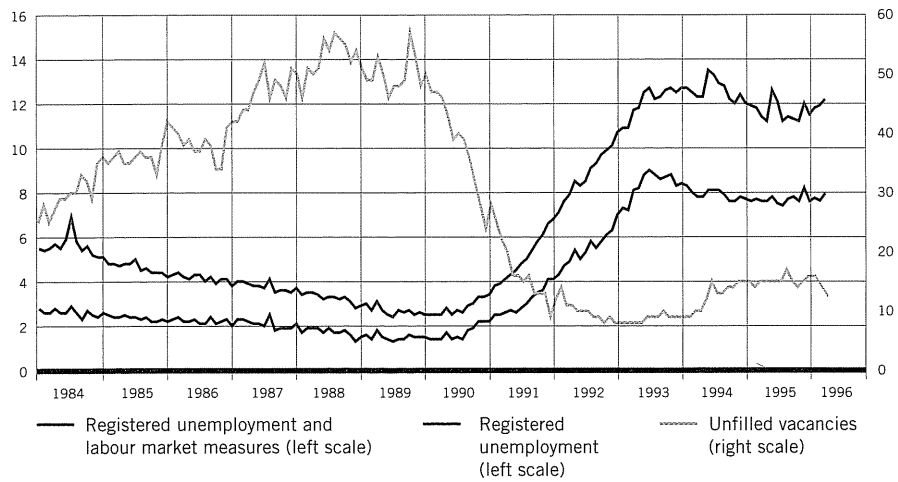
Source: Statistics Sweden.

Figure 8.
Gross fixed capital formation relative to GDP: total, excl. residential and in mining and manufacturing.
Seasonally-adjusted volumes, per cent



Source: Statistics Sweden (National Accounts).

Figure 9.
Labour market.
Per cent or thousands, seasonally-adjusted data



Sources: Statistics Sweden and National Labour Market Board.

Table 1.
Sectorwise wage formation. Percentage change from same quarter a year earlier

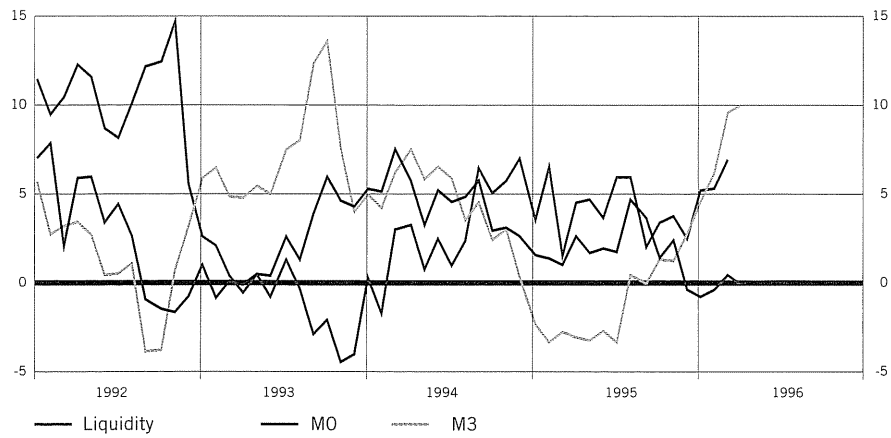
	1995:Q2	1995:Q3	1995:Q4	1996:Q1
Private sector	3.4	3.7	4.3	..
workers	3.9	4.8	5.4	..
salaried staff	2.8	2.7	3.2	..
Central government	4.3	3.0	2.4	..
Municipalities	0.3	1.1	1.6	1.9
County councils	2.5	2.4	3.0	..
Total economy	**2.8**	**3.0**	**3.5**	**..**

Source: Statistics Sweden, Association of Local Authorities, Federation of County Councils and Riksbank calculations.

Figure 10.
Unit labour cost (ULC) and labour productivity. Annual percentage change, moving four-quarter average

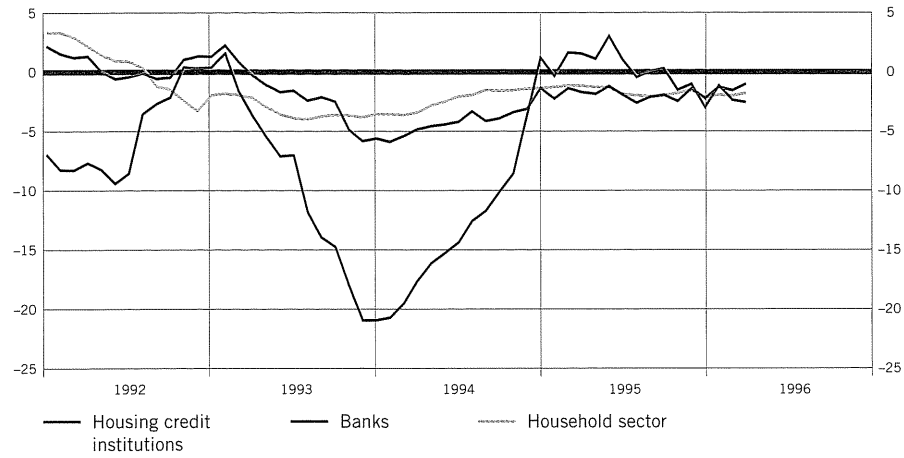
Source: Statistics Sweden.

Figure 11.
Money supply and liquidity. Percentage 12-month change



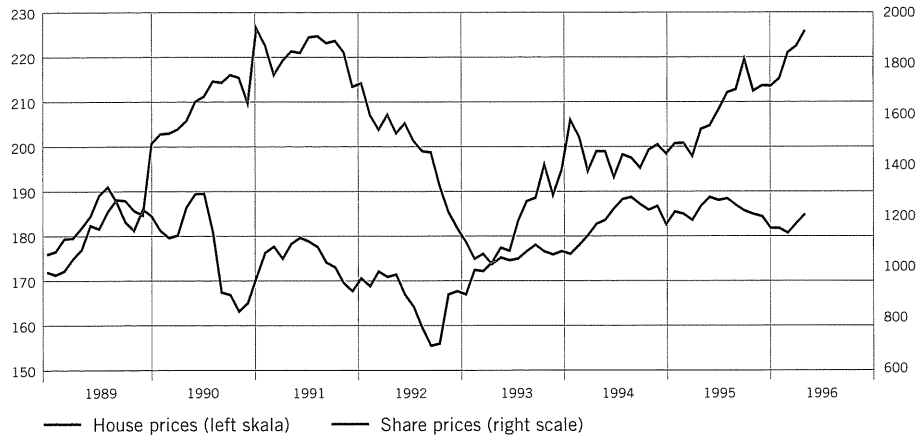
Note:The liquidity aggregate stands for the non-bank public's holdings of M3, certificates, treasure bills, national savings accounts, National Debt Office accounts, premium bonds and private bonds.
Source: The Riksbank.

Figure 12.
Net lending by credit institutions to the Swedish nonbank public: total and by type of institution. Percentage 12-month change



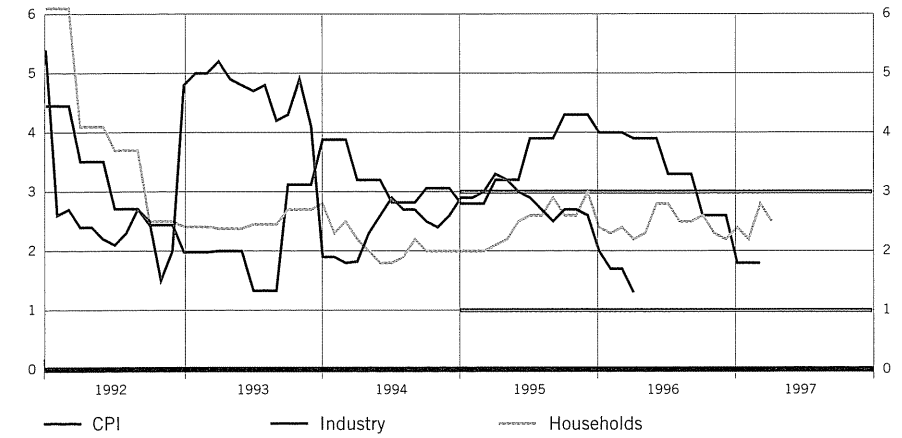
Note: From January 1995 onwards the figures include banks' repos with the non-bank public. Lending by housing institutions has been adjusted for the transfer of state housing loans to this category in July 1995.
Source: The Riksbank.

Figure 13.
Price index for owner-occupied housing (index: 1981=100, left scale) and Stockholm Stock Exchange index (index: end 1979=100, right scale)



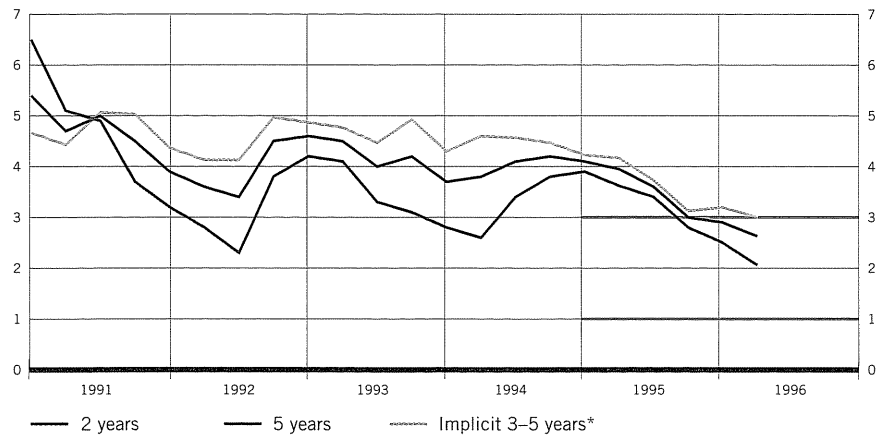
Note: Latest observation: 30 April 1996. Sources: Statistics Sweden and Stockholm Stock Exchange.

Figure 14.
CPI and inflation expectations of households and industry. Percentage 12-month change.



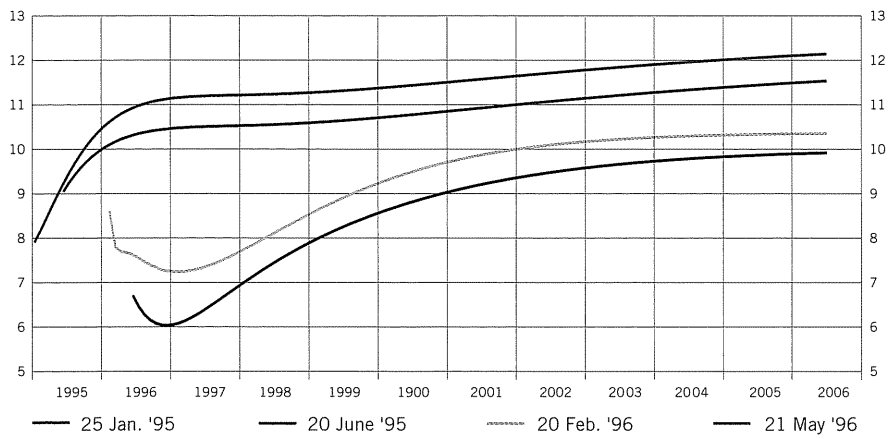
Note: The curves have been shifted 12 months into the future, so that they coincide with the period to which the expectations refer. The lines indicate the tolerance interval of the Riksbank's inflation target.
Sources: Statistics Sweden and the National Institute of Economic Research.

Figure 15.
Bond investors' inflation expectations.
Average annual percentage rates for the next two and five years



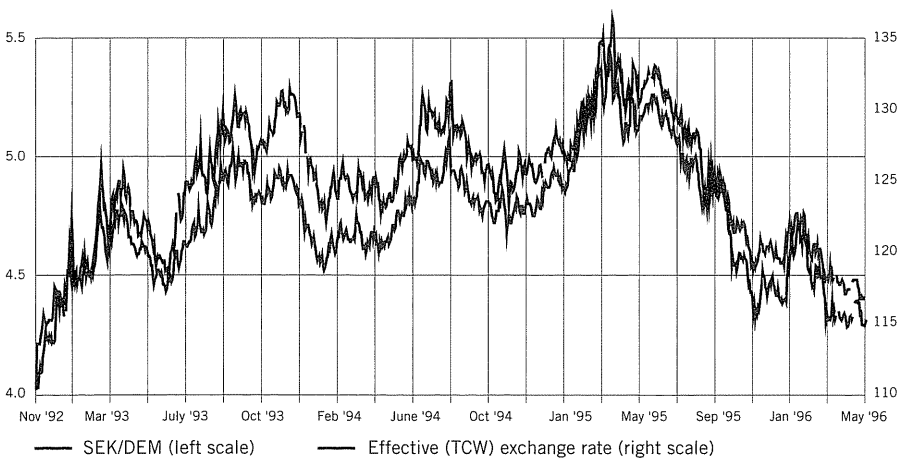
*The average expected inflation rate in the period from three to five years ahead is calculated by the Riksbank. The lines indicate the tolerance interval of the Riksbank's inflation target.
Source: Aragon Fondkommission.

Figure 16.
Implicit forward interest rate curves on 25 January and 20 June 1995, 20 February and 21 May 1996.
Effective annual rate, per cent



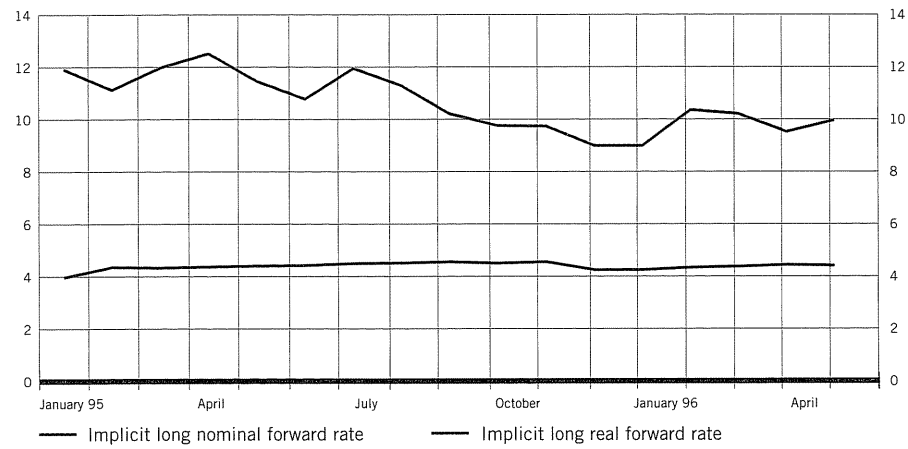
Source: The Riksbank.

Figure 17.
SEK exchange rate with DEM and the effective (TCW) exchange rate.
SEK/DEM and index: 18 November 1992=100



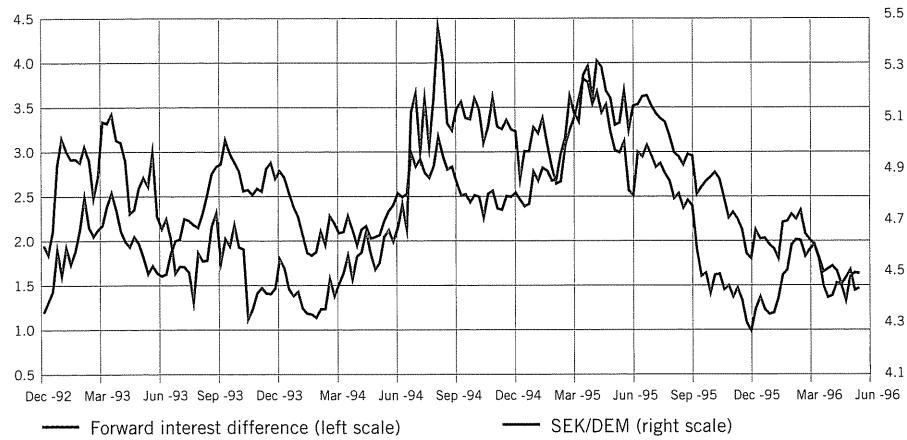
Source: The Riksbank.

Figure 18.
Implicit real and nominal forward ten-year bond rates.
Per cent



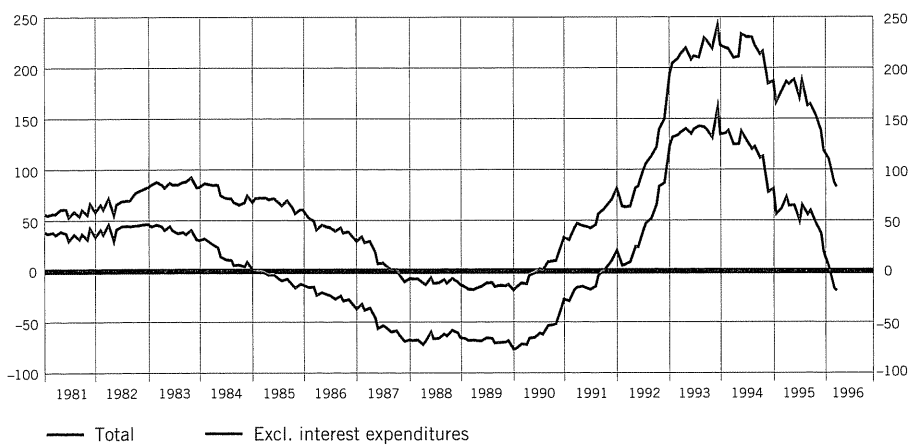
Source: National Debt Office.

Figure 19.
Long-term forward interest differences with Germany and the SEK/DEM exchange rate.
Percentage points and SEK/DEM



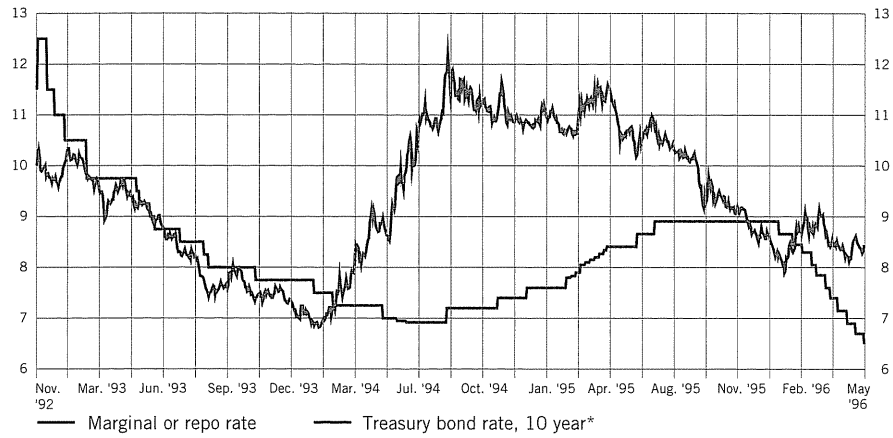
Source: The Riksbank.

Figure 20.
Government borrowing requirement: total and excluding interest expenditure.
SEK billion, cumulative 12-month figures



Source: National Debt Office.

Figure 21.
Interest rates since 19 November 1992. Daily quotations, per cent



* The ten-year Swedish treasury bond rate refers for 1992 to issue no. 1030, maturing on 15 June 2001, for 1993 to issue no. 1033, maturing on 5 May 2003, and for 1994 and 1995 to issue no. 1035, maturing on 9 February 2005. Source: The Riksbank.