Sveriges Riksbank

Inflation Report March 1998

Contents

Foreword

Monetary policy is targeted on keeping the annual change in the consumer price index (CPI) at 2 per cent, with a tolerance interval of ±1 percentage point.

The purpose of these inflation reports is to provide a basis for monetary policy decisions and to make our deliberations known to a wider public, so that monetary policy is easier to follow and understand. The reports are also intended to encourage a discussion of matters relating to monetary policy.

The arrangement of this report is the same as in the previous inflation report from December 1997. Chapter 1 is devoted to a discussion of what has happened to prices and in financial markets, with particular reference to the period since the previous inflation report. The assessment of future price developments is presented in Chapter 2, which is structured so as to clarify which factors are of greatest importance for future inflation. The report concludes, as previously, with the monetary policy assessment in Chapter 3. An annex contains the underlying statistical material.

The inflation report served as a basis for the Governing Board's discussion of monetary policy on 19th February 1998. The conclusions from that discussion are presented in Chapter 3.

Stockholm, March 1998

Urban Bäckström
Governor of Sveriges Riksbank

Summary

In late 1997 the rate of inflation was just under 2 per cent, which is approximately in line with the Riksbank's target. The rate of increase in the consumer price index (CPI) has approached that for underlying inflation. In January 1998, CPI inflation fell to 1.3 per cent and the rates for underlying inflation were around 2 per cent. Price movements in recent months have been weaker than was foreseen in the December report.

This report presents the Riksbank's appraisal of inflation up to the end of the first quarter of 2000. The discussion refers to a main scenario; two alternative paths for the economy and inflation are also considered. The assessment of future inflation starts from the technical assumption that the repo rate is left unchanged. The factors that mainly condition inflation are:

International activity and prices. Inflationary pressure from the rest of the world is judged to be low. A low rate of international inflation, reinforced by effects of the Asian crisis, is the main factor here, accompanied by an expected appreciation of the Swedish krona.

Supply relative to demand. GDP growth in the main scenario is expected to strengthen to just over 2.5 per cent and about 3 per cent, respectively in 1998 and 1999, which is somewhat lower than expected in December. In 2000 growth is also judged to be comparatively good. This points to rising capacity utilisation and the output gap may close in the course of 2000.

Transitory effects. The combined impact of transitory effects– from tax changes and interest rate movements, for example—is moderate in the main scenario in 1998 and 1999. During 2000, falling interest costs may have some downward effect on CPI inflation.

Inflation expectations. The tendencies point to price movements in the coming years that are in line with the inflation target. It seems that confidence in the Riksbank's price stability target is being established.

Against this background, CPI inflation in the main scenario is judged to average 1.6 per cent in 1998 and 2.1 per cent in 1999. The various indicators of underlying inflation point to gradually growing inflationary pressure over the forecast period.

Inflation may, of course, follow a path that differs from the main scenario. The crisis in Asia could take a further turn for the worse. That might lead to weaker activity and lower inflation compared with the main scenario. Another alternative, with higher wage increases and weaker productivity growth, leading to higher inflation, was discussed in the December report. Since then, the probability of this scenario has decreased. The risk spectrum has thereby shifted. In addition, the krona has depreciated in recent months. If this tendency were to persist, it could have a negative effect on inflation.

The inflation prospects suggest a somewhat more subdued tendency than at the time of the December report. But the main scenario does involve rising activity, with a gradual increase in capacity utilisation and thereby some accentuation of inflationary pressure. This speaks for a cautious tightening of the monetary stance in the year ahead. With the crisis in Asia, however, inflation may prove to be lower. Moreover, the uncertainty about future inflation has been compounded by the exchange rate tendency. All this suggests that the repo rate should not be altered at present. With the uncertainties in the assessment, there are strong reasons for appraising the construction of monetary policy continuously as new information becomes available.

Chapter 1

Developments since the December report

Economic developments since the previous report are discussed in this chapter, starting with the picture of inflation in recent months and concluding with an account of recent movements in interest rates and the exchange rate.

Prices

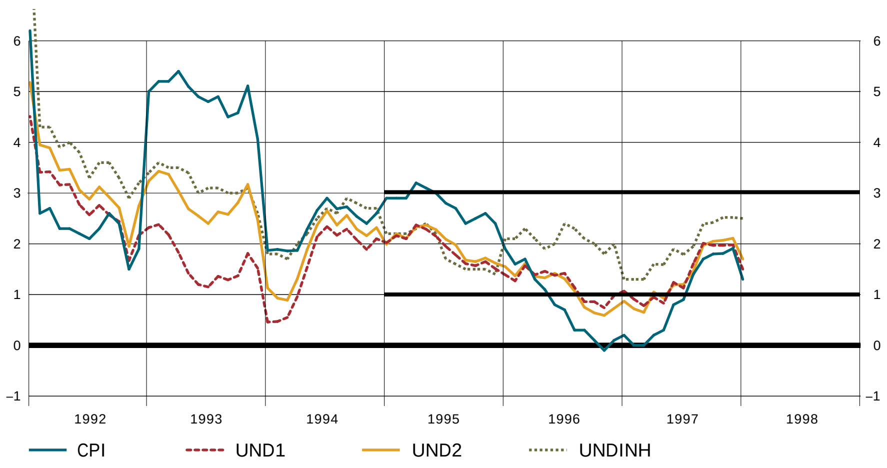
Price movements weaker than earlier assessment

The rate of inflation tended to rise at the end of 1997 but the 12-month change in the CPI then slackened from 1.9 per cent in December to 1.3 per cent in January. This appreciable slowing came essentially from unusually low rent increases as well as marked price reductions for clothing.

The internationally harmonised index of consumer prices (HICP) showed a 12-month change of 2.1 per cent in January, a slowdown of 0.6 percentage points since October. The difference between the CPI and the HICP figures is mainly explained by the exclusion of house mortgage interest payments from the latter. In December 1997 the rate of HICP inflation in Sweden was the second highest among EU countries.[1]

1 The three countries on which the calculation of the price convergence criterion was based in December 1997 were Finland, Ireland and Austria. This convergence criterion is usually expressed as the average of the 12-month changes for the past twelve months, which gave a reference rate of 2.8 per cent. Average HICP inflation in Sweden in the twelve months through December was 1.9 per cent. Greece is the only country currently not complying with the criterion on price stability. Remaining countries meet the criterion with a margin.

Figure 1.
CPI and underlying inflation.
Percentage 12-month change



Note. The horizontal lines from 1995 onwards represent the Riksbank's tolerance interval for the annual change in the CPI.
Sources: Statistics Sweden and the Riksbank.

In December 1997 the rate of HICP inflation in Sweden was the second highest among EU countries.

Underlying inflation, measured as UND1 and UND2, was 1.5 and 1.7 per cent, respectively, in January, which is 0.5 and 0.3 percentage points less, respectively, than in October 1997 (Fig. 1). The 12-month change in UNDINH in January was 2.5 per cent, an increase of 0.1 percentage points from October 1997.[2] In other words, underlying inflation has been more subdued than was foreseen in the December report.

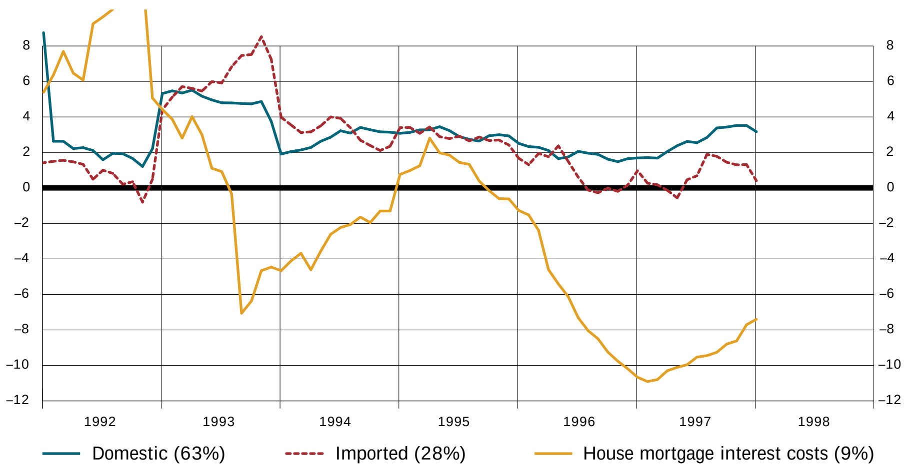
The rate of domestically generated inflation in January was 3.2 per cent, while the prise rise for goods that are mainly imported was 0.4 per cent (Fig. 2). The price rise for goods and services produced in Sweden remained higher than for imported products.

The 12-month increase in market prices in January was 2.1 per cent while administered prices (a component of domestically generated inflation) rose 2.5 per cent (Annex: Fig. 6). Administered prices excluding rents generally follow much the same path as wage costs; the 12-month increase in January was about 2.9 per cent. Rents, which make up about 14 per cent of the CPI, rose considerably less in January 1998 compared with this month in earlier years. The development of costs for real-estate companies has been more subdued in recent years, partly as a consequence of lower capital costs. This has paved the way for lower rent increases than usual during 1998.[3]

House mortgage interest costs changed in January at a 12-month rate of –7.4 per cent. This item, which makes up about 9 per cent of the CPI, accordingly lowered the overall rate of increase in the CPI by 0.6 percentage points. The corresponding effect in October 1997 was –0.8 percentage points. Interest costs have been affected both by the upward movement in flexible rates in December 1997 and by the downward movement in long-term rates in that month and January 1998. The effect from the flexible rates is greater in the short run but after about a year the impact of the long-term rate predominates (see box “House mortgage interest costs”). Changes in indirect taxes and subsidies raised the rate of CPI inflation by about 0.6 percentage points in January; this is about 0.2 percentage points less than the contribution in October 1997.

In the December report it was expected that early in 1998 inflation would move up to around 2 per cent. An unusually large effect from bargain sales and a weaker tendency for administered prices have resulted in lower inflation.

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



Note. The figures in parentheses are the component's CPI weight in 1998.
Sources: Statistics Sweden and the Riksbank.

In the December report it was expected that early in 1998 inflation would move up to around 2 per cent. An unusually large effect from bargain sales, of clothing in particular, and an unexpectedly subdued increase in administered prices resulted in a notable slowdown in inflation in January 1998.

To sum up, in recent months the increase in consumer prices has been lower than was expected in the December report.

MODERATE INCREASES IN PRODUCER AND RAW MATERIALS PRICES

The price index for domestic supply (a weighted index of producers' import and home market prices) rose in December at a 12-month rate of 2.1 per cent. In the past, these prices have been a comparatively good indicator of consumer goods prices a couple of months later. The 12-month change in consumer goods prices has tended to decrease since our previous report; in January 1998 the rate was 2.2 per cent (Fig. 3).

According to the business tendency survey from the National Institute of Economic Research, firms did not increase their prices to the planned extent in the fourth quarter of 1997; for the first quarter of 1998, however, firms in both manufacturing and services plan to raise prices to an extent that is greater than was planned a year earlier. According to the monthly survey in January, this pattern is particularly clear for home market prices in the consumer goods industry. Further price reductions were foreseen, however, in construction. Price increases in the services sector were expected, for example, in wholesale trade, transportation, computer services and business services.

Inflationary pressure from producer prices still low.

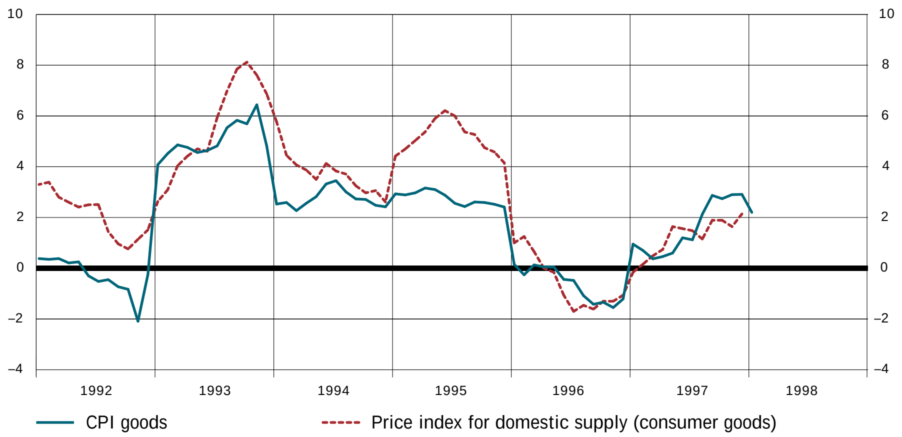
Prices in many parts of manufacturing are largely determined by world market conditions. Expectations of upward price adjustments here may therefore reflect expectations of rising world market prices. Recent developments in Asia and in markets for primary products suggest, however, that the price expectations of firms will not be fulfilled.

Partly as a result of the Asian crisis, prices for some primary products have fallen sharply this winter (Fig. 4 and Annex: Fig. 5). Since the December report the SEK price of crude oil has dropped 22 per cent. Metal and paper prices have also declined.

2 Both these indicators represent the CPI excluding house mortgage interest costs and effects of changes in indirect taxes and subsidies; UND2 also excludes petroleum and petrol prices. UNDINH is calculated as UND1 excluding prices of goods that are mainly imported.

3 For an outline of how the rented dwellings market functions in Sweden, see *Inflation Report 1997:4*, p. 7.

Figure 3.
Producer and consumer prices for goods.
Percentage 12-month change



Source: Statistics Sweden.

Partly as a result of the Asian crisis, prices for some primary products have fallen sharply this winter. Since the December report the SEK price of crude oil has dropped 22 per cent.

To sum up, it is considered, as in the December report, that inflationary pressure from producer prices is low.

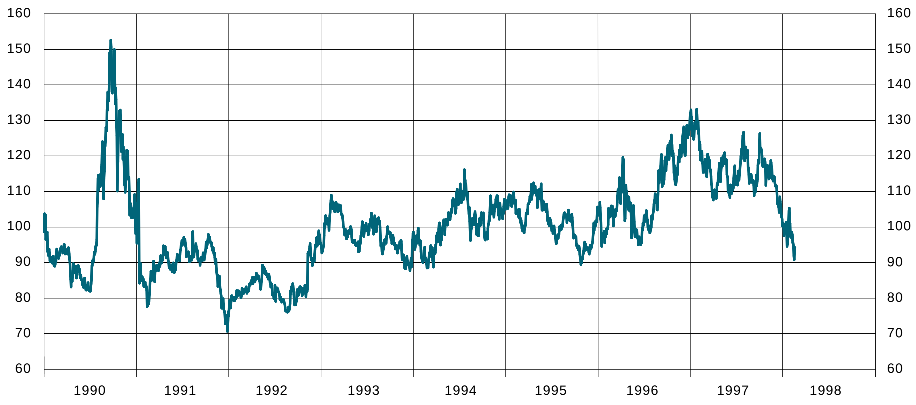
Interest rates and the exchange rate

The level of interest rates affects demand via business investment decisions and households' purchases of consumer durables. The Riksbank is in a position to control the shortest interest rates more or less directly with the repo rate. Longer interest rates, on the other hand, are affected by factors which the Riksbank can influence only partly or not at all, for example confidence in Sweden's general economic policy and international interest rate trends. The money market rates, however, are not the most relevant for the day-to-day financing decisions of households and firms. They borrow mainly from credit institutions at rates that are conditioned not just by the money market but also by changes in credit risks and competitive conditions, for example.

Monetary policy also influences demand and inflation via the exchange rate, which mainly affects demand and investment in internationally oriented industries, with a subsequent impact on inflation. In addition, exchange rate movements tend to alter import and export prices, which affects inflation directly in that import prices are included in the CPI.

A repo rate increase normally leads to an appreciation of the krona—higher interest rates make Swedish assets more attractive relative to investment in other currencies and the resultant capital inflow involves increased demand for kronor. Monetary policy also plays an important role in the exchange rate's long-term trend. A tighter monetary stance implies lower inflation relative to the rest of the world and this should be reflected in time in a stronger exchange rate. It should be underscored that other factors besides the current monetary stance condition the exchange rate, particularly in the short run. In addition to conjunctural factors and credibility effects, the exchange rate may be exposed to transitory changes in supply and demand in currency markets. Such changes may have to do with portfolio adjustments and short-run positions; from time to time these mechanisms may generate exchange rate movements that are out of tune with more fundamental factors.

Figure 4.
Import-weighted index of raw materials prices. December 1995=100, daily level



Note. Constituent items: crude oil, aluminium, copper, nickel, zinc, gold, silver and sugar. Weights: shares of total Swedish imports in 1996. The combined share for these items is about 9 per cent (about 7 per cent for petroleum products alone).
Source: The Riksbank.

LOWER BOND RATES AND A WEAKER EXCHANGE RATE

The crisis in Asia has induced a sharp drop in interest rates in Western countries. Developments since the December report have prompted some downward revision of market expectations of international growth and inflation. As a result, financial investors do not expect the central banks to increase instrumental rates to the same extent as before. However, international long bond rates have fallen more than shorter rates, which has tended to flatten the yield curve. It seems reasonable to conclude that the lower interest rates are partly a consequence of investors leaving high-risk investments in Asia in favour of safer placements, in particular US and European sovereign paper. This interpretation is supported by the exchange rate movements, with an increasingly strong dollar. To the extent that the conclusion is correct, it may mean that some of the fall in interest rates is rather transitory, so that interest rates may move up when the situation in Asia becomes more stable.

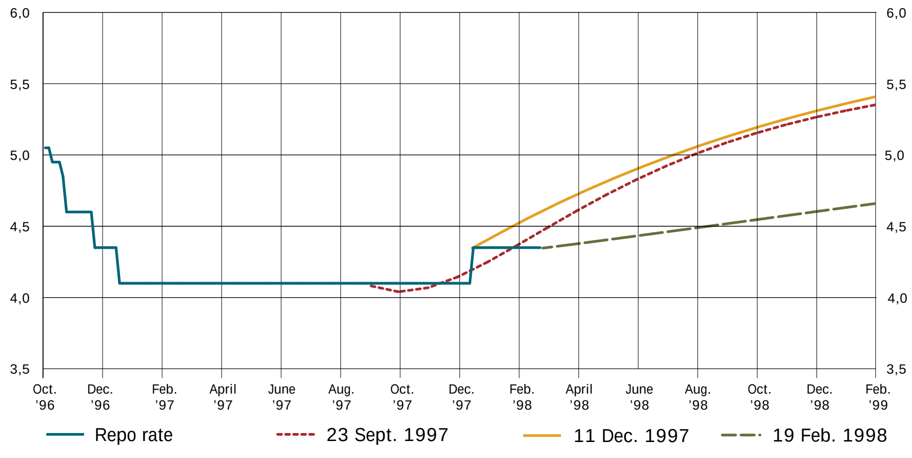
Interest rates in Sweden have followed the downward international trend. Since the December report the ten-year bond rate has fallen 0.7 percentage points (Annex: Fig. 7). The bond rate differential with Germany has narrowed about 30 basis points and is currently 0.5 percentage points. This tendency resembles that in other countries; both British and South European bond rates have closed on the German level. Another factor behind the fall in Swedish interest rates is the wage agreements that were concluded in January; money market agents perceived the outcome as favouring low inflation and this led to lower market rates. An interpretation is complicated, however, in that the crisis in Asia has contributed to the marked fluctuations in interest and exchange rates.

The nominal three-month interest rate rose during the autumn of 1997 in accordance with money market expectations of a repo rate increase. These expectations were fulfilled when the repo rate was adjusted from 4.10 to 4.35 per cent in the middle of December. Since then and apart from a temporary upswing around the turn of the year, the short interest rate has been stable at the level of about 4.40 per cent that prevailed at the time of our previous report.

The short forward interest rates are strongly conditioned by market expectations of the future repo rate.[4] The current forward rates indicate expectations

4 A forward interest rate is the rate on a security that is bought or sold for future delivery. Implied forward rates are derived from the conventional yield curve.

Figure 5.
Actual and expected repo rate indicated by forward interest rates.
Per cent



Source: The Riksbank.

of a repo rate increase up to the turn of 1998 of about 25 basis points, to about 4.60 per cent (Fig. 5). This is about 0.7 percentage points less than was expected just after the repo rate increase in December; presumably it implies lower inflation expectations in the wake of the Asian crisis. There has been a corresponding downward revision of the expected instrumental rate in much of Europe.

The TCW exchange rate has weakened almost 2 per cent since the December report.

The repo rate increase has not generated a visible appreciation of the krona. On the contrary, the exchange rate has weakened against most of the industrialised countries' currencies. To some extent this may have to do with the uncertainty that has been expressed in some quarters about the position of the krona following the introduction of the euro. But a part of the depreciation seems to have external causes in that the development of the Asian crisis has prompted international investors to prefer currencies that are perceived as less volatile. Moreover, a currency depreciation seems to have hit countries where primary products account for a sizeable share of exports. Since the December report the TCW exchange rate has weakened almost 2 per cent (Annex: Fig. 8). The depreciation has been most marked, over 3 per cent, against the US dollar and it also applies against the German mark, though in this case it is less pronounced, about 1.5 per cent. Expressed as an export-weighted index that also includes more of the Asian currencies, the exchange rate tendency in recent months is somewhat stronger than indicated by the TCW index but it still amounts to a depreciation.[5] In keeping with earlier assessments, the Riksbank considers that fundamental factors do not warrant an exchange rate at the present weak level and there should be a gradual appreciation.

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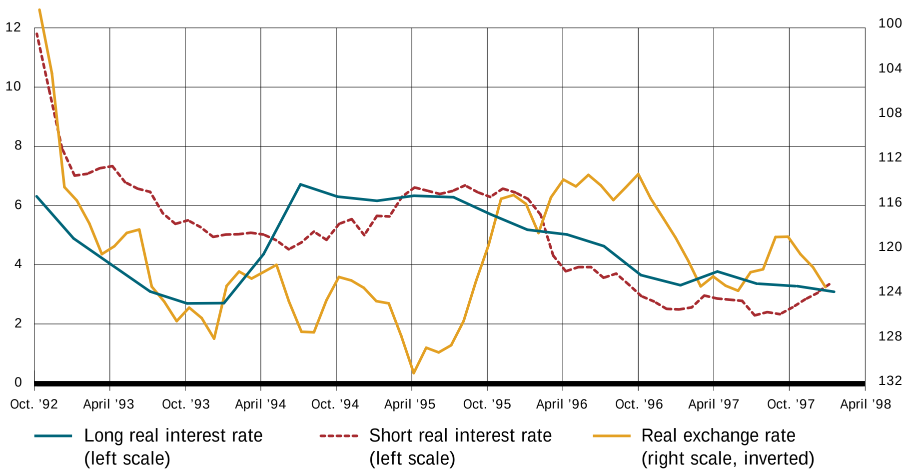
MONETARY CONDITIONS MORE EXPANSIONARY

Monetary conditions is a term for the combined effect which the level of interest rates and the real exchange rate are judged to exert on total demand. With a somewhat higher nominal short interest rate and lower inflation expectations, from November to January the real short interest rate[6] moved up about 0.5 percentage points to about 3.3 per cent (Fig. 6). Compared with the situation at the time of the

Figure 6.
Real three-month and five-year interest rates and real effective (TCW) exchange rate.
Per cent and index:
18 November 1992=100



Source: The Riksbank.

December report, the demand stimulus from the short real interest rate has accordingly diminished. However, the long real interest rate[7] has fallen with the nominal bond rate's downward tendency in December and January and is currently just over 3 per cent. This implies a stronger expansionary impact on demand than at the time of the December report. The expansionary effect of the real TCW exchange rate has also become somewhat stronger in that—mainly on account of the weaker nominal exchange rate—this rate has depreciated by over 2 per cent since November 1997.

Short money rates have been relatively stable but long bond rates have followed the downward international path and the exchange rate has weakened. So notwithstanding the repo rate increase in December, overall monetary conditions have become more expansionary since the previous inflation report.

STILL LOWER BORROWING RATES FOR HOUSEHOLDS AND FIRMS

Households and firms do not generally have direct access to the money market. They arrange financing instead mainly through banks and other credit institutions and base investment decisions on interest rates outside the money market. Movements in the flexible interest rates offered by banks and house mortgage institutions are liable to diverge from the path of the repo rate, which has to do with changes in credit risks and/or competitive conditions. In this way, effects of monetary policy measures may be accentuated or countered for a time as a result of interest setting and lending by banks and housing intermediaries.

Bank reduced the margin between their lending rate and the repo rate during 1997. This reduction gave some stimulatory effect despite an almost unchanged repo rate.

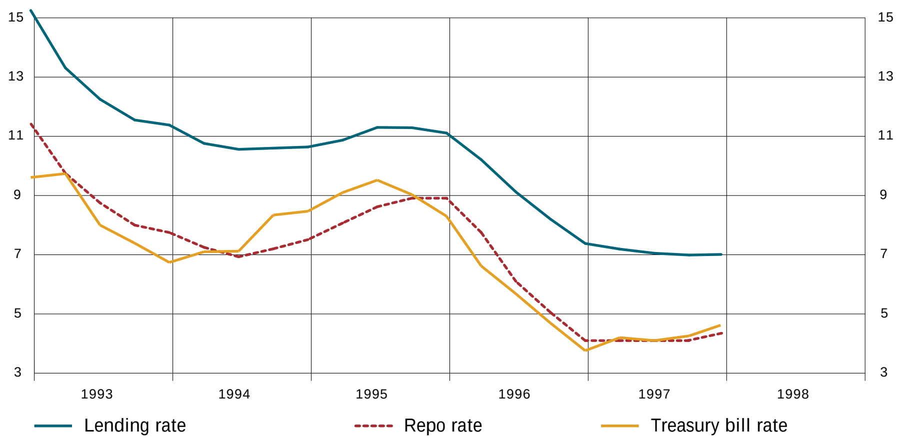
During 1996 bank lending rates were not lowered as steeply as the Riksbank's repo rate (Fig. 7). In this way, banks widened the margin between their lending rate and the repo rate from 2.2 to 3.3 percentage points. In other words, interest setting by the banks reduced the expansionary effect of the Riksbank's repo rate cuts. During 1997 the opposite occurred.

5 The TCW index allows for the individual significance of other countries for Swedish imports and exports and includes the competition Swedish producers face as exporters to "third countries". Of the twenty countries represented in this index, only one, Japan, is from Asia; the export-weighted index also includes Indonesia, Malaysia, Singapore, South Korea, Taiwan and Thailand.

6 The nominal three-month treasury bill rate adjusted for the CPI change that households expect in the coming year.

7 The nominal five-year treasury bond rate adjusted for financial investors' expectations of inflation five years ahead (Aragon).

Figure 7.
Average bank lending rate, repo rate and short money (six-month treasury bill) rate.
Per cent



Note. Lending rate: weighted average of all quarter-end rates; treasury bill rate: average rate for corresponding week.
Source: The Riksbank.

Banks reduced this margin by 0.6 percentage points, which gave some stimulatory effect at a time when the repo rate was almost unchanged. This tendency for banks to react to repo rate adjustments with some lag is fairly normal and contributes to the delay before monetary policy measures affect demand and inflation.

The margin between housing intermediaries' lending rate and the repo rate and comparable short market rates is generally smaller in that the credits entail less risk; unlike bank credits, loans from housing institutions are mostly secured with real estate. The margin to the repo rate has been stable in the past two years. In 1997 the margin for flexible lending rates of short duration was 1.1 percentage points.

INCREASED HOUSEHOLD BORROWING

Lending by credit institutions to the resident non-bank sector (households and firms) rose almost 3 per cent in 1997 (Annex: Fig. 9). The 12-month changes have been positive since the autumn of 1996. Bank lending to this sector also rose in 1997, by almost 9 per cent.

The growth of lending to households in 1997 amounted to almost 6 per cent. In the early part of the year it was mainly housing credits that rose; this coincided with increases in property prices and turnover; as a result of price competition there was also some transfer of credits from banks to housing intermediaries. Consumer credits[8] then picked up in the second half of 1997 and rose in the year as a whole by over 8 per cent. The development of credit aggregates indicates that the current impact of monetary policy is expansionary.

The lending rates of banks and house mortgage institutions were reduced during 1997 even though the repo rate was unchanged. Lending rose to households as well as firms.

8 Defined as the sum of lending to the household sector by banks and finance companies (non-housing credit market companies).

Chapter 2

Determinants of inflation

This chapter presents the assessment of future price tendencies. International factors are considered first, followed by a survey of demand relative to supply in the Swedish economy. Transitory effects that will be acting on inflation in the coming two years are then discussed, followed by inflation expectations. Finally, a comprehensive assessment of inflation is presented, along with alternative scenarios.

Monetary policy targets an inflation rate of 2 per cent. The time lag before monetary measures affect economic activity and inflation makes it necessary to base policy on an inflation *forecast*. With a time horizon of one to two years, the development of inflation is determined by the following factors:

1. International activity and inflation

In that Sweden's economy is highly dependent on foreign trade, external economic developments are an important consideration in the assessment of inflation.

External inflation affects the price of imported goods in foreign currency, while *exchange rate movements* condition the extent to which changes in world market prices are mirrored in import prices in Swedish kronor. An appreciation of the krona tends to reduce the impact on domestic inflation from a given external price rise. The effect on domestic inflation is also conditioned by the development of profit margins on imports. Moreover, changes in world market prices that are not countered by exchange rate movements affect the competitive position for Swedish exports and this can have repercussions on the rate of wage increases and other production costs in Sweden. External *conjunctural developments* affect demand for Swedish exports and are thus of importance in the assessment of total demand.

2. Demand relative to supply

Demand that exceeds long-term production capacity generates inflationary pressure. Monetary policy therefore has to be gauged so that demand is kept as close as possible to the development of production capacity. A variety of indicators can be used to form an overall picture of the inflationary pressure that is emanating from demand in relation to supply. One of these indicators is the National Institute's business tendency data on industrial *capacity utilisation*. Another is the *labour market situation*, where, for example, comparatively high wage increases despite high unemployment may indicate a limited possibility of enlarging total demand without incurring wage inflation. A third type of indictor is the *output gap*, an econometric estimate of the difference between GDP's registered and potential long-term levels.

The higher the level of demand relative to capacity, the greater the probability of capacity shortages arising in parts of the economy. The occurrence of bottlenecks can therefore be a sign that production is approaching its potential long-term level. A shortage of a particular category of labour may be such a sign. A complication here, however, is that high demand and high wage increases for a certain category of labour can also result from better productivity and profitability compared with other activities. In that case, such wage increases are not a direct inflationary threat, though they do call for efficient wage formation and labour market flexibility. Assessments must also allow for the fact that, in time, high investment, an increased labour supply or improved technology lead to an increased production capacity.

Changes in demand do not, however, exert an influence on all prices through market mechanisms. Some prices are set by administrative decisions, based above all on the cost side or with a sizeable element of subsidy. Examples of administered prices in Sweden are rents and fees for medical care and certain municipal services. One of the consequences for monetary policy is that for certain prices, the impact of interest rate adjustments is subject to particularly long lags. Monetary policy can influence these prices only through effects on the general development of costs, e.g. wages.[9]

3. Other cost shocks and transitory effects

Inflationary impulses can also be generated by cost increases that are specific instead of stemming from a general increase in world market prices or strong domestic demand. An oil price rise is one example. Similar inflationary impulses can come from fiscal policy in the form of changes in *indirect taxes and subsidies*. Such inflationary impulses are normally transitory but they can also influence inflation expectations, with consequences for the long-term inflation process. In order to gauge trend inflation (inflation excluding transitory impulses) and thereby arrive at a deeper understanding of the inflation process, the Riksbank uses various indicators of underlying inflation, for example.

4. Inflation expectations

High demand prompts producers to raise prices and employees to bargain for higher wages. But inflationary price and wage increases can also stem from high inflation expectations as such, because economic agents strive to maintain or increase their real income level. In this way, inflation expectations are liable to be self-fulfilling.

The factors outlined above are those which, according to accepted economic theory as well as practical experience, affect inflation. An analysis of these factors is accordingly an important component of the foundation for monetary policy decisions. An account is presented below of the Riksbank's assessments of these factors' tendencies and their significance for inflation in the coming years. The discussion concludes with an assessment of inflation in the coming twenty-four months, up to the end of the first quarter of 2000. Two alternative paths are also considered.

First, however, there is reason to highlight one of the assessment's central assumptions. Just as in earlier inflation reports, the present calculations and predictions start from an *unchanged repo rate.* This is a technical assumption and its primary purpose is educational—to clarify whether a repo rate adjustment is called for and, if so, in which direction. Thus, an inflation assessment which results in the conclusion that, at the time horizon of twelve to twenty-four months which is the Riksbank's primary concern, inflation will be above (below) the target rate, normally implies that there is reason to raise (lower) the repo rate.[10] Note, however, that the Riksbank flanks its main inflation forecast with a number of risk scenarios for inflation prospects. These scenarios and the associated uncertainty are incorporated in the final assessment for monetary policy.

The Swedish krona is judged to be undervalued, making it reasonable to expect some appreciation. The assessment stems from a real exchange rate that is weaker than the level which represents long-term internal and external equilibrium.[11] Under the expansionary monetary conditions which the conjunctural situation has warranted, an exchange rate somewhat below the long-term equilibrium level is not unexpected. The current exchange rate is judged to be even weaker than one would expect from the cyclical situation, the prospects for inflation and the prevailing long-term inflation expectations. The recent depreciation can therefore be seen as being driven primarily by more short-run market considerations of a domestic as well as an international nature. When the situation in currency markets becomes more stable, the expected economic upswing suggests that the krona should appreciate.

The technical assumption of an unchanged repo rate also has consequences for the exchange rate forecast. The current expectations of repo rate increases (see Fig. 5) are affecting the exchange rate and its future development. The assumption of an unchanged repo rate therefore gives a weaker exchange rate trend compared with the case where the repo rate follows money market expectations. All in all, however, it is considered that the krona will appreciate during the forecast period.

International activity and inflation

SOMEWHAT WEAKER UPSWING, SLIGHTLY LESS INFLATION

Overall growth in the OECD area in the coming years is likely to be relatively good, around 2.5 per cent, though somewhat below the rate of approximately 3 per cent in 1997. Some downward revision of the assessment has been made since the December report, mainly because the Asian crisis has deepened and could last longer than expected earlier. Given a successive recovery in the Asian economies in the years ahead, however, growth prospects still appear comparatively favourable even for 2000.

The downward revision of OECD area growth mainly concerns exports but the Asian crisis could also affect other sectors indirectly, which might result in more subdued consumption. At the same time, some contrary effect could come from the falling bond rates in recent months.

The future rate of OECD area inflation was judged to be around 2 per cent in the December report. The Asian crisis should result in a somewhat lower rate, above all as a result of weaker global activity. Moreover, the increased competition that OECD countries will encounter after the major depreciation of Asian currencies should tend to subdue export prices.

Export prices in national currencies in the rest of the world are estimated to rise in the coming twenty-four months at an annual rate of about 1—1.5 per cent. This is about one-half of a percentage point less than the assessment in the December report. The impact on Swedish import prices also depends on the future exchange rate and profit margins on imports. Since the December report the TCW exchange rate has weakened; even with the gradual appreciation that is foreseen during 1998, this is expected to offset the effects of falling Asian currencies. All in all, the import price trend in 1998 is judged to be somewhat stronger than envisaged in the December report. In 1999 the prospect of a further appreciation of the krona points to a moderate import price increase in Swedish kronor.

The effects of the economic crisis in Asia and its repercussions on the world economy are still difficult to gauge. The current assessment assumes that growth in Asian countries will be very weak this year, followed by a successive recovery. It is conceivable, however, that the Asian crisis will continue to worsen and have a greater impact on growth in the OECD area. This risk scenario is considered at the end of Chapter 2.

To sum up, compared with the assessment in the December report, international activity in the coming twenty-four months is now expected to be somewhat weaker but growth should still be comparatively good. The growth prospects for 2000 are also relatively favourable. International inflation is likewise expected to be somewhat lower than envisaged in the December report; the overall rate in the OECD area is judged to be just under 2 per cent.

9 For an account of administered prices in the CPI, see *Inflation Report 1997:3*, p. 8.

10 For a more detailed discussion, see *Inflation Report 1997:3*.

11 See, for example, Alexius, A. & Lindberg, H. (1996), The krona's equilibrium real exchange rate, *Quarterly Review No. 1*, Sveriges Riksbank.

Demand and supply

FOREIGN TRADE SLACKENS

Foreign trade was unexpectedly strong in 1997. The volume growth rate for exports as well as imports of goods from 1996 seems to have been around 10 per cent.[12] Available statistics point to even higher growth for trade in services. Sweden's competitive position, measured as relative unit labour costs as well as relative export prices, improved during 1997, above all as a result of the krona's depreciation since the end of 1996. This has helped Swedish firms to increase their market shares. The export growth and increasingly strong private consumption have contributed in turn to the marked growth of imports.

In future, exports are likely to be more subdued than expected earlier on account of the crisis in Asia and the resultant curb on market growth in that region as well as globally. Moreover, the sharp depreciation of many Asian currencies has appreciably strengthened those countries' competitive position. The tendency for weaker market growth to subdue exports is partly countered by the krona's recent depreciation.

Export growth will probably be weaker than expected earlier on account of more subdued market growth.

The expansion of private consumption and industrial investment will help to sustain imports in the next two years. Imports may also be boosted to the extent that the crisis in Asia results in lower prices for certain imported goods.

To sum up, as a consequence of the crisis in Asia, the net export trend is expected to be somewhat weaker than estimated in the December report.

PRIVATE CONSUMPTION INCREASINGLY PROMINENT

Private consumption is judged to have risen more than 2 per cent in 1997 and a number of factors point to a continued acceleration in both 1998 and 1999. A major increase in household wealth has resulted from rising share prices in recent years and, more recently, from rising property prices (Annex: Fig. 14). Falling interest rates contributed to this. In 1998 and 1999, moreover, fiscal policy is expected to become less restrictive. Household disposable income is therefore likely to rise markedly this year, for the first time since 1994. During 1997 households became considerably more positive about their own economic situation; their expectations dipped towards the end of the year but rose again in January, possibly under the influence of the financial market unrest and the crisis in Asia. The markedly increased borrowing from banks and other credit market institutions in the second half of 1997 (see Chapter 1) presumably reflected a combination of low interest rates and household optimism.

A number of factors point to a continued acceleration of private consumption in both 1998 and 1999.

However, with the increased uncertainty occasioned by the Asian crisis, consumption may be somewhat weaker than suggested in the December report. The increase in the narrow money supply (M0) held by households and companies has slackened in recent months; the rate in December 1997 was 3.0 per cent as against 5.7 per cent in October. This may herald some slowdown in private consumption. Even if private consumption does rise somewhat more slowly, the net saving ratio is calculated to fall to a low level in the coming twenty-four months. Considering the marked increase in wealth and households' positive expectations, this is hardly surprising.

To sum up, in the coming twenty-four months private consumption is expected to become an increasingly important growth factor. It is estimated to rise by 2.5—3 per cent in both 1998 and 1999, with some accelerating tendency. The assessment has been revised marginally downwards since the December report.

GROSS INVESTMENT RISING AGAIN

Total gross fixed capital formation in the first three quarters of 1997 was 2.7 per cent lower than a year earlier. This is relatively close to the assessment of investment in 1997 that was presented in the December report.

With the combination of rapidly rising production and falling investment during 1997, the utilisation of production facilities in manufacturing is currently high. Even if somewhat more subdued growth in Sweden and abroad does mean that production rises somewhat less rapidly than expected earlier, its development and the high resource utilisation are still estimated to generate an increase in industrial investment during 1998 and 1999. The marked drop in both short and long interest rates since mid 1995 points in the same direction. Investment in non-industrial business is also expected to rise in 1998 and 1999. At the same time, investment growth may be held back by the poorer international conditions for economic growth.

The development of production and the high resource utilisation are expected to generate an increase in industrial investment during 1998 and 1999.

The level of residential investment has been very low for a number of years. New housing starts in 1997 are estimated to have totalled only about 10,000 units, which can be compared with over 60,000 units in 1990. Even so, there are no clear indications at present that an appreciable recovery is imminent.

To sum up, it still looks as though investment activity in the coming twenty-four months will be comparatively strong.

SOMEWHAT LOWER GDP FORECAST

As calculated earlier, in the coming twenty-four months the GDP contribution from net exports is expected to diminish, accompanied by growing contributions from private consumption and investment. This will modify the dual situation that has prevailed in Sweden's economy in recent years, with a strong internationally oriented sector and a weak domestic sector.

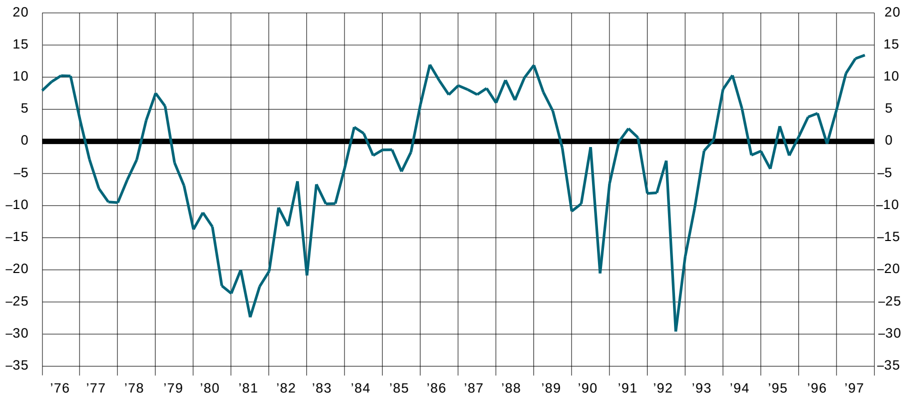
GDP growth is put at just over 2.5 per cent in 1998 and about 3 per cent in 1999.

A difference compared with the December report is the deeper nature of the crisis in Asia. The negative effect on Sweden's GDP growth is accordingly expected to be somewhat greater than estimated earlier. Although some downward revision compared with the December report appears to be warranted, the picture of economic activity in the main scenario is broadly unchanged.

To sum up, in the main scenario GDP growth is estimated to be just over 2.5 per cent in 1998 and about 3 per cent in

12 The national accounts for the 4th quarter of 1997 were not available when this report was being prepared.

Figure 8.
Households' personal economic expectations. Net figure, quarterly average



Note. Earlier method, linked at end 1996.
Sources: Statistics Sweden and the Riksbank.

1999. Provided the negative effects of the Asian crisis on international growth are not more protracted than expected and in view of the persistently expansionary monetary conditions on which the forecast is based, growth in 2000 should also be good.

LABOUR MARKET IMPROVEMENT

Registered unemployment was reduced by about 4,000 persons during 1997, while the number of persons in employment decreased by about 40,000. In July the open unemployment rate was 9 per cent, after which it fell up to December by 2 percentage points. The main factor behind the reduction was that—largely as a consequence of the Government's extensive efforts for education—many unemployed persons left the labour force to study. The employment trend remained weak in all sectors except private services; although the increase in the latter sector accelerated in the course of the year, it was outweighed by the large fall in public services (Fig. 9). Some improvement in employment was discernible towards the end of 1997.

In the coming twenty-four months employment is expected to grow as demand becomes stronger. The increase, however, is likely to be somewhat weaker than expected earlier in manufacturing as well as in private services. With the growth of employment and the efforts for education, unemployment should go on falling in this period.

With the growth of employment and the efforts for education, unemployment should go on falling in the coming twenty-four months.

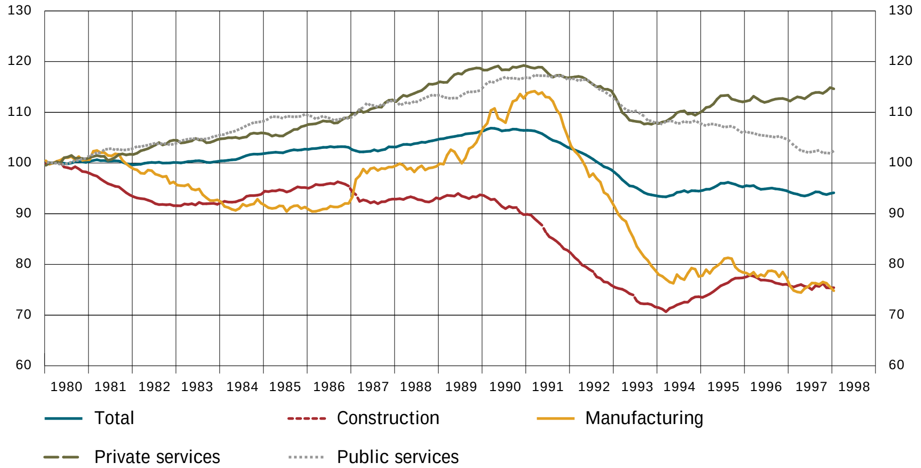
HIGH ALBEIT DECREASING PRODUCTIVITY GROWTH AND A DAMPED WAGE EVOLUTION

The rate of wage increases has been fairly stable at around 4 per cent in the past half-year (Annex: Fig. 18). The current round of wage negotiations is still in progress but the agreements that have been concluded to date in 1998 do point to a wage rise that is somewhat below the earlier assessment. Agents in the labour market seem to have gone on adjusting to a low-inflation economy.

The wage agreements that have been concluded to date in 1998 point to a wage rise that is somewhat below the earlier assessment.

The outcome of negotiations has most probably been affected by the low inflation expectations and the circumstance that profit margins are now judged to be narrower than at the time of the 1995 negotiations. Another factor behind the lower outcomes could be changes in the negotiating system, such as

Figure 9.
Employment (persons). Seasonally-adjusted moving three-month average. Index: third quarter 1980=100



Source: Statistics Sweden.

cooperation agreements and more coordination. In the coming years, persistently high unemployment and the construction of agreements, with a local allocation of negotiated increases, are expected to hold wage drift back to some extent despite the expected rise in economic activity and labour demand.

Labour productivity in manufacturing in the first three quarters of 1997 was over 7 per cent higher than in the corresponding part of 1996. The strong productivity growth since 1992 was accordingly maintained. Total productivity growth has also been good in recent years; during the first three quarters of 1997 the level rose 2.7 per cent, compared to the same period in 1996.

Structural changes in the Swedish economy in the past decade may have improved the conditions for maintaining good productivity growth more permanently.

This performance is probably attributable in part to transitory factors.[13] But it is conceivable that structural changes in the Swedish economy in the past decade have improved the conditions for maintaining good productivity growth more permanently. In the coming twenty-four months, productivity growth is expected to remain good, with a tendency to slacken as capacity utilisation rises.

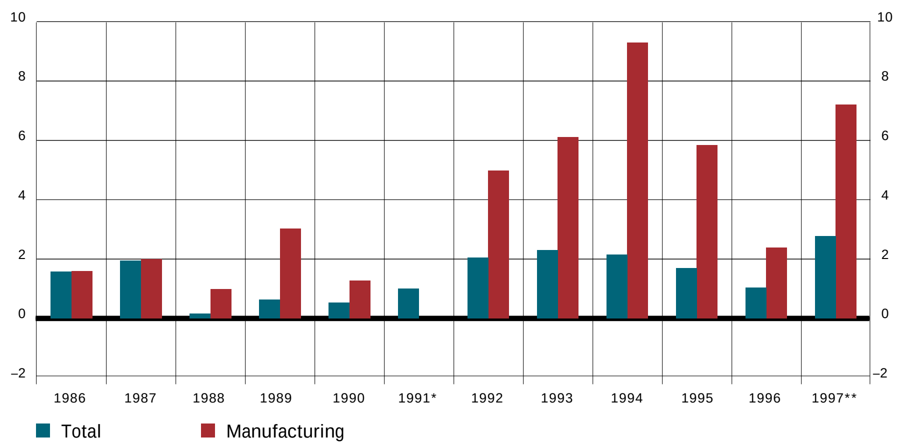
The annual wage rise in the years ahead is expected to be under 4 per cent. With slackening productivity growth, there would then be some increase in unit labour costs. Inflationary pressure from the labour market will, however, be somewhat less than was expected in the December report.

OUTPUT GAP NARROWING, CAPACITY UTILISATION RISING

Potential output—the level of production a country is capable of sustaining without generating inflationary pressure—is determined by factors such as technical innovations, the stock of productive resources and the efficiency with which this stock is utilised. The output gap—the difference between potential output and the actual level of production—is a concept that expresses the relationship between total demand and sustainable supply. Reality is too complex for econometric methods to be capable of describing the relationships between supply and demand exactly; the uncertainty surrounding output gap estimates is therefore substantial, as is evident not least from the wide range of the estimates obtained with different methods. Moreover, the output

13 For a further discussion, see "Productivity, real wages and unemployment", *Inflation Report 1997:4*, pp. 19—20.

Figure 10.
Productivity: total economy and manufacturing.
Annual percentage change



*1991: unchanged in manufacturing.
**The first three quarters.
Source: Statistics Sweden.

gap's relationship with inflation may also be complicated; it is conceivable, for instance, that inflation is affected not only by the size of the output gap but also by the rate at which the gap is changing. In an assessment of relationships between supply and demand, output gap estimates are therefore only one component and need to be augmented with statistical information about observable factors.

For the third quarter of 1997, different econometric approaches give output gap estimates that range from 0 to –3.1 per cent (Annex: Fig. 20). Although one of the methods indicates that the output gap had closed, the economy as a whole most probably has surplus capacity that could be utilised without generating troublesome inflationary pressure.

In manufacturing, the level of capacity utilisation as measured by Statistics Sweden in the third quarter of 1997 was 87.0, which is 0.8 percentage points lower than in the preceding quarter and around 3 percentage points below the highest level in this series, which goes back to 1980. In the fourth quarter of 1997, however, industrial capacity utilisation seems to have turned upwards again, though the picture is not entirely clear. According to the December business tendency survey from the National Institute, the level of capacity utilisation around the turn of 1997 was 86 per cent, as against 85 per cent a quarter earlier.

The business tendency surveys also show that the proportion of firms for which production factors are the primary obstacle to increased output has risen, from 34 per cent at the end of September to 38 per cent at the turn of 1997. On the other hand, the proportions reporting shortages of salaried technicians and skilled workers, respectively, fell by around one percentage point between these surveys. An appreciable lengthening of delivery times was reported in September but little further change in December. Moreover, assessments of order books and stocks of finished goods have tended to shift in a direction that indicates a weakening of industrial activity.

The general picture of capacity utilisation indicates that the forecast development of demand will generate rising resource utilisation in the coming years, even allowing for the more subdued growth that is assumed to result from the crisis in Asia.

The general picture of capacity utilisation indicates that the forecast development of demand will generate rising resource utilisation in the coming years, even allowing for the more subdued growth that is assumed to result from the crisis in Asia. In the December report it was considered that the output gap would close during the latter part of 1999. With the somewhat weaker growth that now seems likely, a reasonable assessment is that, given a potential growth rate of just over 2 per cent, the gap will not close until 2000.

A balanced assessment of the available information about the capacity situation in the economy indicates that there is no impending risk of appreciable inflationary pressure being generated in the coming twenty-four months by the relationships between demand and supply. But a gradual increase is foreseen in capacity utilisation.

Transitory CPI effects

Inflation assessments by the Riksbank normally start from the notion of unchanged fiscal policy—only tax changes that have already been introduced or announced are taken into account. The assessment accordingly assumes unchanged rates for taxes on quantity (energy taxes per kWh, for example) as well as value (VAT for example). Since the December report there has been no new information about changes to indirect taxes or subsidies.

During 1998 the main effects on consumer prices come from the indexed tax on alcohol and the introduction of a refuse tax; the combined effect on inflation is calculated to be 0.2 percentage points. The CPI effect from the property tax is marginal because, as a result of political decisions, the conversion factor (which regulates the assessed value of owner-occupied homes) is unchanged from 1997 to 1998.

No new changes to indirect taxes or subsidies have been announced since the December report.

In 1999 the ROT subsidy (for housing repairs, renovation and extensions) is to be terminated and certain specific taxes are to be indexed. This is calculated to add 0.2 percentage points to the change in the CPI. It is assumed, moreover, that the conversion factor for property assessments will be adjusted in 1999 in accordance with current regulations, which means that assessed values are recalculated for the change in house prices from 1997 to 1998; this is calculated to add another 0.2 percentage points to inflation. The effect of this factor is not usually considered to be transitory because the growing tax burden derives from rising house prices, not from an increased tax rate.

No tax changes are yet known for 2000. The property tax is assumed to follow the change in house prices from 1998 to 1999, which is estimated to add about 0.1 percentage point to inflation.

House mortgage interest costs fell almost 8 per cent during 1997, which held back the consumer price rise by about 0.7 percentage points (see box "House mortgage interest costs"). Bond rates have fallen since the December report. Given an unchanged repo rate, both short and long rates of interest are expected to rise only slightly during the forecast period. House mortgage interest costs would then continue to fall and hold back annual inflation by about 0.1—0.5 percentage points.

Changes in indirect taxes, subsidies and interest costs have a limited effect on the CPI in the coming twenty-four months.

To sum up, changes in indirect taxes, subsidies and interest costs have a limited effect on the CPI in the coming twenty-four months. The contribution to the change in CPI is calculated to be about 0.0 percentage point in 1998, 0.2 in 1999 and –0.3 in the first quarter of 2000. For 1998 and 1999 this is in line with the assessment in the December report.

HOUSE MORTGAGE INTEREST COSTS

Since 1995, when the inflation target came into force, house mortgage interest costs have fallen almost continuously. In that this item constitutes around one-tenth of the CPI, its downward trend has been an important cause of the slow CPI increases in recent years.

Dwelling costs are a major component of private consumption. Rents and other prices in this sector are therefore important for the development of inflation. Dwelling costs for owner-occupied housing, however, are not directly observable and have to be estimated instead. Actual prices are available for some of the items here (for example site leasehold fees, repairs, sanitary services, refuse collection and property tax) but the capital cost (interest payments) is more difficult to measure at an aggregated level. With the method used by Statistics Sweden, house mortgage interest costs are contingent on three factors: the capital stock, the level of interest rates and interest subsidies. The capital stock is calculated so as to represent the value of all owner-occupied housing in Sweden. The capital cost for this stock is calculated by applying the interest rate to the total stock (even though some houses are not mortgaged). Interest subsidies are then allowed for by reducing the capital cost by the total amount received by home-owners in the form of state subsidies.

The house mortgage interest rate is calculated as the average of the fixed and variable rates, weighted to correspond to the breakdown of the total loan stock between these rates at the turn of the preceding year. The two categories of original fixed interest period (two and five years) are taken into account by computing the average interest rate for a given month as the simple average of the rates for new loans in each of the latest 24 and 60 months, respectively. This allows implicitly for advance redemption and so-called compensation for interest rate difference.

The value of the capital stock is based on the most recent registered purchase prices. Price movements are therefore reflected in the capital stock only to the extent that houses are sold. This means that changes in the capital stock can reflect turnover as well as price movements. One consequence is that years with falling house prices can still give an increase in the capital stock.

At the current mortgage rates and interest periods, a permanent fall (increase) of 1 percentage point in the flexible rates has the effect of immediately reducing (increasing) the 12-month change in interest costs by about 2 percentage points; this effect lasts for twelve months and is accordingly transitory. The effect on annual CPI inflation is then around 0.2 percentage points. The effect disappears after one year because the entire stock of loans at flexible rates is affected immediately. A change of 1 percentage point in the fixed mortgage rates likewise affects the change in interest costs by 2 percentage points and inflation by 0.2 percentage points but instead of being immediate, these effects culminate after approximately one year. Their duration is dependent in the interest periods: the longer these are, the longer the lag before the entire stock of fixed interest loans has been renewed at the new interest rates and the more drawn-out the effect. With the current structure of loans, the greater part of the effect will persist for five years.

The major changes in interest costs in recent years must be considered exceptional. Confidence in the low-inflation policy has been strengthened appreciably, with the result that since January 1995 fixed five-year mortgage rates have fallen more than 5 percentage points. During 1996, moreover, the Riksbank lowered the repo rate almost 5 percentage points, which led to a similar drop in the flexible mortgage rates. From the example above it will be seen that the interest rate movements which are plausible once inflation target credibility has been established have a limited impact on the change in the CPI. Future effects will therefore most probably be smaller than before.

Inflation expectations

Inflation expectations play a central role in price formation. Their most important effect acts through prices that are set for a long time to come, for example wage agreements, fixed price contracts and prices of goods and services that, for various reasons, are costly to change. Inflation expectations are considered in this section in the form of forward interest rates and survey data.

Lower inflation expectations and lower future real interest rate

Medium-term implied forward interest rates (one to two years to delivery) have fallen about 0.9 percentage points since December (Annex: Fig. 22). This can be a sign of decreased expectations of medium-term inflation as well as expectations of a lower real interest rate compared with the situation in December, mainly due to less expectation of monetary policy restrictions.

The long implied forward interest rates (ten years to delivery) are determined in large measure by investors' assessments of long-term inflation and are thus an important indicator of the credibility of economic policy's commitment to price stability. Since the beginning of December, when the previous inflation report was published and the repo rate was raised, the ten-year forward rate has fallen about 0.7 percentage points.

Long interest rates in Sweden are also influenced by the international tendency. Since the December report the international long rates have fallen sharply, mainly in connection with the deeper crisis in Asia. The German and US long forward rates, for example, have both dropped 0.3 percentage points (Annex: Fig. 23). When estimating the credibility of monetary policy's commitment to price stability, it can therefore also be appropriate to look at the implied long interest rate differential with Germany.

This differential has now shrunk to about 0.1 percentage point (Annex: Fig. 24), as against about 0.5 percentage points when the December report was published. This could be an indication that confidence in Swedish economic policy's commitment to price stability has grown in recent months. However, forward interest rate movements should always be interpreted with caution because they are frequently driven by short-run market considerations.

Long-term inflation expectations can be gauged from the difference between the nominal and the real long forward interest rates. This difference indicates that, measured in this way, inflation expectations have been lowered 2 percentage points to about 2.5 per cent during last year (Annex: Fig. 25). The fact that the difference includes an inflation risk premium strengthens the conclusion that the inflation target seems to have acquired high credibility.

The long-term inflation expectations suggest that the inflation target has acquired high credibility.

Surveys suggest lower expectations of inflation in 1999 and 2000

Households' inflation expectations have proved to be a good indicator of consumer prices one year ahead.[14] In recent years these expectations have fluctuated between 1 and 3 per cent. They have fallen in recent months and currently point to a prise rise in the coming twelve months of 1.1 per cent, which indicates a weak consumer price tendency during 1998.

Other survey data have shown a continuous fall for some years and now likewise a notable stabilisation of price expectations. After some increase during 1997, there has recently been a downward tendency (Annex: Fig. 27 and Table 2).

Inflation expectations stabilised during 1997, after falling continuously for several years. Some increase was noted towards the end of last year. Since the December report the tendency has been downwards.

In the December business tendency survey from the National Institute, the level of one-year inflation expectations in manufacturing was 1.8 per cent, the

14 See box "Households' inflation expectations", *Inflation Report 1997:4*, pp. 28–29.

same as in September, but in the services sector there had been some increase, to an average of 1.6 per cent.[15]

According to Aragon's quarterly survey in February, bond investors' expectations of inflation two and five years ahead are 1.9 and 2.2 per cent, respectively. This represents some downward change since November.

Prospera's February survey of inflation expectations among labour market organisations, purchasing managers and money market agents also shows a fall since the November survey.

According to the forecasts by external observers, published since the December report, the inflation forecasts for 1998 and 1999 have been downward adjusted in every case.

To sum up, inflation expectations are low and relatively well in line with the inflation target. Since the December report, most of the indicators (from implied forward interest rates as well as surveys) show some downward movement.

Inflation forecast: main scenario

The Riksbank's assessment of inflation starts from the technical assumption of no change in the repo rate in the coming twenty-four months. Some appreciation of the krona is assumed from a level that, on account of recent tendencies in currency markets, is weaker than at the time of the December report. Together with a real interest rate that is comparatively low, this implies that the combined effect of interest rates and the exchange rate is still expansionary even though the repo rate was raised in December by 0.25 percentage points.

In the December report the Riksbank assumed that the economic crisis in Asia would have some, limited effects on growth in Sweden, mainly through somewhat weaker export growth. The crisis has been exacerbated since then (see box "Effects in Sweden of the crisis in Asia"). Although it is still envisaged that the crisis will be managed in such a way that its repercussions on the world economy are limited, it is now considered that its negative effects may be somewhat greater and more prolonged than the Riksbank allowed for in the December report.

International inflation in the coming twenty-four months is judged to remain low. In view of developments in Asia and their conceivable repercussions elsewhere, international growth is expected to be somewhat weaker than estimated earlier. This also points to somewhat lower international inflation, as may the depreciation of Asian currencies. For Sweden, external inflationary pressure is therefore likely to be very moderate. But in that the exchange rate tendency is assumed to appreciate from a weaker level than envisaged in the earlier forecast, the development of import prices is now expected to be somewhat stronger.

Economic activity in Sweden is judged to be somewhat lower than expected earlier, even though the monetary conditions are now rather expansionary. This applies primarily to net exports but private consumption and investment may also be somewhat subdued. At present, however, there are no grounds for revising the conjunctural assessment at all substantially. In the main scenario, which still represents an upward phase with successively rising domestic demand, GDP growth is estimated to be just over 2.5 per cent in 1998 and about 3 per cent in 1999. In view of the expansionary domestic monetary conditions that underlie the forecast and provided effects of the crisis in Asia on international developments are not excessively prolonged, growth is likely to remain good in 2000.

Although the combined effect of interest rates and the exchange rate are expansionary, it seems that the *level of economic activity* in Sweden will be somewhat lower than forecast earlier.

The overall picture of capacity utilisation is that, even with the dampening of growth that is assumed to result from the crisis in Asia, the amount of surplus capacity will diminish in the coming twenty-four months. The capacity situation is strained in parts of the economy but there seems to be no imminent risk that the general relationship between demand

and supply will generate appreciable inflationary pressure in this period. This risk has decreased, if anything, since the earlier assessment. One indication of this is that wage agreements to date in 1998 point to a wage rise that is somewhat lower than in the main scenario in the December report.

Prices for some CPI items are set administratively to a greater or lesser extent, which means that they are not affected by changes in demand as directly as market prices. One example is rents, one of the CPI's largest main items.[16] Rent agreements that cover much of the total stock of these dwellings have been concluded for 1998 and 1999. In that earlier agreements have been re-negotiated, the outcome for 1998 is lower than expected.

The overall wage rise is judged to be marginally more subdued than assumed for the main scenario in the December report.

Changes in indirect taxes, subsidies and interest costs that have mainly *transitory CPI effects* are expected, as in the December report, to have a limited impact on the price rise in the coming twenty-four months. There is no new information to add to the changes in indirect taxes and subsidies that were considered in the December assessment. The total CPI contribution from changes in these three items is about 0.0 percentage points in 1998, 0.2 in 1999 (of which 0.0 is of a transitory nature) and –0.3 in the first quarter of 2000.

Inflation expectations play a central part in the process of price formation because they influence the level of nominal price and wage contracts and thereby to a high degree the actual development of prices. These expectations can be discerned from survey data and bond rates. The overall picture from these sources is that inflation expectations are low and well in line with the inflation target. Recently, moreover, they have fallen.

In the main scenario, rising economic activity and expansionary monetary conditions are still expected to result in an upward inflation tendency from the current level in the next twenty-four months.

In the main scenario, rising economic activity and expansionary monetary conditions are still expected to result in an upward inflation tendency from the current level in the next twenty-four months. The new information since the December report points, however, to a price rise in the main scenario that is somewhat lower than expected earlier. Based on an unchanged repo rate, the assessment puts the rate of inflation, measured as the 12-month change in the CPI, at 1.8 per cent in December 1998, 2.1 per cent in December 1999 and 2.1 per cent in March 2000. The average annual rates are 1.6 per cent for 1998 and 2.1 per cent for 1999. Underlying inflation, as measured by UND1, is judged to be 2.0 per cent in December 1998, 2.3 per cent in December 1999 and 2.6 per cent in March 2000. The UND1 rates are higher because indirect taxes and interest costs, which are excluded from UND1, are expected to rise more slowly than other prices.

Based on an unchanged repo rate, the rate of inflation, measured as the 12-month change in the CPI, is judged to be 1.8 per cent in December 1998, 2.1 per cent in December 1999 and 2.1 per cent in March 2000. The average annual rates are 1.6 per cent for 1998 and 2.1 per cent for 1999.

15 The figure for the total services sector is an unweighted average of inflation expectations in each of the sub-sectors.

16 See box "Rented dwellings market", *Inflation Report 1997:4*, p. 7.

Alternative paths

For a variety of reasons, the assessments of economic activity and inflation that are presented in these reports are subject to uncertainty. For monetary policy it is therefore important that alternative paths are also considered. The alternatives can be visualised as margins of uncertainty on either side of the main inflation forecast presented above.

Since the December report the *crisis in Asia* has worsened. It is now considered that the problems in Asian countries will have more tangible effects on economic activity and inflation in Sweden. The main scenario includes some allowance for these effects but there is still a risk of the repercussions on international activity and the Swedish economy being considerably greater. The crisis has direct as well as indirect consequences for Sweden's economy (see box "Effects in Sweden of the crisis in Asia"). Quantification of these effects is bound to be rather uncertain; there are few estimated relationships or historical parallels on which to draw.

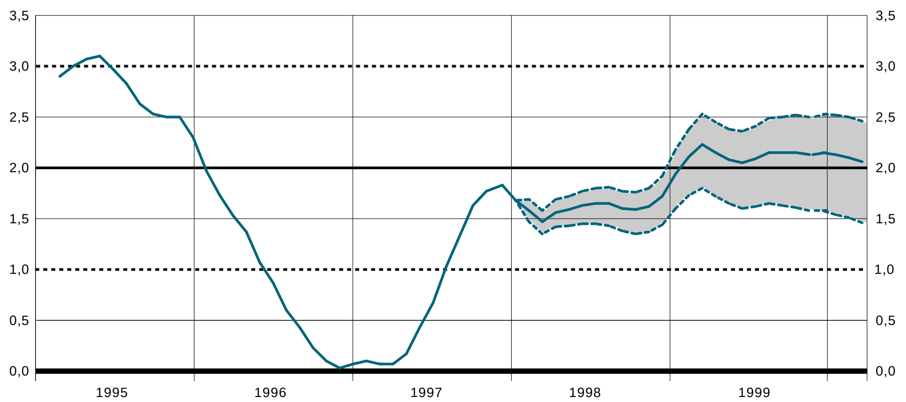
A further risk is that the crisis in Asia becomes even worse and lasts longer. The assumption in the main scenario is that growth in Southeast Asian countries is very weak this year and then picks up by degrees. When and at what rate the recovery will occur is, however, highly uncertain. The financial crisis may turn out to inhibit real economic activity and the growth of production for a long time to come. Signs that necessary structural reforms are not being implemented or are being postponed could erode confidence in the Asian economies, leading to further currency depreciations and rising interest rates. Continued financial instability could, moreover, increase the risk of ripple effects in other countries in the region as well as in other emerging markets in Latin America and Eastern Europe.

For Sweden, the risks associated with the Asian crisis are such that economic activity and inflation could be anything from somewhat to considerably weaker than in the main scenario. At the same time, a worsening or a geographical extension of the crisis in Asia could entail a continued fall in bond rates and a further temporary depreciation of the krona. In that case, more expansionary monetary conditions might partly offset this risk scenario's negative effects on activity in Sweden.

Another alternative, with *higher wage increases and weaker productivity growth* than in the main scenario, was discussed in the December report.[17] Since then, however, the probability of such a development seems to have decreased.

The main scenario presupposes that the krona's

Figure 11.
CPI and uncertainty margin. Moving three-month average of percentage 12-month changes



Note. The horizontal lines at 2, 1 and 3 per cent represent the target and tolerance interval for the Riksbank's annual inflation target.
Sources: Statistics Sweden and the Riksbank.

depreciation since the December report is a temporary phenomenon. If, instead, the exchange rate were to remain at the present level or continue to weaken, inflation might rise more quickly than in the main scenario.

It should be underscored that exchange rate fluctuations do not display any simple relationship with effects on demand and inflationary pressure. The impact on inflation is highly dependent on the extent to which Swedish importers and exporters pass through an exchange rate movement in altered prices. The recent weakening of the krona has presumably been driven by more short-run market considerations. The difficulty lies in assessing the permanence of the effects and their impact on inflation; the uncertainty in these respects is considerable.

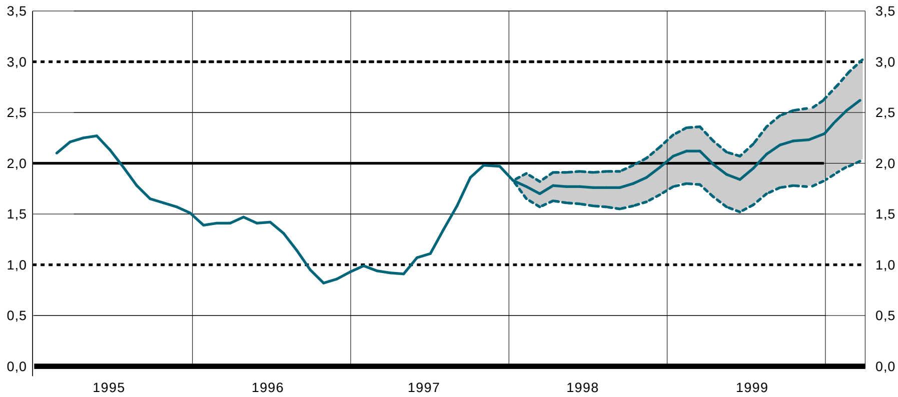
A combined assessment of the alternative paths that have been outlined above indicates that inflation below the rate in the main scenario is somewhat more probable than a higher rate.

Forecast paths for inflation in the coming twenty-four months were presented for the first time in the December report. The path represents the inflation assessment in the main scenario and constitutes the most probable outcome;[18] the interval on either side of the path underscores the uncertainties involved in assessing future inflation. The intervals give some idea of how uncertain the inflation assessment is considered to be but they do not indicate any exact probability of inflation being inside the band. A combined assessment of the alternative paths that have been outlined above indicates that inflation below the rate in the main scenario is somewhat more probable than a higher rate. On this occasion, accordingly, the uncertainty margins are not entirely symmetrical.

17 For a fuller account of this alternative, see *Inflation Report 1997:4*, p. 32.

18 Like the forecasts presented by the Bank of England, the most probable outcome is not necessarily the same as the average outcome.

Figure 12.
UND1 and uncertainty margin.
Moving three-month average of percentage 12-month changes



Note. The horizontal lines at 2, 1 and 3 per cent represent the target and tolerance interval for the Riksbank's annual inflation target.
Sources: Statistics Sweden and the Riksbank.

EFFECTS IN SWEDEN OF THE CRISIS IN ASIA

In the December report it was considered that the crisis in Asia would have only limited effects on the Swedish economy. An alternative scenario allowed for more marked repercussions. Since then, the crisis has worsened and spread to additional countries. Growth prospects for the region have been adjusted downwards. The Asian crisis is now expected to have more tangible effects on economic activity and inflation in Sweden.

The assessment in the main scenario assumes that the IMF recommendations are implemented and that international confidence in the region is successively restored. Interest rates should then fall back from the high levels at present, paving the way for a gradual recovery in domestic demand. The large currency depreciations imply major improvements in competitive positions that should lead in time to increased Asian exports.

There is still a risk of the crisis becoming even deeper and more protracted. If doubts arise about the authorities' determination to carry out the reforms, confidence in the long-term economic development could be weakened. Interest rates are therefore liable to remain high and delay a recovery. Moreover, credit restrictions on account of problems in the financial sector, coupled with decreased household and business optimism, could tend to restrain domestic demand for a long time to come. Ripple effects in other countries in the region, or in other emerging markets in Latin America and Eastern Europe, are also conceivable. The currency depreciations in countries involved in the crisis have greatly impaired the competitive positions of Asian neighbours.

Sweden's economy is affected by the Asian crisis through several channels:

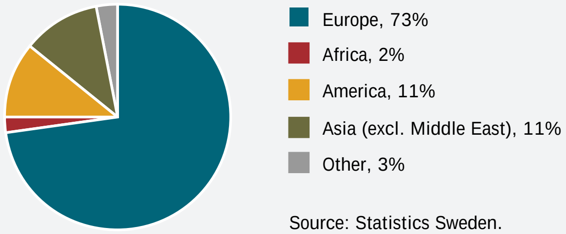
1. Foreign trade is the clearest link. Swedish exports are hampered in three ways. *Firstly*, import demand in the Asian countries is weakened both in that the massive depreciations make imports more costly and because the fiscal and monetary restrictions in the region entail a loss of demand. The share of Swedish exports that goes to Asia (excl. the Middle East) has grown in recent years and now exceeds 11 per cent. More than half of this share goes to Japan, China and Hong Kong.

Secondly, the massive depreciations improve the competitive positions of the Asian countries. To the extent that the Asian firms compete with Swedish firms, this applies in international markets as well as in Sweden. However, direct export competition between Swedish and Asian firms seems to be relatively limited.

Thirdly and finally, demand for Swedish exports is hit in that the Asian crisis subdues global economic growth. The effects on the United States and Japan are particularly relevant here. More subdued growth in other countries lowers demand for Swedish exports.

For the Swedish economy, lower export growth implies a slower increase in production and a poorer development of earnings for export firms. At a later stage this is likely to dampen the growth of consumption and investment. The share of Swedish exports that goes to Asia is somewhat larger than for other EU countries (the EU average is 9 per cent). Swedish exports relative to GDP are likewise more important than for many EU countries (over 40 per cent for Sweden against the EU average of 30 per cent). This suggests that the effects for Sweden's economy of lower Asian imports should be somewhat greater than for EU countries on average. On the other hand, direct competition between Swedish and Asian firms is no doubt comparatively small.

Figure B1.
Destination of Swedish exports of goods (1996). Per cent



Source: Statistics Sweden.

2. Direct price effects occur in Sweden's trade with Asia as well as because the crisis affects the global economy.

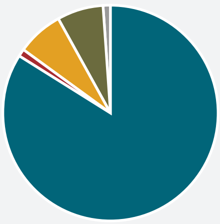
The massive depreciations of Asian currencies will make imports from the countries in question cheaper. However, only 7 per cent of Swedish imports of goods in 1996 came from Asia (excl. the Middle East). Weighted with each country's share of Swedish imports, the Asian currency depreciations are accordingly of only marginal importance for Swedish consumer prices. Even assuming a sharp increase in imports from Asia, the effect on consumer prices is only around two-tenths of a percentage point. In practice, moreover, the pass-through is likely to be only partial in that Asian exporters and Swedish importers may take the opportunity to improve profit margins.

On the other hand, global price competition is increased in that the improved competitive position of Asian firms exerts downward pressure on the prices of competing firms in other countries. Moreover, slower global growth should contribute to more subdued pricing in general.

3. Indirect channels. *Wealth effects* via falling share prices is another mechanism whereby the crisis may affect Sweden's economy. To the extent that this reduction of wealth is expected to be more permanent, it could tend to subdue consumption. Lower share prices can also weaken investment activity in that new investment is perceived as less profitable. Both these effects, however, are judged to be minor.[19] The *future optimism* of Swedish households may also be reduced by continued financial unrest, leading to increased prudential saving. Moreover, expectations of lower prices on goods imported from Asia could lead to some postponement of planned purchases for consumption.

The effects outlined above could be mitigated by other consequences of the crisis. The financial turbulence in Asia has been accompanied by falling bond rates and a depreciation of the krona. More expansionary monetary conditions offset other effects of the Asian crisis.

Figure B2.
Origin of Swedish imports of goods (1996).
Per cent



Source: Statistics Sweden.

19 For an account of stock market effects on consumption, see *Inflation Report 1997:4*, p. 17.

Chapter 3

Monetary policy conclusions

The discussion in this chapter concerns the objective of monetary policy, the outlook for inflation and the ensuing conclusions for monetary policy's construction.

PRICE STABILITY STILL THE OBJECTIVE

In January 1993 the Governing Board of the Riksbank decided that monetary policy is to be conducted with an explicit inflation target and specified that as of 1995 and measured in terms of the consumer price index, the rate of inflation is to be limited to 2 per cent, with a tolerance interval of ±1 percentage point. The commitment to an inflation target accordingly originated from the Riksbank but both the Government and the Riksdag (Sweden's Parliament) expressly support monetary policy's focus on price stability and the Riksbank's inflation target.

Another important step in this matter was taken in 1997. A government bill on the status of the Riksbank was presented to the Riksdag in November, proposing that Sveriges Riksbank Act is to include provisions that give the price stability objective statutory force. Besides the stipulation that the objective of the Riksbank's activities is to maintain the value of money, the bill proposes that the Riksbank's governing board is to exercise control and that in future the Riksbank will be directed by an executive board, consisting of six full-time members, that will decide all monetary policy issues. Ultimate responsibility for exchange rate policy is to be transferred from the Riksbank to the government in that the exchange rate system will be decided by the latter. This represents an adaptation to the arrangement in most EU countries. It is proposed, however, that the Riksbank will continue to decide the central rate and the band width in a fixed exchange rate system, as well as the practical implementation of a flexible exchange rate system. This reduces the risk of conflicting goals in monetary and exchange policy.

In November a government bill on the status of the Riksbank was presented to the Riksdag with a view to giving the price stability objective statutory force.

It should be underscored that the Riksbank's objective is stipulated by the Riksdag. The proposals, which are intended to come into force in 1999, are thus not aimed at making the Riksbank "unaccountable", in the sense of having an arbitrary freedom in monetary policy matters, but simply to enable it to conduct monetary policy in a way that fulfils the objective—price stability—which the Riksdag has established. The proposals give the independent status of the Riksbank a clear legal foundation, fully on a par with that for the central bank system in the coming European monetary union (EMU).

MONETARY POLICY OUTSIDE EMU

In December 1997 the Riksdag decided that Sweden will not be joining the euro area from the start in January 1999 but the door is to remain open for participation later on. The decision not to join was motivated by the present lack of public support. It was also stated that membership of the Exchange Rate Mechanism (ERM) can be seen as a preparatory step to adopting the single currency. There are therefore grounds for expecting that the issue of the krona joining the ERM will not be topical prior to any future decision on participating in the euro area. The decision by the Riksdag has the important consequence that the exchange rate is to remain flexible and that monetary policy is to be conducted, as at present, on the basis of an explicit inflation target. Experience from the years to date in which the inflation target policy has been implemented must be considered positive: inflation has been close to the targeted rate and economic growth has been comparatively high.

Although Sweden will not be participating in the euro area initially, the Riksbank will be maintaining a high state of readiness so that Sweden can join at short notice.

Until such time as the question of Sweden's participation in the euro area is decided, the conditions for the Riksbank to conduct monetary policy successfully on the basis of an explicit inflation target are good. Although Sweden will not be participating in the euro area initially, the Riksbank will be maintaining a high state of readiness so that Sweden can join at short notice.

INFLATION PROSPECTS

Monetary policy is constructed in the light of an assessment of price tendencies one to two years ahead. The horizon is shifted forwards approximately one quarter in each new inflation report. This means that even if the Riksbank's appraisal of future economic activity and inflation is unchanged, the forward shift in the period being assessed may mean that the instrumental rate needs to be adjusted. For the time being, monetary policy will be based primarily on an assessment of consumer price tendencies from the second quarter of 1999 to the end of the first quarter of 2000.

For the time being, monetary policy will be based primarily on an assessment of consumer price tendencies from the second quarter of 1999 to the end of the first quarter of 2000.

Monetary policy is sometimes explained with a simple rule of thumb: if the overall assessment of inflation (based on an unchanged instrumental rate) indicates that inflation will diverge from the targeted rate one to two years ahead, then the instrumental rate must be adjusted accordingly. It should be noted that the overall assessment of inflation does not normally refer to a single scenario; the Riksbank also works with assessments of risks in inflation's future path. Besides the main scenario (the one that is considered most probable), a number of risk scenarios are thus incorporated in the final overall assessment on which the construction of monetary policy is based. The element of uncertainty in the inflation assessment can accordingly influence monetary policy's construction. A high degree of uncertainty can be a reason for giving policy a more cautious turn. In this way, excessively large changes in interest rates and expectations may be avoided. This in turn should help to promote real economic stability. It should also be noted in this context that in the construction of monetary policy the Riksbank considers not only the target variable (the CPI) but also different indicators of underlying inflation in order to allow for their information about the path of inflation and transitory effects.

INFLATION SOMEWHAT BELOW THE TARGET

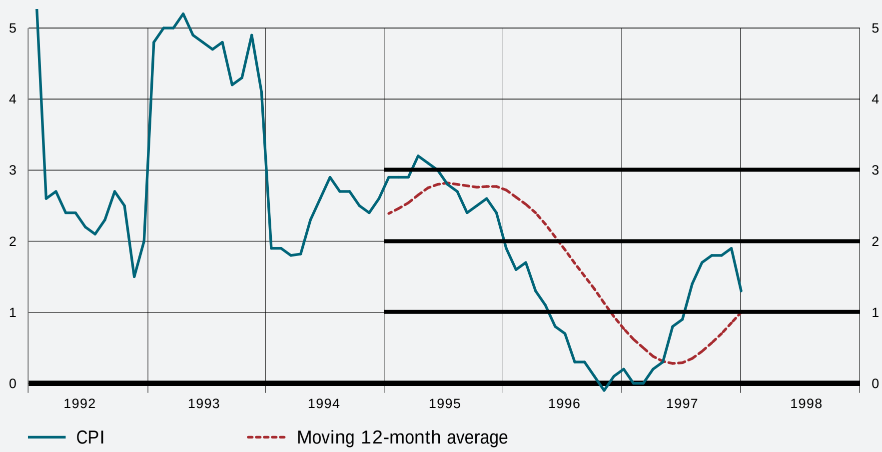
As pointed out earlier by the Riksbank, monetary policy and the fulfilment of the inflation target should be evaluated, not from isolated monthly inflation figures but in an annual perspective. This has to do with the lag before monetary measures can counter an unexpected development of inflation and the need to base the evaluation less on transitory effects.

Since the inflation target came into force, the annual increase in consumer prices has averaged 1.5 per cent.

Since the inflation target came into force, the annual increase in consumer prices has averaged 1.5 per cent. Thus, the average outcome is below but relatively close to the target and well inside the tolerance interval. Underlying inflation in this period has been closer to 2 per cent. In other words, the transitory effects that lowered inflation have been stronger on average than the upward effects. In certain periods the transitory effects have been particularly marked. From June1996 to July 1997 the 12-month CPI change figures were outside the tolerance interval's lower limit, in large measure because falling interest rates held back the increase in the CPI, via decreased house mortgage interest costs. The falling interest rates in turn were largely an effect of increased confidence in economic policy in general and the Riksbank's repo rate cuts during 1996.

The impact of interest costs on inflation has already begun to diminish and is currently being offset by effects of changes in indirect taxes and subsidies. In January, both the CPI's 12-month change figure, 1.3 per cent, and the average of changes over the past twelve months, 1.0 per cent, were inside the inflation target's tolerance interval.

Figure B3.
Consumer price index. Percentage 12-month change (CPI) and moving 12-month average of these changes



Note. The horizontal lines from 1995 onwards represent the Riksbank's annual target and tolerance interval for the CPI.
Sources: Statistics Sweden and the Riksbank.

Inflation prospects somewhat better

The negative effects of the crisis in Asia are likely to be somewhat more extensive and prolonged than was expected in the December report. External inflationary pressure is therefore judged to be moderate and economic growth in Sweden will presumably be somewhat lower than estimated earlier. Some leading indicators also point in this direction. The Riksbank's appraisal of economic activity, however, is broadly unchanged: an expansionary phase is foreseen, with a successive increase in domestic demand; provided international demand does not slacken sharply, growth should remain good in the longer run. Another important factor for inflation is the direction of fiscal policy. A continued consolidation of government finances is assumed but it seems that in the coming twenty-four months the directly restrictive effects will not be as marked as earlier.

In the main scenario for inflation the good growth prospects are expected to increase capacity utilisation in the coming 24 months, even when some allowance is made for the Asian crisis. This is expected to lead to a slight increase in the rate of underlying inflation but the risk of a stronger rise is not imminent and has decreased slightly since the December report. One sign in that direction is that wage agreements to date in 1998 point to a wage rise that is somewhat lower than in the main scenario in the December report. Inflation expectations have fallen recently and are fairly well in line with the inflation target even in the longer run. Thus, it looks as though confidence in the Riksbank's inflation target is establishing.

The assessment in the main scenario is still that rising economic activity and expansionary monetary conditions will lead to some increase in inflation in the coming twenty-four months.

The assessment in the main scenario is still that rising economic activity and expansionary monetary conditions will lead to some increase in inflation in the coming twenty-four months. The new information since the December report suggests, however, that this increase will be slighter than expected earlier. Given an unchanged repo rate, the 12-month rate of CPI inflation is judged to be about 1.8 per cent in December 1998 and 2.1 per cent in December 1999. Underlying inflation, however, is judged to be somewhat higher. This is because components that are excluded from the underlying measure (e.g. taxes and interest costs) are expected to increase more slowly than other prices.

Monetary policy's construction

In that there is a lag before monetary policy measures by the Riksbank affect price tendencies, policy has to be forward looking. In an upward phase it is important that the monetary stance does not remain expansionary for too long and that a realignment occurs gradually before full capacity utilisation has been reached. Such a gradual policy adjustment provides better conditions for consistently low inflation and a more stable development of production and employment. Against this background the Riksbank intended to move to a less expansionary monetary stance when the repo rate was raised by 0.25 percentage points in December. The increase was designed to ease future inflationary pressure.

The new information since then points to the prospect of somewhat more subdued inflation. In the main scenario, CPI inflation is expected to move to marginally above the target, while underlying inflation is somewhat higher.

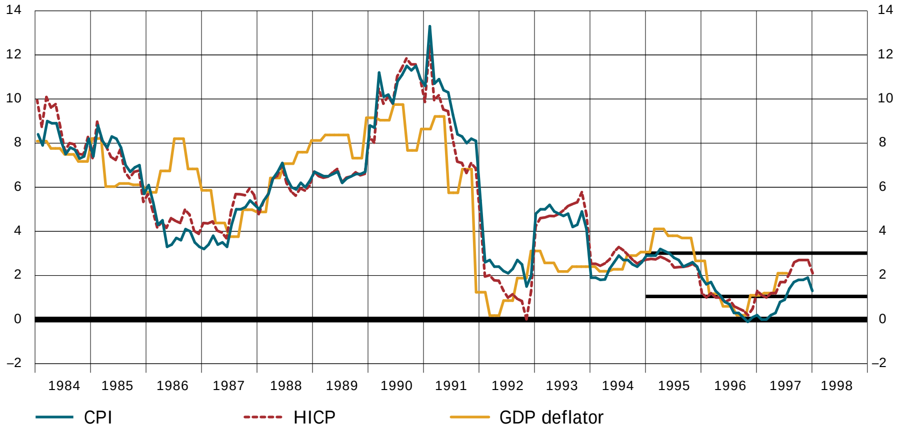
Monetary policy also has to consider the altered risk spectrum. The possibility of lower inflation, mainly on account of the Asian crisis, is still there. The crisis could worsen, in which case the repercussions on international activity and the Swedish economy might be more extensive and prolonged. The likelihood of higher inflation, generated by stronger wage increases and weak productivity growth, has decreased.

The krona has depreciated almost 2 per cent since the December report. Studies at the Riksbank suggest that in a long-term fundamental sense, the krona is undervalued. In recent years, Sweden's economy has moved towards a more balanced situation; as this trend continues, it is considered that the krona could appreciate. If the weaker exchange rate were to become permanent, this could affect inflation prospects and thereby the construction of monetary policy.

All in all, the inflation prospects suggest a somewhat more subdued tendency than at the time of the December report. But the main scenario does involve rising activity, with a gradual increase in capacity utilisation and thereby some accentuation of inflationary pressure. This speaks for a cautious tightening of the monetary stance in the year ahead. With the crisis in Asia, however, inflation may prove to be lower. Moreover, the uncertainty about future inflation has been compounded by the exchange rate tendency. All this suggests that the repo rate should not be altered at present. With the uncertainties in the assessment, there are strong reasons for appraising the construction of monetary policy continuously as new information becomes available.

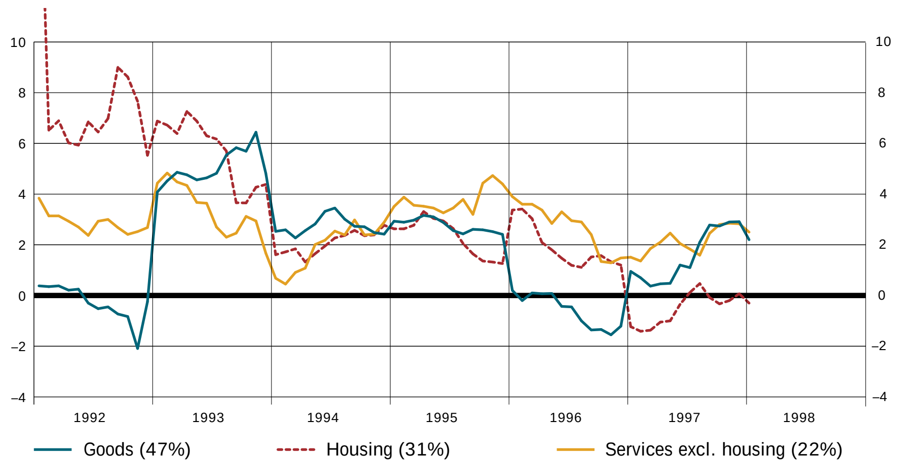
Annex

Figure 1.
CPI, HICP* and GDP deflator. Percentage 12-month change



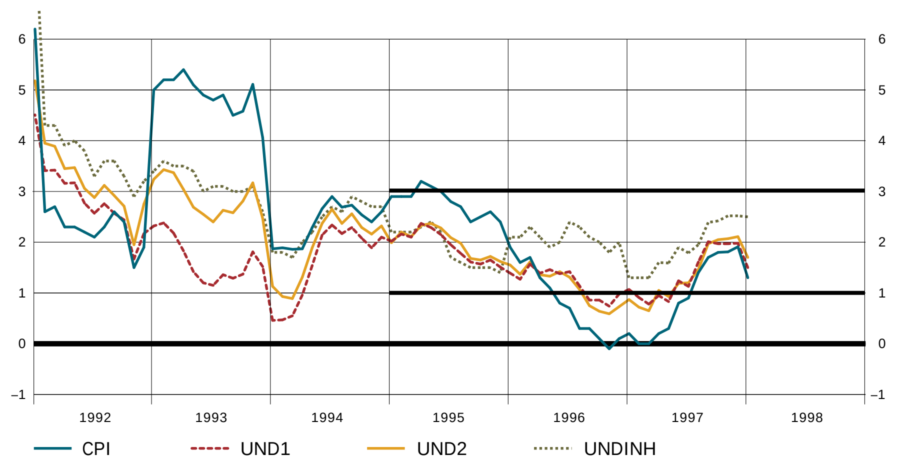
*Harmonised index for international comparisons of consumer prices. Approximate data before 1996.
Note. The horizontal lines from 1995 onwards represent the Riksbank's tolerance interval for the annual change in the CPI.
Source: Statistics Sweden.

Figure 2.
CPI components. Percentage 12-month change



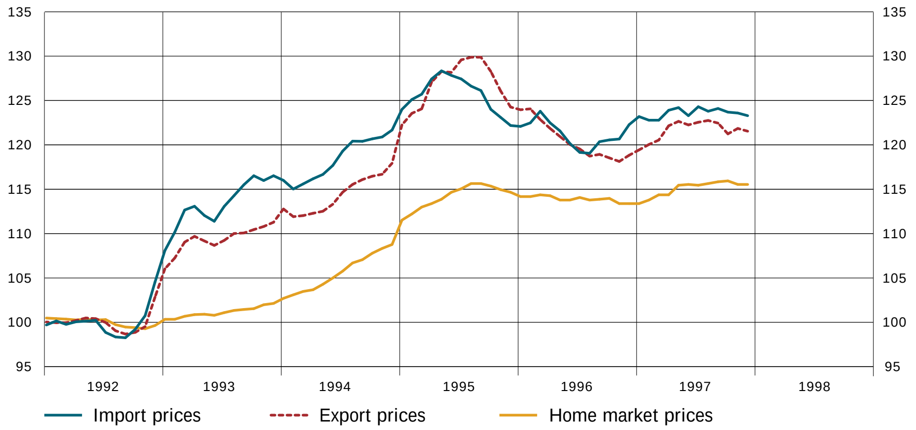
Note. The figures in parentheses are the component's CPI weight in 1998.
Sources: Statistics Sweden and the Riksbank.

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



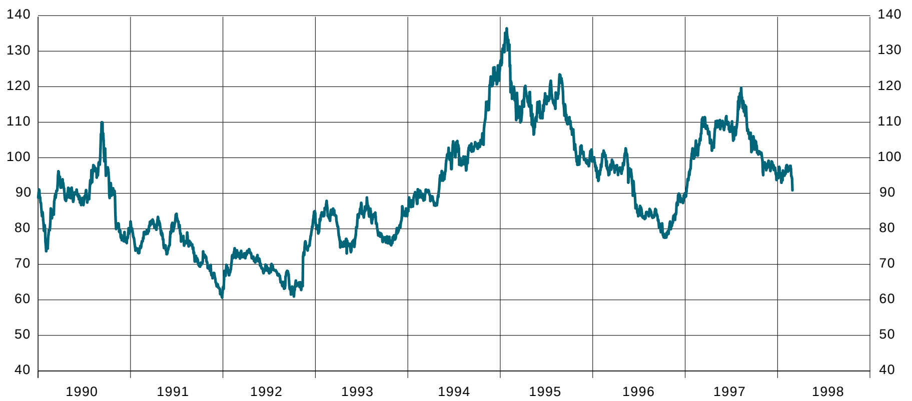
Note. The horizontal lines from 1995 onwards represent the Riksbank's tolerance interval for the annual increase in the CPI.
Sources: Statistics Sweden and the Riksbank.

Figure 4.
Import, export and home market prices.
Index: 1992=100



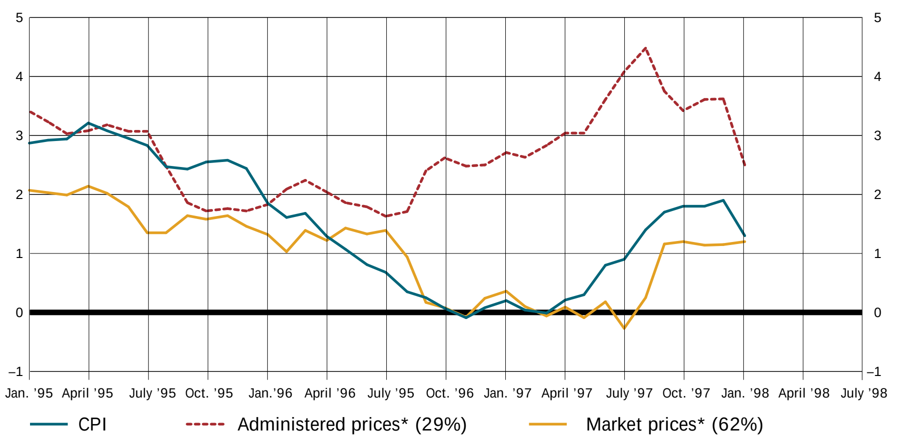
Source: Statistics Sweden.

Figure 5.
Import-weighted index of raw materials prices (excl. crude oil).
December 1995=100, daily level



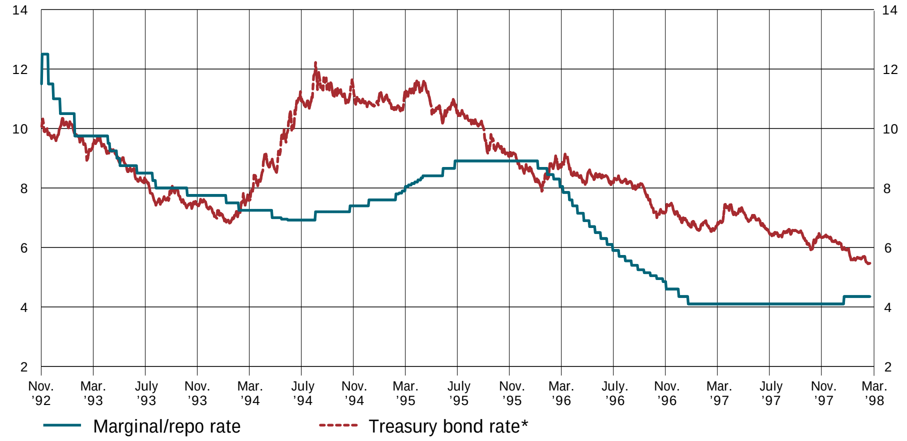
Note. Constituent items: aluminium, copper, nickel, zinc, gold, silver, wheat and sugar. Weights: shares of total Swedish imports in 1996. The combined share for these items is about 2 per cent.
Source: The Riksbank.

Figure 6.
CPI, market prices and administered prices.
Percentage 12-month change



*Excl. taxes and subsidies.
Note. The figures in parentheses are the component's weight in 1998.
Sources: Statistics Sweden and the Riksbank.

Figure 7.
Interest rates.
Daily quotations, per cent

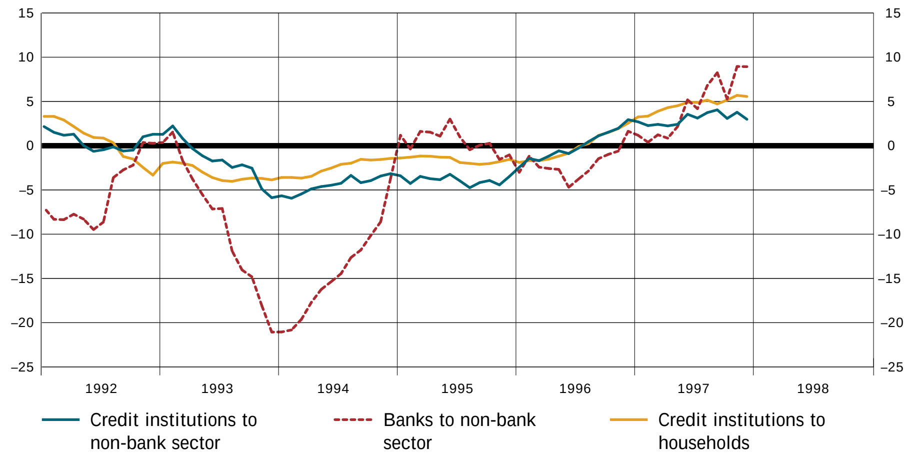


*The ten-year treasury bond rate refers for 1992 to the Swedish issue no. 1030, maturing on 15 June 2001, for 1993 to issue no. 1033, maturing on 5 May 2003, for 1994, 1995 and 1996 to issue no. 1035, maturing on 9 February 2005 (from end October 1996 to end 1996 to issue no. 1038, maturing on 25 October 2006), for 1997 to issue no. 1037, maturing on 15 August 2007, and for 1998 to issue no. 1040, maturing on 5 May 2008.
Source: The Riksbank.

Figure 8.
Effective (TCW) nominal exchange rate.
Index: 18 November 1992=100, daily level

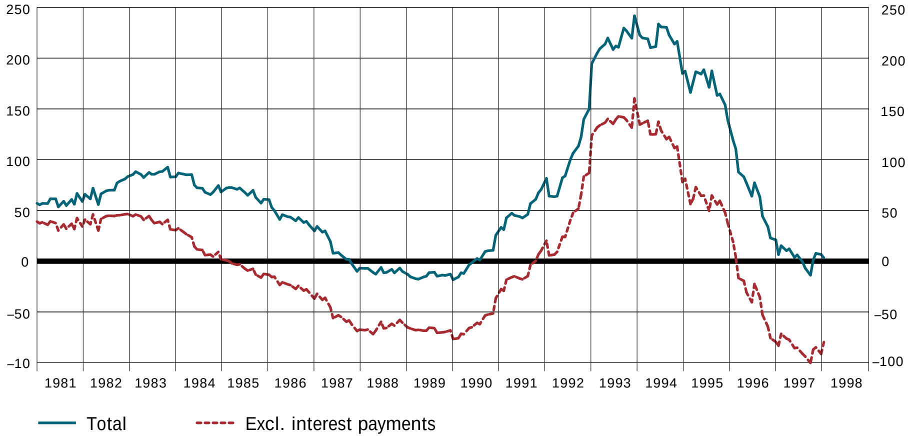
Source: The Riksbank.

Figure 9.
Lending by credit institutions to resident non-bank and household sectors; bank lending to resident non-bank sector.
Percentage 12-month change



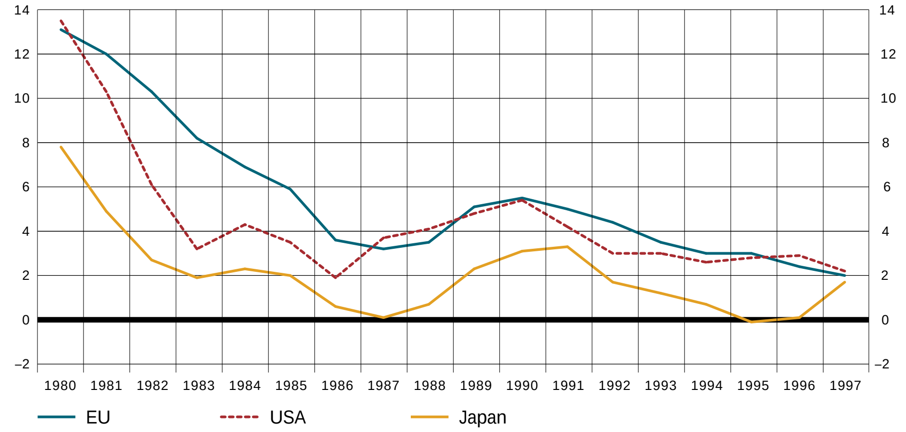
Note. From January 1995 onwards the figures include banks' repos with the non-bank sector. Lending by housing institutions has been adjusted for the transfer of state housing loans to this category in July 1995.
Source: The Riksbank.

Figure 10.
Government borrowing requirement: total and excluding interest expenditure.
SEK billion, moving 12-month total



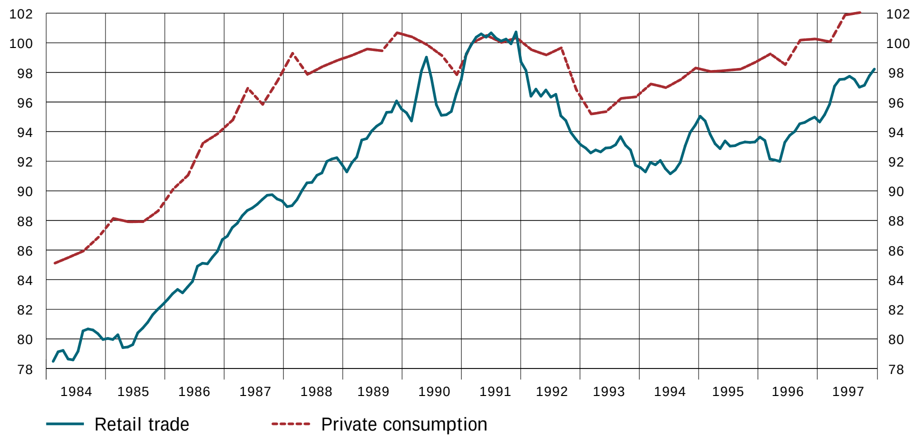
Source: National Debt Office.

Figure 11.
Inflation: European Union, United States and Japan.
Annual rate



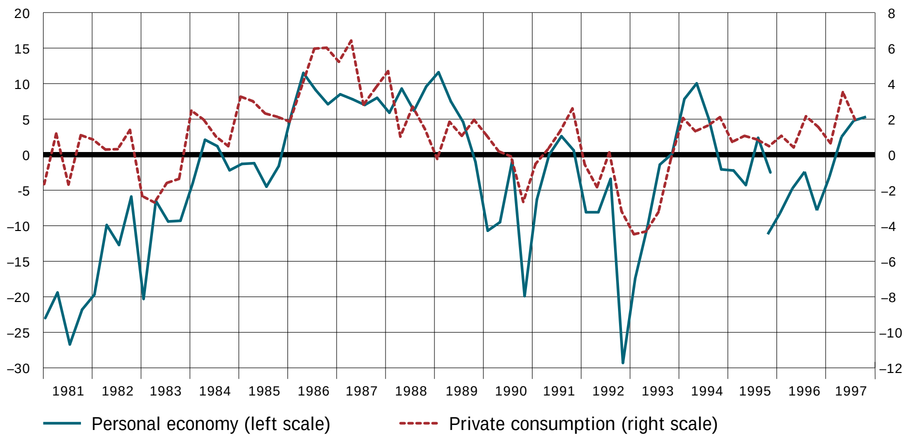
Note. 1997: first eleven months for EU inflation.
Source: OECD.

Figure 12.
Private consumption and retail turnover.
Volume, seasonally-adjusted quarterly data and moving three-month average, respectively; index: 1991=100



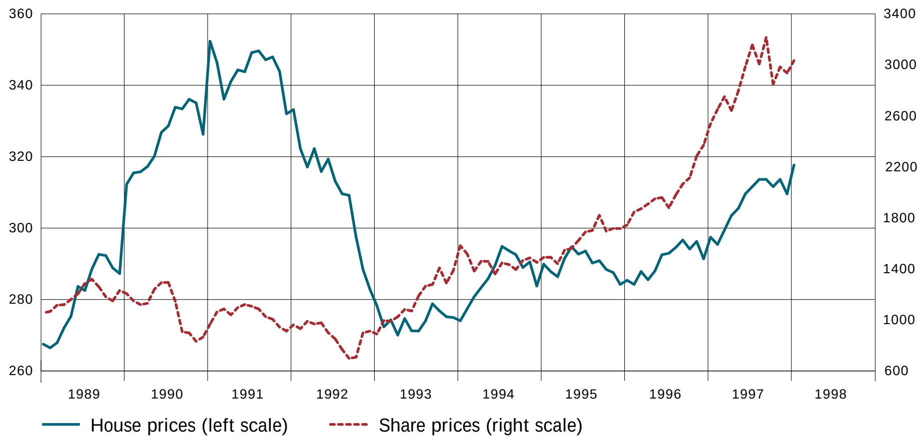
Source: Statistics Sweden.

Figure 13.
Households' personal economic expectations* and private consumption. Net figure and annual percentage change



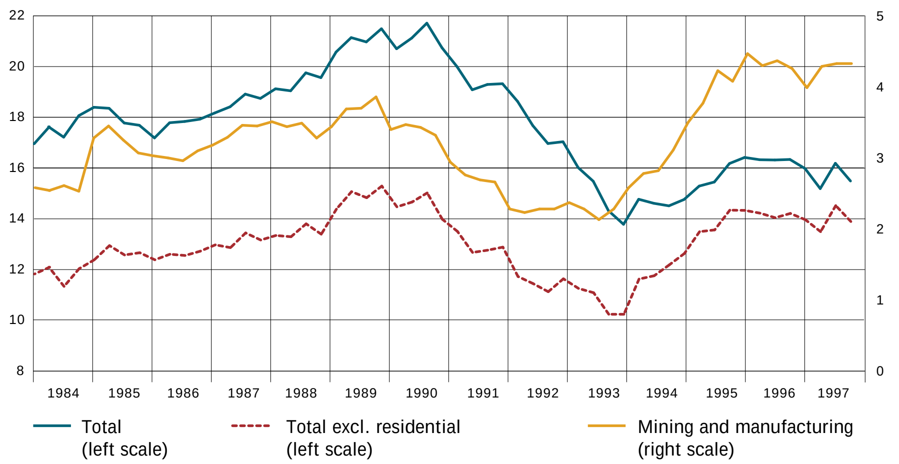
*The HIP statistics were revised in October 1995.
Source: Statistics Sweden.

Figure 14.
Price index for owner-occupied housing (1981=100) and Stockholm Stock Exchange share price index* (end 1979=100)



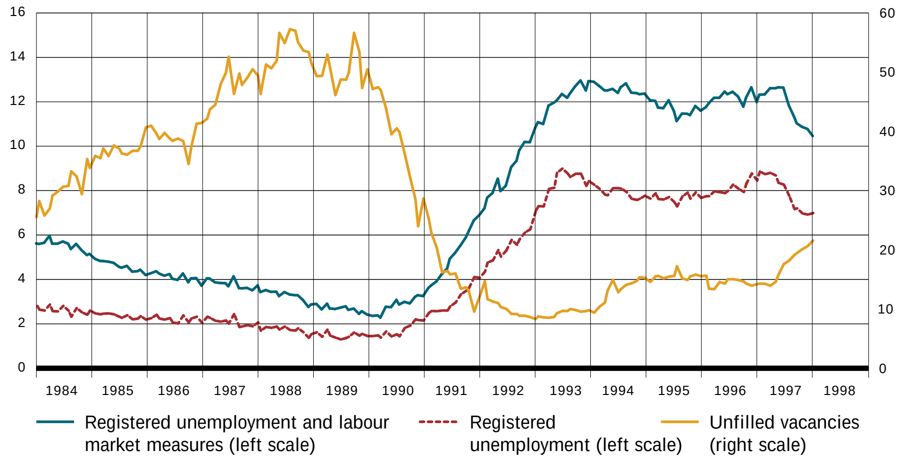
Sources: Statistics Sweden and Stockholm Stock Exchange.

Figure 15.
Gross fixed capital formation relative to GDP: total, excl. residential and in mining and manufacturing. Seasonally-adjusted volume, per cent



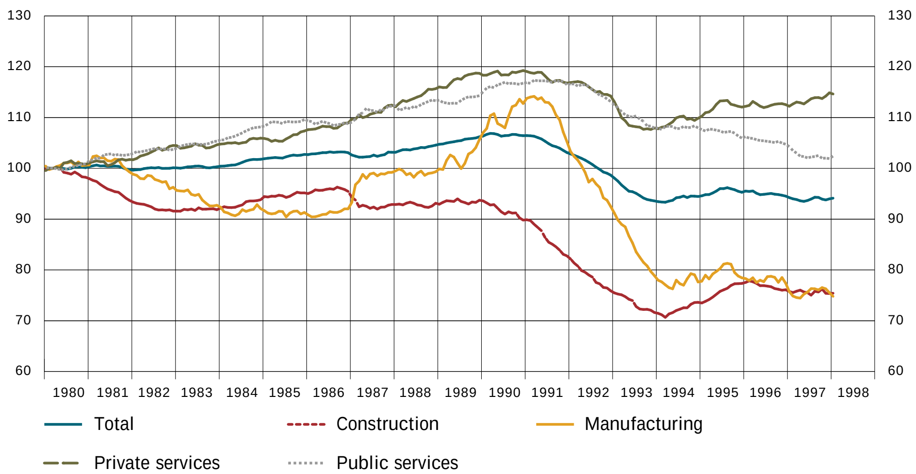
Source: Statistics Sweden.

Figure 16.
Unemployment and job vacancies.
Per cent and thousands, respectively; seasonally-adjusted data



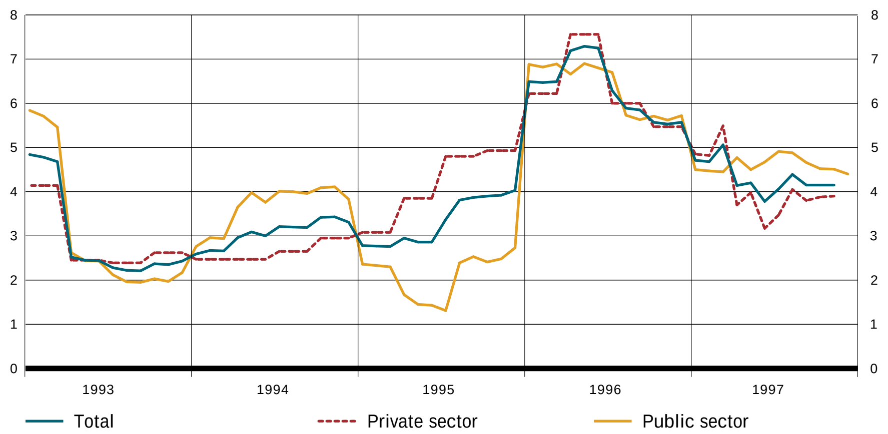
Sources: Statistics Sweden and National Labour Market Board.

Figure 17.
Employment (persons).
Seasonally-adjusted moving three-month average. Index: third quarter 1980=100



Source: Statistics Sweden.

Figure 18.
Total and sectoral wage levels.
Annual percentage change



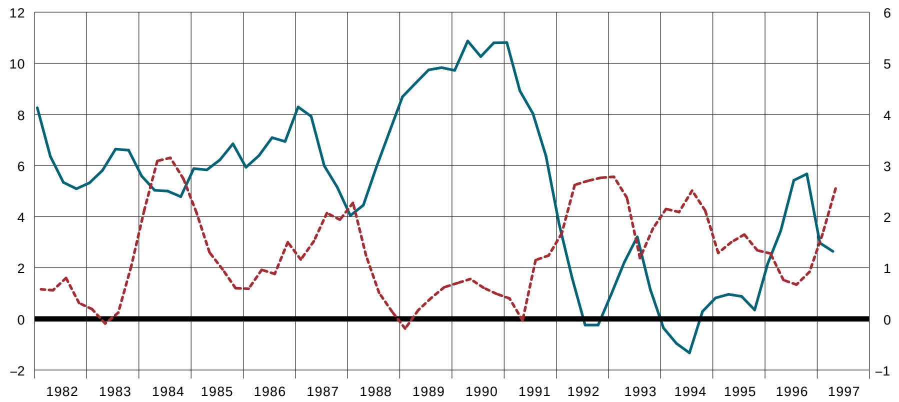
Sources: Statistics Sweden, Association of Local Authorities, Federation of County Councils and the Riksbank.

Table 1.
Sectorwise wage formation. Percentage change, annual rate

	1993	1994	1995	1996	1997 Jan.—Nov.
Private sector	3.0	2.6	4.2	6.3	4.4
manufacturing	3.4	3.7	4.8	7.5	4.3
trade	2.8	1.5	3.9	5.2	4.1
construction	3.8	2.8	4.1	4.0	2.9
Central government	2.9	4.2	3.9	7.0	4.0
Municipalities	3.2	3.2	1.0	5.3	4.3
County councils	2.9	4.1	2.7	7.8	5.9
Total economy	**3.0**	**3.1**	**3.3**	**6.3**	**4.3**

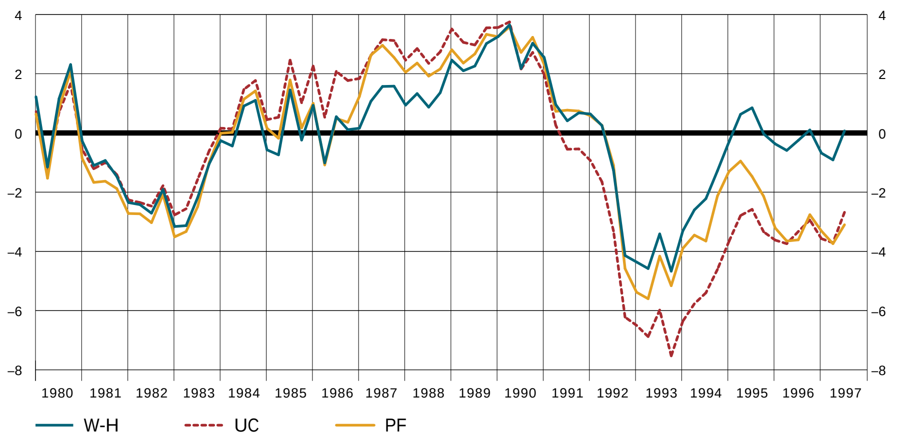
Note. Data adjusted for retroactive disbursements but not for inter-sector rearrangements of activities.
Sources: Statistics Sweden, Association of Local Authorities, Federation of County Councils and the Riksbank.

Figure 19.
Unit labour costs (ULC) and labour productivity. Percentage 12-month change, moving four-quarter average



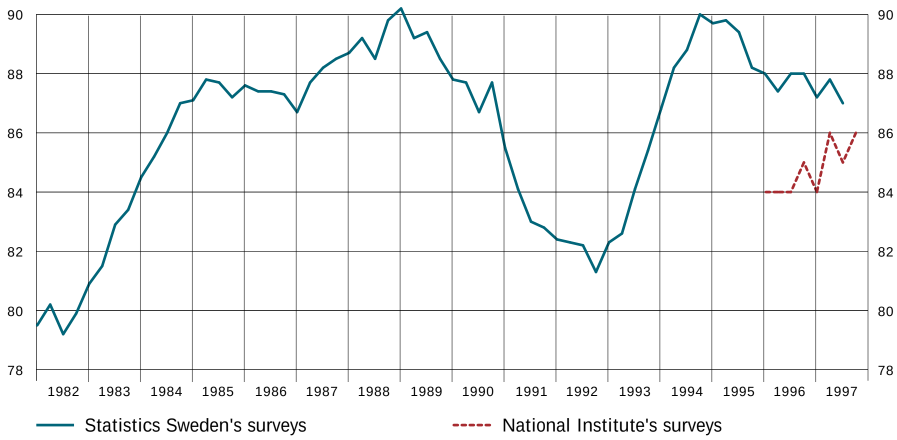
Source: Statistics Sweden.

Figure 20.
Output gap calculated with three alternatives: Whittaker-Henderson filter (W-H),* Unobserved Component method (UC) and production function approach (PF). Per cent



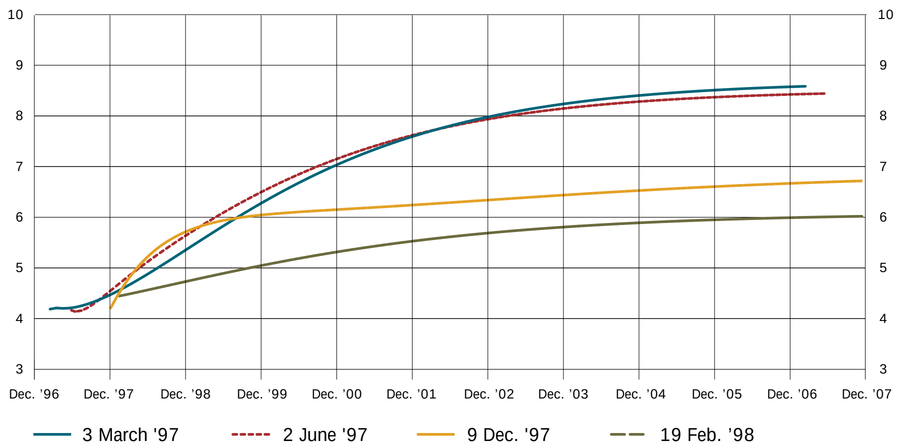
*The W-H filter is based on a projection of GDP using the National Institute's forecasts for 1997, 1998, 1999 and 2000, that is, 1.9, 3.0, 2.8 and 2.2 per cent, respectively.
Source: The Riksbank.

Figure 21.
Industrial capacity utilisation.
Per cent



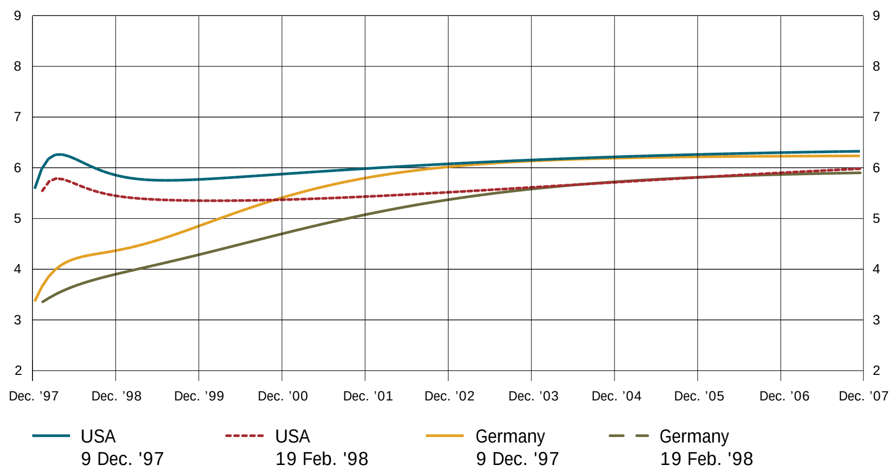
Sources: Statistics Sweden and National Institute of Economic Research.

Figure 22.
Implied forward interest rate curves.
Effective annual rate,
Per cent



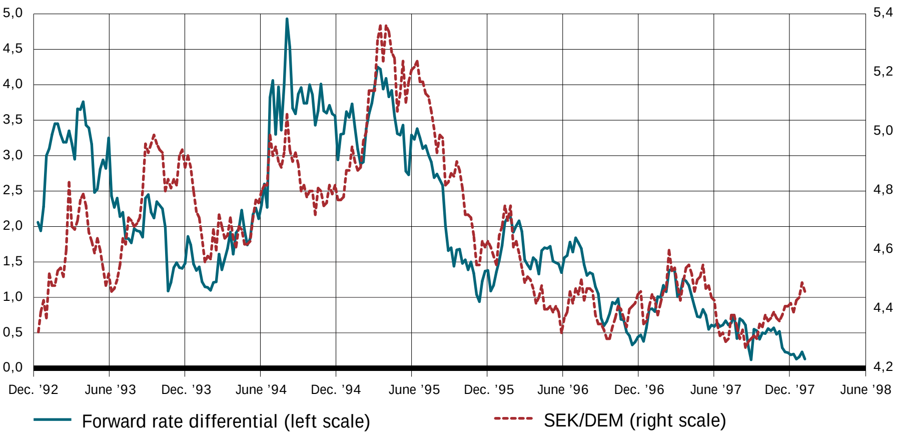
Source: The Riksbank.

Figure 23.
Implied forward interest rates in the United States and Germany.
Effective annual rate,
Per cent



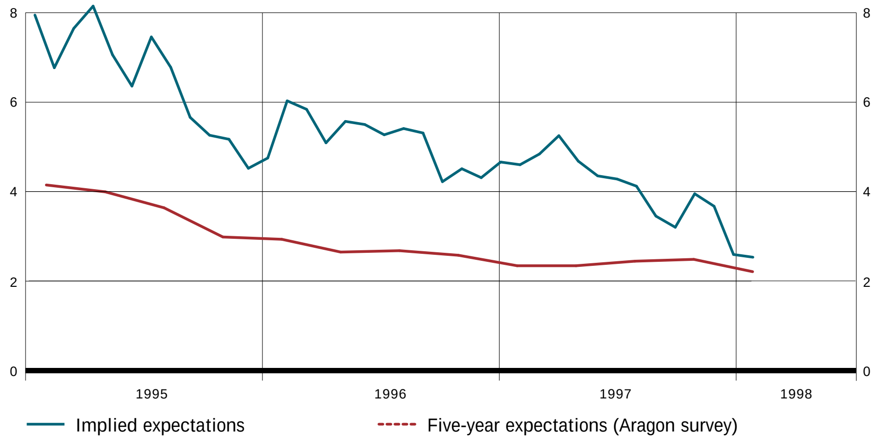
Source: The Riksbank.

Figure 24.
Forward ten-year interest rate differential with Germany and SEK/DEM exchange rate.
Percentage points and SEK/DEM



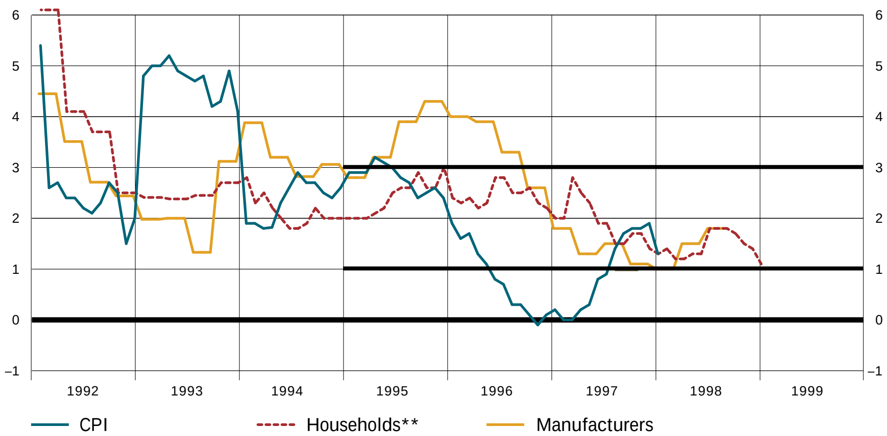
Source: The Riksbank.

Figure 25.
Inflation expectations.
Per cent



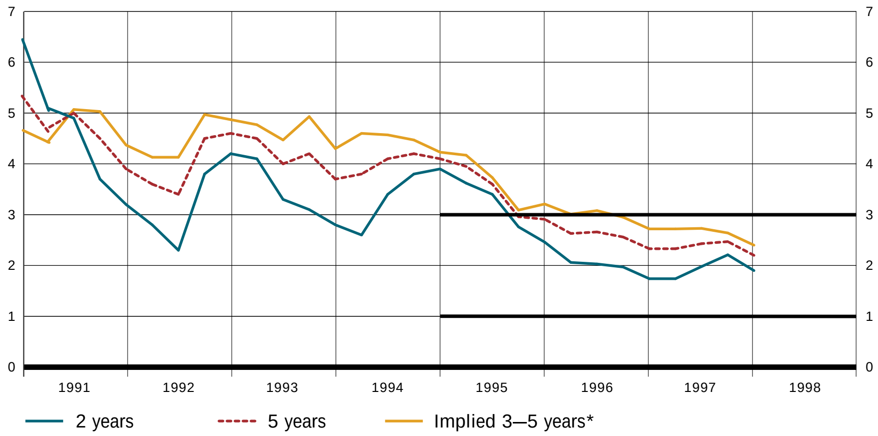
Note. Implied inflation expectations derived from the difference between implied ten-year real and nominal bond rates.
Sources: Aragon Fondkommission and the Riksbank.

Figure 26.
CPI and inflation expectations* of households and manufacturers.
Percentage 12-month change



*The curves for expectations have been shifted twelve months into the future so that they coincide with the period to which the expectations refer.
**As of 1996 the ten most extreme responses at either end are excluded; prior to 1996 the curve shows responses in the range 0—15 per cent.
Note. The horizontal lines from 1995 onwards represent the Riksbank's tolerance interval for the annual change in the CPI.
Sources: Statistics Sweden and National Institute of Economic Research.

Figure 27.
Bond investors' inflation expectations. Average annual rates for the next two and five years.
Per cent



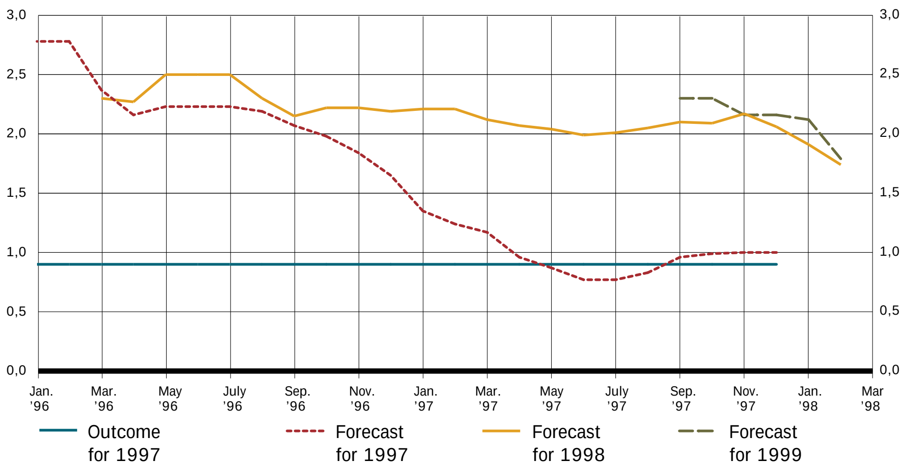
*The implied average expected inflation rate in the period from three to five years ahead, calculated by the Riksbank.
Note. The horizontal lines from 1995 onwards represent the Riksbank's tolerance limits for the annual change in the CPI.
Source: Aragon Fondkommission.

Table 2.
Inflation expectations in February 1998 with the change from November 1997 in parentheses.
Average figures, per cent and percentage points

	Annual change in CPI in:		
	1 year	**2 years**	**5 years**
Employer organisations	1.8 (–0.2)	1.8 (–0.4)	2.0 (–0.3)
Employee organisations	2.0 (0.0)	2.0 (–0.1)	2.3 (0.0)
Purchasing managers, industry	2.0 (–0.3)	2.1 (–0.3)	2.3 (–0.2)
Purchasing managers, trade	2.0 (–0.1)	2.0 (–0.2)	2.2 (–0.2)
Money market agents	1.8 (–0.2)	1.9 (–0.3)	2.0 (–0.2)

Source: Prospera Research AB.

Figure 28.
Average of inflation forecasts from selected forecasters.
Per cent



Note. The time axis denotes the date of the forecast.
Sources: The Riksbank, Handelsbanken, Nordbanken, S-E-Banken, Swedbank, Unibank, Ministry of Finance, National Institute of Economic Research, Swedish Post, Confederation of Professional Employees, Trade Union Confederation, Wholesale & Resale Research Institute, Aragon, Hagström & Qviberg and Matteus Fondkommission.