

Sveriges Riksbank

Inflation Report

December 1998

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Foreword

Monetary policy is targeted on keeping inflation at 2 per cent, with a tolerance interval of ± 1 percentage point.

The purpose of the Inflation Report 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 Report is also intended to encourage a discussion of matters relating to monetary policy.

The arrangement of this Report is the same as previously. 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 Report. The assessment of inflation prospects in the coming twenty-four months is presented in Chapter 2, which is structured so as to clarify

which factors are of greatest importance in this context. The Report also contains a number of boxed texts, the purpose of which is to provide more detailed insights into matters of importance for inflation assessments and the formation of monetary policy. An annex contains some of the underlying statistical material.

The Inflation Report served as a basis for the Governing Board's discussion of monetary policy on 26th November 1998. The conclusions from that discussion are presented in Chapter 3.

Stockholm, December 1998

Urban Bäckström
Governor of Sveriges Riksbank



Summary

■ In October 1998 the 12-month rate of CPI inflation was –0.4 per cent. Inflationary pressure in the Swedish economy is low and even underlying inflation was marginally below the 2 per cent inflation target.

■ This Report presents the Riksbank's appraisal of inflation up to and including 2000 Q4, together with the ensuing conclusions for monetary policy. In order to demonstrate the consequences for the formation of monetary policy, the analysis presupposes that the repo rate is left unchanged. This technical assumption underlies the main scenario for the path of inflation, accompanied by an assessment of uncertainties.

■ The main factors that condition inflation are:

International activity and inflation. The international economic outlook has continued to weaken and the forecasts for growth and inflation in the OECD area have been adjusted downwards. The altered appraisal primarily concerns the consequences of the global financial unrest.

Demand relative to supply. In the main scenario it is envisaged that the international economic slowdown will lead to somewhat weaker exports from Sweden as well as lower investment activity. The international situation has also had negative effects on asset prices and households' confidence; this is expected to dampen consumption to some extent. The combination of the Riksbank's rate cuts and the weaker exchange rate represents an expansionary influence on total demand. This stimulus is judged to somewhat counter the consequences of the more subdued international outlook and thereby help to forestall a more pronounced economic slowdown in Sweden. All in all, however, growth prospects for Sweden seem

to have worsened somewhat since the time of the September Report. GDP growth is now judged to be between 2.5 and 3 per cent this year and between 2 and 2.5 per cent in 1999 and about 2.5 per cent in 2000. The lower growth implies somewhat more subdued wage drift, for example, as well as the prospect of the economy still having unutilised resources in two years time.

Transitory effects. Changes in indirect taxes and subsidies, together with decreased interest expenditure, are holding back the consumer price rise in 1998 by more than 1 percentage point. During 1999 there will be a number of changes in indirect taxes and subsidies. A starting point for 2000 is that—contrary to the assumption in the September Report—the taxable value of residential property will continue to be frozen. All in all, the transitory effects are judged to hold back the rate of inflation by 0.5 percentage points in 1999 and 0.3 percentage points in 2000.

Inflation expectations, as manifested in financial market prices and survey data, point to very low inflation in the coming twelve months. In the longer run the expectations indicate persistently high confidence in the Riksbank's inflation target.

■ With the weaker growth prospects in the main scenario, the underlying rate of inflation, as represented by UND1X, is judged to be below 2 per cent in the coming twelve to twenty-four months. The same applies to the rate of inflation as measured by the internationally harmonised index of consumer prices (HICP); this is expected to be 1.7 per cent in 1999 Q4 and 1.7 per cent in 2000 Q4. The transitory factors bring inflation down even more; CPI inflation is judged to be 1.2 per cent at the end of 1999 and 1.4 per cent two years hence.



■ The situation is still difficult to assess. The global financial unrest has, however, become less pronounced and the element of uncertainty in the inflation assessment has therefore decreased since the September Report. But a permanently weak exchange rate could constitute a problem if it did not stem from a weaker real economic trend. The loosening of monetary stances in countries around the world should help to reduce the risk of a more marked international slowdown; but a slowdown that goes further than assumed in the main scenario can still not be ruled out. All in all, the balance of risks in the inflation assessment seems to be on the downside.

■ Fiscal policy is important for the formation of monetary policy. Public finances have improved markedly in recent years. The Riksbank's inflation assessment presupposes that this consolidation is continued, in accordance with the intentions in the

Government's policy statement, and that the credibility of general economic policy is maintained. A continued consolidation of government finances is desirable for a number of reasons, one of which is increased room to manoeuvre in economic policy. When inflation is targeted in a flexible exchange rate regime, as long as inflation is judged to be below the target, there may be room for monetary stimulation of the economy when demand is faltering. That has been the case this autumn.

■ All in all, the international economic slowdown is judged to lower growth in Sweden and result in a rate of inflation in the coming one to two years that is somewhat below the 2 per cent target. The situation no longer appears to be quite as uncertain as at the time of the September Report. Against this background it is concluded that there may be some room to adjust monetary policy in a more expansive direction.

Developments since the September 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, the exchange rate and various money and credit aggregates.

Prices

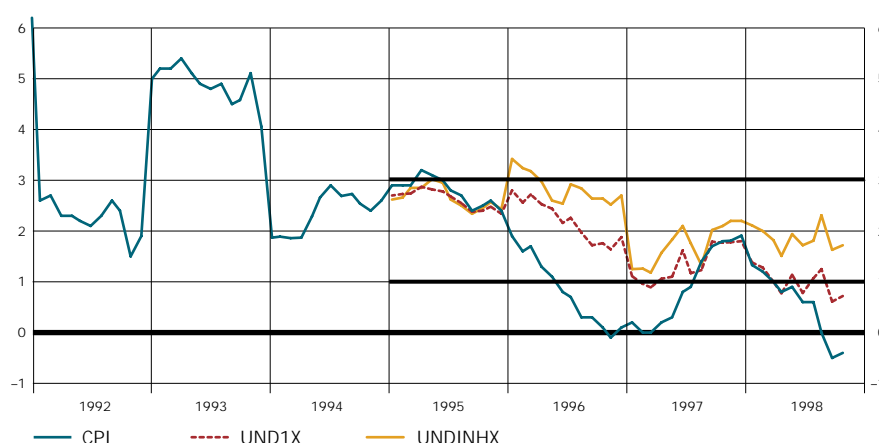
CONSUMER PRICES LOWER THAN A YEAR AGO

The rate of inflation, measured as the 12-month change in the consumer price index (CPI), has decreased more or less continuously in 1998; the rate in October was –0.4 per cent (Fig. 1). The decline this autumn has been more marked than was foreseen in the September Report, mainly because the fall in consumer prices for imported goods exceeded expectations.

Inflation, measured as the 12-month change in the CPI, has decreased more or less continuously in 1998; the rate in October was –0.4 per cent.

Inflation measured by the internationally harmonised index of consumer prices (HICP) has also been very weak; in October the 12-month rate was 0.1 per cent. The difference between the CPI and the HICP figures is mainly explained by the exclusion of house mortgage interest payment from the latter.¹ As recently as the beginning of 1998, Sweden

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.
Source: Statistics Sweden.

was the EU country with the second highest rate of HICP inflation, after Greece (Fig. 2). The rate in Sweden has fallen sharply and in September it was the lowest in the EU area. The relatively steeper fall in Sweden is partly a consequence of sizeable changes in indirect taxes and subsidies but it also comes from lower underlying inflation.

In September Sweden had the lowest rate of inflation in the EU area.

Underlying inflation, measured as the 12-month change in UND1X, has decreased since the September Report, from 1.3 per cent in August to 0.7 per cent in October (Fig. 1).² The decline has been unexpectedly marked, due to price reductions for imported consumer goods that have been larger than assumed earlier. The underlying rate of domestic inflation (UNDINHX) has followed the path on which the September assessment was based; the 12-month change in October was 1.7 per cent. The main contributions to underlying domestic inflation are coming from price increases for services and administered prices for goods. For example, about one-fourth of the total increase in UNDINHX comes from the change in home-owners' depre-

ciation costs, which are derived in turn from construction costs for new houses.

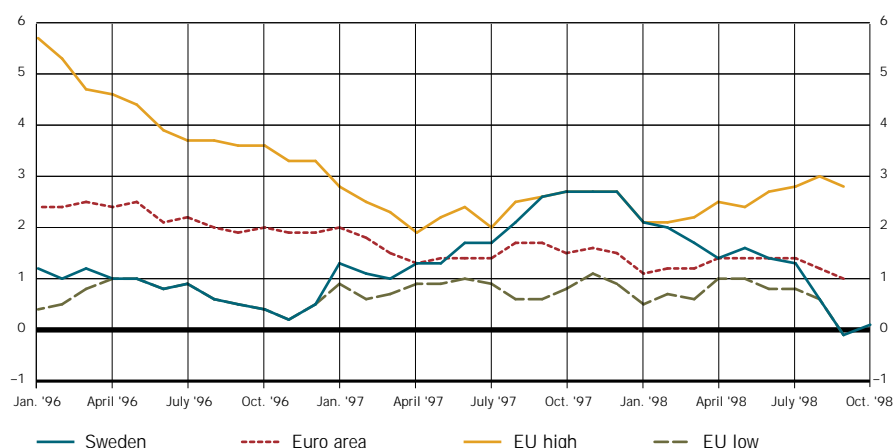
Underlying inflation has also slowed since the September Report.

The price level for goods that are mainly imported has also been unexpectedly weak in recent months; the 12-month change in October was –1.5 per cent (Fig. 3). This is partly explained by a continued price fall for raw materials, contrary to the assumption in the September Report (Annex: Fig. 9). Another explanation is the slow price rise for manufactured goods, though the price tendencies for these goods are difficult to interpret. During 1998, producer prices for imported consumer goods have shown a comparatively strong tendency that is not reflected in consumer prices. This is somewhat surprising notwithstanding the normal lag before producer price movements show up in consumer prices (see box on pp. 27–28).

Prices for goods that are mainly imported have been unexpectedly weak in recent months.

House mortgage interest expenditure has gone on falling and this has a marked downward effect on

Figure 2.
HICP for Sweden, euro area
and EU high and low.
Percentage 12-month
change



Note. Euro area inflation is represented by the ECB's target variable MUICP, which is a weighted aggregate of national HICPs. EU high and EU low show the highest and lowest current national figure, respectively, among the EU countries apart from Greece.
Sources: Eurostat and Statistics Sweden.

consumer prices. In October this effect amounted to –0.6 percentage points, which is in line with the assumption in the September Report.

House mortgage interest expenditure has gone on falling, accompanied by decreased indirect taxes.

There have also been considerable changes to indirect taxes and subsidies in the past twelve months; in October the combined net effect was –0.6 percentage points. Together with the effect from mortgage interest expenditure, this means that in October, transitory factors held back the 12-month rate of CPI inflation by a total of about 1.2 percentage points.

To sum up, in both September and October the level of consumer prices was lower than a year earlier. This is mainly explained by decreased indirect taxes and the fall in house mortgage interest expenditure. But the outturn is also weaker than assumed in the September Report, in the first place because the consumer price fall for imported goods has been unexpectedly marked.

PRODUCER PRICES

Prices to producers for imported goods have risen since the September Report. The level in October

was over 1.4 per cent higher than in July. The upward tendency is partly explained by the weakening of the krona this autumn. The 12-month price change is still negative, however, at –0.4 per cent in October. A breakdown in terms of use shows that for consumer goods the 12-month price change was an increase of over 4.2 per cent, whereas prices for energy-related goods fell as much as 27.2 per cent.

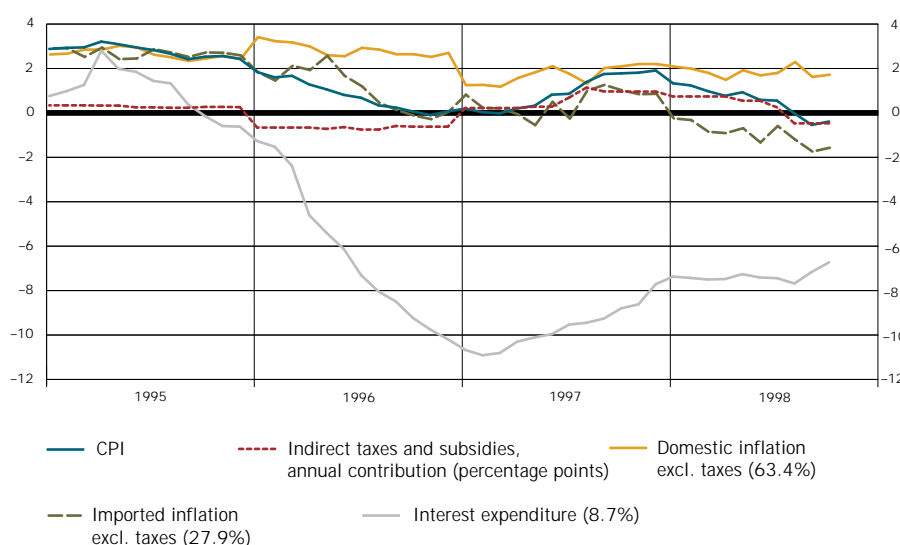
Prices to producers for imported goods have risen since the September Report, whereas export prices have fallen somewhat.

Export prices—unlike import prices—have tended to fall in recent months, which had to do with falling prices for energy-related goods and intermediate goods. Export prices have risen instead for other use

1 The HICP currently covers not quite 80 per cent of the goods and services in Sweden's CPI; items not included in the HICP are: house mortgage interest payments; tenant-owned housing fees; certain components of public health services; property tax, depreciation, some repairs, insurance and leasehold rent for owner-occupied housing; pools and totaliser betting.

2 As of this Report, two of the indexes calculated by the Riksbank, UND1 and UNDINH, are replaced by indexes calculated by Statistics Sweden: UND1X and UNDINH. The index UND2, calculated by the Riksbank, has been dropped. The differences between the Riksbank's and Statistics Sweden's calculations of underlying inflation are outlined in *Inflation Report 1998:3* p. 9.

Figure 3.
Prices of domestic and imported goods.
Percentage 12-month change



Source: Statistics Sweden.

categories. In October the 12-month change in the level of export prices was -0.4 per cent. The 12-month price changes are negative for all use categories except investment goods and non-durable consumer goods.

Home market prices have fallen more than 1.7 per cent in the latest 12-month period, partly in connection with the lower prices for intermediate goods and non-durable consumer goods. Price increases were noted only for investment goods and consumer durables.

Home market prices have fallen in the latest 12-month period for all categories except consumer durables and investment goods.

In the past, producer price movements for consumer goods, as measured by the index for domestic supply,³ have been a good indicator of consumer prices a month or two later. Recently, however, the consumer price tendency has been considerably weaker than the domestic supply index suggested. One important explanation for this is the strong downward effect that decreased indirect taxes have exerted on consumer prices. Excluding this factor results in a stronger covariation; in the short run the index for domestic supply indicates that the subdued rate of

price increases for consumer goods will be largely unchanged (Annex: Fig. 5).

All in all, the statistics show that producer prices have been generally weak. This applies in particular to prices for intermediate and energy-related goods, for which the 12-month change figures as a rule have been negative. Price increases have been noted, however, for investment goods and certain consumer goods.

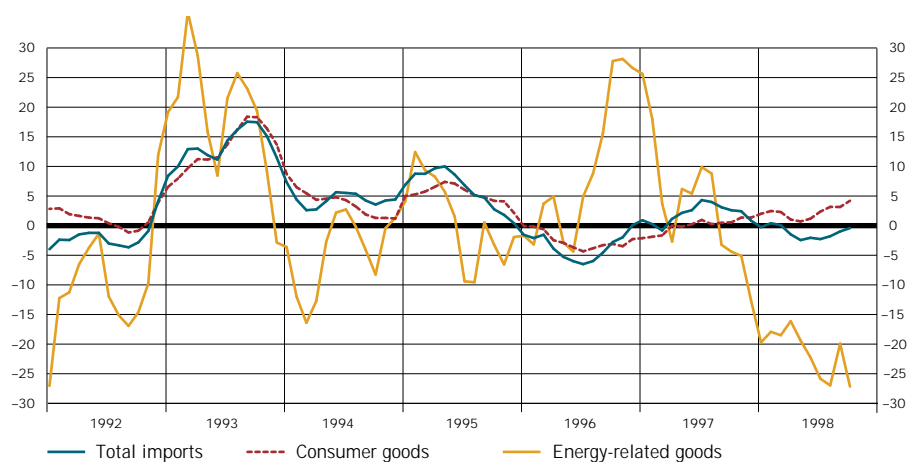
The price tendencies for consumer goods vary. Prices for non-durable consumer goods have risen in the past twelve months in all stages of production with the exception of the home market.

For consumer durables, on the other hand, export prices have fallen since the end of 1997, accompanied by rising domestic market prices. Lower international demand and increased competition probably contributed to the former, while one explanation for the latter may be the recent strong increase in consumer demand for durable goods.

Industrial firms foresee price cuts in the coming months.

In the first three quarters of 1998 industrial firms cut both domestic and export market prices, according to the third-quarter business tendency survey from

Figure 4.
Import prices to producers.
Percentage 12-month
change



Source: Statistics Sweden.

the National Institute of Economic Research. This tendency is expected to become more pronounced in the fourth quarter, particularly for export prices. It is mainly in the manufacture of investment goods, pulp and metal products that price reductions are expected on a broad front. In the case of saw mills and wood products, on the other hand, price increases in the fourth quarter are planned by between 40 and 60 per cent of firms.

RAW MATERIALS PRICES

Price movements for raw materials have been weaker than was assumed in the September Report in the light of forward prices at that time.

Import prices for basic metals have fallen somewhat since the September Report. Nickel and copper prices⁴ in particular have been affected by the global financial unrest and dropped to levels that are historically low. Forward contracts do, however, point to rising prices further ahead (Fig 5).

Price movements for raw materials have been weaker than assumed in the September Report and also compared with what forward prices indicated at that time. Forward contracts now point to future price increases.

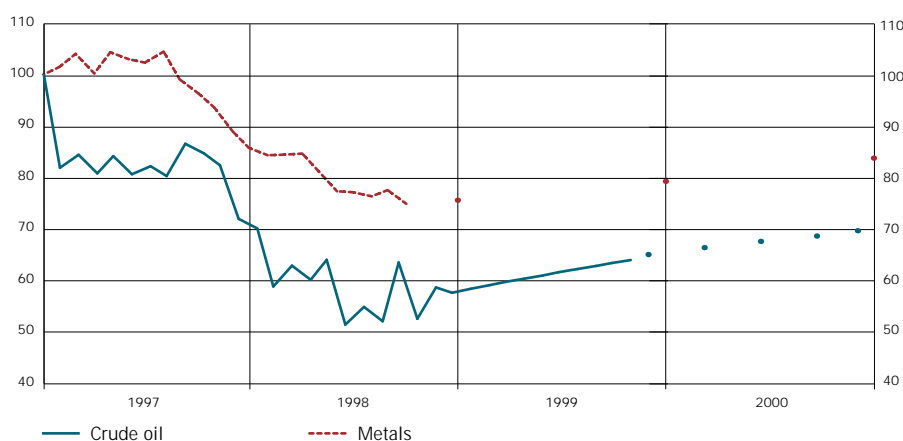
Prices for crude as well as fuel oil rose during September. Since then the level has fallen back to about US\$11/barrel. The temporary increase in September had to do with diminishing oil stocks in connection with interrupted production in the Caribbean. But stocks are still larger than a year earlier and this is holding prices down. The average development of oil prices has been weaker than assumed in the September Report but forward contracts for crude oil do point to somewhat firmer prices in the course of both 1999 and 2000 (Fig 5).

Export prices, as measured by the export price index, have become still more subdued in recent months for raw materials with a cyclical demand profile. The tendency for prices of metals and metallic ores to be lower than a year earlier has continued. In recent months, pulp prices have also fallen in 12-month terms. Food prices, which are less cyclical, are, however, at much the same level as a year earlier.

3 A weighted index of producers' import and home market prices.

4 Nickel and copper prices answer for almost 50 per cent of the items in the Riksbank's import-weighted raw material price index (excl. oil).

Figure 5.
Raw materials: current and forward prices.
Index: January 1997=100



Note: For metals, the forward prices represent an average of 3-, 15- and 27-month futures in October 1998 for aluminium, copper, nickel, zinc, lead and tin, weighted together in proportion to each metal's share of total Swedish imports. For crude oil the forward prices are a weighted aggregate of crude oil futures during October and the first week of November.

Sources: Ecwin, International Petroleum Exchange, London Metal Exchange and the Riksbank.

To sum up, price pressure from producers and raw materials is still weak, except in the case of non-durable consumer goods. But the weak exchange rate this autumn and futures prices for raw materials do point to some upward price tendency in the future.

Interest rates, exchange rate and money supply

TURBULENT FINANCIAL MARKETS

Long-term nominal interest rates have been falling continuously for a number of years, in Sweden as well as abroad. The downward international trend has contributed to the lower bond rates in Sweden. Other factors have presumably been growing confi-

dence in the low-inflation policy and the consolidation of government finances.

The global financial unrest is probably one reason why many market players revised risk assessments during the summer. Equity positions were closed—to reduce future risks or cover losses that had already been incurred—in favour of, above all, interest-bearing securities with a lower risk. Bond rates fell in the United States and Europe, including Sweden. Investors switched by degrees to major and historically safe currencies such as the German mark and the US dollar, which accordingly strengthened at the same time as German and US bond rates went on falling. The downward international interest rate trend meant that Swedish long bond rates also fell but not to the same extent. The long-term interest rate differential with Germany therefore rose in the early autumn (Annex: Fig. 11).

MONETARY POLICY'S ECONOMIC IMPACT

The Riksbank's main monetary policy instrument is the repo rate. Simplifying somewhat, the Riksbank influences other interest rates in Sweden by altering the repo rate, which is the short-term rate for the private banks' deposits in and borrowing from the Riksbank. Via these market interest rates an influence is exerted in turn on economic activity, for example business investment and household consumption, and thereby ultimately on price formation. However, the Riksbank's actions do not have the same effect on every type of interest rate. The rates with the shortest maturities are controlled by the repo rate more or less directly, while those with longer maturities are also strongly influenced by factors which the Riksbank does not control directly, for example the construction of fiscal policy, the development of international interest rates and the credibility of overall economic policy's commitment to price stability. It should also be noted here that households and most firms finance their procurements and consumption mainly at interest rates which differ from the quoted

market rates. The loans are usually provided by banks and house mortgage institutions at rates that to some extent also mirror credit risks and institutional competition.

Monetary policy also influences the course of inflation via the exchange rate because exchange rate movements have effects on, for example, demand and investment in the internationally oriented sector of the economy. Under normal conditions a repo rate increase, or expectations of this, leads to a stronger exchange rate because the higher interest rates make Swedish assets more attractive than equivalent investments in other currencies; this attracts foreign capital to Sweden, with an increased demand for Swedish kronor. A change in the exchange rate normally affects inflation via changes in import prices. All else equal, a relatively permanent weakening or strengthening of the exchange rate will affect demand via shifts in relative prices between Swedish and imported goods. This in turn affects inflation.

When the international financial unrest grew—partly because Russia suspended payments on government rouble debt in August and a US hedge fund,⁵ Long Term Capital Management, collapsed at the end of September—investors also displayed an increased preference for more liquid assets. This contributed to a temporary upturn in long bond rates, internationally as well as in Sweden.

During the past month, interest rate cuts in a number of OECD countries, together with positive news in the form of additional bank support in Japan and international support for Brazil, have helped to dampen financial market unrest. This has resulted in narrower interest rate differentials with Germany and rising stock markets. Compared with the time of the September Report, the Swedish ten-year bond rate is now 0.4 percentage points lower, at about 4.5 per cent (Annex: Fig. 10). As the German long bond rates have been unchanged during this period, the Swedish long-term interest rate differential with Germany has narrowed to about 0.5 percentage points (Annex: Fig. 11). A marked narrowing of the long-term differential with Germany has also been observed in Denmark, Norway and Italy, for example.

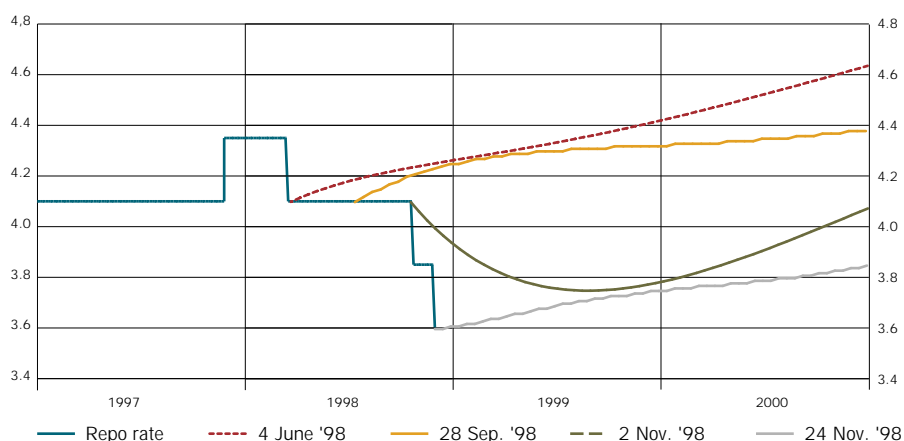
The short money market rates were relatively

stable up to the summer, though the June repo rate cut did give rise to some expectations of further cuts. These expectations decreased when the financial unrest grew and the krona continued to weaken. They were renewed during the autumn, in the light of the international economic outlook and its consequences for inflation prospects in Sweden (Fig. 6), and proved correct in November. Since the time of the September Report, the short money market rates have fallen approximately 0.5 percentage points; the three-month rate is currently about 3.7 per cent.

Pricing in the money market currently points to expectations of an unchanged repo rate. Survey data suggest that money market agents foresee a somewhat lower repo rate in the coming quarter (Annex: Table 1).⁶ Notwithstanding the periods of financial market unrest, the pricing does not indicate any

5 Hedging can be seen as a form of insurance whereby a hedge fund traditionally secures a proportion of the future return. This can be done by, for example, combining a short-term debt position with a long-term claim in the same type of asset. A fall in the asset's value due to market movements is then offset by a corresponding reduction of the debt. Hedging is thus a form of cover and aims to achieve a high return irrespective of how the market in general moves, at a risk that is less than the general market risk.

Figure 6.
Actual and expected repo
rate indicated by forward
interest rates.
Per cent



Source: The Riksbank.

increased uncertainty in the market's assessment of future monetary policy (Annex: Fig. 13).⁷

An appreciation of the Swedish krona, in terms of the TCW index, during the coming twenty-four months was foreseen in the September Report. The average annual level of the index was expected to be about 120 in the first twelve months and just over 117 in the second. In the wake of the international market unrest, however, the krona continued to weaken after the previous Report (Annex: Fig. 14). The effective rate is currently about 2 per cent weaker than at the time of the September Report.

To sum up, a more expansionary monetary stance and decreased unrest in financial markets have meant that since the time of the previous Report both short and long rates of interest have fallen. The TCW exchange rate is weaker than at the time of the September Report.

EXPANSIONARY EFFECTS FROM WEAK KRONA AND LOWER INTEREST RATES

The monetary conditions—the combined effect which the level of real interest rates and the real exchange rate are judged to exert on total demand—have become more expansionary since the September Report. From September to October the aver-

age monthly level of the short real interest rate⁸ fell 0.2 percentage points to about 2.8 per cent (Fig. 7). This is a consequence of somewhat higher inflation expectations.⁹ During November a continued fall in the nominal short rates pressed the real short rate down still further.¹⁰

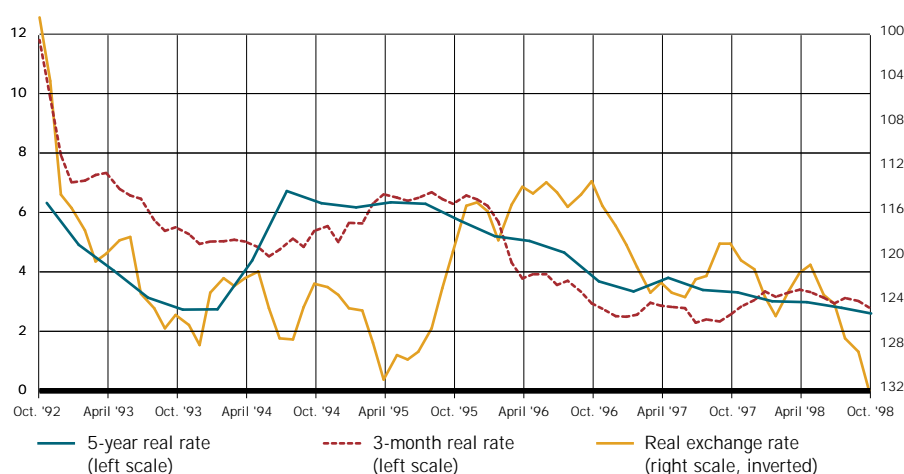
The long real interest rate has also fallen since the September Report, by approximately 0.2 percentage points to about 2.6 per cent. This tendency is entirely a consequence of lower nominal interest rates; at 1.8 per cent, the five-year inflation expectations¹¹ have been virtually unchanged since August.

The real exchange rate's effect on demand is more expansionary than before.

The real TCW exchange rate has continued to weaken since the September Report, which means that its effect on demand is more expansionary than before. The weakening in real terms from September to October amounted to almost 3 per cent. Since then, the average monthly level of the nominal exchange rate has tended to strengthen. Given unchanged relative prices, this points to a somewhat stronger real exchange rate in November compared with October.

To sum up, the lower short and long real rates of interest

Figure 7.
Real 3-month and 5-year
interest rates and real
effective (TCW) exchange
rate.
Per cent and index:
18 November 1992=100



Source: The Riksbank.

and the weaker real exchange rate mean that, compared with the time of the September Report, the monetary conditions are currently more expansionary.

INVESTORS REQUIRE HIGHER RISK PREMIA

Borrowing by households and most Swedish firms is largely arranged with banks and other credit institutions. Investment financing directly in the money market is uncommon among small and medium-sized firms. The spread between the rates charged by creditors and the money market rates mirrors differences in credit risks, competitive conditions and the creditors' pricing strategies. Changes in these margins tend to accentuate or counter monetary policy's impact on demand and inflation.

During 1998 Q2 the average level of bank lending rates to households and firms fell and so did the short money market rates but by considerably more. During Q3 the bank lending rates went on falling, accompanied by little change in the short money market rates. In September the spread between lending rates to households and the money market rates was 0.4 percentage points narrower than in June and the corresponding spread for corporate loans narrowed 0.3 percentage points. The registered lag before the creditors' lending rates respond to changes in the level of money market rates is fairly normal and means that monetary policy's impact on demand and inflation is somewhat delayed.

As households and most firms depend on the supply of credit from banks and other credit institutions, they are sensitive to movements in these lending rates relative to the rates for treasury paper. Neither can it be assumed that households and firms are considered to be sufficiently creditworthy to borrow at the quoted rates. Creditors may fear that those who are prepared to borrow at higher rates will be less prone to repay the loans. A similar circumstance is that, if interest rates rise and demand is accordingly subdued, the expected profitability of firms declines, which weakens their propensity and ability

to carry debt. Firms that cannot or do not wish to obtain credit have to curtail operations and postpone investments, which dampens demand. Lending rates and volumes are therefore both informative in the assessment of inflation prospects.

During the autumn, Swedish financial markets have been hit by investors' general aversion to comparatively risky and illiquid assets. This is evident from interest rate spreads with the assets that are perceived as soundest, treasury bonds. Since the summer, the spread between housing bond and T-bond rates, for example, has increased with the growing uncertainty by almost one-half of a percentage point. The larger interest rate differentials are to be seen as an expression of the prevailing unrest in international financial markets in general and should not be taken to indicate a lack of confidence in the future path of Sweden's economy or financial sector in particular. A similar or even more dramatic reassessment of risk has occurred in most other industrialised countries.

LITTLE RISK OF CREDIT SUPPLY PROBLEMS

A strong credit squeeze in the wake of the financial turbulence is sometimes put forward as one of the greatest threats to continued global growth. In the international field there are, in fact, signs that borrowing from banks and other credit institutions has fallen in some countries. The type of shock that has

6 The Riksbank survey of inflation expectations, carried out on 9 November 1998 by Statistics Sweden, was expanded to include questions to money market agents about their expectations of interest rates and the exchange rate.

7 For a more detailed account of the assessment of uncertainty, see *Inflation Report, 1998:3*, box on pp. 15–16.

8 The nominal three-month T-bill rate adjusted for the CPI change that households expect in the coming twelve months.

9 Figures from Statistics Sweden show that the price change expected by households in the coming twelve months was 1.4 per cent in October or 0.2 percentage points higher than in September; earlier in 1998 these inflation expectations had been stable at around 1.1 to 1.2 per cent.

10 In this Report the cut-off date for the nominal short-term interest rates is 24 November 1998.

11 From Aragon's survey of financial investors.

hit the international financial markets constitutes a risk of reduced activity in the global interbank market; that would restrict the supply of risk capital to private investors and thereby act as a further curb on continued economic growth.

In Sweden, the 12-month change in total lending by banks and housing institutions to the resident non-bank sector (households, firms and local authorities) was 4.5 per cent in September 1998, which represents some slowdown in total lending growth (Annex: Fig. 16). The overall increase is still coming mainly from lending to households,¹² for which the 12-month change in September was 7.1 per cent.

The stock of bank loans to the resident non-bank sector shows a 12-month increase of almost 11 per cent in September, which is lower than before. The slowdown comes mainly from corporate borrowing. A similar pattern—a declining growth of lending to the corporate sector and a maintained or accelerating growth of lending to the household sector—is discernible among the housing institutions.

Credit tendencies do not give cause for concern with respect to either inflation or stability.

All this implies that corporate borrowing is slowing but firms as well as households are still considered to have good access to credit. The credit tendencies do not give cause for concern with respect to either inflation or stability.¹³ The household debt burden is not historically excessive and the ability to pay remains good, partly as a result of falling interest expenditure. The somewhat subdued provision of credit to the corporate sector is judged to be demand driven and thus not a sign of credit supply problems in Sweden. In this context it may be worth noting that the Swedish bank system's aggregate direct exposure to risks in regions (Russia, Latin America and Asia) and counterparties (hedge funds, for example) that have been particularly implicated in the financial unrest can be regarded as moderate. It should be added, however, that a serious global liquidity shock might pose certain problems even for

Swedish banks, though in an international comparison they are judged to be in a position to cope relatively well.¹⁴

The narrow money supply (M0, defined as the resident non-bank sector's holdings of notes and coins) rose in October at a 12-month rate of 6.5 per cent, which is somewhat higher than the previous month's increase (Annex: Fig. 18). The strong M0 growth in recent months has coincided with rising retail turnover and suggests that the good development of private consumption is continuing. The picture of inflationary pressure conveyed by the money supply is a slight upward tendency. M0 has proved to be a good indicator of inflation about six quarters ahead.

The broader money supply (M3, which also includes the non-bank sector's bank deposits and certificates of deposit) is markedly affected by portfolio adjustments between bank deposits and alternative assets that are not included in this aggregate. Even so, M0 is considered to be a useful indicator of inflation. In October the 12-month growth of M3 was 5.9 per cent, an acceleration of more than 1 percentage point from September (Annex: Fig. 18). Most of the comparatively strong growth came from increased bank deposits, mainly by households but also from the corporate sector.

To sum up, corporate borrowing is slowing but the growth of credit to the household sector is continuing. This may indicate a slackening of industrial activity accompanied by persistently strong tendencies for retail trade and private consumption. At

12 Mortgage loans for owner-occupied and tenant-owned dwellings from housing institutions, plus loans to the household sector from banks and other credit market companies.

13 For a more detailed analysis see *Financial Market Report 1998:2* (November), Sveriges Riksbank.

14 Perhaps the largest risk to Swedish banks from the international problem regions lies in their indirect exposure, in the form of counterparty and settlement risks, to banks in, for instance, West European and American countries that have been considered to represent a low risk. Cf. *Financial Market Report 1998:2* (November), Sveriges Riksbank.



present there does not appear to be any risk of credit supply problems in Sweden. Money supply growth points to low but slightly rising inflationary pressure. M3 growth is still strong

and comes mostly from bank deposits. This confirms that investors have recently become increasingly interested in liquid assets.

Inflation assessment

This chapter presents the assessment of price tendencies up to and including 2000 Q4. 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 consumer prices in the coming twenty-four months are then discussed, followed by inflation expectations. Finally, a comprehensive forecast of inflation is presented, together with an assessment of its uncertainties.

The present forecast, like those in earlier Inflation Reports, starts 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 con-

cern, inflation will be above (below) the target rate, normally implies that there is reason to raise (lower) the repo rate. Note, however, that the Riksbank complements its main inflation forecast with a number of risk scenarios for inflation prospects. This assessment of uncertainties is weighted into the foundation for monetary policy decisions.

DETERMINANTS OF INFLATION

Monetary policy targets an annual CPI inflation rate of 2 per cent. Due to the time lag before monetary measures affect economic activity and inflation, policy has to be guided by an inflation forecast. With a time horizon of twelve to twenty-four months, the development of inflation is essentially 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.

Economic activity in the rest of the world affects demand for Swedish exports and is therefore an impor-

tant component in the assessment of total demand. *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.

2. Demand relative to supply

Demand that exceeds long-term production capacity normally 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 obtain 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 indicator is the *output gap*—an econometric estimate of the difference between GDP's actual and potential level.

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 output 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 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 consequence 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.¹⁵

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. A price movement for primary products as a consequence of supply-side shocks is one example. Similar impulses can come from fiscal policy in the form of changes in *indirect taxes and subsidies*. Such inflationary impulses are normally transitory in the sense that they entail an immediate change in the general price level without necessarily affecting inflation's long-term trend. If they affect inflation expectations, however, they may have a lasting impact on the inflation process. In order to gauge trend inflation (inflation excluding transitory impulses), the Riksbank uses various indicators of underlying inflation.

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, if confidence in monetary policy is lacking, inflation expectations are liable to be self-fulfilling.

When assessing the significance of inflation expectations for monetary policy, it must be born in mind that the expectations often relate to the prospect of a particular policy. The fact that inflation expectations are in line with the target does not therefore necessarily show that the monetary stance is well balanced—the expectations themselves may rest on a presumption that the instrumental rate is going to be adjusted.

The factors outlined above are those which, according to accepted economy 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.

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

International activity and inflation

Economic prospects in the OECD area have continued to worsen; compared with the September Report, the GDP growth forecast for the coming years has been revised downwards. The main reason for this adjustment is the global financial unrest, with real effects in the OECD countries that are somewhat larger than previously foreseen. After a rate around 2 per cent in 1998, it is envisaged that economic growth in the OECD area will slow to around 1.5 per cent in 1999. The loosening of monetary policy that has been implemented in a number of major countries should contribute to a recovery and bring growth up to approximately 2 per cent in 2000.

GDP growth in the OECD area is judged to be lower than foreseen in the September Report—around 1.5 per cent in 1999 and approximately 2 per cent in 2000—mainly due to negative consequences of the global financial unrest.

The downward revision of growth rates in the OECD countries reflects poorer opportunities for exports as well as lower domestic demand. The situation in Southeast Asia shows signs of stabilising but countries in Latin America, primarily Brazil, have been hit instead by dwindling international financing, which has led to sharp interest rate hikes and a loss of demand.

Domestic demand in the OECD area is likely to be restrained by greater uncertainty and less optimism about the future. The financial market unrest after the suspension of payments in Russia and the near-failure of the US hedge fund Long Term Capital Management, for instance, has also led to a wider spread in many countries between lending rates to private agents and rates for government borrowing. Determining the magnitude of the global financial turmoil's effect on domestic demand is difficult; quantification is complicated by the absence of com-

parable episodes in the past. To this must be added the uncertainty about how long the financial turbulence will last. In the late autumn there have been signs that the unrest in global financial markets is subsiding. It is conceivable that economic development in the OECD area will be weaker than expected. Neither can one rule out a more rapid recovery in 2000, stimulated by the interest rate cuts that have been implemented. These risks are discussed in the section on uncertainties in the inflation assessment (p. 40).

In Japan a return to GDP growth is not foreseen until 2000. The Japanese economy presents few positive signs at present. Domestic demand dropped 2.5 per cent in the first half of 1998, accompanied by lower export growth on account of the crisis in Southeast Asia. Price tendencies have generally remained very subdued in recent months. A more expansionary fiscal policy is expected to gradually come into effect but this possibility is limited by the long-term need to consolidate public finances in Japan. A massive support programme, equivalent to 12 per cent of GDP, has been presented with a view to tackling problems in the banking sector but it is still uncertain to what extent and how soon this can help to improve confidence in the future among households and firms. There is still a risk of the Japanese economic crisis taking a turn for the worse. This risk and consequences it might have for international economic activity are also discussed in the section on uncertainties in the inflation assessment (p. 40).

In the United States the slowdown is expected to be more marked than was foreseen in the September Report. This is mainly due to expectations of weaker exports and a sharper fall-off in investment growth compared with earlier assessments. Moreover, the financial turmoil, with highly volatile stock markets, for example, is considered to have led to increased uncertainty among households. Declining consumer confidence supports this picture. A recovery is foreseen during 2000, partly as this autumn's loosening of monetary policy gradually comes into effect.

In the prospective euro area the mood in manufacturing has continued to worsen, which points to weaker industrial activity. Consumer optimism, however, should help to sustain domestic demand.

In the prospective euro area the economic future is still considered to be comparatively favourable for the coming years, with an average growth rate of around 2.5 per cent. This, too, is somewhat lower than the assessment in the September Report, mainly due to a downward adjustment of export prospects. Indicators show a less buoyant mood in manufacturing; together with declining expectations for exports and production, as well as a falling inflow of orders, this points to weaker industrial activity in 1999. Still, consumer optimism, combined with an accumulated consumption propensity after several years of restrictive fiscal policies, should help to maintain domestic demand. In the euro area as a whole, consumer confidence has improved successively during 1998, so the impact of the financial turbulence on consumers' purchasing plans seems to have been limited to date. But if industrial activity were to weaken more than expected, there is a risk of the repercussions on domestic demand being more pronounced, above all if this were accompanied by a worsening situation in the labour market.

In the United Kingdom and the Nordic non-

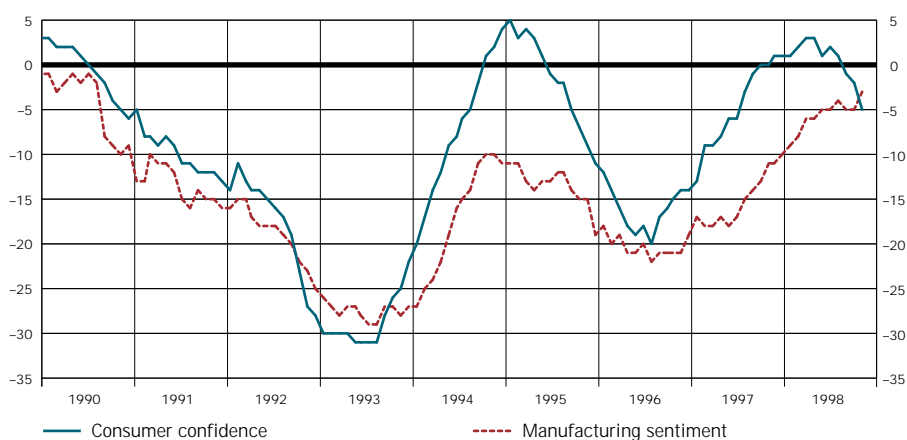
euro countries (Norway and Denmark), an appreciable slowdown is foreseen in the coming years. Besides a fall-off on account of weaker export markets, domestic sector growth is likely to slow in these countries after a number of years with strong increases.

Inflation prospects in the OECD area have been revised downwards since the September Report.

With the weaker economic outlook, a further downward revision of the expected overall rate of inflation in the OECD area has been made since the September Report. In the coming two years it is thus envisaged that the rate of inflation will be low, averaging approximately 1.5 per cent. Inflationary pressure in export sectors is judged to be even more subdued than in consumer prices. The unexpectedly low outturn for producer and export prices in the United States and Europe during 1998 may be a sign of increased price competition among export firms. International prices for manufactured exports in local currencies are judged to be broadly unchanged from 1998 to 1999, followed by an increase of just over 1 per cent in 2000.

To sum up, as a result of the global financial unrest, growth in the OECD area is expected to be somewhat weaker than foreseen in the September Report and this in turn is expected to yield more subdued inflationary pressure.

Figure 8.
Euro area consumer confidence and manufacturing sentiment.
Net positive percentage, weighted for GDP



Source: Ecwin.

Interest rates and exchange rate

The development of interest rates and the exchange rate affects inflationary pressure in the Swedish economy. To some extent, the Riksbank's assessment of future movements in these rates is conditioned in turn by the circumstance that the inflation forecast for the coming twenty-four months is based on the technical assumption of an unchanged repo rate. The effect of this assumption on other market rates depends on their maturities. Short-term interest rates are markedly affected; the three-month rate is presumed to be virtually stationary during the forecast period. The assumption is of less consequence for the development of interest rates with longer maturities. As the yield curve is relatively flat at present, the adjustments are likely to be small: over the forecast period, long bond rates are assumed to follow a slight upward trend. International long bond rates are likewise assumed to rise somewhat from today's historically low levels. The German long rates are assumed to rise marginally more than the corresponding Swedish rates, which implies some narrowing of the long-term interest rate differential.

Long bond rates, in Sweden as well as abroad, are assumed to rise somewhat from the present historically low levels.

An appreciation of the Swedish krona in the two-year forecast period was foreseen in the September Report. This was indicated by the good economic fundamentals as regards growth, inflation, government finances and confidence in economic policy. It was also considered that the market-related factors which had weakened the krona were of a rather transitory nature and would therefore subside. Furthermore, a strengthening of the real exchange rate could be expected as the economy moved towards external and internal equilibrium.¹⁶

An appreciation of the krona in the coming two years is still foreseen but as there has been a depreciation since the September Report, the assumed

adjustment towards equilibrium starts from a weaker level. On account of the financial unrest, moreover, the exchange rate is assumed to remain rather weak initially and then strengthen as the turbulence subsides. In the latter part of the forecast period, when the more transitory causes of the depreciation have disappeared, the appreciation is assumed to be slower.

Just when the krona is likely to start appreciating is, of course, very difficult to tell. It may occur sooner, or later, in the forecast period; neither can one rule out the possibility of no appreciation at all, or even a further weakening. But there is support in other quarters for an appreciation relatively soon. Financial market investors, for instance, foresee that the krona will strengthen in the coming two years (Annex: Table 1).¹⁷ An analysis of the historical pattern of the krona's volatility in relation to its level provides further support: it results in the conclusion that if volatility declines in the near future, as market expectations indicate, conditions will be in place for an appreciation.¹⁸

The krona is expected to remain weak initially and then appreciate.

All in all, it is judged that the nominal TCW exchange rate index will be at about 128 up to the end of 1999 Q1, followed by an assumed gradual appreciation to around 121 in 1999 Q4 and around 118 in 2000 Q4. With this path, which is approximately in line with money market expectations, the level at the end of the forecast period will be a little more than 1 per cent weaker than expected in the September Report. This assessment means that at the end of 2000, the krona is assumed to be weaker than the medium-term equilibrium level associated with full resource utilisation and external balance.

16 See *Inflation Report 1998:3*, box on pp. 27-29.

17 According to the Riksbank survey of exchange rate expectations, carried out by Statistics Sweden on 9 November 1998.

18 See box on pp. 24-25.

To sum up, short-term interest rates are assumed to be stable in the forecast period, which follows from the assumption of an unchanged repo rate. Some increase in long bond rates, in Sweden as well as abroad, is foreseen in the coming two years.

The Swedish krona is judged to remain weak initially and then strengthen; towards the end of the forecast period the rate of appreciation is assumed to be slower.

HISTORICAL VOLATILITY AND FUTURE PATH OF THE KRONA

Volatility is a term for the variation in the price of an asset. In this study, the volatility of the krona exchange rate is measured as the size of unexpected movements in the SEK/DEM exchange rate.¹⁹ The krona has become somewhat more stable in recent years but the financial market turmoil this autumn has left its mark (Fig. B1). After three years during which krona volatility averaged about 8 per cent, in recent weak its volatility has risen at times to almost 20 per cent in annual terms.²⁰

So what will krona volatility be like in the future? Will it remain high or return to more normal levels? Nothing is certain, of course, but the market's expectations of future volatility can be estimated from market prices for currency options.²¹ It will be seen from Fig. B1 that krona volatility has been high this autumn but has recently decreased markedly. It will also be seen

that market participants count on a continuation of the fall to an annual volatility rate of around 8 per cent, after which the rate will remain at that level in the coming year.²² The figure also shows that a relatively steep fall in krona volatility in the coming year was likewise expected in earlier periods of considerable market unrest. In the absence of new shocks that drove volatility up again, these market expectations were largely fulfilled. A similar, though less pronounced, pattern is discernible in periods when volatility was comparatively low; option prices have then tended to indicate expectations of rising krona volatility.

The present situation with high krona volatility and a weak exchange rate is broadly consistent with the historical picture.²³ Marked fluctuations in the SEK/DEM rate have frequently coincided with a relatively weak krona, as will be seen from Fig. B2. An exception is the

Figure B1.
Historical and forecast volatility of SEK/DEM rate.
Annual percentage



Note. Volatility forecast from option prices in turbulent periods.
Source: The Riksbank.

end of 1997, when the SEK/DEM rate became less volatile at a time when the krona weakened. This deviation can be related to the debate at that time about the start of EMU leading to a marginalisation of the krona. It seems intuitively reasonable to suppose that the greater a currency's fluctuations, the larger will be any risk premium that investors demand to hold that currency.²⁴ A higher exchange risk premium tends in turn to weaken the currency; it may also exert upward pressure on the domestic interest rates, though this effect has been small in recent years.

Option prices indicate current expectations of a fall in the volatility of the SEK/DEM rate, though only to levels that are somewhat higher than before this autumn's financial turmoil. Given the historical relationship between the krona's level and its volatility, this suggests that the krona should appreciate when the financial unrest has subsided and investors again focus on more fundamental factors in the setting of prices.

19 More specifically, volatility is estimated in this analysis with a GARCH(1,1) model (Generalized AutoRegressive Conditional Heteroskedasticity). Empirical studies show that the dynamics of volatility are captured satisfactorily in GARCH models; see e.g. Bollerslev, Chou & Kroner (1992), ARCH modelling in finance, *J. of Econometrics*, 52, pp. 5–59.

20 In an international perspective, the krona's average volatility has not been abnormal; it is similar to that of other countries where inflation is targeted. The average annual volatility of GBP/DEM, for instance, has been much the same as for SEK/DEM in the past three years.

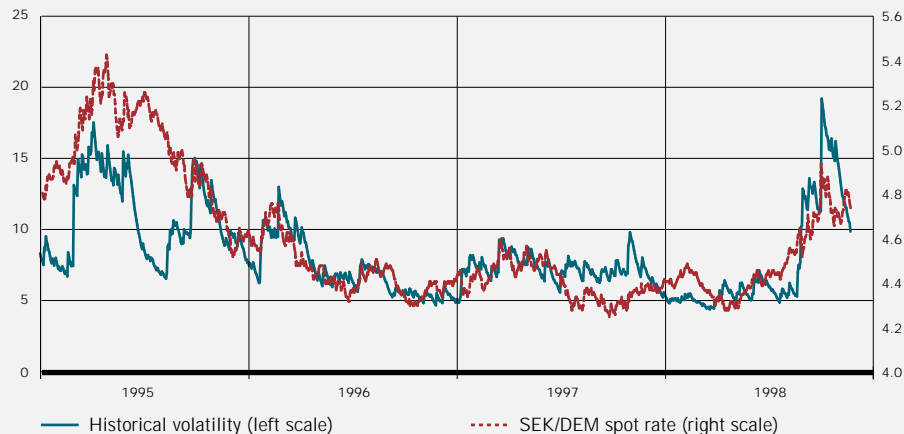
21 Expected volatility is defined here as the estimated forward volatility curve; see Aguilar, Javiera & Hördahl, Peter (1998), Exchange rates and currency options as EMU indicators, *Quarterly Review* 2, Sveriges Riksbank.

22 The pattern with an expected fall in volatility is not confined to the SEK/DEM exchange rate; it is also evident for other currency pairs, for example the DEM/USD rate.

23 This pattern is also evident in the AUD/USD rate, as well as in the FIM/DEM rate up to Finland's adherence to the ERM.

24 For references to studies of the correlation between exchange rate levels and volatilities based on risk premium models, see e.g. Bollerslev et al. (1992).

Figure B2.
Level and volatility of
SEK/DEM rate.
Annual percentage



Source: The Riksbank.

Import prices

Of the goods represented in the CPI, a quarter are imported and a further fraction are substitutes for imports. Changes in international export prices and exchange rate movements are thus an important consideration in the overall assessment of inflation.

The direct effects that price movements abroad and exchange rate shifts are judged to exert—via import prices—on consumer prices in Sweden are presented in this section. In addition to this direct import price channel, inflationary pressure is affected more indirectly in that the impact of international activity and the exchange rate influences the relationship between domestic demand and supply.

International price tendencies for manufactured exports in the coming two years are judged to be weaker than was assumed in the September Report. The TCW exchange rate has weakened but an appreciation is assumed in the coming two years. Raw materials prices are expected to follow the path indicated by forward prices for crude oil and metals, that is to say, increases of about 12 per cent in 1999 and 8 per cent in 2000 (Fig. 5, page 11).

International price tendencies for manufactured exports in the coming two years are judged to be weaker than was assumed in the September Report.

The influence that international prices for exports and raw materials exert on Swedish producer and consumer prices is difficult to determine and depends on a number of factors, of which one is the krona's exchange rate. The pass-through from international prices and the exchange rate to import

prices to producers is protracted, besides being incomplete even in the long run. To this must be added the lagged and only partial producer price pass-through to consumer prices (see box on pp. 27–28).

The pass-through from international prices and the exchange rate to import prices to producers is protracted and partial.

All this implies that a movement in international export prices or the exchange rate has an effect on consumer prices that is moderate and subject to considerable lags.

The krona's depreciation in recent months is not expected to exert appreciable effects on inflation this year. Consumer prices for goods that are mainly imported have been unusually weak and the annual level is judged to fall more than 1 per cent in 1998, with a downward effect on the CPI of about 0.3 percentage points. With an initially weak but successively stronger exchange rate and low international price increases, the price level for goods that are mainly imported is judged to rise about 1.5 per cent in 1999 and just over 0.5 per cent in 2000. The combined contribution to inflation, measured by the CPI and UND1X, amounts to about 0.4 percentage points in 1999 and less than 0.2 percentage point in 2000.

To sum up, with the subdued international price tendency and an exchange rate that is weak initially but appreciates successively, the weak import price trend is expected to continue. The effect of this on CPI inflation in 1998 is judged to be smaller than foreseen in the September Report, while the total impact in 1999 and 2000 is somewhat larger.

INTERNATIONAL PRICES AND EXCHANGE RATE: IMPACT ON CPI

In the past year the krona's exchange rate has tended to be very volatile. During the summer and autumn the krona depreciated markedly against most currencies. The import price trend to date this year has been fairly weak, however, partly as a consequence of falling international export prices.

A weaker exchange rate can generally be expected to lead to price increases for imported goods in particular, though the size of this pass-through varies with the category of goods. It is likely to be large and rapid for homogeneous goods, such as crude oil, with a world market price. In the case of more differentiated categories that have to compete with domestic substitutes, the pass-through may be more protracted and less complete.

Besides the exporter's price and the exchange rate, consumer prices for imported goods are determined by domestic components, such as profit margins, wages, taxes and other distribution and retailing costs.

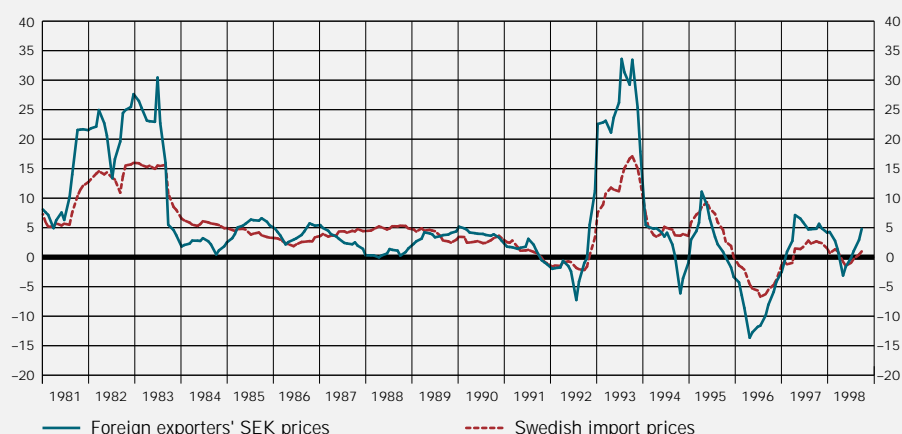
In the short run, the reduction of the pass-through comes to a large extent from price rigidities and other adjustment mechanisms, such as exchange risk cover. In the medium and long run a part is also played by other market conditions. Depending on the state of competition, the foreign exporters, as well as Swedish importers and retailers, may be able to adjust profit

margins and thereby control price setting with a view to optimising profits. One consideration here is no doubt whether an exchange rate movement is perceived as temporary or more permanent; the latter should lead to a larger pass-through at every stage than a movement which is deemed to be temporary. The general demand situation is presumably important, too; raising prices should be easier when activity is high and many domestic competitors are doing the same, than it is in periods of weak domestic demand. Finally, pricing is influenced as well by domestic price tendencies and confidence in the low-inflation policy.

An analysis of the exchange rate's impact on the domestic price level is suitably done in two steps. The first step concerns the pass-through from foreign exporters' prices and the exchange rate to import prices to producers and the second the pass-through from (producers') import prices to consumer prices, either specifically for imported goods or for the total CPI.

Attempts to quantify exchange rate effects on prices are complicated by a number of statistical problems but calculations do indicate that in the long run, an exchange rate movement shows up in producer prices to approximately 60 to 80 per cent.²⁵ The size and timing of the effect depend on whether the prices include homogeneous goods, such as crude oil. However, most

Figure B3.
Exporters' and
importers' prices.
Percentage 12-month
change



Source: National Institute of Economic Research.

imported goods are not homogeneous and for them the price adjustment after an exchange rate shock seems to be smaller and relatively gradual. Calculations indicate that it takes six quarters for half of the effect to materialise.

Goods that are mainly imported make up roughly 25 per cent of the CPI. While it is mostly prices for these goods that are affected by exchange rate movements, goods and services that are mainly produced in Sweden may be affected indirectly;²⁶ they may either contain imported intermediate goods for which costs rise when the exchange rate weakens or be domestic substitutes for imported goods and therefore meet increased demand when import prices rise.

It follows that the pass-through to the CPI from import prices to producers can be more as well as less than the 25 per cent of the CPI which represents the direct import share. Calculations at the Riksbank suggest that the long-term pass-through is slightly over 25 per cent. The average pass-through to consumer prices occurs somewhat faster; approximately half of the effect has materialised after three quarters, though there seem to be considerable differences between different types of goods.

The fact that the pass-through from import prices to consumer prices is as large as the import share of the CPI might be taken to indicate that the pass-through is complete. Another interpretation could be that an incomplete pass-through to the CPI from goods that

are mainly imported is accompanied by indirect effects via prices for imported intermediate goods or domestic substitutes. Some support for the latter interpretation is provided by estimates of the pass-through to the CPI from the subcategory of mainly imported goods in the import price index for consumer goods: the total pass-through from this subcategory stops at about 60 per cent and the remainder of the impact on the total CPI might then be attributed to the above-mentioned indirect channel.

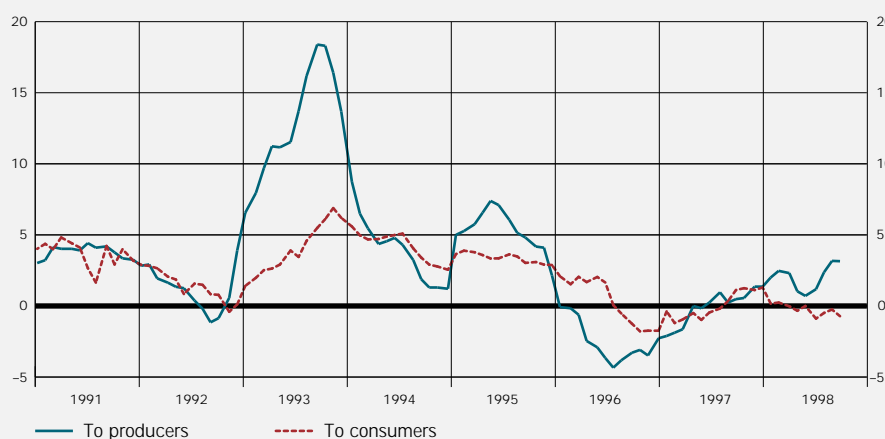
All in all, the impact of international prices and the exchange rate on consumer prices seems to be limited. Given these estimated long-term elasticities, a permanent 10 per cent depreciation of the krona would generate an increase in import prices to producers of 6–8 per cent. The effect on goods that are mainly imported would be less than 4 per cent, which gives a CPI effect of approximately 1 percentage point. Including indirect effects, the total impact on the CPI would then stop at about 2 percentage points. This adjustment process would normally be spread over a period of several years.

25 Cf. Alexius, Annika (1997), Import prices and nominal exchange rates in Sweden, *Finnish Economic Papers* 10:2.

26 The import component is the largest item in the consumer price for goods that are mainly imported but another sizeable component is made up of domestic costs in the form of wages, taxes and other mark-ups. Input-output tables indicate that the import component makes up about 25 per cent of private consumption.

Figure B4.

Prices to producers and consumers for imported consumer goods. Percentage 12-month change



Note. Excluding petroleum-related products.
Source: Statistics Sweden.

Demand and supply

FOREIGN TRADE

The development of exports to date this year has been well in line with the Riksbank's earlier assessments. Year on year, export growth in the first half of 1998 was 6.7 per cent but there are indications that growth after that may be lower than the Riksbank counted on earlier. Global economic prospects have worsened, which implies weaker market growth for Swedish exports of goods.

Swedish competitiveness, however, is expected to remain good in the view of the weaker exchange rate and a favourable development of wages and productivity. Price competition is likely to be strong but Swedish export firms should be in a good position to maintain and perhaps even gain market share without an appreciable fall in profits. In 2000 there is the prospect of some international recovery but the krona's assumed appreciation in the main scenario implies some loss of competitiveness. All in all, export growth is expected to be weaker, above all in 1998 and 1999, than was assumed in earlier assessments.

Export growth is being subdued by weaker international activity.

Import growth to date this year has been unexpectedly strong. In annual terms, total imports of goods and services rose 12.6 per cent in the first half of 1998. However, domestic demand growth is expected to be somewhat slower, particularly in 1999, than envisaged earlier. Together with the weaker path of the exchange rate that is assumed in the main scenario, this implies slower growth for imports of goods compared with the assessment in the September Report.

To sum up, export growth is expected to be slower than assumed in the September Report and import growth has also been revised downwards, above all for 1999 but also to some extent for 2000. Foreign trade's net contribution to GDP growth is expected to be negative in 1998 and broadly neutral in the rest of the forecast period.

GROSS FIXED CAPITAL FORMATION

In annual terms, the national accounts show that gross fixed capital formation in the first half of 1998 was 9.6 per cent higher than a year earlier. This is largely in line with the assessment in the September Report.

The worsening of international economic prospects in the forecast period has consequences for the assessment of growth and investment in Sweden. Decreased export demand is expected to subdue domestic industrial activity and thereby investment in manufacturing and related parts of the non-industrial corporate sector. This is supported by the October investment survey from Statistics Sweden, which shows that industrial investment is already considerably weaker this year. However, investment in the non-industrial corporate sector should be sustained by rising private consumption and a comparatively expansionary services sector.

After a strong first half-year in 1998, there are many indications that the growth of industrial investment will slacken and even turn into a fall in 1999. There are increasingly clear signs that industrial activity is slowing. The September business tendency survey from the National Institute of Economic Research suggests that the Q3 inflow of industrial orders was poorer than firms had expected. Assessments of current order books also show a negative shift since the June survey. Delivery times have shortened and the proportion of firms for which production is being hampered by machinery and plant capacity fell from 27 per cent in June to 12 per cent in September.

Total gross capital formation is judged to follow a weaker path than assumed in earlier assessments, though the upward trend is expected to continue throughout the forecast period, with rising residential investment.

With more subdued industrial activity, industrial investment is expected to weaken substantially, particularly during 1999. But total gross capital formation should go on rising throughout the forecast period.

The national accounts indicate that in the first half of 1998 the contribution to growth from stock movements was very large, equivalent to over 1 percentage point in annual terms. The extent to which the accumulation of stocks is an involuntary consequence of slackening demand is difficult to tell; it presumably also includes increased stocks of cheap intermediate goods and raw materials. But as the growth of stocks can hardly continue at the same high rate, it is reasonable to count on the contribution to growth in

the forecast period being negative. The timing and strength of the swing are, however, uncertain.

To sum up, total gross capital formation is judged to go on rising throughout the forecast period, though there are many indications that the growth of industrial investment will slacken and even become negative in 1999. Investment in stocks is expected to be a negative factor for GDP growth. A strong increase is foreseen for residential investment, albeit from a very low initial level.

THE CONSTRUCTION SECTOR

The level of construction activity in Sweden in recent years is historically very low. Signs of a recovery are now discernible and are confirmed from the two most recent business tendency surveys by the National Institute of Economic Research. Housing demand has also risen, as indicated by the strong price rise for owner-occupied houses since 1996 (Annex: Fig 25). The need for new housing is estimated to be 20,000–45,000 dwelling units a year and the need for housing renovation to 30,000–40,000 units a year, mainly in the metropolitan regions.²⁷ In the Riksbank's main scenario it is assumed that the volume of residential investment is rising about 5 per cent in 1998, followed by between 15 and 20 per cent in 1999 and 2000. This may involve very sharp increases in certain regions. Stronger growth is unlikely in view of the large number of vacant dwellings.²⁸

With the improvement in construction activity, the business tendency surveys show that the proportion of construction firms with labour shortages has risen from 2 per cent last March to 14 per cent in September. So far, labour shortages seem to be the only sizeable bottleneck. The national unemployment rate for construction workers has recently been falling sharply, from 17.3 to 10.3 per cent in the course of a year.²⁹ The combination of persistently high unemployment and labour shortages for one-seventh of firms can be explained in part by regional differences in unemployment and considerable distances between counties where unemployment is high and low, respectively. Construction workers are also a heterogeneous group and the general shortages are confined to certain specialised categories.

Many construction workers have transferred to other sectors or moved abroad. In connection with declining construction in Norway, the 7,000 or so Swedish construction workers who have jobs there might return to Sweden.³⁰

The Construction Industry Group, which is reviewing the problem of bottlenecks in construction on behalf of the Government, has identified a lack of occupational experience among about one-third of the unemployed construction workers; around 6 per cent also lack formal training. With a rising average age and a weak interest in construction jobs among young people, the problems may grow in the future. Proposed remedies include increased mobility, developing competence, promoting training programmes, and readiness with planning and sites.

The factor price index (FPI), which measures building contractors' and proprietors' costs, tends to rise when activity is expanding. The 12-month increase of 2.5 per cent in October came mainly from wage costs, which make up a quarter of this index and rose 3.7 per cent. Adding the contractors' productivity and profit margin to the FPI gives the building price index (BPI), which measures the price of completed dwellings. The BPI, which is published with a considerable time lag, rose as much as 18.1 per cent between the fourth quarters of 1996 and 1997. A large part of the sharp increase is considered to represent increased profit margins after the steep fall earlier in the 1990s.³¹

The wage system in the construction sector, which does not seem to have been revised substantially in the past decade, generally involves piece-wages for con-

struction workers and hourly pay for machine operators and construction services. The latest wage agreement contains certain amendments to performance pay, which is based on the financial result of construction projects.

Prices for construction materials are sensitive to the business cycle, a pattern accentuated by the producers being heavily concentrated. Production is dispersed throughout Sweden but tends to have a local or regional base, with strong traditional roots. Competition from geographically remote suppliers is also restricted by the cost of transporting heavy construction materials. During the 1980s, mergers and acquisitions were arranged to prepare for increased international competition; large companies acquired small and medium-sized firms in a process of vertical and horizontal integration that gave the former control over substitutes as well as assured access to intermediate goods and/or markets. This has contributed to the high degree of concentration in the construction sector and the contractors' control of earlier stages of the construction process. Closures during the recession strengthened the position of the dominant companies. With little change in imports of construction materials, competition from that quarter has not become stronger. The EU Construction Product Directive, which is intended to facilitate import competition, may even be a disadvantage for relatively small firms

in that they tend to lack resources for active participation in standardisation work.

A factor of importance for the development of costs is the system for financing residential construction, which was thoroughly revised with effect from 1993. In the earlier system, the base for borrowing was linked to the project's actual costs and any increase in capital costs from rising interest rates was covered to a large extent by government subsidies. The new system is intended to make property owners and residents more sensitive to interest rates, have simpler rules whereby residential construction is driven more by demand and less by subsidies, and subdue construction costs. The base for the interest subsidy is calculated with a standardised amount and this has been deliberately set on the low side of production costs; furthermore, the subsidy covers only a certain proportion of the standardised

27 Official Government Report (SOU 1996:156) and National Housing Board.

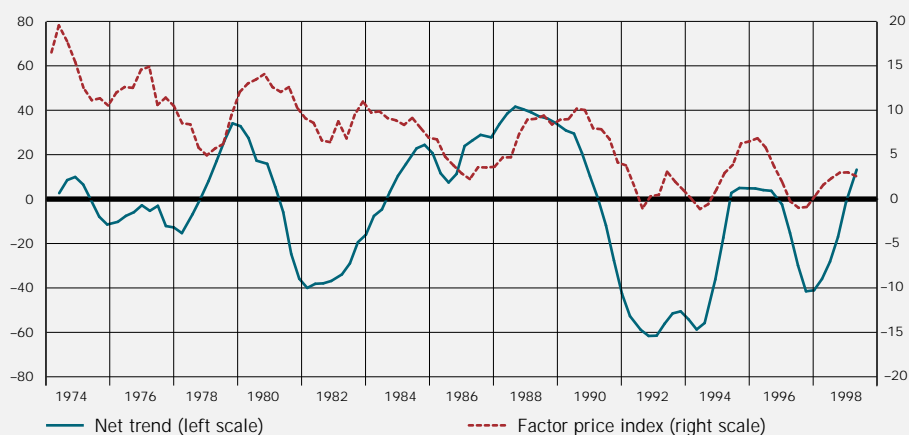
28 Of the stock of dwellings in public housing utilities, 5.7 per cent were vacant in September 1998, according to Statistics Sweden's survey.

29 According to October figures from the Construction Workers Unemployment Fund.

30 Construction Industry Group (*Bygghandelsgruppen*), Ministry of the Interior.

31 Another explanation for the sharp increase during 1997 may be that the BPI does not include investment subsidies. It should also be noted that the calculations for 1997 are uncertain in that they are based on so few projects. Cf. *Byggindex* 1998:8, Statistics Sweden.

Figure B5.
Construction activity
and factor prices.
Net trend and
percentage 12-month
change



Note. Net trend is the percentage of firms reporting a positive construction trend less the percentage reporting a negative trend, according to the National Institute's business tendency surveys of construction (seasonally adjusted moving 3-quarter average).

Sources: National Institute of Economic Research, Statistics Sweden and the Riksbank.

estimate of interest expenditure; the initial interest subsidy for each construction project then undergoes a planned annual reduction. The subsidy's initial level is also being scaled down in that each annual cohort of new multi-family housing will start from a lower level until this has fallen to 30 per cent of the standardised estimate of interest expenditure. Moreover, government housing loans have been replaced by a credit guarantee.

The labour shortages that are now beginning to arise as construction picks up are still limited both geographically and occupationally. In the longer term the construction industry faces troublesome problems with

labour supply. The industry has become more concentrated and wages and prices are tending to rise. In the absence of major changes in the past decade as regards either the wage system for construction workers or the market for construction materials, the new system for housing finance seems to be the structural adjustment that is probably most important for the development of prices when activity is rising. The new system should tend to subdue construction costs in that high costs will be felt by housing companies and residents more directly.

PRIVATE CONSUMPTION

Private consumption rose 2.5 per cent between the first halves of 1997 and 1998. The latest statistics suggest that the tendency in the second half of 1998 is still strong.

The largest single threat to a continuation of the favourable consumption trend is the international financial crisis. The Stockholm Stock Exchange has fallen by an average of slightly over 16 per cent since the middle of July. At least a part of this drop seems to be a correction of the strong increase in recent years. OMX option prices indicate that, compared with the time of the September Report, market players now perceive somewhat less insecurity on the Stockholm Exchange (Annex: Fig. 26). Partly for this reason, the direct wealth effect on consumption is judged to be limited.

The effect on households' expectations is more difficult to gauge. The level of personal economic expectations is still historically high but the Consumer Confidence Indicator³² and household purchasing plans point to some decline. The house price rise also seems to have slowed, which may represent decreased confidence in the future.

Conditions for consumption growth in the coming years are judged to remain good, though some downward revision is reasonable in view of effects on households' expectations from the international crisis.

Despite the equity price fall and the international turmoil, private consumption's fundamental determinants still seem to be favourable. Household real income growth in the coming years is judged to be relatively strong (about 3 per cent a year), partly on account of low inflation. Swedish households probably also have a large accumulated need to purchase capital goods. Moreover, their financial and real assets have become substantially larger in the past two to three years. Employment is expected to go on rising. The Riksbank's interest rate cuts, together with falling long bond rates, have created good conditions for rising consumption.

To sum up, private consumption is judged to be somewhat weaker than assumed in the September Report. A minor downward revision for 1998 and 1999 is motivated in that the international situation is judged to dampen households' consumption plans.

FISCAL POLICY

According to the national accounts, the growth of local government consumption in the first half of 1998 was somewhat weaker than indicated by the preliminary statistics, while central government consumption was considerably stronger. The new figures prompt an upward adjustment of central government consumption only in 1998.

The Budget Bill does not propose any new reforms that alter the appraisal of public consump-

tion in the forecast period. The budgeting margins are small and the ceiling on expenditure is now a constraint on new outlays. There is one additional commitment, however, whereby SEK 1.3 billion is to be provided for the local government sector in 1999; this is to be arranged by transforming the basic central government levy on personal income into a local government tax. Moreover, the tight budgeting margins are rendered even narrower by other forms of fiscal relief that are proposed in the Bill.

The inflation forecast starts from the premise that fiscal policy will remain tight but not become more restrictive in the forecast period. This implies that fiscal policy's direct restrictive effect on demand will be less marked than in recent years.

The confidence that has been established after the consolidation of public finances is contributing to the recovery in the domestic sector. For a further enhancement of this confidence and in the range of options for economic policy it is essential that the expenditure ceiling and the budget target are adhered to, accompanied by a reduction of the considerable public debt.

Fiscal policy will remain tight but its direct restrictive effect on demand will be less marked than in recent years.

Weaker activity may worsen for public financial balances and thereby reduce the scope for debt repayment but in the main scenario it is not considered to jeopardise the budget target.

To sum up, the growth of public consumption in 1998 is judged to be somewhat stronger than foreseen in the September Report. Otherwise the earlier assessment still applies. Fiscal policy is expected to remain tight but its direct restrictive effect on demand is assumed to be less marked than before.

GDP

The outlook for GDP is somewhat less positive than at the time of the September Report. The international economic slowdown is expected to have repercussions on the domestic economy during 1999 in particular, mainly in the form of decreased net exports and somewhat lower gross fixed capital for-

mation, but also a marginally weaker growth of private consumption. A cautious recovery is then foreseen in 2000. The Riksbank's interest rate cuts are judged to counter some of the effect of the more subdued international tendencies and thereby forestall a more marked slowing of activity in Sweden.

All in all, annual GDP growth is judged to be between 2.5 and 3 per cent in 1998, between 2 and 2.5 per cent in 1999 and about 2.5 per cent in 2000. This represents a downward revision of the growth forecast, primarily for 1999.

LABOUR MARKET

Labour demand has risen in response to rising economic activity. In the period January–October the number of private sector employees was over 35,000 higher than in this period a year earlier. Public sector employment has stopped falling and turned into an increase of 13,000 persons to date this year.

Unemployment has fallen substantially in the past twelve months. Over 1.5 per cent of the labour force left the labour market last autumn, among other things to participate in various types of education. In the short run this has led to a decreased labour supply; but as the programmes do not concern the supply of labour categories that are highly educated or in demand for other reasons, it need not affect inflationary pressure. In time, the drive to enhance competence, if it proves successful, could help to reduce structural unemployment.

Since 1991, when the labour force was largest, it has shrunk by a quarter of a million persons. Most of them are either full-time students registered as job-seekers (latent job-seekers) or participants in educational programmes. The former currently number 140,000 and are probably relatively competent and to a large part often active job-seekers. There should therefore be a supply of unutilised resources outside the regular labour market.

32 Constructed by Statistics Sweden as a weighted aggregate of responses by Swedish households concerning their expectations for both the general and their own economic situation, as well as their purchasing plans for capital goods.

With a weaker real economic trend, employment growth is expected to be somewhat slower than assumed earlier.

The somewhat weaker growth prospects for the Swedish economy imply that employment may rise a little more slowly than the Riksbank expected earlier. In the coming two years the labour force is expected to grow as unemployed persons return from various educational programmes.

To sum up, compared with the assessment in the September Report, unemployment at the end of the forecast period is now judged to be somewhat higher. This upward revision is primarily a consequence of weaker economic activity. Structural unemployment is judged to be unchanged.

WAGES AND PRODUCTIVITY

Wage increases across the economy in 1998 have averaged 2.5 per cent. However, the statistics do not yet include all the increases from the 1998 settlements. A number of local agreements for white-collar workers have still to be concluded.

In the forecast period the annual wage rise is judged to be around 3.5 per cent. This is somewhat lower than the figure in the September Report,

mainly on account of the somewhat weaker growth prospects. Profitability is also expected to be somewhat lower for the same reason as well as successively falling inflation expectations. Wage drift is therefore judged to be somewhat lower, too.

The weaker real economic prospects imply that wages and productivity will both be somewhat weaker than assumed earlier.

The assessment of productivity is basically the same as in the September Report, with a continuation of the favourable trend. However, the productivity growth rate of 2.6 per cent that is reported for 1997 and the first half of 1998 must be regarded as unusually high. The path in the forecast period is expected to match the level in the period 1990–96, when the trend was 1.7 per cent, compared with around 1 per cent in the 1980s. The poorer economic prospects do, however, point to somewhat lower productivity growth.

The relatively positive outlook for wages and productivity is broadly unchanged since the September Report. A somewhat more subdued development of wages is balanced to some extent by weaker productivity growth.

THE 1998 WAGE AGREEMENTS

The general situation

New wage agreements have now been concluded for a large part of the labour market.³³ A high proportion of the agreements are for three years, in many cases with the option of cancelling the third year. A common feature of many agreements is provisions that support increased local wage flexibility. A number of agreements stipulate, for example, that the local wage allotment is to be distributed with reference to responsibilities, skill requirements and competence. Otherwise the structure of agreements varies considerably, for instance as regards shorter hours, enhancing competence and minimum wage increases. Comparisons between agreements are complicated by the fact that negotiated wage

increases refer to different wage concepts; some apply to minimum increases, for example, and for others there is no central framework. This also blurs the concept of wage drift.

An approximate picture of the distribution by the duration of agreements is presented in Fig. B6 (p. 36), which covers agreements involving a total of about 2.5 million employees.³⁴ The proportion of agreements that expire before the end of 1999 is small; it includes the agreement for about 35,000 employees in the transport sector, which runs to the end of 1998. The great majority of the agreements run to 2001 Q1 and the larger share of them can be terminated earlier.

The 1995 round of wage agreements was negoti-

ated at a time when employers as well as employees expected, on average, that the rate of inflation one to two years ahead would be about 3.5 per cent. This did not happen; instead, annual inflation in the period 1996–97 averaged around 0.9 per cent or about 2.5 percentage points less than expected.³⁵ As a result, real wage increases in the period 1996–97 were high, averaging about 4.5 per cent a year, which can be compared with a virtually unchanged real wage level in the 1980s.

The 1998 wage agreements suggest that the labour market organisations have realised that inflation will remain low. In the period from November 1997 to September 1998, expectations of inflation two years ahead averaged 1.9 per cent among employers and expectations among employees were about 0.1 percentage point lower.³⁶ This has probably been an important factor in the wage negotiations.

The institutional conditions for this year's wage negotiations may also have contributed to the comparatively restrained agreements. The argument for this view is contained in the so-called Calmfors-Driffill curve, which describes an inverted-U relationship between the degree of centralisation in wage negotiations and the increase in real wage costs.³⁷ What the curve illustrates is that agreements negotiated either centrally for the total labour market or locally for each firm result in lower increases in real wage costs than agreements concluded at an intermediate degree of centralisation. Central negotiations have the advantage that the parties have the motivation and force to consider macroeconomic consequences of the outcome, for example the effect of wage increases on employment, unemployment and tax revenue. Local negotiations have the advantage that the wage share is determined with reference to the situation of the firm in question and the wage increases are therefore likely to be more in line with production requirements. This year's negotiating round included elements of central as well as fully decentralised wage formation. The cooperation pact,³⁸ which covers about half a million employees and includes strong, impartial chairmen, for instance, is an example of the former and the increased allotment for local wage negotiations is an example of the latter. In this way the negotiating parties used both of the favourable positions on the Calmfors-Driffill curve.

Wage drift

Besides negotiated wage increases there is wage drift, which is more attuned to the economic situation of the individual firm because it can be adapted to local conditions such as the order inflow, local productivity, competition and standards of competence. In the period 1991–97 annual wage drift averaged about 1.5 per cent. In the forecast period, 1998–2000, there are several reasons why it may be lower.³⁹ For one thing, restraint may be promoted by the institutional frame of the cooperation pact, with elements of both central and local wage formation. For another, wage compensation for unexpectedly high inflation during the term of an agreement is no longer relevant; on the contrary, inflation to date has been lower than expected and expectations of inflation during the rest of the period have fallen since the agreements were concluded. Finally, corporate earnings may be affected by a weaker economic development and thereby leave less room for wage drift.

Option to terminate

Another consequence of a poorer economic development may be that employers exercise the right that both they and employees have to terminate agreements before they expire. As a rule, the agreements that include an option to terminate run for three years, up to the spring of 2001, and can be annulled about one year earlier. They involve at least 980,000 employees and include agreements for the engineering sector, commercial employees and some public sector salaried

33 For an analysis of the 1998 wage agreements, see Eurén, C. (1998), *Sammanställning av resultatet av 1998 års avtalsrörelse* (Compilation of the result of the 1998 round of wage negotiations), Annex to the report submitted by the Enquiry on Strengthening the Conciliation Institution.

34 This covers about 60 per cent of total employment. The agreements that are not included are mainly those with few employees.

35 Sources: Prospera Research AB and Statistics Sweden.

36 Source: Prospera Research AB.

37 See Calmfors, L. & Driffill, J. (1988), Bargaining structure, corporatism and macroeconomic performance, *Economic Policy* 6, pp. 13–61.

38 The pact is discussed by the impartial chairmen in Albåge, L-G. & Larsson, R. (1998), *Industriavtalet i 1998 års förhandlingar* (The Pact in Manufacturing in the 1998 Negotiations), a report to the Manufacturing Committee.

39 Wage drift will presumably remain high for employees in occupations for which there is a labour shortage.

employees.⁴⁰ For of a majority of these agreements, notice of termination has to be given not later than September 1999 and for some even earlier. The engineering agreement, which involves about 280,000 employees, has one of the earliest dates for notice of termination, 31 May 1999 at the latest. A termination may be an important signal of future wage outcomes.

So what are the factors that point to early termination? One is the possibility that a less favourable economic development, for example in the wake of the Asian crisis, leads to poorer profitability than firms had counted on; the domestic upswing may be weaker than was foreseen at the time of agreements last spring. To compensate for lower profitability, firms in certain sectors could need to cut wages; as this is not feasible, they could resort to the alternative of terminating agreements. Another factor is the probability that inflation will be more subdued than was foreseen at the time of the agreements, in which case the increase in real wage costs will exceed what firms had envisaged and likewise motivate them to terminate agreements. Finally, it is conceivable that differences between occupational groups in the rate of wage increases, including wage drift, are such that certain unions decide to exercise their right to cancel agreements.

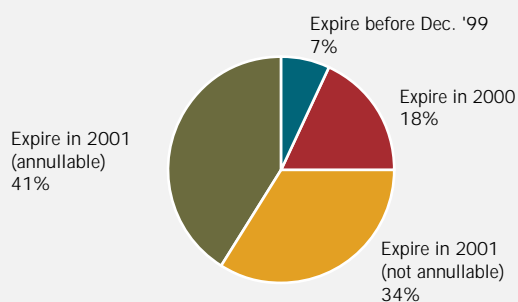
And what are the arguments against termination? The new institutional arrangements in the form of the cooperation pact may have helped to shorten the negotiating process and an early termination of agreements might lead to a loss of any goodwill that was earned in

this way. Moreover, wage negotiations entail costs for all concerned and early termination brings forward the process of time-consuming negotiations with an uncertain outcome.

The relative weights of these factors are difficult to gauge. The negotiating parties have reasons for using the possibility of termination as a tactical weapon: employers are motivated to exaggerate the risk of termination in order to counter wage drift, just as employees have grounds for the opposite in order to achieve wage drift. A crucial factor for the value that labour market organisations attach to early termination of agreements will presumably be the course of economic development and inflation expectations during 1999. If no agreements are cancelled in advance, agreements for more than 420,000 employees will expire during 2000 and for more than 1.8 million in the spring of 2001. In the extreme case of early termination of all agreements for which this is possible, agreements for more than 1.4 million employees would end during 2000 and for more than 840,000 in 2001. The starting point for the inflation assessment in the main scenario is that neither party exercises the option to terminate their agreement.

40 E.g. unions affiliated to the Public Employees Negotiating Council (OFR), such as the Union of Civil Servants, the Police Union, the National Association of Military Officers and the central government section of the Confederation of Professional Associations. The agreements that expire in 2001 and cannot be terminated earlier include those for municipal workers, local government salaried employees, and hotel and restaurant workers.

Figure B6.
Duration distribution of
wage agreements for 2.5
million employees.
Per cent



Source: Eurén, Christina (1998), Sammanställning av resultatet av 1998 års avtalsrörelse (Compilation of the result of the 1998 round of wage negotiations), Annex to a report from the Enquiry on Strengthening the Conciliation Institution.

CAPACITY UTILISATION

In the second quarter of 1998, industrial capacity utilisation, as measured by Statistics Sweden, was 90.1 per cent.⁴¹ As measured in the National Institute's business tendency surveys, the level of capacity utilisation seems to have fallen in the third quarter, from 86 per cent in June to 85 per cent in September. These surveys also indicate a negative shift in orderbook assessments and a shortening of delivery times.

Although some fall in industrial investment is foreseen in 1999, followed by an unchanged level in 2000, the utilisation of machinery and plant may decline in the forecast period. The initial level of investment is so high that growth of the capital stock is expected to exceed the increase in output in both 1999 and 2000.

The Swedish economy is assumed to still have some surplus capacity at the end of the forecast period.

Labour supply does not seem to be a major problem in general for industrial firms. The situation in September was much the same as in June. A shortage of salaried technicians is reported by less than one-third of manufacturing firms and 13 per cent report a shortage of skilled workers. In construction, the proportion of firms reporting labour shortages fell slightly, to 14 per cent, after a substantial increase from March to June. Neither does the services sector appear to have any general labour shortages; the shortages of computer consultants and computer services are most marked and are unchanged from the June survey. For other business services the shortage of personnel with the appropriate competence is still very high but somewhat less marked in the September survey.

According to various econometric estimates, the output gap in 1998 Q2 was between 0.4 and -2.0 per cent, which is much the same as the estimates in the September Report (Annex: Fig 35).⁴²

To sum up, the available information points to the existence of some surplus capacity in the economy as a whole. Now that demand prospects are somewhat more subdued, it is judged that

a surplus will continue to exist two years hence. In other words, the expected development of productivity, investment activity and labour demand relative to supply is such that no general capacity problems should arise.

Transitory effects

There are some changes in indirect taxes and subsidies since the September Report that will have transitory effects on CPI inflation. The dental care reform as of 1999 is calculated to entail SEK 500 million in central government expenditure; given a complete pass-through to consumer prices, this is equivalent to a downward effect on CPI inflation of about 0.05 percentage points. The Government has also proposed a temporary cut in property tax on multi-family housing in 1999, from 1.5 to 1.3 per cent of the assessed value; this implies a reduction of the CPI change figure by 0.1 percentage point in 1999 and an equally large increase in 2000.⁴³ The starting point in the September Report was that indexing of assessed values would be resumed as of 2000 but the Government has proposed that instead, the present freeze at 1997 levels be prolonged to include 2000. Compared with the assessment in the previous Report, this reduces CPI inflation by almost 0.5 percentage points.

All in all, transitory factors, which to a large extent are connected with the development of interest rates, are judged to have downward effects on CPI inflation of 1.2 percentage points in 1998, 0.5 percentage points in 1999 and 0.3 percentage points in 2000.

41 The link between capacity utilisation and inflationary pressure is discussed, along with other matters, in Inflation Report 1998:3, in the box on pp. 24-26.

42 In order to smooth the quarterly fluctuations, a moving four-quarter average has been used for the output gap estimates.

43 Statistics Sweden treats changes in the property tax on multi-family housing as an indirect effect; indirect effects of changes in indirect taxes and subsidies are included in Statistics Sweden's index of underlying inflation.

To date in 1998, house mortgage interest expenditure has fallen almost 6 per cent. This is partly a consequence of the Riksbank's interest rate cuts during recent years. These adjustments will also tend to hold back mortgage interest expenditure in the near future. Despite the increase in long bond rates that is foreseen in the forecast period, household interest expenditure will go on falling, with a downward effect on inflation of about 0.4 percentage points in 1999 and of about 0.2 percentage points in 2000. The reason for this is that the renewal of maturing fixed-interest loans will result in lower fixed rates for those households.

Table 1.

Transitory effects: contribution to the CPI's 12-month change (December–December).

Percentage points

	1998	1999	2000
Altered indirect taxes and subsidies, direct effects	–0.4	0.1	0.0
Temporary freeze on residential property assessments	–0.2	–0.2	–0.1
Change in interest expenditure	–0.6	–0.4	–0.2
Total transitory effect on CPI	–1.2	–0.5	–0.3

Note. Due to rounding, totals may differ from the sum of the column. The figures have been adjusted to Statistics Sweden's classification of direct and indirect effects from changes in indirect taxes and subsidies and are therefore not fully comparable with those in Table 1 in the September Report.
Source: The Riksbank.

To sum up, changes in household interest expenditure and altered indirect taxes and subsidies are judged to have a combined downward effect on CPI inflation of 1.2 percentage points in 1998, 0.5 percentage points in 1999 and 0.3 percentage points in 2000.

Inflation expectations

LONG-TERM EXPECTATIONS STILL STABLE

Implied forward interest rates can indicate the future path of short-term interest rates. For the short and medium term, the forward rate tendency can be said to reflect market expectations of future monetary policy and inflation. The long-term forward interest rates, on the other hand, mainly depend on confidence in general economic policy's commitment to price stability.

In the light of continued low-inflation expectations and the November interest rate cuts, since the September Report the medium-term forward rates (maturities of one to two years) have fallen about 0.6 percentage points (Annex: Fig. 37).

Expectations of inflation in the somewhat longer run are mirrored in forward rates with maturities of, for example, ten years. Since the September Report their level has fallen about 0.2 percentage points and the fall to date during 1998 totals approximately 1.4 percentage points (Annex: Fig. 37). Since the previous Report, long bond rates in Germany have been virtually unchanged.

The long-term interest rate differential with Germany can serve as an indication of the credibility of Swedish economic policy's commitment to price stability. This spread widened relatively strongly earlier in the autumn but has now narrowed again (Annex: Fig. 39).

Even the long-term inflation expectations are comparatively low.

A further indication of inflation target credibility is provided by the long-term inflation expectations that can be derived from the difference between real and nominal long bond rates (5–15 years).⁴⁴ This difference is currently about 1.7 percentage points (Annex: Fig. 40), which suggests that, measured in this way,⁴⁵ long-term inflation expectations are comparatively low.

SURVEYS INDICATE LOW INFLATION

The rate of inflation expected by households in the coming twelve months is somewhat higher than at the time of the September Report. From January to June the level of these expectations was stable at around 1.1 to 1.2 per cent, while the October level was 1.4 per cent (Annex: Fig. 41).

In manufacturing as well as the services sector, one-year inflation expectations in the third quarter were 1.0 per cent, or 0.1 percentage point lower than in the previous quarter.

Inflation expectations two and five years hence among the major Swedish and foreign investors in the Swedish bond market are surveyed each quarter by Aragon. In these surveys, expectations of inflation in the coming two years have moved down substantially during 1998, from 1.9 per cent in Q1 to 1.2 per cent in Q4. The five-year expectations have also been revised downwards, from 2.2 per cent in Q1 to 1.8 per cent in Q4. The expectations of inflation three to five years ahead⁴⁶ tended to fall as well in the early part of 1998 but have hardly changed in recent quarters, the Q4 level was about 2.2 per cent (Annex: Fig. 42).

Inflation expectations derived from financial market prices and survey data indicate very low inflation in the short run and a rate in line with the Riksbank's inflation target in the longer run.

Among labour market organisations, purchasing managers and money market agents, expectations of inflation one, two and five years ahead are measured on behalf of the Riksbank by Statistics Sweden. In the fourth quarter, all these groups revised their one-year expectations downwards, while the expectations for the longer term were virtually unchanged—the only clear differences from the Q3 responses concern money market agents, with some rise in these expectations, and purchasing managers in manufacturing, with some fall. All in all, the survey shows that expected inflation in the short run is below the Riksbank's target, while the expectations for the

longer run are in line with the target (Annex: Fig. 43 and Table 3).

To sum up, inflation expectations derived from financial market prices and survey data indicate very low inflation in the short run and a rate in line with the Riksbank's inflation target in the longer run.

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. With the recent weakening of the real exchange rate and the Riksbank's interest rate cuts, the monetary conditions have become more expansionary. In the forecast period, however, the krona is assumed to appreciate and some increase is foreseen in long-term interest rates. The combined effect of interest rates and the exchange rate is accordingly judged to become successively less expansionary.

Weaker economic development in the rest of the world is judged to subdue international inflation.

Although the assessment of international economic prospects in the September Report represented some downward revision, there are strong grounds for believing that the path will be even somewhat weaker. *International inflation* in the forecast period is therefore judged to be more subdued. Import price tendencies and the pass-through to consumer prices in Sweden still appear to be moderate. With the weaker exchange rate, however, the effect on consumer prices may be somewhat greater than envisaged in the September Report, above all in 1999.

⁴⁴ These nominal and real forward interest rates are the nominal and real ten-year rates in current five-year futures contracts.

⁴⁵ As the nominal forward rates have been calculated with a different method on this occasion, the derived expectations are not fully comparable with those presented in earlier Reports.

⁴⁶ Derived implicitly by the Riksbank.

The assessment of *domestic economic activity* has been revised downwards somewhat. However, the Riksbank's interest rate cuts are countering the slowdown and thereby forestalling a more marked decline. Annual growth in the main scenario is expected to be between 2.5 and 3 per cent in 1998, followed by between 2 and 2.5 per cent in 1999 and by about 2.5 per cent in 2000. The expansion of production in the coming years hardly exceeds the rate at which potential output is judged to rise. This implies that some of the surplus capacity at present is likely to still exist at the end of the forecast period. It should then be possible to supply aggregate demand without an appreciable increase in domestic inflationary pressure.

The prospect of somewhat weaker domestic activity than was envisaged earlier implies that even at the end of the forecast period the Swedish economy is still expected to have some surplus capacity.

There are some changes in indirect taxes and subsidies since the September Report that will have *transitory effects* on the CPI. The continued property tax freeze in 2000, proposed in the Government budget, leads to a downward revision of the CPI forecast by almost 0.5 percentage points. Altogether, changes in household interest expenditure and altered indirect taxes and subsidies are judged to have a downward effect on the CPI of 1.2 percentage points in 1998, followed by 0.5 percentage points in 1999 and 0.3 percentage points in 2000.

The overall picture of *inflation expectations* indicates a path for inflation that is below the Riksbank's target in the short run. For the longer run the expectations are in line with the inflation target.

Short-run inflation expectations are still very low. For the longer run, the expectations are in line with the inflation target.

The Riksbank's overall assessment is that in the main scenario with an unchanged repo rate, the underlying rate of inflation, measured as UND1X, will be

0.9 per cent in December 1998, followed by 1.7 per cent in December 1999 and 1.8 per cent in December 2000. This is a downward revision of the earlier assessment, notwithstanding the lower repo rate and weaker exchange rate compared with the situation in September. The main reason for the revision is the weaker international prospects and their expected repercussions on the Swedish economy.

Inflation is judged to be below the target one to two years hence notwithstanding the initially lower repo rate and weaker exchange rate compared with the situation in September.

The 12-month rate of CPI inflation, with an unchanged repo rate, is expected to be -0.3 per cent in December 1998, followed by 1.2 per cent in December 1999 and 1.4 per cent in December 2000. The average levels are estimated to be 0.4 per cent for 1998, 0.6 per cent for 1999 and 1.2 per cent for 2000. The downward revision of the CPI is more marked than for UND1X, mainly on account of changes in transitory effects.

To sum up, in the main scenario, CPI and UND1X inflation are both judged to be lower in annual terms than was foreseen in the September Report and below the Riksbank's target one to two years hence.

Uncertainties in the inflation assessment

The inflation assessment in the main scenario is the path the Riksbank considers most probable. For various reasons, the forecasts for economic activity and inflation include elements of uncertainty. In the context of monetary policy it is therefore important that alternative paths for inflation are also considered. These alternative paths, together with the general uncertainty that invariably accompanies inflation assessments, can be visualised as intervals of uncertainty around the inflation forecast in the main scenario.⁴⁷

The main scenario's inflation forecast and the uncertainty interval presume that the monetary stance is unchanged in the coming twenty-four months. In other words, the interval illustrates the uncertainty in the inflation forecast on which monetary policy is based.⁴⁸ There is less uncertainty, however, about the actual development of inflation because the monetary stance is continuously adapted in order to steer inflation in the desired direction.

Three risk factors were highlighted in the September Report. One was the risk of contagious effects from the Asian crisis being more extensive than envisaged in the main scenario. Another was how well the Swedish economy would cope, in terms of inflation, with high growth over a series of years. The third uncertainty was whether the krona, instead of appreciating in the forecast period, would remain weak. At the end of September, moreover, the uncertainties were compounded by financial market turmoil. All in all, the situation was considered to be unusually difficult to assess and this was cited as an argument for leaving the repo rate unchanged.

The course of events since the September Report has included features of the poorer international growth scenario as well as of the scenario with a weak krona. The poorer international development has contributed to the present more pessimistic assessment of activity in the Swedish economy in the main scenario. A somewhat weaker exchange rate has also been incorporated in the assessment.

There is a downside risk for inflation in the form of an international development that is poorer than envisaged in the main scenario.

But although a more marked international slowdown, above all during 1999, is now included in the main scenario, an alternative scenario for the forecast period in which international activity and thereby activity in Sweden is even weaker cannot be ruled out. The increased risk aversion among international investors may contribute to a further flight of cap-

ital from countries that have not managed to establish credibility for an economic policy focused on stability. One feature of such an alternative scenario could be a more extensive economic crisis in countries in Latin America. A more profound crisis with global consequences could also be triggered if Japan fails to overcome its deep recession. The fixed exchange rate policies of China and Hong Kong might then also be exposed to heavy pressure. One consequence of such a course of events could be that the expected recovery in a number of growth economies during 1999 is delayed. A risk scenario of this nature might mean that firms in the United States and Europe are hit by decreased net exports and lower profits, at the same time as consumer confidence becomes more negative. But neither can one rule out the possibility of development being stronger than in the main scenario, at least during 2000. The loosening of monetary policy that has been implemented in many countries may turn out to have effects on growth that are stronger than expected. All in all, however, the international assessment still contains a downside risk.

The krona exchange rate has been very volatile during the autumn. To a large extent, the depreciation since the September Report seems to have been driven by market-related factors, mainly connected with international developments. The smaller short-term interest rate differential with the German mark may also have played a part. The assumption in the main scenario is that the market-related

47 The method, described in *Inflation Report 1998:2*, starts from estimates of the uncertainties in variables that are most important for inflation and the perceived precision of the Riksbank's inflation assessments. The estimates include subjective judgements but are based on historical relationships. For a fuller description, see Blix, M. & Sellin, P. (1998), *Uncertainty Bands for Inflation Forecasts*, Sveriges Riksbank Working Paper No. 65.

48 An upside interval that is broader (narrower) than the downside indicates a greater perceived risk of inflation being above (below) the target. In other words, the most probable outcome—the mode in the main scenario—is below (above) the mean outcome. What this amounts to is that asymmetries in the picture of uncertainties move the mean away from the mode; in the absence of asymmetry in the picture of risks, the upside and downside intervals are the same width.

factors continue to act for a time, after which the krona appreciates relatively quickly.

The krona's path may be stronger than in the main scenario. The main argument for this is that, in terms of traditional competitiveness, the krona is markedly under-valued. Moreover, the Swedish economy is in a good position, with low inflation and a surplus on public finances, to cope relatively well with the poorer global activity. But there is also a possibility of the krona being weaker than assumed in the main scenario, for instance if the financial unrest does not subside. With a continuation of pronounced global financial turmoil, effects of a weaker krona might be offset, however, by international activity and inflation probably being more subdued.

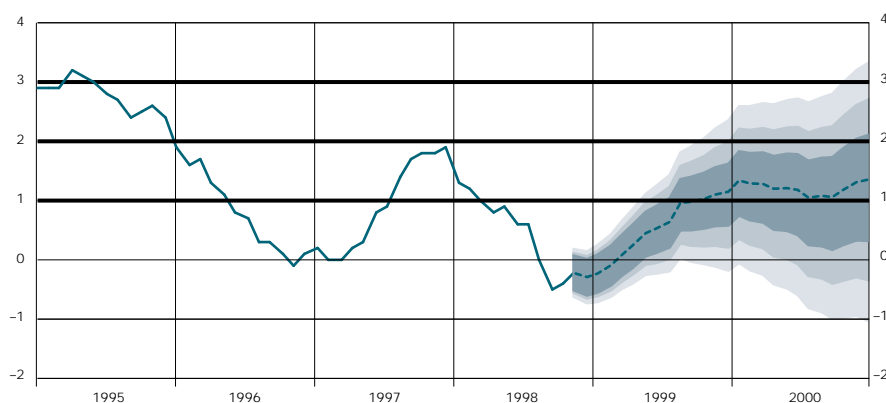
To illustrate the significance of the exchange rate for inflation via import prices, it can be noted that if the average level of the krona in the forecast period were to be, say, 3 per cent weaker than in the main scenario, this can be estimated to add around 0.1–0.2 percentage points to the annual rate of inflation. An exchange rate that is 3 per cent stronger gives an approximately equivalent reduction of

inflation. Given the weaker path for the krona that is now incorporated in the main scenario, the risks of inflation prospects being altered by a stronger or a weaker exchange rate are judged to be roughly equal.

All in all, the inflation assessment has a downside risk in the form of an international slowdown that is more marked and protracted. This is evident from Fig. 9, which presents the Riksbank's assessment of uncertainties surrounding the main scenario's inflation forecast. The picture differs from the assessment in the September Report in that the balance of risks at that time was judged to be symmetrical. Moreover, the uncertainty interval is narrower, which mirrors the judgement that the inflation forecast is now somewhat less uncertain. The situation at the time of the September Report was judged to be unusually difficult to assess, not least on account of the prevailing turmoil in financial markets.

The picture of underlying inflation, measured as the annual change in UND1X, also shows some predominance for downside risks towards the end of the forecast period (Fig. 10). The uncertainties sur-

Figure 9.
CPI with uncertainty
interval.
Percentage 12-month
change



Note. The uncertainty intervals show the 50, 75 and 90 per cent chances of CPI inflation being inside the respective range. The horizontal lines at 2 per cent and at 1 and 3 per cent represent, respectively, the Riksbank's inflation target and the tolerance interval for the annual change in the CPI.
Sources: Statistics Sweden and the Riksbank.

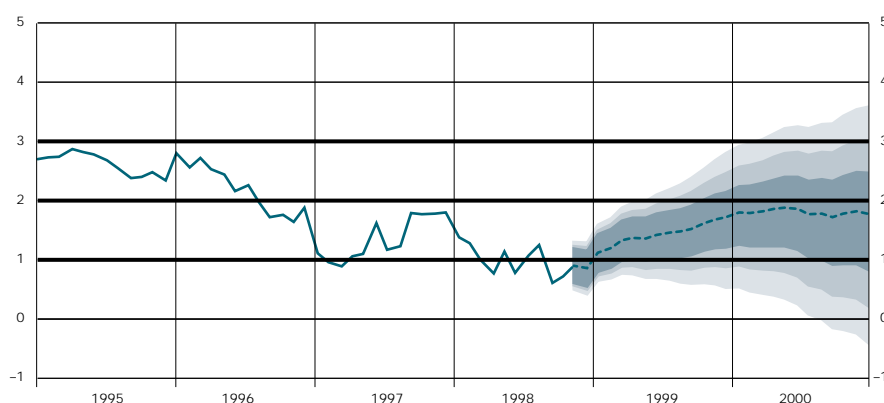
rounding UND1X are thus broadly the same as for CPI inflation, since they stem mainly from assessments of demand relative to supply, internationally as well as in the Sweden, and the effects of this on prices in Sweden. But as transitory effects which add to the uncertainty in the CPI forecast are excluded from UND1X, the latter has a narrower uncertainty interval.

Monetary policy is guided primarily by an assessment of price tendencies twelve to twenty-four months ahead. In the main scenario, the 12-month change in CPI inflation is expected to be 1.2 per cent in December 1999 and 1.4 per cent in December 2000. In that downside risks predominate, the mean value (mode) of the distribution of assessed inflation twelve to twenty-four months hence is 0.1 and almost 0.2 percentage points, respectively, below the main

scenario's forecast. The probability of inflation in December 1999 being below 1.2 per cent is judged to be 52 per cent and the probability of a rate below 1.4 per cent in December 2000 is 54 per cent.

The probabilities of inflation twelve and twenty-four months ahead being inside certain intervals are presented in Table 2 (p. 44). The overall assessment shows that the probability of CPI inflation at the end of 1999 being above 2 per cent is small, whereas the risk of the rate being outside the lower tolerance limit is substantial. Compared with the September Report the distribution of probabilities across the intervals is now more skewed and it is probable that, given an unchanged repo rate, inflation will be below the target in both twelve and twenty-four months time.

Figure 10.
UND1X with uncertainty
interval.
Percentage 12-month
change



Note. The uncertainty intervals show the 50, 75 and 90 per cent chances of UND1X inflation being inside the respective range. The horizontal lines at 2 per cent and at 1 and 3 per cent represent, respectively, the Riksbank's inflation target and the tolerance interval for the annual change in the CPI. Sources: Statistics Sweden and the Riksbank.

Table 2.

12-month CPI inflation in
1999 and 2000.

Percentage probability

	CPI<1	1<CPI<2	2<CPI<3	CPI>3	Total
1999 (Dec.–Dec.)	42	45	12	1	100
2000 (Dec.–Dec.)	41	30	20	9	100

Note. The figures show the probability of CPI inflation being in the column's interval.

Source: The Riksbank.

Monetary policy conclusions

The discussion in this chapter concerns inflation prospects and the ensuing conclusions for the formation of monetary policy.

THE SEPTEMBER INFLATION ASSESSMENT

In the previous Inflation Report, which was published on 28 September, the Riksbank considered that at the time horizon—twelve to twenty-four months—that is most relevant for monetary policy, inflation would be somewhat below the targeted rate. At the end of the forecast period, however, the rate of inflation was expected to be approximately 2 per cent and thus more or less in line with the target. The situation was perceived to contain two main and counterbalancing factors that would determine inflation prospects and the future formation of monetary policy. One was the possibility of global economic activity being weaker than envisaged in the main scenario, which would lead to lower inflation; the other was growing exchange rate uncertainty during the summer, with the possibility that a more permanently weak exchange rate, which did not stem from a weaker real economic trend, would lead to increased inflationary pressure. In addition, the global financial turmoil made assessments unusually difficult and some uncertainty about Sweden's political future in connection with the general election was being reflected in prices, above all in the foreign exchange market. In view of the difficulty in assessing inflation prospects, the Riksbank did not alter the repo rate in connection with the publication of the September Report. It was considered that the future formation of monetary policy should be determined

in the light of new information and that the case for an interest rate adjustment would have to wait until inflation prospects had become clearer.

In view of the difficulty in assessing inflation prospects, the Riksbank did not alter the repo rate in connection with the publication of the September Report.

THE RIKSBANK'S EXCHANGE MARKET INTERVENTIONS

In October the international turbulence in financial markets became more pronounced. The unrest had been accentuated by the near failure of the US hedge fund Long Term Capital Management on 23 September, which generated great uncertainty about the positions of hedge funds and the effects that might result from their closure. Together with the earlier suspension of debt payments in Russia, this uncertainty also directed increased attention to credit and liquidity risks, as was evident from widening interest rate spreads in a variety of markets in the global financial system. There were also indications that less creditworthy players were encountering diminishing access to credit and issues.

The financial turbulence contributed to a rapid depreciation of the krona, to its lowest level in three years. This was markedly different from the path that had been assumed for the krona in September's

main scenario. The abrupt fall also seemed to be unmotivated in relation to economic fundamentals, with good growth, low inflation and a growing surplus on public finances. In order to underscore this view, the Riksbank intervened in the foreign exchange market on 7 October, purchasing kronor for foreign currency.

There may be reason to reiterate that the Riksbank does not target the level of the exchange rate. The primary consideration in the formation of monetary policy is how inflation prospects relate to the inflation target; the exchange rate is only one of many factors in the Riksbank's inflation assessment. At the same time, the exchange rate is important for real economic tendencies. A highly volatile exchange rate is liable to disturb resource allocation. Provided the inflation target is not jeopardised, there may therefore be grounds for the Riksbank to counter short-run instability in the foreign exchange market.

INTEREST RATE CUTS IN NOVEMBER

On 3 November the Governor of the Riksbank, having first confirmed the monetary policy guidelines with the Governing Board, decided to lower the repo rate from 4.10 to 3.85 per cent. New information since the September Report indicated that two years hence, inflation would still be below the 2 per cent target. The real economic consequences of the global financial crisis were judged to be greater than expected earlier. Factors behind this assessment included the above-mentioned effects on financial markets from the suspension of payments in Russia in August and the near failure of the LTCM hedge fund. Moreover, statistics published during the autumn, as well as new assessments by the IMF and the OECD, for example, provided grounds for a further downward revision of growth and inflation forecasts for the OECD area. The consequences of this for growth and inflation in Sweden were judged to counter the stimulatory effect of the krona's depreciation. Another consideration was that financial markets had become less turbulent; contributory fac-

tors here were the loosening of monetary policy in a number of countries, a global stock-market recovery and, for Sweden, a newly-elected parliamentary majority for a budget that is still broadly restrictive.

The repo rate cut was followed on 12 November by a downward adjustment of the Riksbank's interest rate corridor: the deposit and lending rates were both lowered 0.5 percentage points to 3.25 and 4.75 per cent, respectively. This corridor sets the limits for repo rate adjustments. An adjustment of the interest corridor can accordingly be read as a signal of the Riksbank's repo rate intentions. When the corridor was lowered, the Riksbank's inflation assessment had become firmer; the overall assessment indicated that at the time horizon (twelve to twenty-four months) which is most relevant for monetary policy, inflation was expected to be below the targeted rate. The repo rate was therefore reduced by 25 basis points on 25 November, to 3.60 per cent.

INFLATION PROSPECTS

The international economic outlook is less bright than at the time of the September Report. The financial crisis is tending to dampen economic activity in the OECD area on account of weaker exports and less optimism. Consumer confidence, exports and industrial orders have deteriorated in a number of major countries, including the United States. The Japanese economy presents few positive signs and it looks as though the recovery there will be more protracted than was generally expected only a couple of months ago. The outlook in the prospective euro area is judged to be comparatively favourable but here, too, there are signs that growth may be dampened by the financial unrest. A contrary factor, however, is that many central banks have loosened monetary policy this autumn, which should contribute to a recovery during 2000. All in all, the Riksbank, like other observers, finds reasonable grounds for a downward revision of the growth and inflation forecasts for the OECD area.

There has been some depreciation of the krona since the September Report. This is judged to be

mainly a consequence of the financial market unrest. In the main scenario the krona is assumed to remain at a fairly weak level initially, on account of the market unrest, and then become stronger. The weak exchange rate is judged to have some impact on inflation from import prices, above all in 1999. For monetary policy, however, the exchange rate's effects on inflation via increased demand and higher resource utilisation have proved to be of greater interest than the direct pass-through from import prices. The combination of the Riksbank's interest rate cuts and the krona's depreciation represents an expansionary effect on total demand. This effect is judged to partly counter the repercussions of the more subdued international development and thereby help to forestall a more pronounced economic slowdown in Sweden.

The Riksbank's interest rate cuts and the krona's depreciation are judged to partly counter the effects of a more subdued international development.

In the main scenario, Swedish exports and investment activity are judged to be somewhat weaker on account of the international slowdown. As international developments have had negative effects on asset prices and household confidence; some dampening of consumption is also foreseen. All in all, growth prospects in Sweden seem to be somewhat poorer than at the time of the September Report: GDP growth is judged to be between 2.5 and 3 per cent in 1998, followed by between 2 and 2.5 per cent in 1999 and about 2.5 per cent in 2000. The lower growth suggests in turn that wage drift will be somewhat subdued and that the economy will still have unutilised resources two years hence. Underlying inflation, measured as UND1X, is therefore judged to be below 2 per cent in one to two years time. The same applies to the internationally harmonised index of consumer prices (HICP), for which the change figures are expected to be 1.7 per cent for 1999 Q4 and 1.7 per cent for 2000 Q4. Inflation is being further subdued by transitory effects; CPI inflation is judged to be below the target, with a level of 1.2 per cent at

the end of 1999 and 1.4 per cent at the end of 2000.

The lower growth implies that the economy will still have unutilised resources two years hence. Underlying inflation is therefore judged to be below the target.

The spectrum of risks also has to be considered in the formation of monetary policy. Assessments are still difficult but the financial unrest has tended to subside. All in all, the uncertainty in the inflation assessment has therefore decreased since the September Report. But one source of uncertainty that still has to be considered is the exchange rate. A more permanently weak krona could be a problem if it does not stem from a weaker real economic trend. While the loosening of monetary policies around the world should help to reduce the risk of a more marked international slowdown, it is still conceivable that global activity will be weaker than assumed in the main scenario. In view of the weaker growth prospects, the question—discussed in the September Report—of how well the Swedish economy will cope, in terms of inflation, with a long period of high growth now seems less topical. All in all, the balance of risks in the inflation assessment seems to be somewhat on the downside. This is evident from the probability distribution presented in Chapter 2.

FORMATION OF MONETARY POLICY

Fiscal policy is an important consideration in the formation of monetary policy. Public finances have been markedly improved in recent years. The Riksbank's inflation assessment presupposes that this consolidation is continued, in accordance with the intentions in the Government's policy statement, and that the credibility of general economic policy is maintained. A continued consolidation of government finances is desirable for a number of reasons, one of which is increased room to manoeuvre in economic policy. When inflation is targeted in a flexible exchange rate regime, as long as inflation is judged to be below the target, there may be room for monetary stimulation of the economy when demand is faltering. That has been the case this autumn.

It is concluded that there may be a little room for an adjustment of the monetary stance in a more expansionary direction.

All in all, the international economic slowdown is judged to lower growth in Sweden and result in a rate of inflation in the coming one to two years that

is somewhat below the 2 per cent target. Neither does the situation appear to be quite as uncertain as at the time of the September Report. Against this background it is concluded that there may be a little room for an adjustment of the monetary stance in a more expansionary direction.

INFLATION RATES OUTSIDE THE LOWER TOLERANCE LIMIT

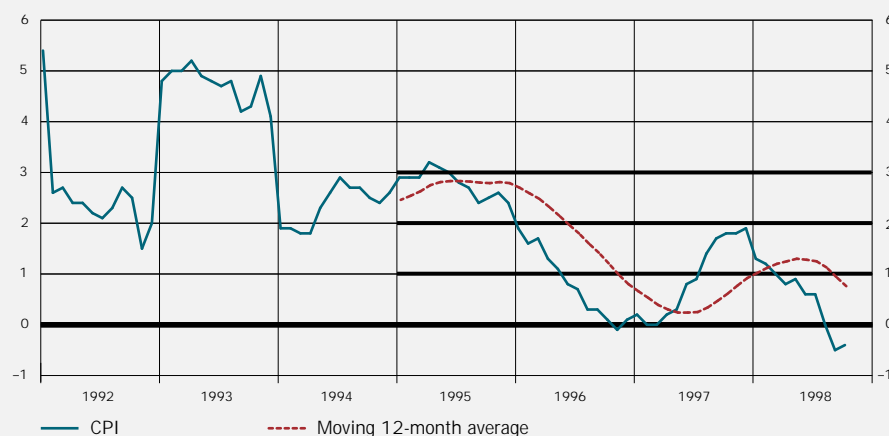
The tolerance interval that surrounds the Riksbank's inflation target signifies that monetary policy neither can nor should try to exercise full control of inflation in the short term. Even inflation rates outside this tolerance interval cannot be ruled out in the event of unforeseen price movements for raw materials or tax changes, for example. Moreover, monetary policy and the degree of inflation target fulfilment should be evaluated in a somewhat longer, annual perspective, not from isolated monthly figures. This is because it takes time for monetary policy to counter an unexpected development of inflation and transitory effects should be regarded as of secondary importance both in policy formation and in the subsequent evaluation.

Since the inflation target came into force at the beginning of 1995, the annual increase in consumer

prices has averaged 1.3 per cent. This average outcome is below the targeted figure but inside the tolerance interval. In the same period the average underlying rate of inflation, measured in various ways, has been somewhat higher: 1.8 per cent in terms of UND1X and 2.3 per cent according to UNDINHX. This shows that during these three and more years, the transitory downward effects on inflation have been stronger on the whole than the upward effects.

In October 1998 the 12-month change in the CPI was -0.4 per cent and the average annual rate was 0.8 per cent. Both these rates are outside the lower tolerance limit. This was largely because falling house mortgage interest costs had a downward CPI effect of 0.6 percentage points in October. Transitory effects from altered indirect taxes and subsidies pulled in the same

Figure B7.
CPI.
Percentage 12-month change 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.

direction and amounted to 0.6 percentage points, of which the major part came from the cut in tobacco tax in August. In addition to these shocks, which are perceived as having only transitory effects on inflation, the trend rate of inflation (calculated excluding transitory effect) has been weak in the past year. Underlying

inflation in October was 0.7 per cent in terms of UND1X and 1.7 per cent according to UNDINHX. These comparatively low levels reflect a combination of subdued domestic inflationary pressure and weak international price tendencies.

INFLATION ASSESSMENTS AND MONETARY POLICY

Monetary policy is constructed in the light of an assessment of price developments in the coming twelve to twenty-four months. In each Report the time perspective is shifted approximately one quarter into the future. This means that even if the Riksbank's appraisal of future economic activity and inflation is unchanged, different monetary policy conclusions may be called for because the period being assessed has shifted ahead. For the time being, monetary policy will be based primarily on an assessment of consumer price tendencies from 2000 Q1 up to and including 2000 Q4.

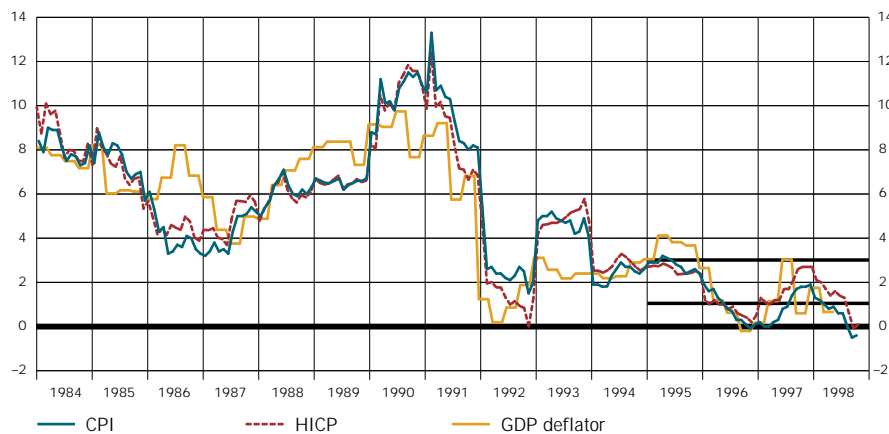
Monetary policy is sometimes described with a simple rule of thumb: if the inflation forecast in the main scenario (based on an unchanged instrumental rate) indicates that inflation will deviate from the target in twenty-four months time, then the instrumental rate should be adjusted accordingly. However, predicting future inflation is not straightforward. The Riksbank therefore also assesses the uncertainties in inflation's future path.

The overall picture of inflation prospects consists in practice of an assessment of probabilities. Together

with a main scenario—the most probable outcome—a number of risk scenarios are weighted into the final assessment on which the formation of monetary policy is based. The uncertainty surrounding the main scenario is not necessarily symmetric. Upside risks predominate at times, while on other occasions it can seem more probable that inflation will be lower than in the main scenario. The assessment in the main scenario is supplemented by the appraisal of the risk spectrum, which can constitute an important argument for tightening or loosening the monetary stance. Another matter than may be worth mentioning here is that the formation of monetary policy can be influenced by the inflation assessment's uncertainty as such. A high degree of uncertainty can be a reason for a more cautious attitude, thereby avoiding excessively large shifts in interest setting and the formation of expectations. Furthermore, it should be underscored that in its formation of monetary policy the Riksbank also considers various indicators of underlying inflation and the information they provide about the path of inflation and transitory effects.

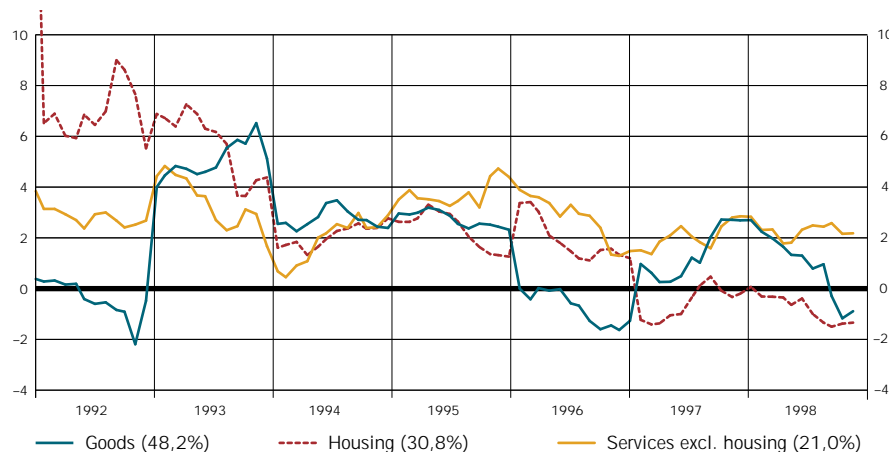
Annex

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



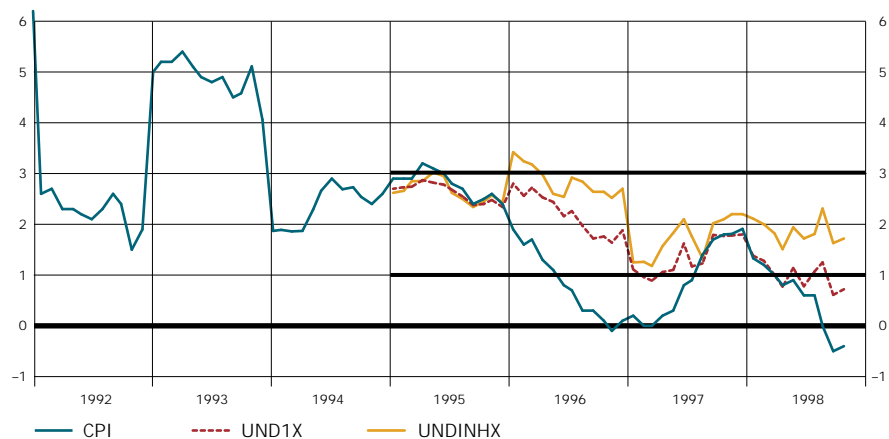
*Harmonised index for international comparisons of consumer prices. Approximate data before 1996.
Note. The horizontal lines from 1995 onwards represent the Riksbank's tolerance interval for the annual change in the CPI.
Sources: Statistics Sweden and the Riksbank.

Figure 2.
CPI components:
goods and services.
Percentage 12-month
change



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

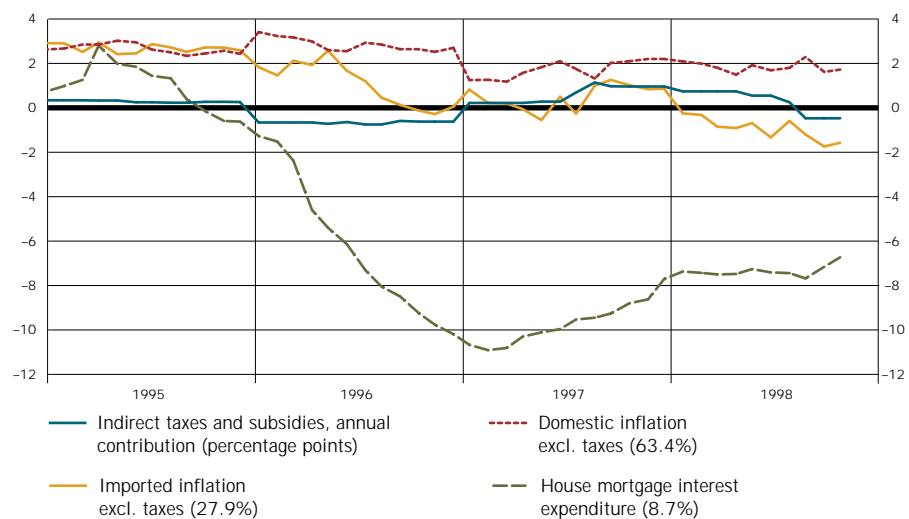
Figure 3.
CPI and underlying inflation.
Percentage 12-month
change



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



Figure 4.
CPI components: domestic
and imported inflation.
Percentage 12-month
change



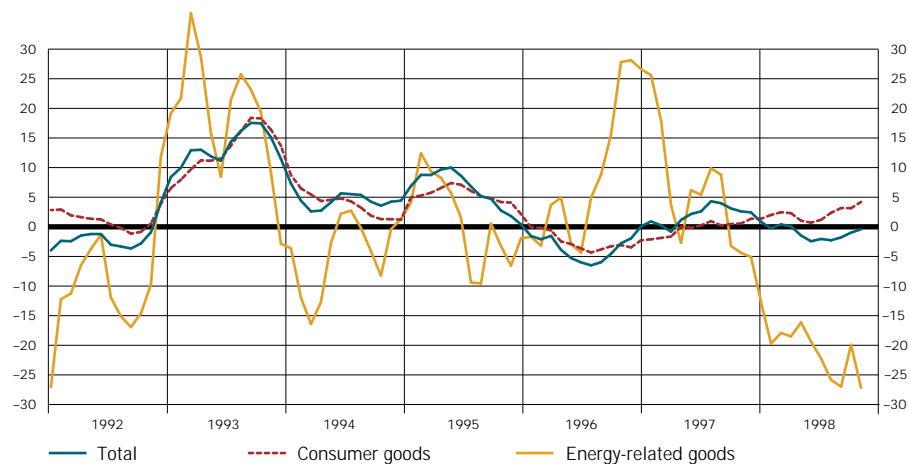
Note. The figures in parentheses are the component's CPI weight in 1998.
Source: Statistics Sweden.

Figure 5.
Producer and consumer
prices for goods.
Percentage 12-month
change



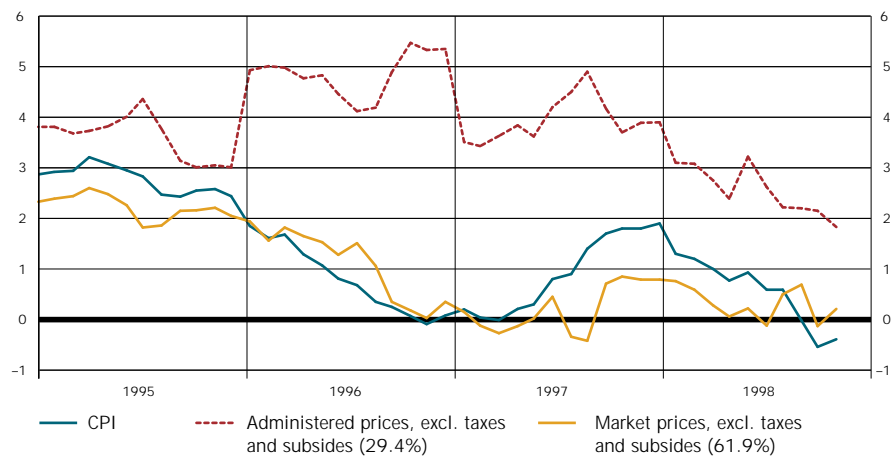
Source: Statistics Sweden.

Figure 6.
Import prices to producers.
Percentage 12-month
change



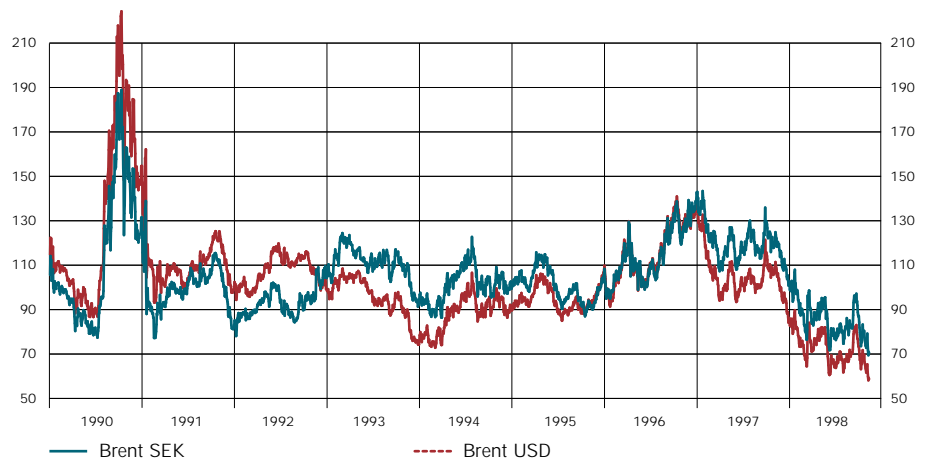
Sources: Statistics Sweden and the Riksbank.

Figure 7.
CPI: market prices and
administered prices.
Percentage 12-month
change



Note. The figures in parentheses are the component's CPI weight in 1998. Series revised for changes in tax calculations.
Sources: Statistics Sweden and the Riksbank.

Figure 8.
Price of crude oil.
Daily quotations; index:
January 1996=100



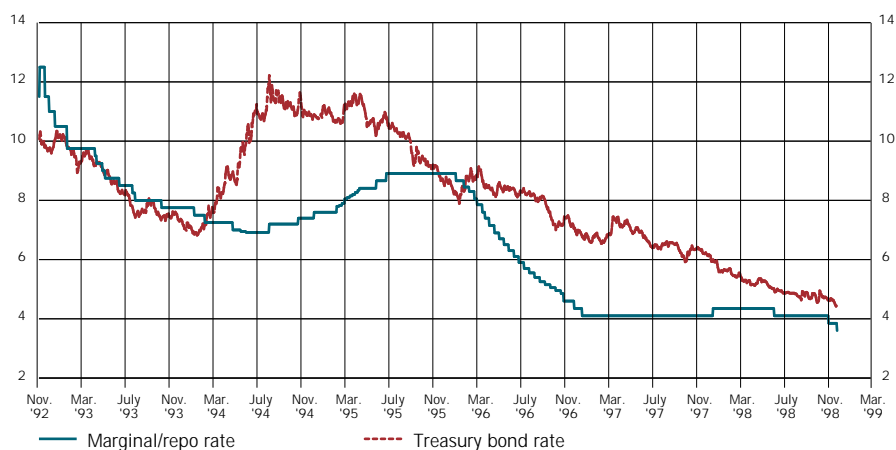
Sources: Ecowin and the Riksbank.

Figure 9.
Import-weighted index of
raw materials prices
(excl. crude oil).
Daily quotations; index:
January 1996=100



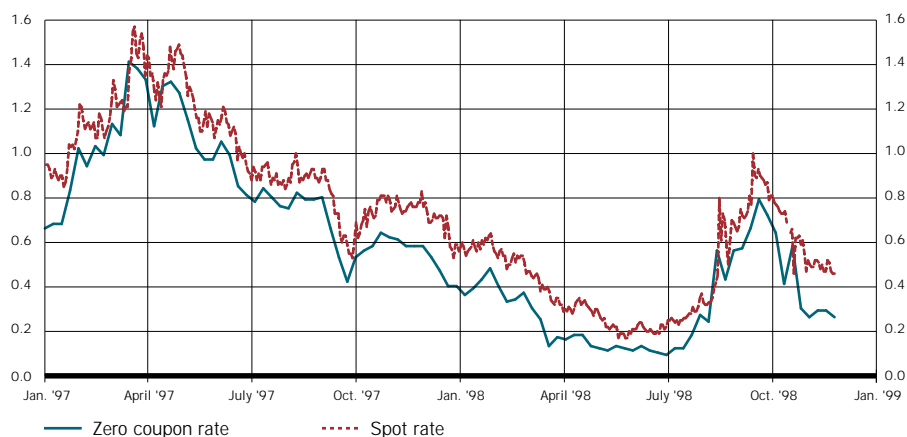
Note: Constituent items: aluminium, copper, nickel, zinc, gold, silver, lead and tin. Weight: share of total Swedish imports in each year. The combined weight for these items is about 2 per cent.
Sources: Ecowin, Statistics Sweden and the Riksbank.

Figure 10.
Interest rates.
Daily quotations; per cent



Note. The ten-year T-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 11.
Long-term (10-year) interest
rate differential with Germany.
Daily and weekly quotations,
respectively;
percentage points



Source: The Riksbank.

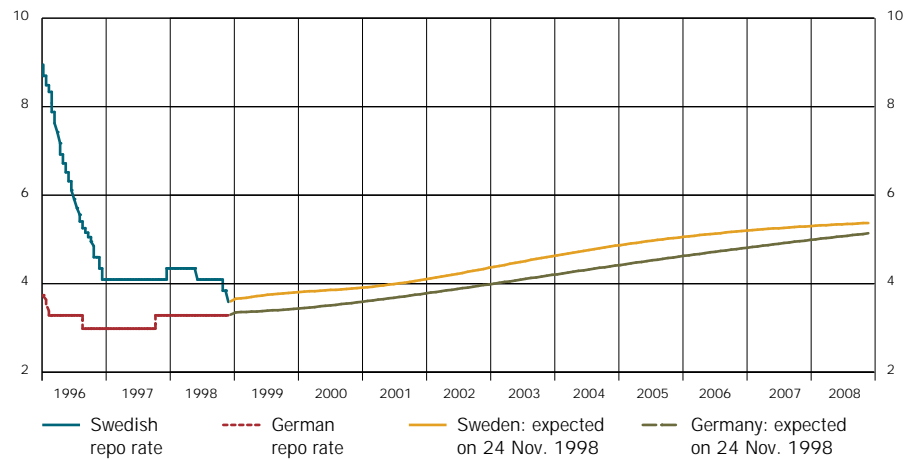
Table 1.
Interest rate and TCW exchange
rate expectations of money
market agents on 9 November
1998; expectations on 27
August 1998 in parentheses.
Median; per cent and index:
18 November 1992=100

	In 3 months	In 1 year	In 2 years
Repo rate	3.60 (4.10)	3.50 (4.10)	3.92 (4.35)
Exchange rate index	124 (123)	121 (120)	120 (119)

Note. The surveys were made on the 27 August 1998 and 9 November 1998. They reflect expectations for horizons of 3, 12 and 24 months. It concerns the nominal TCW-weighted exchange rate.
Sources: Prospera Research AB and Statistics Sweden.

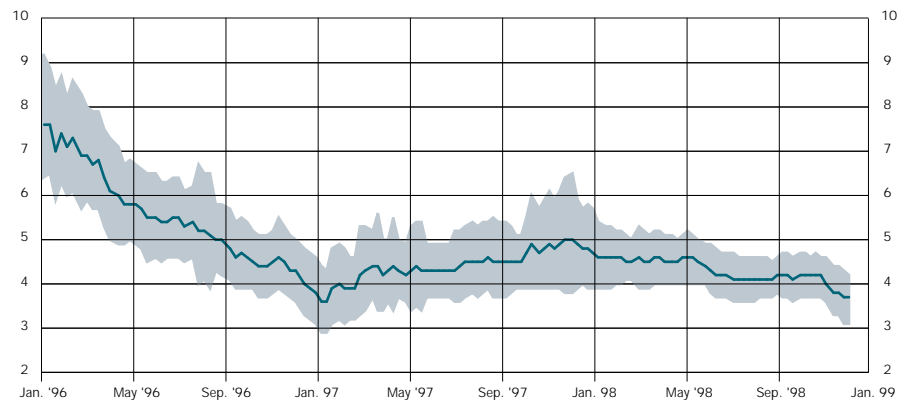


Figure 12.
Actual and expected
Swedish and German repo
rates.
Daily quotations; per cent



Source: The Riksbank.

Figure 13.
Market expectations of repo
rate 6 months ahead.
Mean and 90 per cent
confidence interval;
960101-981124
per cent



Source: The Riksbank.

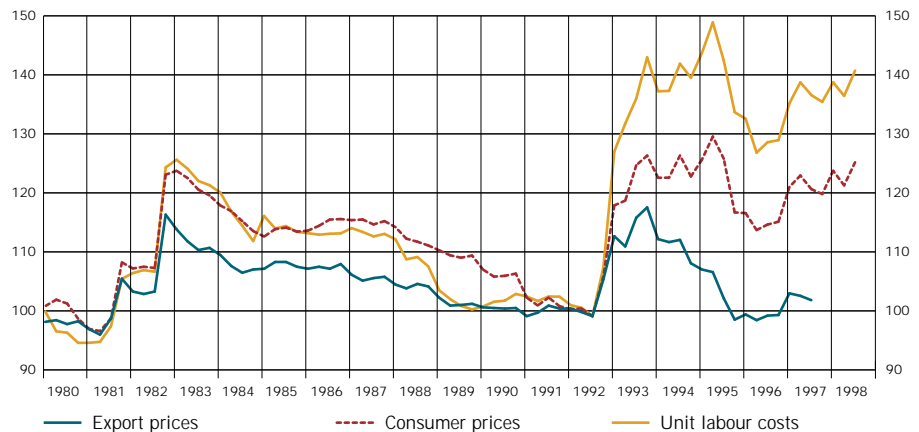
Figure 14.
Effective (TCW and
import-weighted) nominal
exchange rate.
Daily and monthly quotations,
respectively; index: 18
November 1992=100



Source: The Riksbank.

Figure 15.

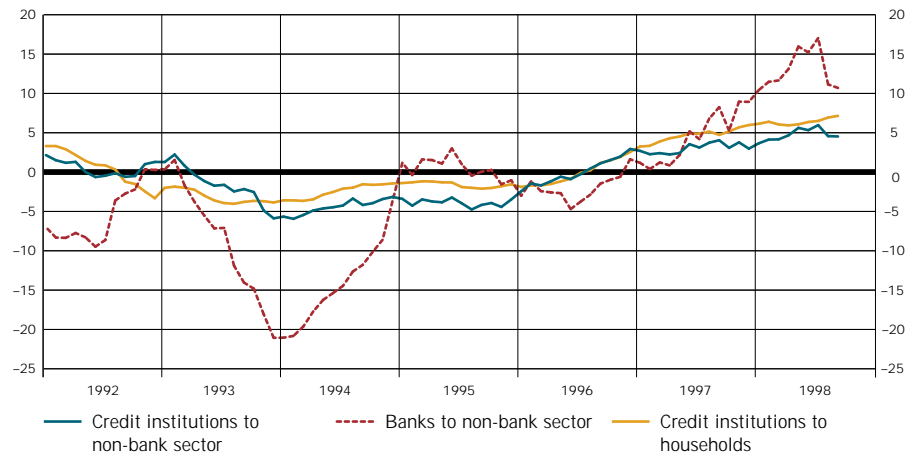
Real effective exchange rate derived from export prices, consumer prices and unit labour costs.
Index: 18 November=100



Note. The real exchange rate is calculated as foreign prices/costs divided by Swedish prices/costs, all expressed in a common currency; an increase in the index accordingly stands for a depreciation of the krona's real exchange rate and thus a strengthened competitive position.
Sources: IMF and the Riksbank.

Figure 16.

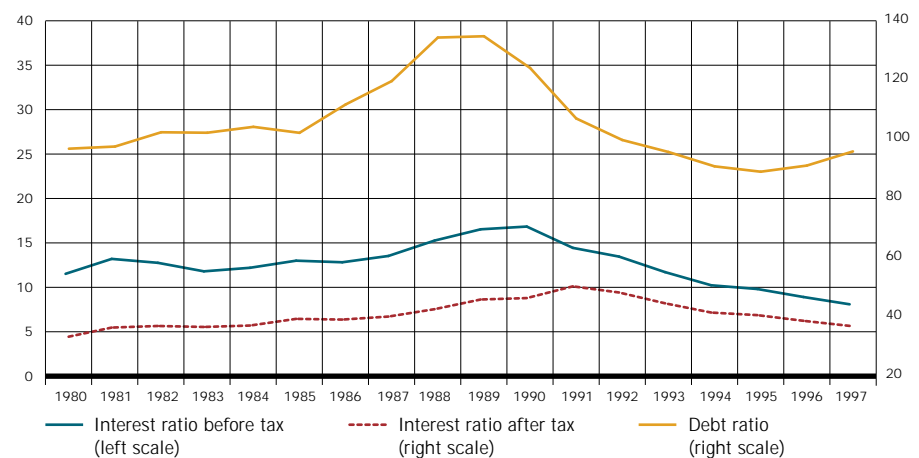
Lending by credit institutions to resident non-bank and household sectors; bank lending to resident non-bank sector. Percentage 12-month change



Note. The non-bank sector consists of households, firms and local authorities. 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.

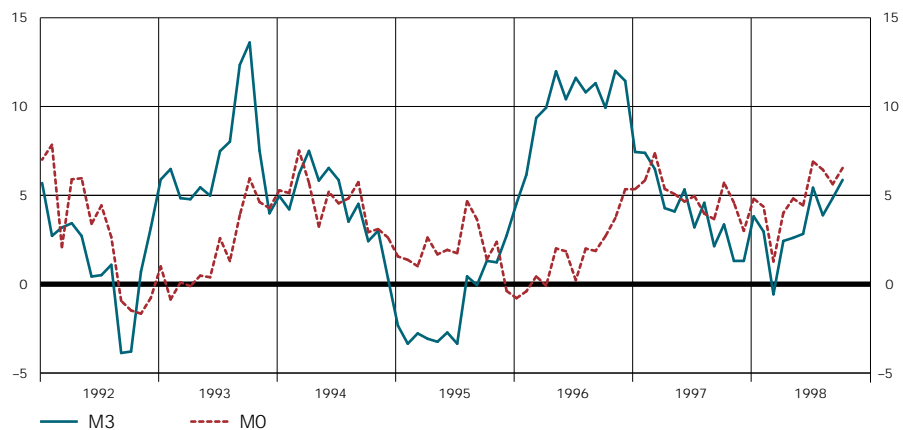
Figure 17.

Household sectors' debt position. Per cent



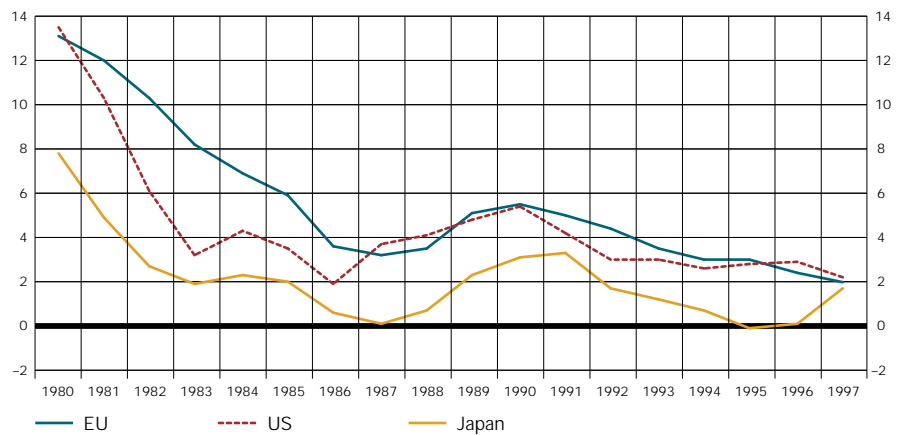
Note. The interest ratios show household interest expenditure, gross, relative to disposable income before and after tax relief; the debt ratio shows household debt, gross, relative to disposable income.
Sources: Statistics Sweden and the Riksbank.

Figure 18.
Money supply.
Percentage 12-month
change



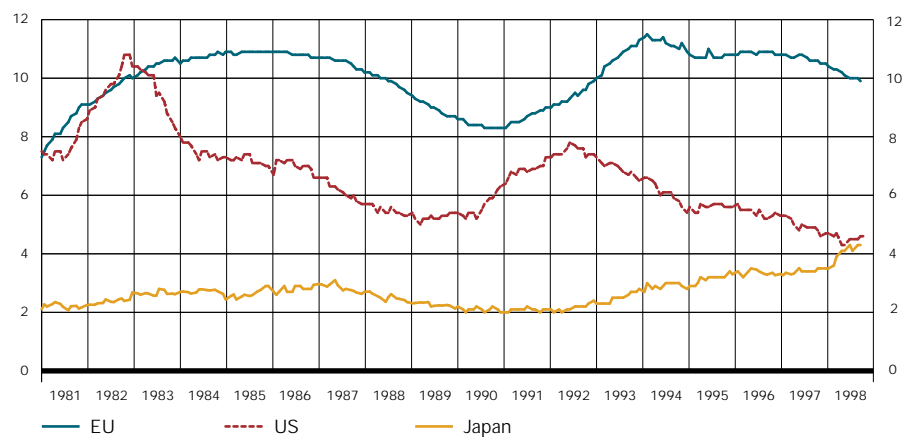
Note. M0 covers the resident household and corporate sector's holdings of banknotes and coins; M3 covers M0 plus the non-bank sectors' bank deposits and certificates of deposit.
Source: The Riksbank.

Figure 19.
Inflation: European Union,
United States and Japan.
Annual rate; per cent



Source: OECD.

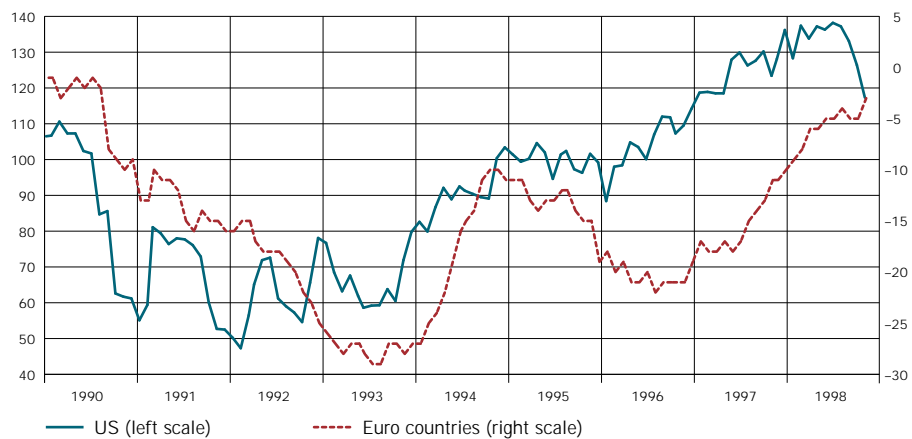
Figure 20.
Unemployment: European
Union, United States and
Japan.
Seasonally-adjusted
percentage of labour force



Source: Ecwin.

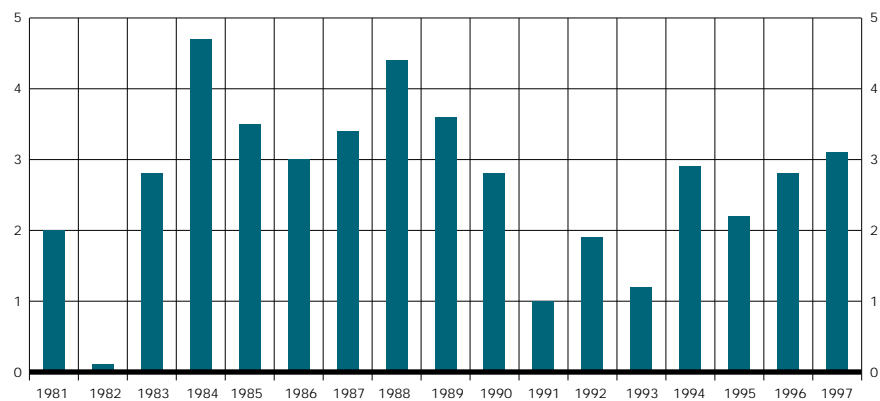


Figure 21.
Consumer confidence:
prospective euro area and
United States.
Index: 1985=100 and
net figure



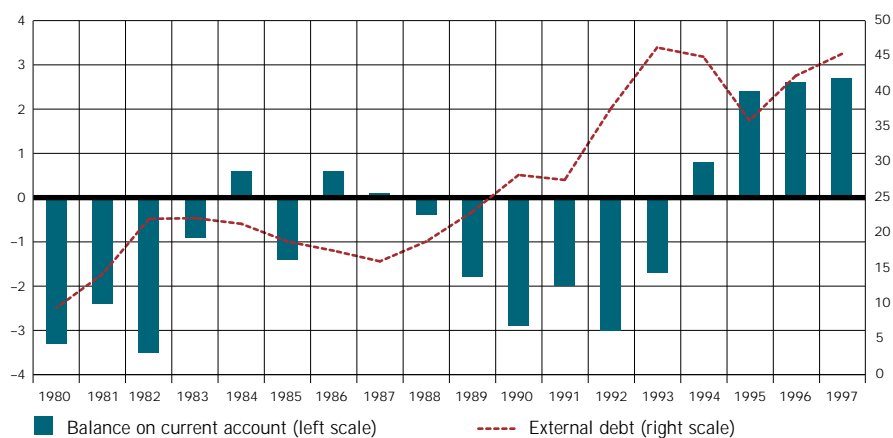
Source: Ecwin.

Figure 22.
Real GDP growth in the
OECD area.
Annual percentage change



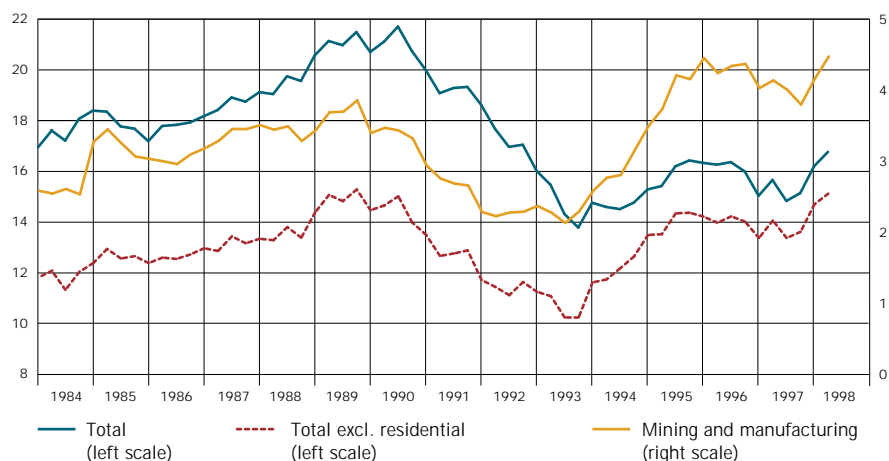
Source: OECD.

Figure 23.
Balance on current account
and external debt.
Per cent of GDP



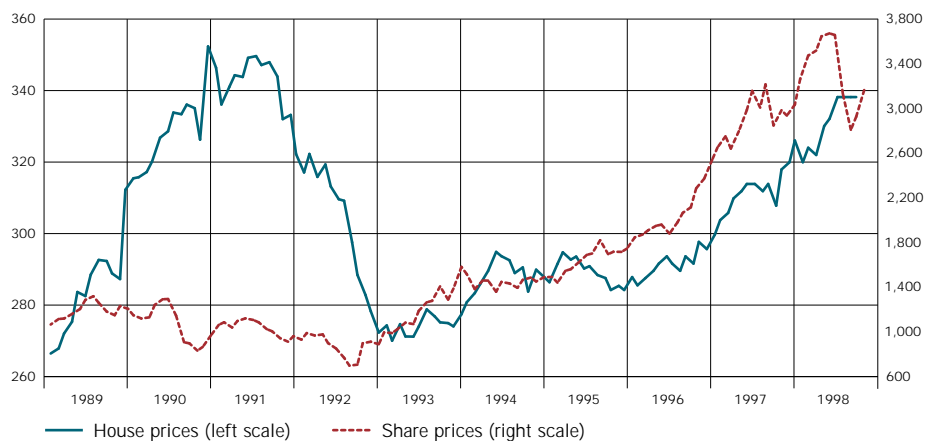
Note. External debt is defined as the net of all domestic sectors' foreign assets and liabilities.
Source: The Riksbank.

Figure 24.
Gross fixed capital
formation relative to GDP.
Seasonally-adjusted
volume; per cent



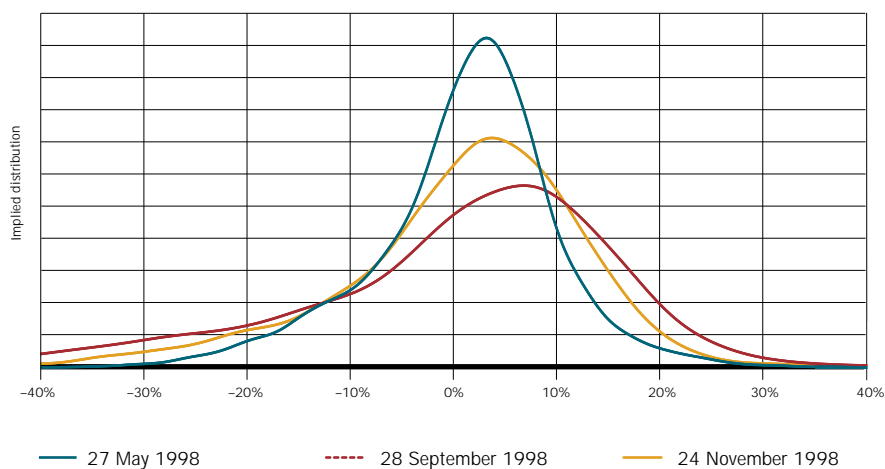
Source: Statistics Sweden.

Figure 25.
Price index for owner-
occupied housing
(1981=100) and
Stockholm Stock Exchange
share price index
(end 1979=100)



Note. Month-end prices, latest observation: 24 November 1998.
Sources: Statistics Sweden and Stockholm Stock Exchange.

Figure 26.
Implied distribution of OMX
index yield, calculated from
60-day options

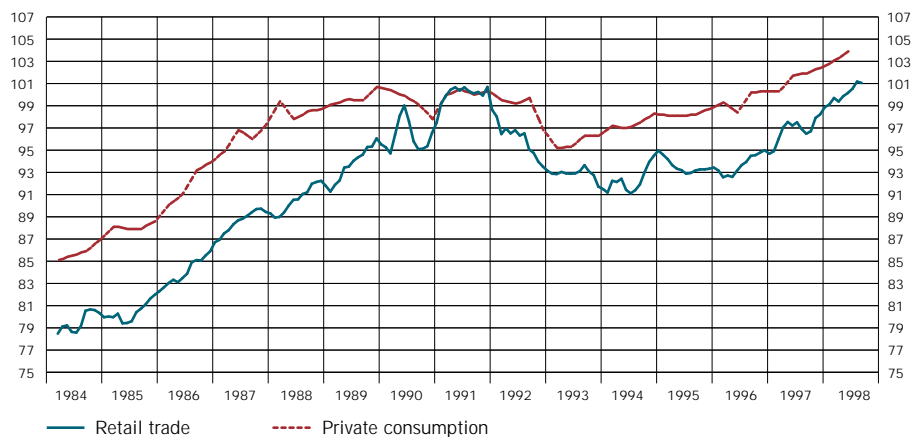


Source: The Riksbank.



Figure 27.

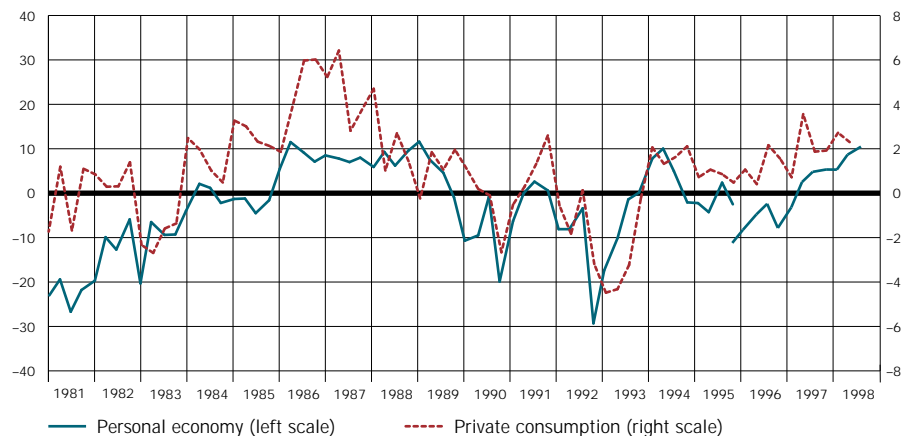
Private consumption and retail turnover.
Volume, seasonally-adjusted quarterly data and moving 3-month average, respectively; index: 1991=100



Source: Statistics Sweden.

Figure 28.

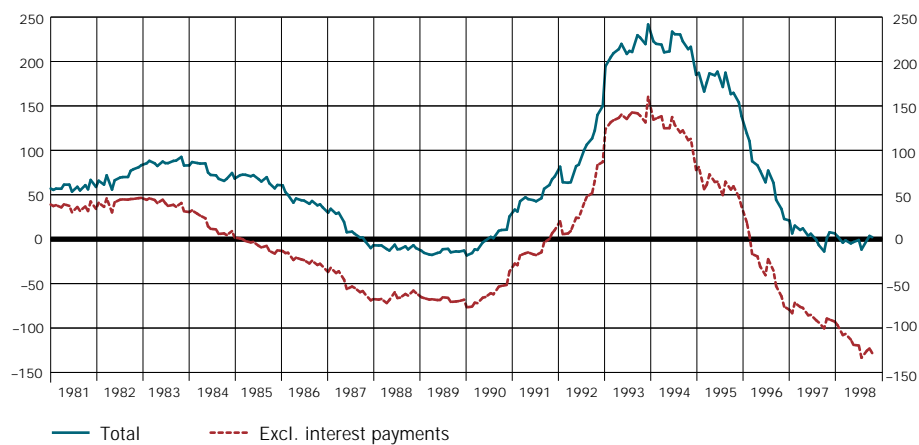
Households' personal economic expectations and private consumption.
Net figure and percentage 12-month change



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

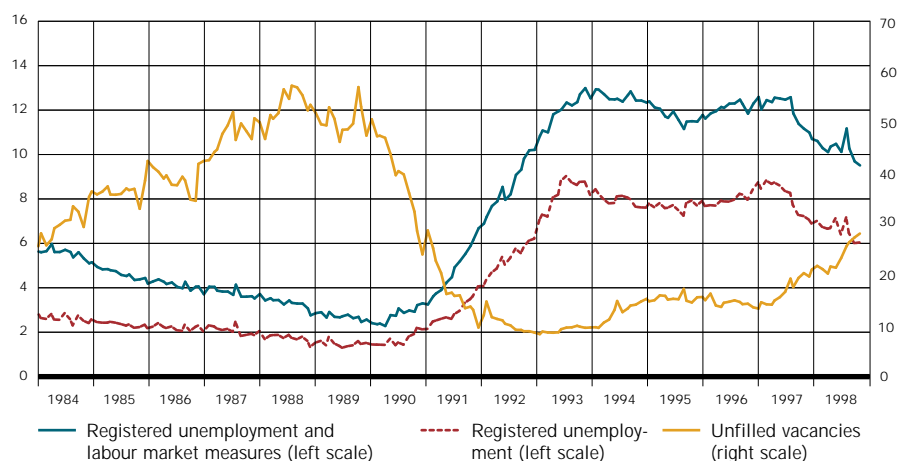
Figure 29.

Government borrowing requirement: total and excluding interest expenditure.
Moving 12-month total; SEK billion



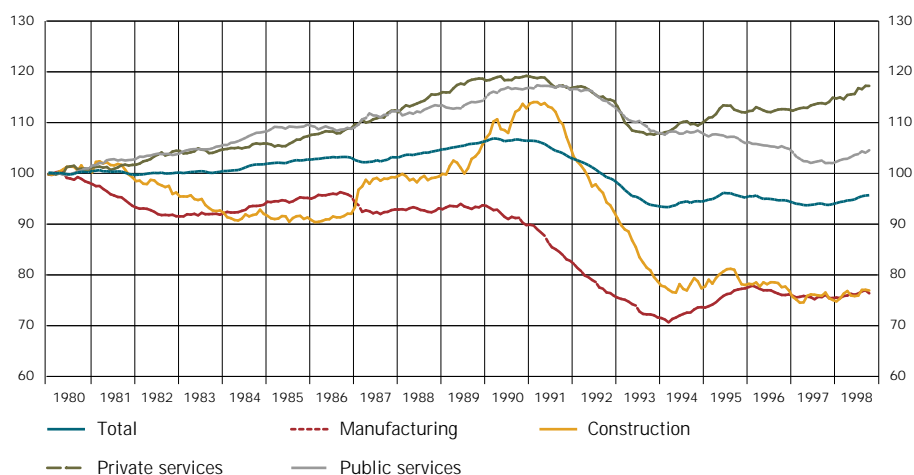
Source: National Debt Office.

Figure 30.
Unemployment and job
vacancies.
Seasonally-adjusted data;
per cent and thousands,
respectively



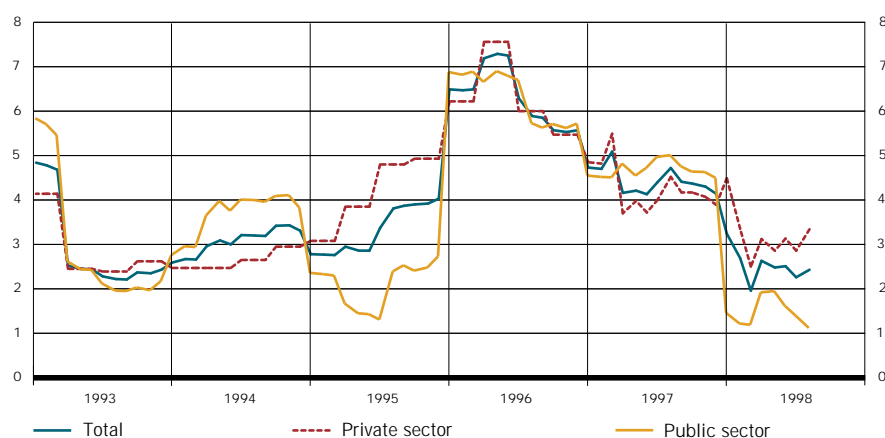
Sources: National Labour Market Board and Statistics Sweden.

Figure 31.
Employment (persons).
Seasonally-adjusted moving
3-month average; index:
1980 Q3=100



Source: Statistics Sweden.

Figure 32.
Total and sectoral wage
levels.
Percentage 12-month
change



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

Table 2.

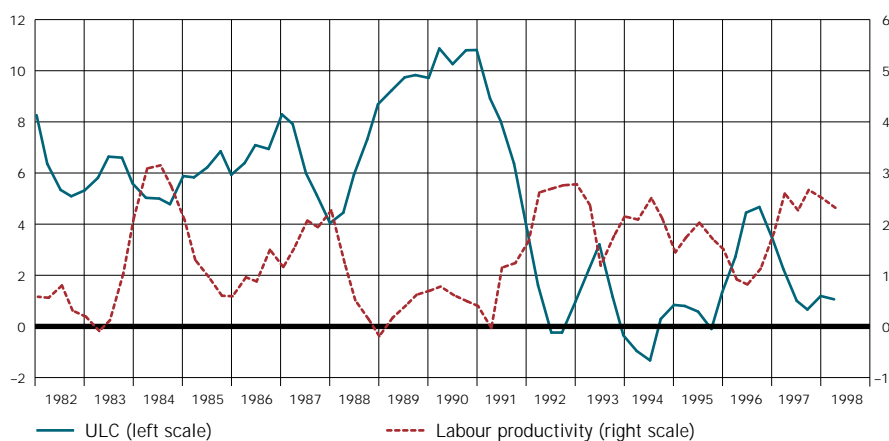
Sectorwise wage formation.
Annual percentage change

	Outcome 1995	1996	1997	1998 Jan.–Aug.
Private sector	4.2	6.3	4.3	3.2
manufacturing	4.8	7.5	4.5	3.2
trade	3.9	5.2	4.3	3.5
construction	4.1	4.0	3.0	2.4
Public sector	2.1	6.3	4.7	1.5
Central government	3.9	7.0	4.1	1.0
Municipalities	1.0	5.3	4.4	1.6
County councils	2.7	7.8	6.0	1.8
Total economy	3.3	6.3	4.4	2.5

Note. The figures include retroactive wage payments but do not mirror inter-sector reassignments of activities.
Sources: Association of Local Authorities, Federation of County Councils, Statistics Sweden and Riksbank calculations.

Figure 33.

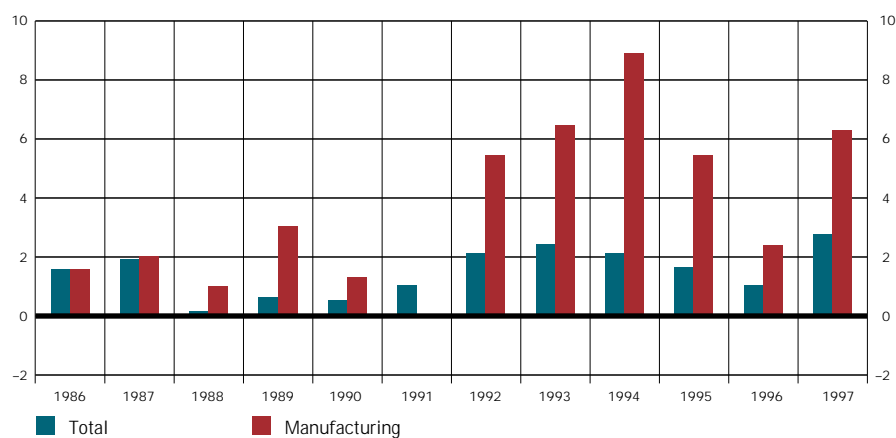
Unit labour costs (ULC)
and labour productivity.
Moving 4-quarter average;
percentage 12-month
change



Source: Statistics Sweden.

Figure 34.

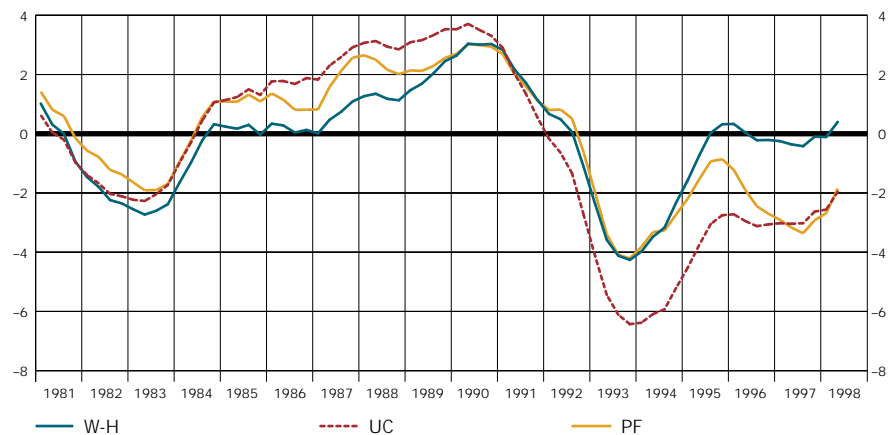
Productivity: total economy
and manufacturing.
Annual percentage changes



Source: Statistics Sweden.

Figure 35.

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



Note. The W-H filter is based on a projection of GDP, using the Riksbank's forecast for 1998–2000. Source: The Riksbank.

Figure 36.

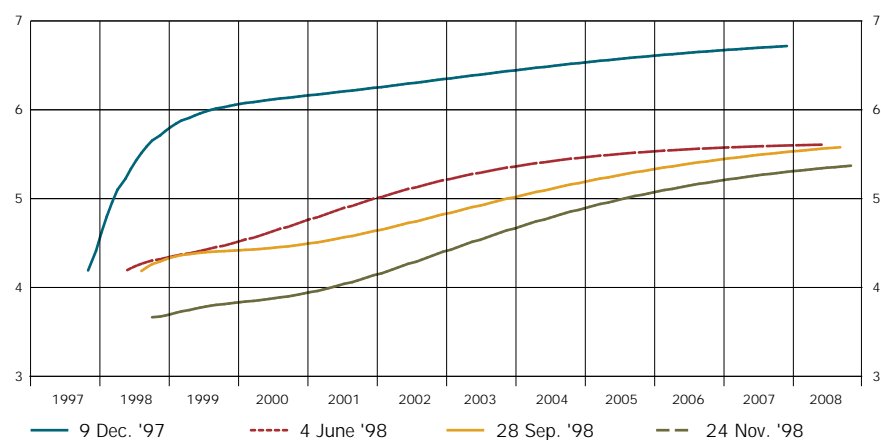
Industrial capacity utilisation. Per cent



Sources: National Institute of Economic Research and Statistics Sweden.

Figure 37.

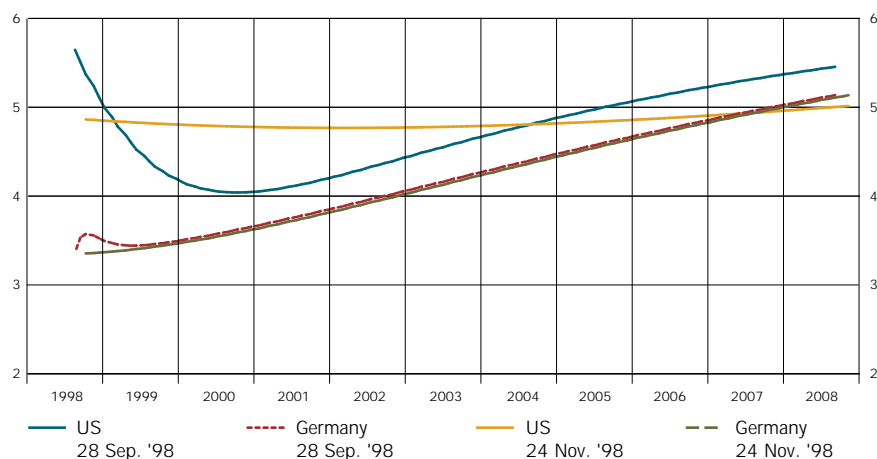
Implied forward interest rate curves. Effective annual rate, per cent



Source: The Riksbank.

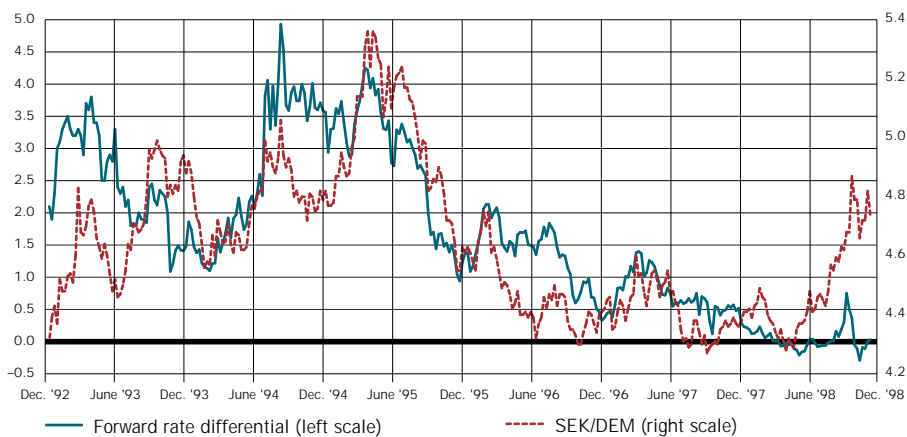


Figure 38.
Implied forward interest
rates in the United States
and Germany.
Effective annual rate,
per cent



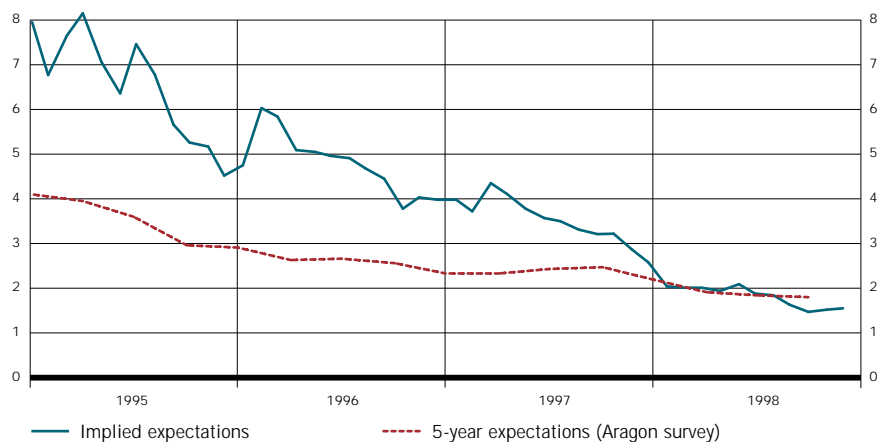
Source: The Riksbank.

Figure 39.
Forward 10-year interest rate
differential with Germany and
SEK/DEM exchange rate.
Weekly quotations;
percentage points and
SEK/DEM



Source: The Riksbank.

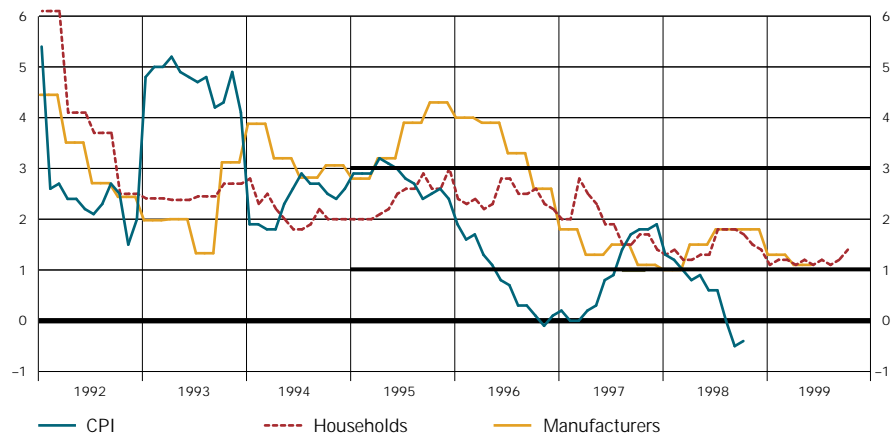
Figure 40.
Inflation expectations.
Per cent



Note. Implied inflation expectations are derived from the difference between implied 5–15 year real and nominal bond rates.

Source: Aragon Fondkommission and the Riksbank.

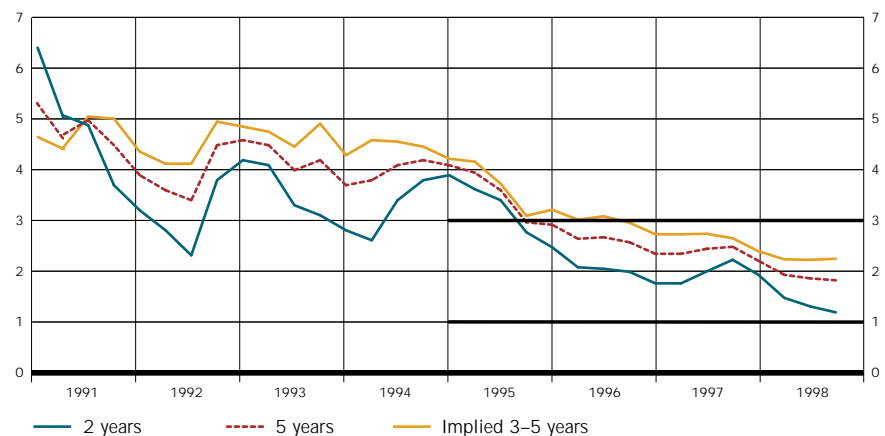
Figure 41.
CPI and inflation
expectations of households
and manufacturers.
Percentage 12-month
change



Note. 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, households' ten most extreme responses at either end are excluded; prior to 1996 the curve shows these responses in the range 0–15 per cent. 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 42.
Bond investors' expectations
of inflation two and five
years ahead.
Per cent



Note. The implied expected average inflation rate in the period from three to five years ahead, calculated by the Riksbank.

The horizontal lines from 1995 onwards represent the Riksbank's tolerance limits for the annual change in the CPI.

Sources: Aragon Fondkommission and the Riksbank.

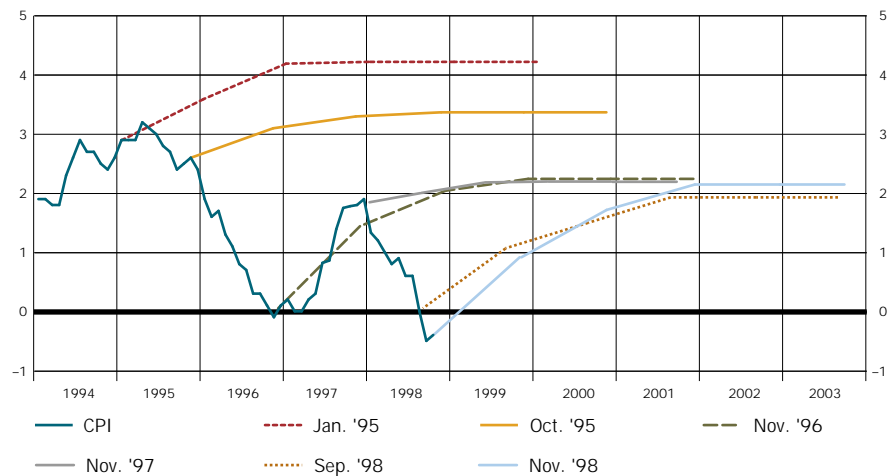
Table 3.
Inflation expectations in
November 1998 with the
change from September
1998 in parentheses.
Average figures, per cent
and percentage points

	Annual change in CPI in:		
	1 year	2 years	5 years
Employer organisations	1.2 (–0.2)	1.5 (±0.0)	1.8 (±0.0)
Employee organisations	1.2 (–0.4)	1.5 (–0.2)	1.9 (±0.0)
Purchasing managers, industry	1.3 (–0.6)	1.7 (–0.2)	2.0 (–0.1)
Purchasing managers, trade	1.5 (–0.3)	1.7 (–0.1)	2.0 (+0.1)
Money market agents	0.9 (–0.1)	1.3 (+0.1)	1.8 (+0.2)

Sources: Prospera Research AB and Statistics Sweden.

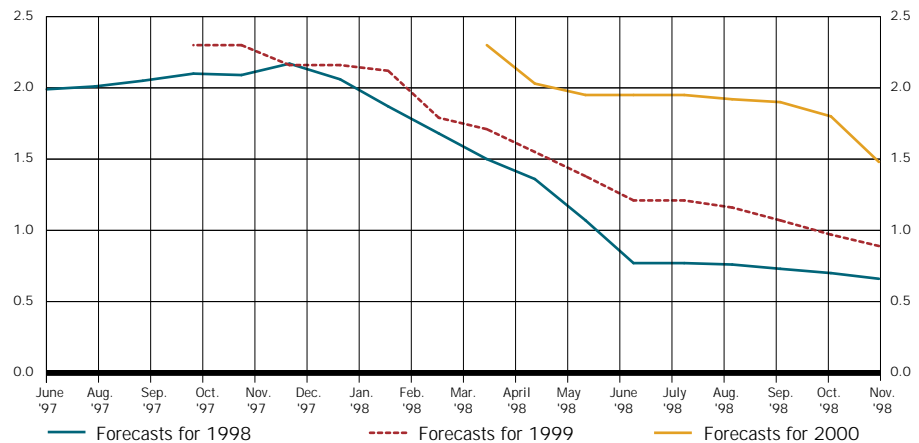


Figure 43.
Money market agents' inflation expectations.
Per cent



Sources: Prospera Research AB and Statistics Sweden.

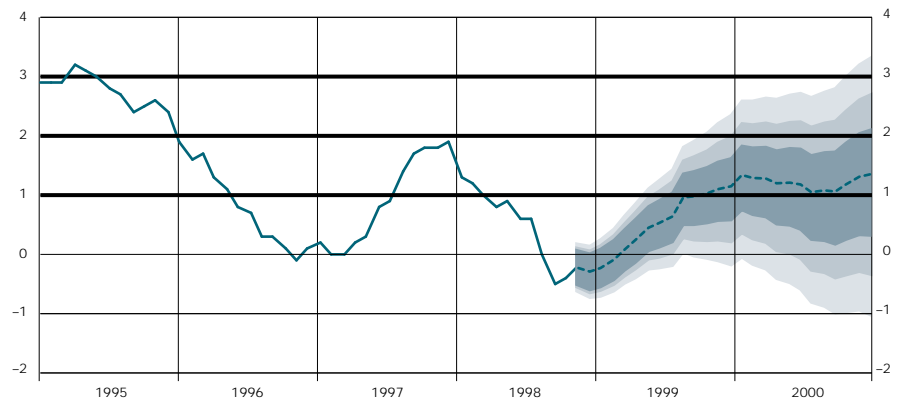
Figure 44.
Average of CPI forecasts from selected forecasters.
Annual percentage change



Note. The time axis denotes the date of the forecast. The observations are unweighted averages of forecasts published by FöreningsSparbanken, Handelsbanken, Merita-Nordbanken, SEB, Unibank, Aragon, Hagströmer & Qviberg, Matteus Fondkommission, Ministry of Finance, National Institute of Economic Research, Swedish Post, Confederation of Professional Employees, Trade Union Confederation, and Wholesale & Resale Research Institute.

Sources: See note.

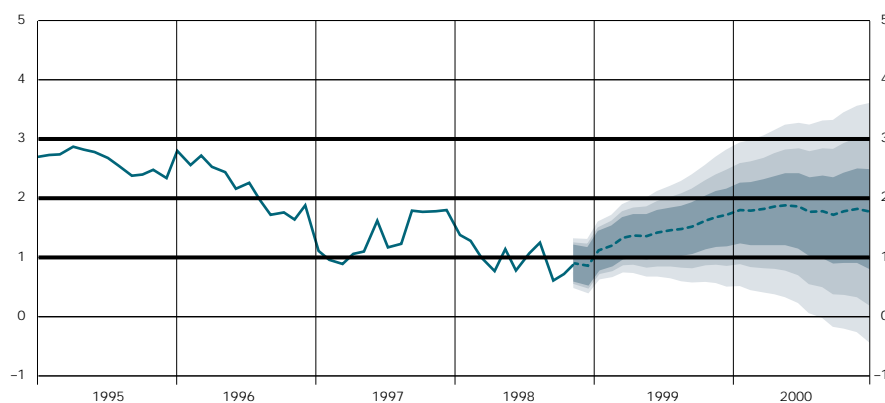
Figure 45.
CPI with uncertainty intervals.
Percentage 12-month change



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

Sources: Statistics Sweden and the Riksbank.

Figure 46.
UND1X with uncertainty
intervals.
Percentage 12-month
change



Note. The uncertainty intervals show the 50, 75 and 90 per cent chances of UND1X inflation being within the respective range. The broken line represents the main scenario's forecast and the horizontal lines at 1, 2 and 3 per cent are the Riksbank's inflation target and the tolerance interval for the annual change in the CPI.
Sources: Statistics Sweden and the Riksbank.

Table 4.
12-month CPI inflation in
1999 and 2000.
Percentage probability

	CPI<1	1<CPI<2	2<CPI<3	CPI>3	Total
1999 (Dec.–Dec.)	42	45	12	1	100
2000 (Dec.–Dec.)	41	30	20	9	100

Note. The figures show the probability of CPI inflation being in the column's interval.
Source: The Riksbank.

Table 5.
12-month UND1X inflation
in 1999 and 2000.
Percentage probability

	UND1X<1	1<UND1X<2	2<UND1X<3	UND1X>3	Total
1999 (Dec.–Dec.)	17	52	29	2	100
2000 (Dec.–Dec.)	29	31	27	13	100

Note. The figures show the probability of UND1X inflation being in the column's interval.
Source: The Riksbank.