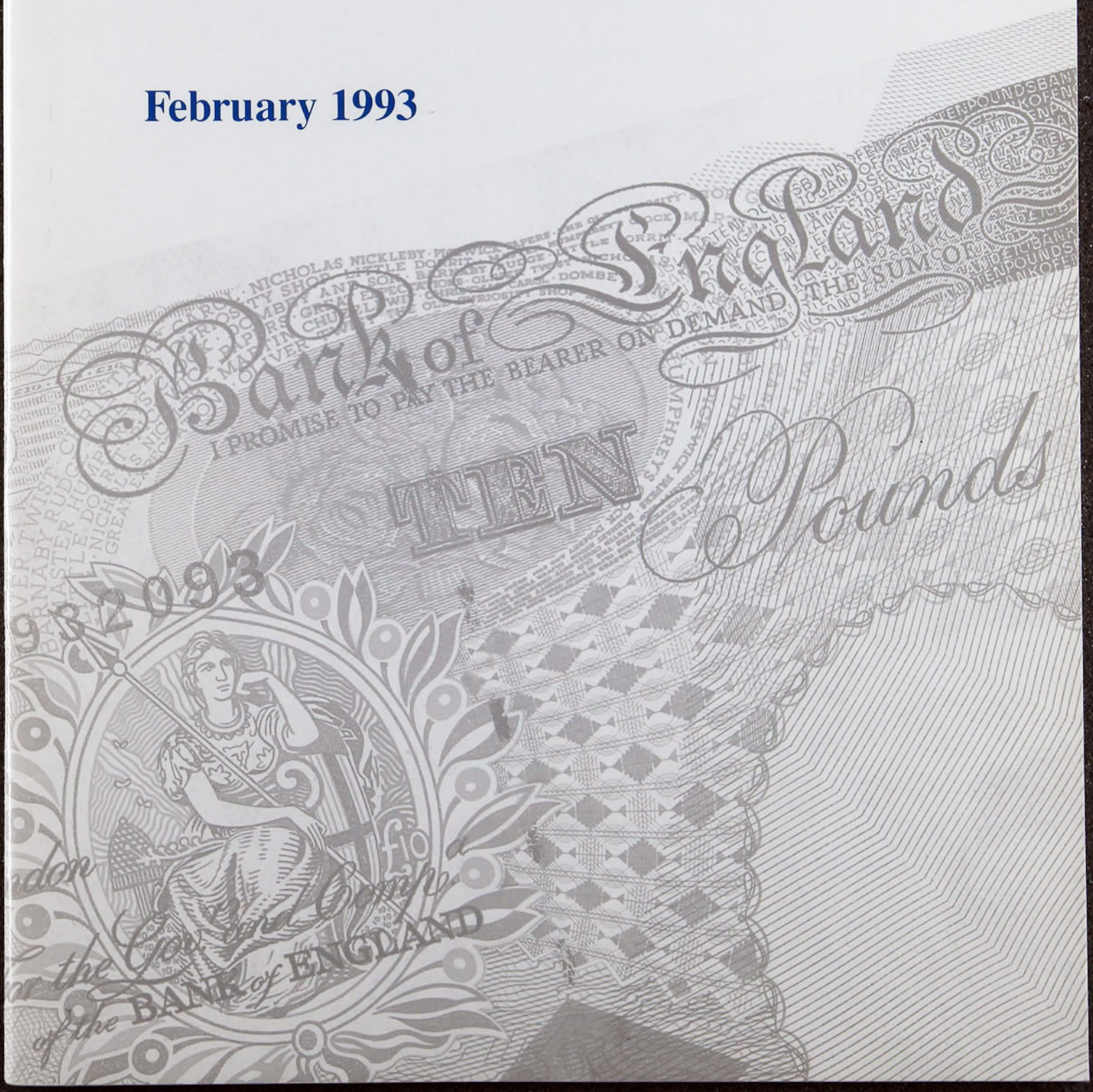
Bank of England

Inflation Report

February 1993



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Summary

Following the suspension of sterling's membership of the exchange rate mechanism on 16 September 1992, the commitment to price stability has been embodied in an inflation target. The Chancellor announced a target range for inflation of 1%–4% a year, for the twelve-month change in the RPI excluding mortgage interest payments, in October. And later that month, in his Mansion House speech, the Chancellor invited the Bank of England 'to provide a regular report on the progress being made towards the Government's inflation objective'. This is the first such Inflation Report. In accepting the invitation the Governor, in his LSE lecture of 11 November, said that 'our aim will be to produce a wholly objective and comprehensive analysis of inflationary trends and pressures'.

Inflation is a monetary phenomenon, and, in the long run, it is monetary policy which determines the rate of inflation. The lags between changes in monetary policy and changes in inflation are known only imprecisely, and will vary with the state of the economy. That is why monetary policy is set in relation not to the current rate of inflation but to inflationary trends over the next year or two. To assess these trends it is vital to know the starting point. Inflation is a rise in the general price level, and the RPI, like all price indices, is limited to a particular set of transactions. For this reason, Section 1 of the Report examines a variety of measures of inflation, including underlying and core inflation measures derived from retail prices. The consistent message from a wide range of indices is that inflation has fallen sharply over the past two years. The decline was particularly rapid in those sectors most exposed to competitive forces, but there is also evidence of a substantial fall in the rate of increase of administered prices and prices with a high labour cost element. Although short-run measures of inflation have recently begun to point upwards, it is as yet unclear whether this is anything other than a temporary phenomenon.

In the short run the dynamics of the inflationary process mean that changes in costs are a leading indicator of changes in prices. Section 2 examines the recent behaviour of both domestic and imported costs. On the labour cost front, there was a marked slowdown in the rates of increase of earnings and settlements in

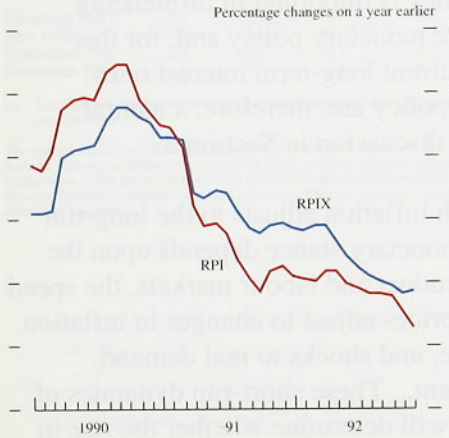
1991–92. By contrast, cost pressures arising from the recent depreciation of sterling have become evident in the past few months. The rise in imported and raw material costs is likely to pass through into producers' output prices, and so into underlying inflation, unless profit margins are further squeezed. The evidence suggests that margins have held up surprisingly well in the present recession. Producers may thus have scope in the short run to absorb cost increases, and hence the impact of depreciation on domestic prices may take longer to be seen on this occasion than in the past.

The inflation outlook for 1994 and beyond depends on the balance between the continuing downward pressure on inflation resulting from the difference between actual and potential output—reflected in rising unemployment—and the stimulus to inflation from past sterling depreciation and fears that part of the continuing fiscal deficit will eventually be monetised. Section 3 presents the Bank's judgement on this question. Over the next two years, and given the broadly unchanged policy stance, the central projection for underlying inflation is in the 3%–4% range. The main risks to this prospect come from the possibility of a sustained further depreciation of sterling and a faster pass-through of the depreciation that has already taken place. There is also a risk that large fiscal deficits might create expectations of higher inflation in the future. Expectations of inflation have not yet adjusted to levels compatible with the target range for inflation of 1%–4%. Such a target range would mean that at this stage of the cycle inflation would be expected to be nearer 1% than 4%. The reverse is the case. This demonstrates that there is still some way to go before the underlying inflation rate is consistent with the objective of price stability. Steady progress has been made towards achievement of the Government's inflation objective. But further progress is required.

Introduction

The headline rate of inflation—the increase in the Retail Prices Index (RPI) over the previous twelve months—was 2.6% in December. The underlying rate of inflation—measured by the increase in the RPI excluding mortgage interest payments (RPIX)—was 3.7%. This is just below the top of the Government's target range of 1%–4% a year. Underlying inflation is currently more than five percentage points lower than two years ago (see the chart opposite).

Inflation



The Government's target range for inflation is defined in terms of underlying inflation—RPIX. This is preferable to the use of the headline RPI, which, because it includes interest payments, has the property that changes in monetary policy designed to reduce inflation actually raise recorded inflation in the short run. But whichever index is chosen, it will be necessary to examine its movements carefully in order to see whether they are consistent with the long-run objective of price stability.

Inflation is a monetary phenomenon, and it is monetary policy which determines the rate of inflation. The lags between changes in monetary policy and changes in inflation are known only imprecisely, and will vary with the state of the economy. That is why monetary policy is set in relation not to the current rate of inflation but to inflationary trends over the next year or two.

To assess these trends it is vital to know the starting point. Inflation is a rise in the general price level, and RPIX, like all price indices, is limited to a particular set of transactions. So to reach a judgement on the current level of underlying inflation it is necessary to examine a range of price indices and to analyse why they have moved in different ways. Section 1 examines a variety of measures of inflation. As well as measures such as underlying and core inflation derived from retail prices, these include indices of producer prices—in both the domestic and overseas markets—and the price deflators for output and various types of expenditure in the national accounts.

The data presented in Section 1 concern past changes in prices. Future changes will, in the short run, reflect not only the monetary stance but also the dynamics of the process whereby changes in costs are translated into the

prices of marketed goods and services. An analysis of these costs—unit labour costs, import prices, profits and indirect taxes—provides additional information on the dynamics of inflation in the short run, and Section 2 discusses how costs of production have changed over the recent past. It provides a stepping stone from the description of past changes in prices to an analysis of the future trend of inflation.

Section 3 describes how monetary and real factors interact to determine the way in which inflation evolves over time. Expectations of future monetary policy—short-term interest rates—will determine the rate to which inflation is expected to tend. But shocks to monetary policy will alter that rate. Hence monetary developments—both current and anticipated—are crucial to an analysis of the future behaviour of inflation. Fiscal policy is important in influencing expectations of future monetary policy and, for this reason, may affect current long-term interest rates. Monetary and fiscal policy are, therefore, a natural starting point for the discussion in Section 3.

The path along which inflation adjusts to the long-run rate implied by the monetary stance depends upon the state of demand in product and labour markets, the speed at which wages and prices adjust to changes in inflation and the exchange rate, and shocks to real demand, output and employment. These short-run dynamics of the inflation process will determine whether the rise in prices that will result from the depreciation of sterling since last summer is more than offset by the continuing downward pressure on inflation coming from the depressed state of aggregate demand and the labour market. The Bank's judgement on this issue is contained in Section 3. The conclusions of the Report are stated in Section 4.

Recent price developments 1

Inflation is a continuing increase in the general level of prices. Price stability means that this rate of increase is sufficiently small, and is expected to remain sufficiently small, that it has no material impact on the decisions of households and businesses to spend and to save. In this sense, inflation does not refer to the rise in price of any one particular basket of goods and services. If all prices were to rise at the same rate, then there would be no ambiguity about the measurement of inflation. But relative prices change all the time. As a result, it is unwise to rely on any single index as the only guide to inflationary trends in the economy. For the purpose of assessing past performance against a pre-announced target, however, a well-defined price index is desirable. And RPIX, which is the index in terms of which the Government's inflation target is specified, is as good as any, and better than most. But in order to assess developments in inflationary pressure it is important to examine a wide range of prices. That is the starting point for this Report.

Table 1.A
Short-run RPI inflation

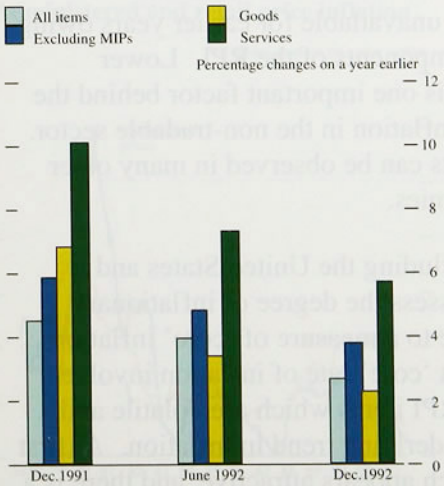
Percentage changes (a)

	RPI	RPIX	Goods	Services
December 1991	4.5	5.9	4.7	8.4
June 1992	3.5	3.9	2.6	5.4
September 1992	2.6	2.8	1.8	4.7
December 1992	2.2	3.8	2.8	5.4

(a) The change in the latest month on three months earlier, seasonally adjusted annualised rates.

The natural logarithms of the price series were seasonally adjusted using a Kalman filter to decompose the series into trend, cyclical, irregular and seasonal components. The series for goods and services do not exhaust the RPIX series because the latter comprises also the Community Charge, personal articles and dwellings insurance.

Chart 1.1
Conventional measures of inflation



1.1 Retail prices

Both headline and underlying inflation are conventionally reported as the change in prices over the previous twelve months. Neither measure captures more recent changes in inflation. Table 1.A shows the increase in these two price indices over three-month periods. Clearly, such measures depend upon seasonal adjustment—the prices of certain goods, such as fresh fruit and vegetables, vary according to the time of year. But the figures in Table 1.A are rather robust to the particular adjustment employed.

Short-run headline inflation has been below the twelve-month rate—2.2% a year compared with 2.6% in December. By contrast, the short-run measure of underlying inflation is marginally above the twelve-month rate—3.8% compared with 3.7%—and has risen in each of the last three months from a low point of 2.7% in August.

The slowdown in retail price inflation has been broadly based. Chart 1.1 shows that the twelve-month rate of increase of prices of both goods and services has fallen over the past year by over four percentage points.

Goods price inflation is currently 2.2% and service price inflation 5.6%. And in the service sector the more recent short-run measure of inflation is below the twelve-month rate (Table 1.A).

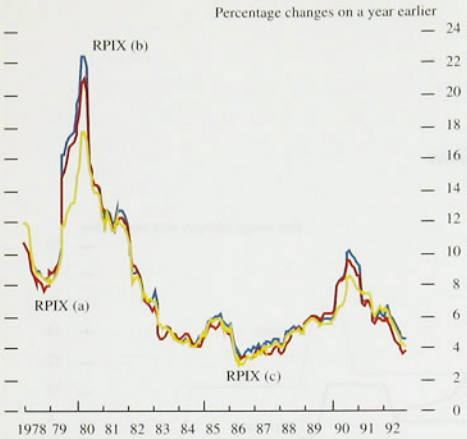
It is natural that different sectors of the economy experience different rates of increase of output prices. Such differences reflect changes in relative prices. Since there is no unique basket of goods and services with which to measure price changes, it is not always easy to disentangle changes in the average price level from changes in relative prices. Indeed, this difficulty, especially when inflation is variable and unpredictable, is one of the main costs of inflation.(1) Differences in inflation rates among sectors reflect a number of factors: differences in productivity growth rates, in cyclical behaviour, and in the degree of competitive pressure. The division into goods and services is a rough attempt to examine the degree to which competitive forces, especially from overseas, have affected the rate of disinflation. It is also useful because disinflationary forces are likely to work initially through goods markets. Changes in services prices tend to lag behind changes in goods prices, reflecting their greater labour input, and their lesser exposure to international competition.

A more systematic examination of the impact of competition from overseas is contained in the February 1993 *Quarterly Bulletin*. This demonstrates that the slowdown in inflation has been more rapid in sectors where output is tradable. The difference in the inflation rates between tradable and non-tradable sectors is unlikely to disappear. Inflation in non-tradables has exceeded inflation in the tradable sector for sixteen of the eighteen years for which data are available—comparable data are unavailable for earlier years owing to changes in the components of the RPI. Lower productivity growth is one important factor behind the more rapid rates of inflation in the non-tradable sector. Similar developments can be observed in many other industrialised economies.

Some countries—including the United States and Canada—prefer to assess the degree of inflationary pressure by reference to a measure of 'core' inflation. The construction of a 'core' rate of inflation involves stripping out of the RPI items which are volatile and might obscure the underlying trend in inflation. At first sight such an approach appears attractive, and there is a

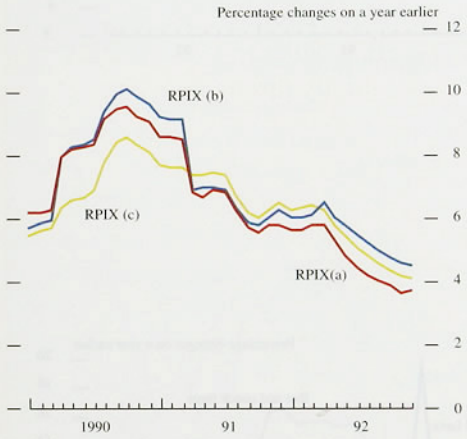
(1) The costs of inflation are discussed in the inaugural LSE Bank of England lecture on 'The case for price stability' delivered by the Governor (*Bank of England Quarterly Bulletin*, November 1992, pages 441–48).

Chart 1.2
Measures of 'core' inflation



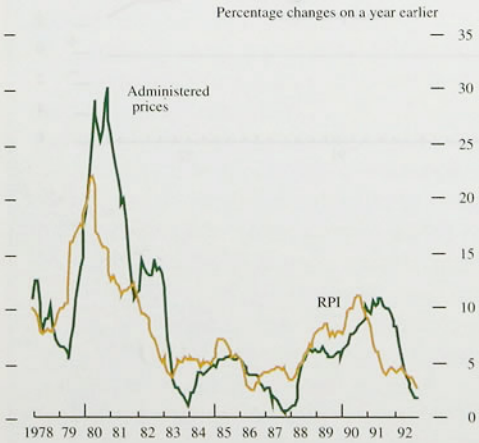
(a) RPI excluding mortgage interest payments.
(b) RPI excluding mortgage interest payments, food and fuel and light.
(c) RPI excluding mortgage interest payments, food, fuel and light, local authority taxes and VAT.

Chart 1.3
Measures of 'core' inflation



(a) RPI excluding mortgage interest payments.
(b) RPI excluding mortgage interest payments, food and fuel and light.
(c) RPI excluding mortgage interest payments, food, fuel and light, local authority taxes and VAT.

Chart 1.4
Administered and retail price inflation



case for excluding certain components, such as mortgage interest payments, on a consistent basis. The argument for excluding other items from the index on *a priori* grounds is less strong. And there is a danger in excluding items simply on the grounds that their price has changed relative to others, a practice which could lead to systematic biases in the measurement of inflation. An analysis of a variety of price indices is, therefore, preferable to reliance on a single *ad hoc* measure of 'core' inflation.(1)

It is also unclear whether, on average, there is any significant difference between 'core' inflation and underlying inflation, defined as the rate of increase of RPIX. Chart 1.2 plots two measures of 'core' inflation based on RPIX from 1978 to 1992. The first excludes food and energy. The second additionally excludes local authority taxes and VAT. There are very few periods in which the differences between the 'core' series and RPIX are very significant, other than at times when VAT was changed (notably 1979 and 1991). Since mid-1991 the 'core' inflation measures have, as shown in Chart 1.3, been higher than underlying inflation.

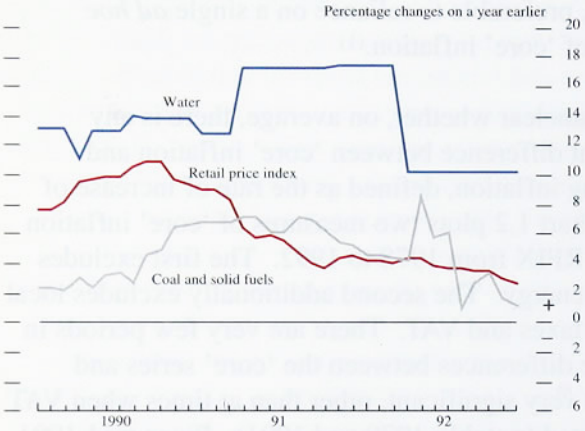
Another reason for wishing to disaggregate the RPI is that it includes prices set by the public sector and the newly privatised utilities. Chart 1.4 shows that, over the longer term, changes in these 'administered' prices have tended to lag behind changes in retail prices. In part, this is because the prices charged by utilities are regulated according to a formula based on past changes in the RPI. This lagged response meant that the prices set by some utilities continued to rise sharply until the second half of 1991 or the first half of 1992 (see Chart 1.5). More recently the rate of increase of administered prices has fallen below that of the RPI as a whole.

The danger in stripping out too many items from the RPI—housing, food, energy, indirect taxes, administered prices, and so on—is that the resulting index is not representative of movements in the average price level. For this reason the Bank has constructed an RPI-based measure of inflation—the 'Housing-adjusted' RPI (or HARP index)—which replaces the mortgage interest payments component of the RPI with an alternative measure of owner-occupied housing costs. This may be useful as an addition to, not a replacement for, existing measures of inflation. The alternative measure is based

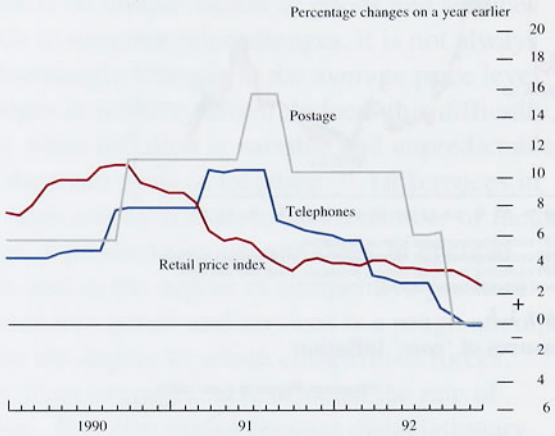
(1) An alternative approach is to define a behavioural concept of 'core' inflation as that component of observed inflation which, in the long run, is uncorrelated with real output. Statistical methods to identify 'core' inflation defined in this way are being investigated by the Bank.

Chart 1.5
Recent changes in 'administered' prices

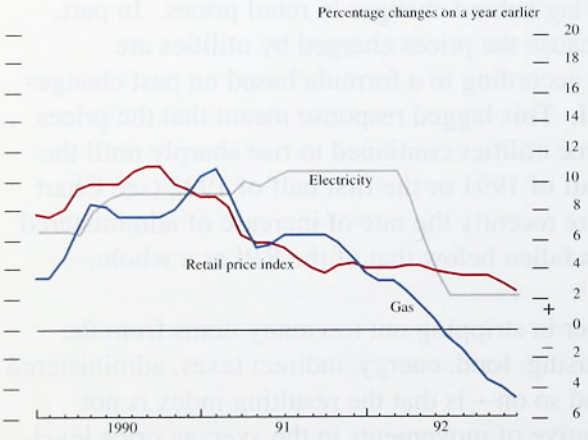
Water and fuel



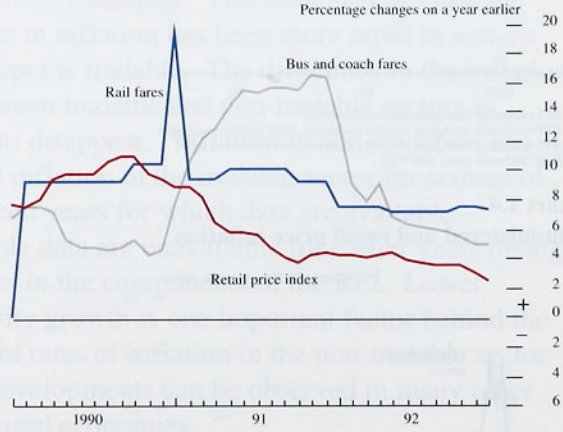
Communications



Gas and electricity



Travel



on a user-cost approach which attempts to adjust for the degree to which house purchase is both a consumption and an investment decision. Its construction is described in the box on the following page. The user-cost is defined as the cost of servicing a mortgage, plus the opportunity cost of equity tied up in housing net of capital gains on the house, and depreciation and running costs. The measure will vary according to the assumptions made (especially about the opportunity cost of capital). But the HARP index shown in the box appears to perform well as an indicator of inflationary pressure. It rose earlier in the late 1980s than did the RPI. More recently its rate of increase has also fallen further. At the end of last year inflation as measured by the HARP index was one percentage point below RPI inflation—at around 1½% a year.

One further, and important, RPI-based index is the Tax and Price Index (TPI). It aims to measure the increase in gross income which is required for taxpayers to maintain the purchasing power of net income, taking into account not only rises in prices (which incorporate indirect taxes) but also changes in direct taxes. The TPI was first published in 1979 when direct taxes were reduced and indirect taxes raised. A switch from direct to indirect taxes has the effect of raising the RPI even though the real purchasing power of net of tax earnings is unaffected. The TPI is designed to capture this effect. As such, it is an appropriate index with which to deflate average (gross) earnings in order to measure the real value of wages to employees. It is not, however, representative of the population as a whole. The highest and the lowest income groups are excluded from the calculation of the index which is constructed from data on household incomes drawn from the Survey of Personal Incomes. Since 1979 the TPI has risen by around 17% less than the RPI (although both indices have more than doubled over that period). More recently, TPI inflation has fallen slightly more rapidly than RPI inflation from its peak of almost 11% in October 1990 to only 1.5% in December 1992.

1.2 Manufacturing prices

Producer price indices (PPIs) measure the prices of goods bought (input prices) and sold (output prices) by UK manufacturers. The output price index measures the changes in the prices of goods destined for the home market as they leave the factory gate. Unlike the RPI, the PPI excludes VAT, although it does include excise duties.

The treatment of owner-occupied housing costs in the RPI

The RPI is intended to measure the cost of purchasing a representative basket of goods and services. It includes expenditure on consumption only; expenditures on investment or saving are excluded.

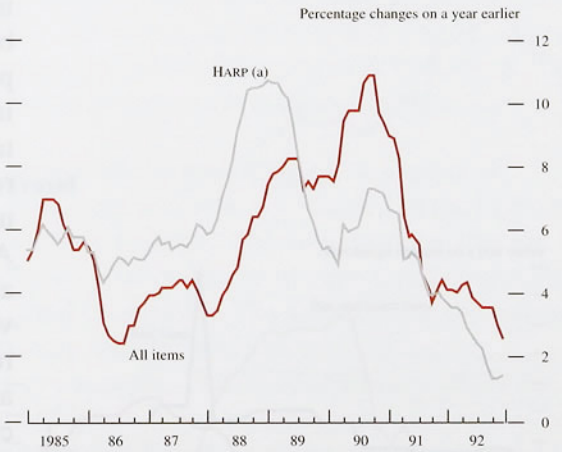
Around 11% of household disposable income is spent on housing services. Rents paid by tenants—in either public or private housing—are straightforward to identify and have been included in the Index in some form since 1947. For owner-occupiers, however, the task of identifying expenditure on housing is more complex. Houses yield capital gains (and losses), and have much longer lives than other goods in the RPI. So home-ownership is both a consumption of housing services and an investment in a physical asset.

Owner-occupied housing costs were first included in the Index in 1965, following the recommendation of the RPI Advisory Committee (RPIAC). Notional rents were calculated for owner-occupied properties based on rents for similar properties in the private sector. But rents in the controlled private market did not provide a good guide to the rental equivalent of owner-occupied houses, and the calculation was changed in 1975. Following the report of the RPIAC in that year, mortgage interest payments (MIPs) were used as an index of owner-occupied housing costs. The weight attached to MIPs was originally calculated using data from the Family Expenditure Survey (FES). But a further RPIAC report in 1986 noted that FES weights were exerting an upward bias on the RPI (because the ratio of endowment to repayment mortgages was rising), and that increasing amounts of finance for housing were being used to finance consumption. Hence the construction moved to its present form in which nominal MIPs are weighted as though every owner-occupier takes out a standard mortgage on a fixed share of the market value of the property and renews the mortgage after a standard period of time.

But methodological problems remain. First, only around 60% of house owners have mortgages. Second, the representative mortgage is assumed to be non-endowment, whereas the proportion of endowment mortgages has grown significantly, from 7% of building society new advances in 1970, to over 70% by the middle of last year. Third, no account is taken of the fact that on about 40% of mortgages interest rates are adjusted annually. Most important of all, the incorporation of MIPs into the Index means that changes in monetary policy aimed to reduce inflation actually raise the RPI.

For these reasons it is often more useful to examine changes in the RPI excluding mortgage interest payments. But it is possible to go further and produce an alternative measure of the cost of owner-occupied housing. This is based on the concept of the 'user-cost of housing', which is the equivalent rental payment made by owner-occupiers after taking the value of a house as an investment into account. The user-cost equals the cost of servicing a mortgage, plus the opportunity cost of equity tied up in housing net of capital gains on the house, and depreciation and running costs. The weight of owner-occupied housing in the index is then given by the user-cost multiplied by average house prices expressed as a proportion of total household expenditure. The resulting 'housing-adjusted retail prices', or HARP, measure of inflation is plotted in the chart from 1985–92.

RPI and HARP inflation rates



(a) Incorporates user-cost measure with constant real yield for costs of owner-occupation (using unadjusted Halifax house price index).

The computation of the HARP index depends upon assumptions about borrowing rates and alternative investment yields. The index in the chart assumes that the opportunity cost of capital is the real yield from an indexed gilt. Alternative assumptions will yield different measures of inflation, but the following two conclusions are robust to reasonable variations in those assumptions. First, inflation implied by the alternative index rises steadily from early 1986, whereas the conventional RPI measure of inflation shows unambiguous evidence of an increase only from early 1988. Second, the peak in HARP inflation occurred in 1989, over one year earlier than for the RPI itself. The most recent twelve-month rate of HARP inflation is only 1½%, one percentage point lower than the headline rate of inflation.

Chart 1.6
Producer output price inflation

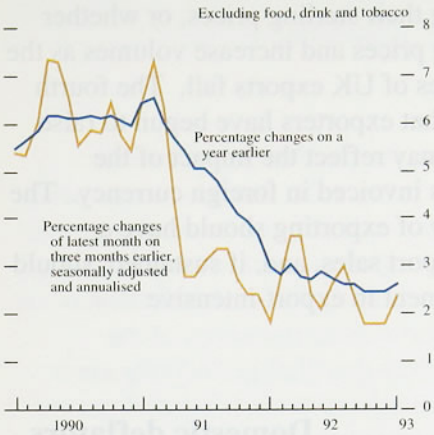


Chart 1.7
Manufacturing export and producer price inflation

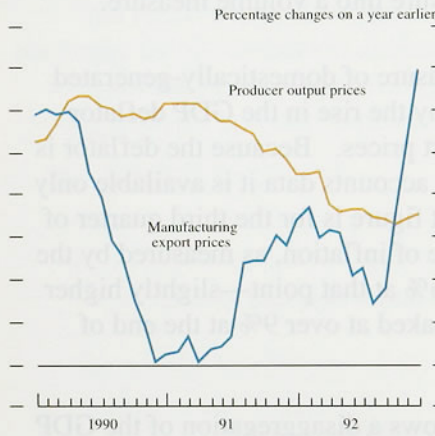
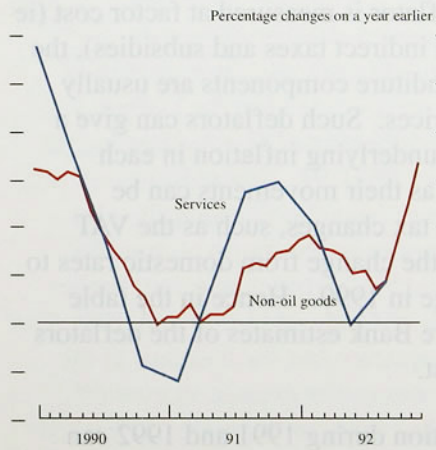


Chart 1.8
Export price inflation



Inflation in the manufacturing sector has fallen relatively little in the last six months. Output prices for all manufacturing are estimated to have increased by 3.5% in the twelve months to January, down from 3.6% six months ago, and 4.5% in January of last year. Excluding the food, drink and tobacco industries—where price changes are heavily influenced by excise duties—inflation is a little lower. Chart 1.6 shows that, on this basis, producer price inflation peaked at the beginning of 1991, at 6.5%, before declining steadily throughout the year. By February of 1992 the rate had fallen to 2.8%, since when there has been little further progress. The chart shows that this was broadly in line with the indications given by the shorter-run measure, which fell from a peak of 7.3% in February 1991 to just 2.7% in May of that year. Thereafter it remained largely in the 2%–4% range. In January 1993 the measure rose to 2.3% from 1.8% in each of the previous three months.

Within the sub-components of the index the range of price changes has been wide. At the disaggregated two-digit level of the Standard Industrial Classification (SIC), the inflation rate in the year to January varied from an increase of 6.8% in the drink and tobacco industries to a fall of around 3% in the office machinery and data processing equipment sector. Such wide dispersion within the index is not uncommon. There are always likely to be differences in productivity growth rates across industries, and in some industries rapid technical progress permits price reductions. This has been a feature of the consumer electronics and computer industries throughout the past decade. But there is no evidence to suggest that the degree of price dispersion has altered over the past few years, although clearly the average rate of price increase has fallen.

Throughout most of 1990 and 1991 manufacturing export price inflation remained well below the rate of increase of producer prices. But towards the end of 1991 the two inflation rates began to converge (see Chart 1.7). The lower rate of increase of export prices appears to have been associated with the appreciation of sterling in 1990, and continuing pressures on competitiveness into the early part of 1991. But more recently, manufacturing export prices have risen much more rapidly. A similar pattern is evident in the exports of services and non-oil goods more generally (Chart 1.8).

The depreciation of sterling following its departure from the ERM in September may lead to some widening of the gap between domestic and export prices, with the latter

likely to rise more rapidly. But this will depend on the extent to which exporters desire, and are able, to widen margins by increasing their sterling prices, or whether they maintain sterling prices and increase volumes as the foreign currency prices of UK exports fall. The fourth quarter data suggest that exporters have begun to raise prices, although this may reflect the impact of the depreciation on prices invoiced in foreign currency. The increased profitability of exporting should have a positive impact on export sales, and, if sustained, should lead to greater investment in export-intensive production.

1.3 Domestic deflators

GDP and its components are calculated both at current prices, and also in real terms, at the prices which prevailed in a base year. The ratio of these two measures is a price index, the *deflator*, which converts the current price measure into a volume measure.

A comprehensive measure of domestically-generated inflation is provided by the rise in the GDP deflator which excludes import prices. Because the deflator is derived from national accounts data it is available only with a lag. The latest figure is for the third quarter of 1992. The annual rate of inflation, as measured by the GDP deflator, was 4.5% at that point—slightly higher than RPIX. It had peaked at over 9% at the end of 1990.

Table 1.B
Domestic deflators

	GDP	Consumption	Investment	Government	Exports	Imports
Twelve-month growth rates; *per cent*						
1991Q1	8.0	7.2	2.2	9.2	0.5	-4.3
Q2	6.8	6.7	-0.4	8.4	1.4	-3.1
Q3	5.3	6.9	-1.8	7.1	0.8	0.1
Q4	5.2	6.4	-2.5	7.5	-0.7	-0.2
1992Q1	5.2	6.2	-4.2	7.5	1.4	0.5
Q2	5.5	5.6	-4.6	6.1	-0.1	-1.1
Q3	4.5	4.6	-3.9	6.7	-2.1	-2.4
Seasonally adjusted annualised rates						
Q2 on Q1	6.7	1.8	-4.8	6.0	-0.1	-4.6
Q3 on Q1	4.4	2.3	-3.2	6.2	-3.6	-3.9

Source: CSO and Bank of England. The GDP deflator is measured at factor cost by the CSO. The domestic expenditure deflators are Bank estimates of factor cost deflators, based on published CSO estimates at market prices.

Table 1.B opposite shows a disaggregation of the GDP deflator by category of expenditure. The upper section of the table shows twelve-month growth rates, and the lower section shows annualised one and two-quarter growth rates using the most recent observations. Although the GDP deflator is measured at factor cost (ie it excludes changes in indirect taxes and subsidies), the deflators for the expenditure components are usually measured at market prices. Such deflators can give a misleading picture of underlying inflation in each expenditure category, as their movements can be dominated by indirect tax changes, such as the VAT increase in 1991, and the change from domestic rates to the Community Charge in 1990. Hence in the table opposite the figures are Bank estimates of the deflators measured at factor cost.

The reduction in inflation during 1991 and 1992 can largely be attributed to the weakness of the investment and export price deflators. Investment goods prices

have fallen continuously from their peak in the first quarter of 1991 while export price inflation has remained low or negative throughout the past two years. Weak demand at home and abroad may have been partly responsible for this. More recently, the consumer spending inflation rate has fallen back, echoing developments in RPIX. In the public sector, inflation remains much higher than in the other sectors. This reflects the higher proportion of wage costs in the government expenditure deflator.

1.4 Summary

This section has examined a wide range of price indices. The consistent message is that inflation has fallen sharply over the past two years. The decline was particularly rapid in those sectors most exposed to competitive forces, but there is also evidence of a substantial fall in the rate of increase of administered prices and prices with a high labour cost element. The rate of progress began to slow towards the end of 1991—initially in the manufacturing sector, and subsequently in retail prices —but it has continued, so that rates of increase of most prices are at their lowest for some years. Short-run measures of inflation have recently begun to point upwards, but it is as yet unclear whether this is anything other than a temporary phenomenon. Such a judgement requires a more detailed look at forward indicators of prices. These are examined in subsequent sections.

2 Recent cost developments

In an accounting sense, the price of any particular service or commodity reflects the unit costs of its seller and the mark-up applied to them. As noted above, this implies no necessary long-run causality from costs to prices: both reflect underlying real and monetary shocks. But in the short run the dynamics of the inflationary process mean that changes in costs are a leading indicator of changes in prices. For this reason we now examine the recent behaviour of both domestic and imported costs.

Increases in prices may be broken down into increases in:

(i) the prices of inputs of goods and services not themselves included in the index. At the aggregate level the most important such prices are those of imports, both of raw materials and finished goods and services;

(ii) unit labour costs;

(iii) margins (at retail and wholesale level);

(iv) indirect taxes.

We consider these components in turn:

Table 2.A
UK import price inflation: non-oil goods

Percentage change on previous quarter

		Food, drink and tobacco	Basic materials	Semi manufactured goods(a)	Finished manufactured goods(a)
1990	Q1	2.1	-0.9	0.6	0.9
	Q2	1.8	-1.3	0.6	0.6
	Q3	-2.3	-6.3	-2.5	-1.7
	Q4	-2.4	-5.1	-1.2	-0.9
1991	Q1	—	-2.8	—	1.8
	Q2	2.1	-0.7	0.3	2.9
	Q3	0.9	-0.7	-0.3	3.4
	Q4	-0.3	-0.7	-0.9	0.0
1992	Q1	-0.3	-1.5	-2.6	-1.1
	Q2	1.2	0.8	-1.2	-0.8
	Q3	-2.7	-3.4	-0.3	0.3
	Q4	4.5	4.7	4.0	6.6

(a) Excluding erratics: ships, North Sea installations, aircraft, precious stones and silver.

Table 2.B
UK import price inflation: total

Percentage change on previous quarter

		Total goods	Services	Total
1990	Q1	0.9	1.0	0.7
	Q2	0.3	1.9	0.7
	Q3	-3.8	1.1	-2.3
	Q4	0.4	-5.6	-1.3
1991	Q1	-1.9	0.4	-1.6
	Q2	0.9	6.0	2.0
	Q3	-0.4	5.0	1.1
	Q4	1.0	-5.3	-1.7
1992	Q1	-1.6	-1.3	-1.5
	Q2	0.9	1.8	1.2
	Q3	-2.3	7.0	0.2
	Q4	8.0	..	..

.. not available.

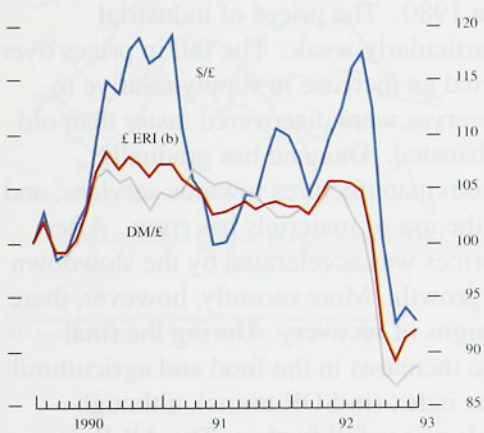
2.1 Cost of imports

Import prices in the United Kingdom have fallen slightly since 1990. This reflected a number of factors, including falling commodity prices, lower growth in competitor countries, weak demand in the United Kingdom, and the strengthening of sterling against the dollar that took place in 1990–91. Towards the end of last year, however, prices began to rise sharply—by around 8% for goods prices in the fourth quarter on average, to stand almost 5% higher than a year earlier (see Table 2.B). Prices of foods and basic materials rose by around 4.5% in the quarter, but the increase in the price of manufactures was rather greater, at over 6%. This mainly reflected increases in the price of finished manufactures (see Table 2.A)—especially cars, which rose by almost 9%.

Developments in import prices have a significant impact on manufacturers' input prices. Within the official input price index for materials and fuels purchased by manufacturers, around 60% is accounted for by imports of materials, while petroleum fuel products account for a further 6%.

Reflecting the weakness of import prices, manufacturers' input prices fell during 1990 and 1991—by 0.3% and 1.1% respectively. Excluding inputs to the food, drink and tobacco industries the falls were rather greater (0.8% and 2.3% respectively). The weakness continued during the first three quarters of 1992, but during the fourth quarter input prices rose sharply—over 4% for all manufacturing. A large part of the fourth quarter increase was concentrated in October and November, but the relatively small rise in December has been followed by a 1.5% increase in January.

Chart 2.1
Sterling exchange rate, 1990 = 100 (a)



Source: Bank of England.

(a) Monthly average of daily rates (close of business).
(b) Sterling effective exchange rate index.

The exchange rate

Movements in nominal exchange rates affect the sterling price of imported goods and services. If these were traded in perfectly competitive world markets, a given depreciation of sterling would be reflected in an equivalent increase in the domestic price of imports, and a common price *level* when expressed in a common currency. In practice imported goods and services are not always traded in all countries at the same price when expressed in a common currency. The more homogeneous the product and the more competitive the market the more likely it is that changes in exchange rates will be passed on entirely to prices. This is most apparent in commodities markets in which a broadly standard product is traded by many firms. But in markets where firms can exercise a degree of price discrimination—such as the markets for finished manufactured products—changes in exchange rates may be absorbed, at least in part, in the margins of price-setting firms.

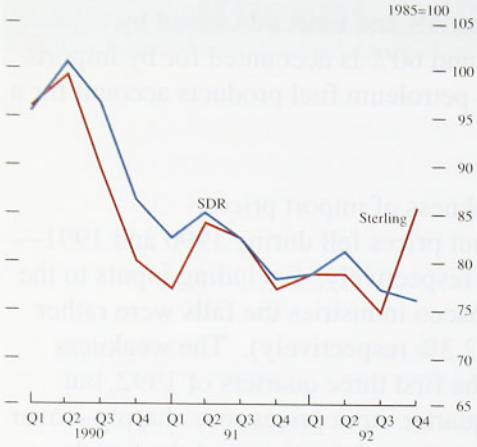
Table 2.C
The sterling exchange rate(a)

	30 June	15 September	31 December	5 February
Sterling ERI (b)	93.1	90.9	79.6	77.7
US dollar	1.90	1.89	1.52	1.45
Deutschmark	2.90	2.78	2.45	2.40
ECU	1.41	1.38	1.26	1.30
SDR	1.33	1.31	1.10	1.06

(a) Close of business rates.
(b) 1985=100.

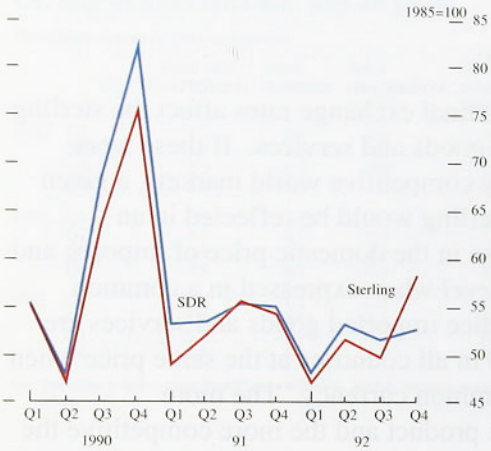
The size of the recent depreciation is clear from Chart 2.1 and Table 2.C. Before mid-September there had been some very gradual decline against the European currencies, but the most marked variations in sterling's value had been against the dollar. Since the suspension of ERM membership, sterling's fall against the dollar has been greater than its fall against the deutschmark and other European currencies. The fall against the dollar between 15 September and the end of December amounted to almost 20%. By 5 February

Chart 2.2
Sterling and SDR commodity prices



Source: Economist All-Items commodities index.

Chart 2.3
Sterling and SDR oil price (a)



(a) Measured by close-dated Brent crude.

Table 2.D
Inflation in the G7 economies

Percentage change on a year earlier

	1991 Q1	1992 Q1	Q2	Q3	Q4
Consumer prices					
United States	5.3	2.9	3.1	3.1	3.1
Canada	6.4	1.6	1.4	1.2	1.8
Japan	3.7	1.9	2.3	1.8	1.0
Germany	2.7	4.3	4.5	3.5	3.7
France	3.4	3.1	3.1	2.7	2.2
Italy	6.4	5.6	5.6	5.3	4.9
United Kingdom (a)	8.5	5.7	5.3	4.2	3.7
G7 average (b)	5.0	3.1	3.3	3.0	2.7
Manufacturing prices					
United States	3.6	0.4	1.3	1.7	1.4
Canada	1.2	-2.4	-0.2	1.5	3.2
Japan	0.4	-1.6	-1.5	-1.4	-1.5
Germany	2.1	2.0	2.0	1.0	0.5
France	0.6	-3.0	-1.1	-0.9	..
Italy	8.5	0.9	2.7	1.7	..
United Kingdom	6.1	4.5	3.6	3.5	3.4
G7 average (b)	2.9	0.1	0.9	0.7	..

.. not available.

(a) RPI excluding mortgage interest payments.
(b) Weighted by GDP.

sterling had fallen by a further 4½%. The depreciations against the deutschmark and the Ecu have been much less: 14% against the former and 6% against the latter. Taken together these changes imply a decline in the SDR rate of over 19% in the past five months.

Commodity prices

In SDR terms the Economist All-Items index of *non-oil commodity prices* fell by 4.6% in 1992 as a whole, and by 1½% in the final quarter, to a level almost 29% below the level in 1980. The prices of industrial materials were particularly weak. The fall in prices over the decade reflected an increase in supply relative to demand. New reserves were discovered faster than old reserves were exhausted. Demand has gradually switched away from manufactures towards services, and the efficiency of the use of materials has risen. After 1990 the fall in prices was accelerated by the slowdown in world activity growth. More recently, however, there have been some signs of recovery. During the final quarter there were increases in the food and agricultural components of the index (in SDR terms), although industrial materials prices fell further. The All-Items index has now risen by 10% from its low point in October. Sterling prices have risen even more sharply—by 14½% in the fourth quarter, although for the year as a whole sterling prices still *fell* by 1% (see Chart 2.2).

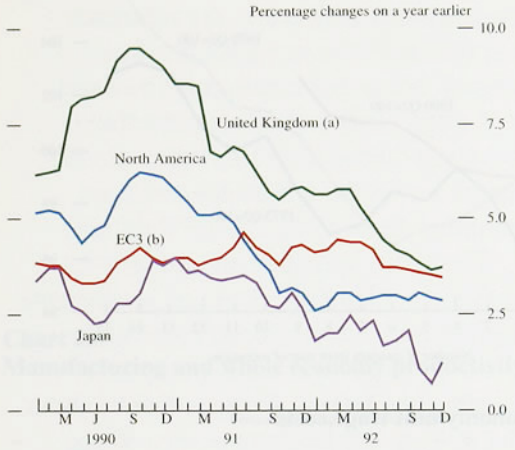
The price of oil (as measured by close-dated Brent crude) fell to an average of $19.30 per barrel in the fourth quarter, down some 90 cents from the third quarter price. Prices weakened during the fourth quarter reflecting disappointment following the November OPEC meeting which agreed only a marginal cut in the first quarter production quotas. The milder than expected winter, thus far, and continuing overproduction by OPEC, combined to push prices down further, notwithstanding some longer-term question marks over Iraqi exports. Sterling oil prices, by contrast, rose by over 16% in the fourth quarter on average. More recently, dollar prices have shown signs of recovery prior to the February OPEC meeting.

Overseas inflation

Consumer price inflation in the major overseas economies levelled off during the second half of 1992, at around 3% (see Table 2.D). As in the first half of the year, inflation remained highest in Italy and Germany (where the fall in inflation during the year largely

reflected the dropping out of the twelve-month comparison of the increases in indirect taxes in July 1991) and lowest in Canada (where there has recently been some slight increase) and Japan. UK inflation remains above the average, but has clearly converged rapidly over the past two years, to a rate broadly in line with the average of the other three major European economies (see Chart 2.4).

Chart 2.4
Inflation in the G7



(a) Retail price index excluding mortgage interest payments.
(b) Average of Germany, France and Italy, weighted by GDP.

Manufacturing price inflation has been much more subdued across most of the G7, especially in France and Japan where producer prices have fallen throughout the year. Although UK producer price inflation appears to have converged less rapidly on overseas rates, care must be exercised in such comparisons because producer price indices are less internationally comparable than consumer price indices. In particular, producer price indices in other countries often incorporate both input and output prices. When there are sharp changes in primary commodity prices producer price indices in different countries respond in very different ways.

Although data are still incomplete, export prices in most of the major overseas economies seem to have remained weak in the second half of the year (after barely rising in the first half). In local currency terms US export prices fell in both October and November (to a level 0.3% below a year earlier). In Japan there were large monthly falls in September and October, only slightly reversed in November. Consequently by December local currency Japanese export prices were 3% lower than a year earlier. In Germany a slight increase in November was insufficient to reverse the small fall in October.

Table 2.E
Contributions of earnings and productivity to unit wage costs

(a) Whole economy

Period	Twelve-month percentage changes in: Output	Employment	Wages and salaries	Unit wage costs
1990	0.6	0.3	9.7	10.0
1991 Q1	-2.4	-1.9	9.0	9.8
Q2	-3.5	-3.2	7.9	8.8
Q3	-2.2	-3.6	7.9	6.8
Q4	-1.7	-3.8	7.2	5.5
1992 Q1	-1.4	-3.1	7.8	6.6
Q2	-0.6	-2.6	6.2	4.3
Q3	-0.7	-3.2	5.1	3.0

(b) Manufacturing industry

Period	Twelve-month percentage changes in: Output	Employment	Wages and salaries	Unit wage costs
1990	-0.4	-1.6	9.4	8.5
1991 Q1	-5.1	-4.8	8.9	10.2
Q2	-6.6	-6.4	8.5	10.0
Q3	-5.5	-7.3	7.8	6.3
Q4	-3.8	-6.9	7.7	4.4
1992 Q1	-2.0	-6.0	8.6	4.1
Q2	-0.7	-4.5	6.0	1.6
Q3	-0.8	-5.3	6.2	1.8

2.2 Unit labour costs

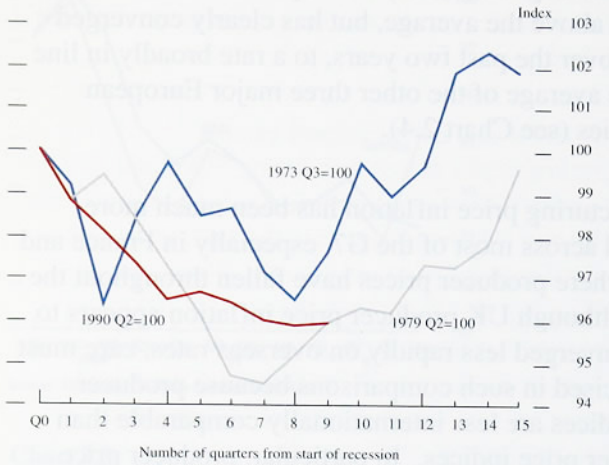
Unit wage cost increases, in both the economy as a whole and in the manufacturing sector, have been on a downward trend since the beginning of 1991. This has resulted from both a rise in the rate of growth of productivity and a decline in the rate of increase of earnings (see Table 2.E).

Productivity

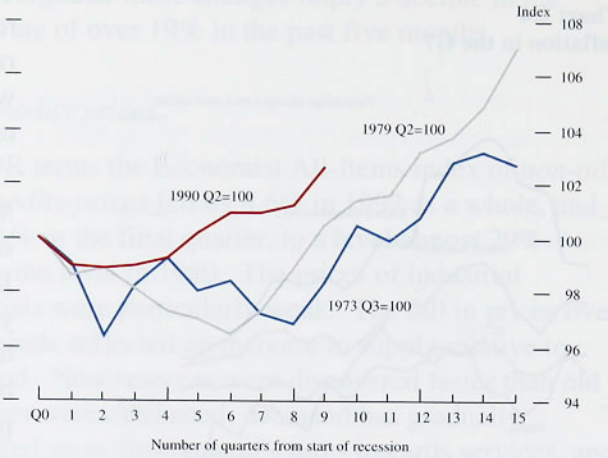
The gains in productivity from labour-shedding have been significantly larger in this recession than in the previous two (see Chart 2.5 over the page). In those recessions output growth initially fell more rapidly than employment growth, but in the early stages of this

Chart 2.5
The labour market in three recessions

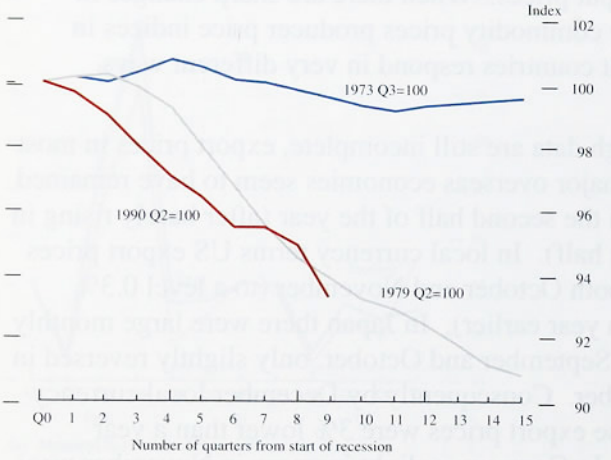
Real GDP



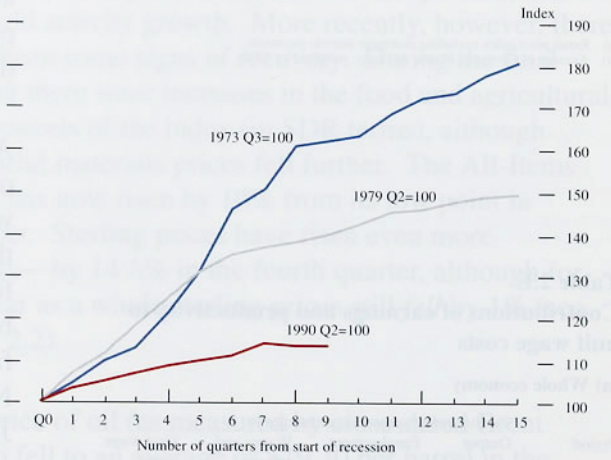
Whole economy productivity



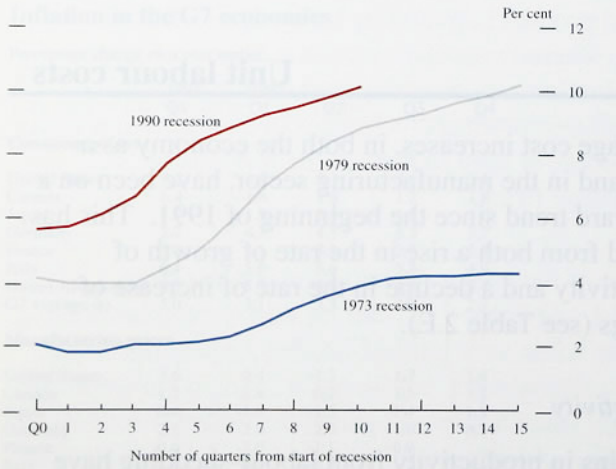
Whole economy employment



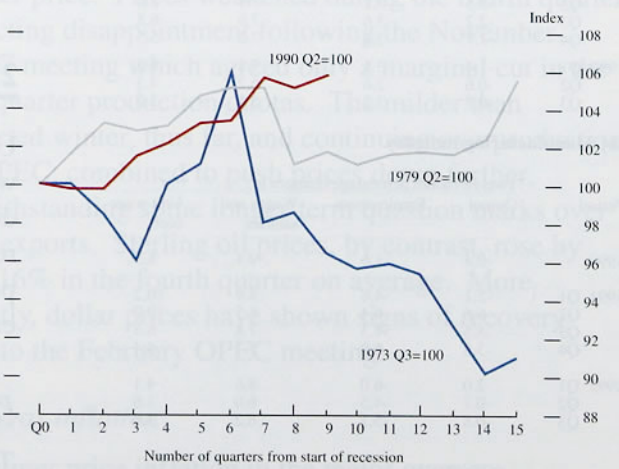
Whole economy unit wage costs



Unemployment rate



Whole economy real average earnings (a)

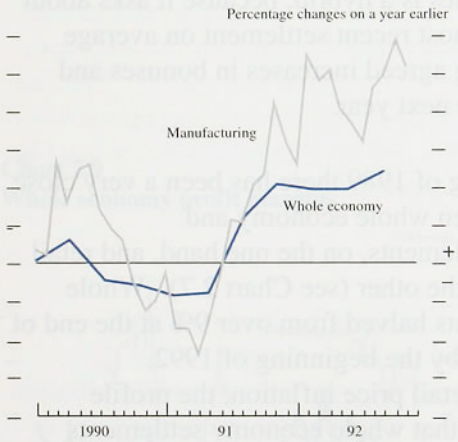


(a) Nominal earnings deflated by Tax and Price Index.

recession the growth in employment declined in line with the growth in output. This difference may reflect a fall in the costs associated with hiring and firing, but perhaps also a more rapid downward revision of expectations of output growth on the part of producers. Reflecting the falls in employment, unemployment has also risen rapidly. More worryingly, the unemployment rate has risen to a higher level during each recession, from which it has only partially declined.

The rise in productivity has contributed to the slow growth of unit labour costs, which has remained significantly lower than in previous recessions—reflecting also the lower rates of increase of prices and earnings. But real wages—as measured by whole economy earnings deflated by the Tax and Price Index—have grown steadily throughout the recession.

Chart 2.6
Manufacturing and whole economy productivity



In manufacturing, movements in employment and productivity have been more cyclical than in the economy as a whole (see Chart 2.6). Since the peak in output in the second quarter of 1990, overall labour productivity has increased by 2.6%, and in manufacturing by 4.6%. Given the more rapid decline in output in the manufacturing sector than in other sectors, it is clear that the relatively more rapid productivity growth is accounted for entirely by the sharp falls in manufacturing employment, which fell by 680,000 (13% of the employees in the sector) between the second quarter of 1990 and the third quarter of 1992. Outside manufacturing the corresponding figure was 880,000 (5% of all non-manufacturing employees).

More recently productivity growth has picked up, rising to 2½% in the year to the third quarter of 1992 in the economy as a whole, and to over 4% in manufacturing. As in previous cycles employment has continued to decline although the fall in output has slowed considerably. Indeed, the fall in employment accelerated during 1992. In the service sector employment fell by 1½% in the third quarter, after falling at an average quarterly rate of ½% during 1991. In the manufacturing sector employment fell by almost 3% in the third quarter, compared with average quarterly falls of 1.8% during 1991 and 0.7% in the first half of the year. Although the pace of decline eased a little in October and November, the fall in the fourth quarter is likely to approach 2%.

Chart 2.7
Increases in RPI and wage settlements

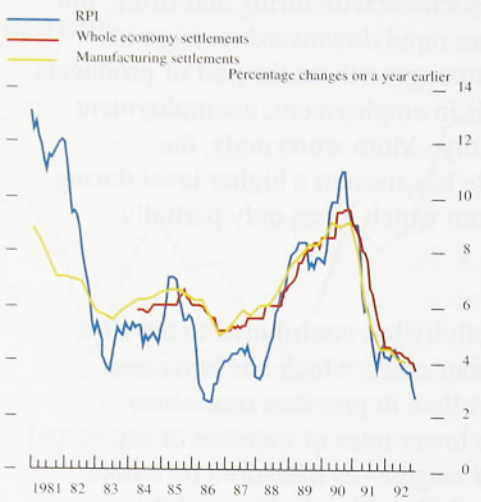
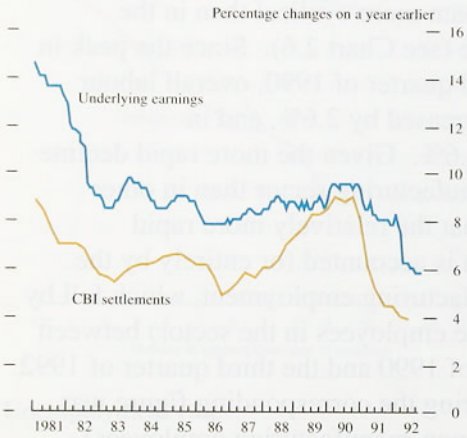
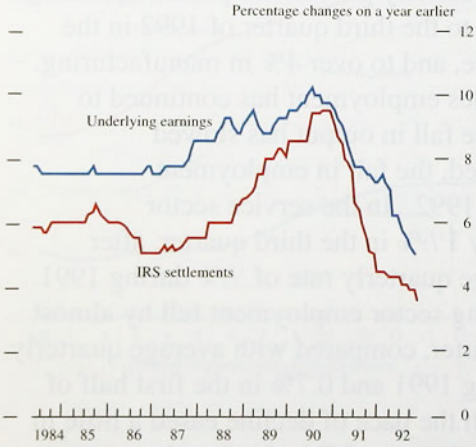


Chart 2.8
Increases in manufacturing wage settlements and earnings[(a)]



Increases in whole economy wage settlements and earnings[(a)]



(a) Data ranges in both charts are determined by availability of settlements data.

Earnings and settlements

There are two main sources of data about the growth in UK wages, relating to settlements and to average earnings. Settlements data usually refer to the percentage increase in the basic wage for the lowest-paid grade in the settlement group and typically cover only those agreements struck in the reference month. Earnings data include, in addition to basic wages, overtime pay, bonus payments, shift pay and other elements of wage 'drift'; they measure the average rate of growth during the past twelve months. Data on settlements across the whole economy are provided on a monthly basis by Industrial Relations Services (IRS). The series is a three-month moving average of annualised settlements. Data on settlements in manufacturing industry are produced monthly by the CBI based on a survey of around 1,200 personnel directors. This series is a hybrid, because it asks about the impact of the most recent settlement on average earnings (including agreed increases in bonuses and merit pay) over the next year.

Since the beginning of 1989 there has been a very close relationship between whole economy and manufacturing settlements, on the one hand, and retail price inflation, on the other (see Chart 2.7). Whole economy settlements halved from over 9% at the end of 1990, to just 4½% by the beginning of 1992. Thereafter, as for retail price inflation, the profile flattened out, such that whole economy settlements were 3.6% in the three months to December. In the manufacturing sector settlements fell rather more slowly than in the rest of the economy. After running at around 9% through most of 1990, manufacturing settlements fell below 6% by the end of 1991 and have since declined to below 4%.

Since the peak of settlements and earnings growth in 1990 a gap has opened up between these two series, with settlements falling more rapidly. The relationship between the two series is far from precise, reflecting the differences in measurement, coverage and timing. But settlements do appear to contain some information about the future course of earnings growth. Chart 2.8 shows that, in both manufacturing and the whole economy, earnings growth tends to exceed settlements, and that the divergence between the two can be quite marked, particularly when settlements are changing rapidly—given that measured earnings growth responds only with a lag. Against this background, the recent larger decline in settlements could indicate that earnings

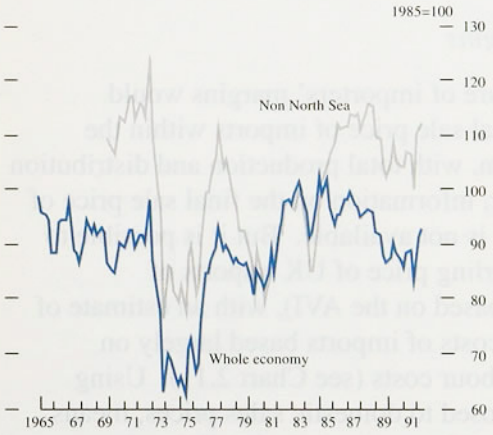
growth may slow further—but there is also the possibility that it simply foreshadows the restoration of the normal gap between the two series.

Nevertheless, underlying earnings growth has continued to decline. In the economy as a whole, earnings growth fell from a peak of 10¼% in the year to July 1990 to 5% in the year to November 1992. In manufacturing earnings growth fell from 9½% in December 1990 to 5¾% in November. The deceleration in manufacturing earnings growth has thus been less marked than in the economy as a whole—a pattern which was also exhibited during the last recession. This may partly reflect the greater strength of 'insiders' in manufacturing, who are better able to maintain real wages in recession. But the counterpart is to be found in the more rapid shedding of labour in manufacturing.

2.3 Business margins

In assessing short-run changes in inflation it is useful to consider the ratio of prices to costs which reflects the extent of current pressure on profit margins. There are two general approaches to such calculations. First, national accounts data can be used to look at the ratio of total profits to total costs. Second, an output price index or deflator can be compared with an index of costs. Each method has several variants.

Chart 2.9
Whole economy profit margins



Whole economy

One measure of profit margins can be obtained by comparing total profits (net of stock appreciation and capital consumption) with total costs (primarily labour and import costs) using national accounts data. On this measure, profit margins for the whole economy are estimated to have declined during 1989–90, and then remained broadly flat until the end of 1991. In the second quarter profits are estimated to have increased by 9%, with a further rise of 1.5% in the third quarter. Since costs remained largely unchanged margins are estimated to have risen again (see Chart 2.9). The fall in margins in the current recession has been much less marked than in the recession of the mid-1970s, but not dissimilar to the decline of the early 1980s. The comparison with the early 1980s is, however, distorted by the inclusion of profits from the North Sea which were buoyant at that time. Excluding such profits, the present decline in margins can be seen to have been much less marked than in the early 1980s.

Chart 2.10
Manufacturers' margins

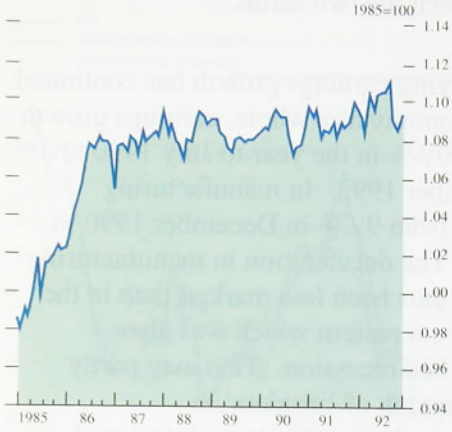


Table 2.F
Contributions[a] to manufacturers' ouput price inflation [b]

Percentage points

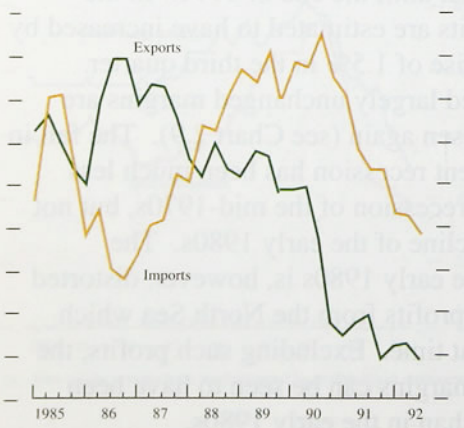
		1990 H1	1990 H2	1991 H1	1991 H2	1992 Q1	1992 Q2	1992 Q3
1	Labour productivity (increase)	0.7	—	-0.6	1.0	1.9	1.9	1.9
2	Labour costs	4.0	3.9	3.3	3.2	3.8	2.9	2.4
3	Unit labour costs (3=2-1)	3.2	3.9	3.8	2.2	1.9	1.0	0.5
4	Input prices	-0.2	-0.3	-0.7	-0.8	-0.4	-0.7	-1.0
5	Bought-in services [c]	2.5	2.5	2.5	2.1	1.8	1.1	-0.9
6	Margins [d] (residual) (6=7-(3+4+5))	0.4	0.1	0.2	0.8	-0.3	1.5	2.2
7	Output prices [e]	5.9	6.1	5.8	4.3	2.9	2.8	2.7

(a) Calculated for each component as the twelve-month growth rate scaled by weights derived from 1984 input-output tables as follows:

unit labour costs	0.44
input prices	0.33
bought-in services	0.23

(b) Excluding food, drink and tobacco.
(c) Proxied by unit labour costs in the service sector.
(d) Figures may not add to totals because of rounding.
(e) Percentage change on a year earlier.

Chart 2.11
Manufacturing import and export margins



Manufacturing

An estimate of profit margins in manufacturing may be constructed by comparing producer output prices with an estimate of costs combining labour costs and producer input prices, using weights based on 1984 input-output tables (Chart 2.10 and Table 2.F). By this measure the price-cost mark-up has been broadly sustained through the late 1980s and early 1990s. This has principally been achieved by cost restraint since output price inflation has been falling significantly in the past two years or so.

Assuming that the costs of exporters of manufactures are identical to those of domestic manufacturers more generally, it is possible to calculate a measure of export margins by replacing the producer output price index with the average value index (AVI) for exports of manufactures. On this basis margins on manufactured exports are estimated to have fallen significantly from their peak at the end of 1986 (see Chart 2.11). The fall probably reflects the impact of sterling's appreciation during the late 1980s, and may be reversed—at least in part—by sterling's depreciation.

Importers' margins

Ideally, a measure of importers' margins would compare the final sale price of imports within the United Kingdom, with total production and distribution costs. However, information on the final sale price of imported goods is not available. But it is possible to compare the sterling price of UK imports of manufactures (based on the AVI), with an estimate of the production costs of imports based largely on overseas unit labour costs (see Chart 2.11). Using the AVI, as opposed to domestic sales prices, means that the measure does not include distributors' costs and margins in the United Kingdom, but it does include shipping and insurance costs to the United Kingdom.

Chart 2.11 shows that importers' margins fell by over 9 percentage points between 1990 Q3 and 1992 Q3, to their lowest level since 1987. The weakness of margins on this measure suggests that importers may have little further scope to absorb much of the recent depreciation, although if they wish to maintain sales of imports they may be forced to do so. An increase in the relative price of imports would be likely to encourage UK purchasers to switch expenditure towards domestic products, although the extent to which they will do so remains to be seen.

2.4 Indirect taxes

On April 1 1991 the rate of *VAT* was increased from 15% to 17.5%. This added about 1.1 percentage points to the RPI, most of which would have appeared in the April and May 1991 index numbers. The CSO estimated at the time of the 1991 increase that some 51.5% of expenditure covered by the RPI was 'vatable'. There have been some other minor changes in coverage in recent years, but these are likely to have had only a marginal impact on the RPI.

Most *excise duties* were indexed in the 1992 Budget to the increase (of 4.5%) in the RPI in the year to December 1991. However, some duties were increased further, including excise duty on some tobacco products and on leaded petrol. Excise duty for vehicles in the private and light goods class, and for taxis, was increased from £100 to £110 in the 1992 Budget, which also announced a reduction in the rate of car tax (paid when purchasing a new car) from 10% to 5%. Car tax was subsequently abolished in the 1992 Autumn Statement. This has no direct effect on the RPI, which excludes the price of new cars, but it will have an indirect effect through its impact on second-hand car prices.

In April 1990, the *Community Charge* was introduced in England and Wales. It is estimated that the introduction of the community charge in 1990 added approximately 1.4 percentage points to the RPI. In April 1991 a rebate of £140 was introduced, but the impact on the RPI was broadly offset by the simultaneous increase in VAT and excise duties.

2.5 Summary

This section has examined short-run cost pressures that might subsequently feed through to higher prices. On the labour cost front, there was a marked slowdown in the rates of increase of earnings and settlements in 1991–92, and there are now signs of renewed slowing after a period of levelling off. Empirical models of wage determination assign a significant role to past rates of inflation, so that the further recent reduction in headline RPI inflation should reinforce the decline in settlements. Unemployment, too, plays a significant role in wage determination, so that further downward pressure can be expected from past and prospective labour shedding. But past experience suggests real wages are slow to adjust. The net effect should be either a flattening-off of

the recent downward trend in earnings growth, or a further slowdown. On balance, therefore, the pressures from labour costs are unlikely to increase in the short-to-medium run.

By contrast, cost pressures arising from the recent depreciation of sterling have become evident in the past few months. Reflecting the recent rise in import prices, manufacturers' input prices increased by 4% between October and January. The increases might have been greater had not overseas inflation been relatively subdued. Nevertheless the rise in imported and raw material costs is likely to pass through into producers' output prices, and thus into underlying inflation, unless producers' margins are further squeezed. The evidence suggests that, especially in manufacturing, but also in the economy more widely, margins have held up surprisingly well in the present recession compared with earlier recessions. Producers may thus have scope in the short run to absorb such cost increases, and hence the impact of depreciation on domestic prices may take longer to be seen on this occasion than in the past. Producers will be less reluctant to squeeze their margins if they believe that policy will not accommodate any increase in inflation.

The outlook for inflation 3

The two previous sections have discussed in some detail the past behaviour of both prices and costs. From this evidence it is clear that there was a strong downward momentum to inflation prior to the relaxation of monetary policy which followed the suspension of sterling's ERM membership. To assess the future outlook for inflation, it is necessary to judge the balance between the downward pressure on inflation deriving from the current state of the domestic economy and the upward pressure that, other things being equal, will follow the relaxation of policy. A number of factors are relevant to that judgement. Monetary conditions are the principal determinant of inflation in the long run. This section begins, therefore, with an analysis of monetary and fiscal policy. The former relates to short-term developments in monetary conditions and the latter to expectations of future monetary conditions in the medium term. The rate at which domestic inflationary pressures adjust to the level implied by the monetary stance depends upon demand and supply conditions in both product and labour markets. Section 3.3 discusses the most recent data for real demand and output in the light of debt burdens inherited from the past. The extent to which a recovery in demand will generate short-term inflationary pressures depends on the extent to which the growth of productive potential has been affected by the length of the recession. If the reduction in inflation is to be sustained, it is crucial that nominal wages and earnings rise at a rate consistent with price stability. The link between conditions in the labour market and the rate of growth of earnings is discussed in Section 3.4.

An important test of the credibility of a counter-inflationary strategy is whether private sector expectations of future inflation are consistent with the stated aim of that strategy. Section 3.5 describes evidence on expectations of inflation derived from direct surveys of expectations and the expectations contained in a sample of private forecasts for the UK economy. Section 3.6 attempts to bring this evidence together in order to reach a judgement about the direction in which the rate of inflation is headed. The outlook for inflation over the next few months may be described by simple statistical projections of past inflation rates. But for purposes of monetary policy an outlook over a period of

some two years is more appropriate. Over such a period an analysis of the behavioural influences on inflation is required. This section discusses the factors that determine inflation in the medium term.

3.1 Monetary conditions

(a) Interest rates

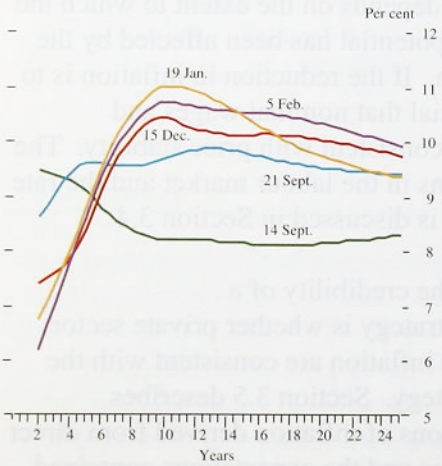
Since mid-September, official short-term interest rates have fallen by four percentage points and base rates have been reduced to their lowest level for nearly 15 years. But economic prospects over the medium term depend on the pass-through from official short-term interest rates to the prices of many other financial assets. So the effect of the easing of policy depends on the behaviour of private sector agents, and their expectations of future changes in policy.

Inspection of expected interest rates (derived from interest rate futures prices) suggests that the markets anticipated—at most—only a further ¾ percentage point reduction in UK interest rates in the early part of this year, but that this would subsequently be reversed (see Table 3.A). German interest rates, by contrast, were expected to fall by over one percentage point by June, and a further percentage point by December. Ecu rates were expected to fall broadly in line. By contrast, US interest rates were expected to rise by over a percentage point during the course of this year.

Table 3.A
Expected three-month Libor rate

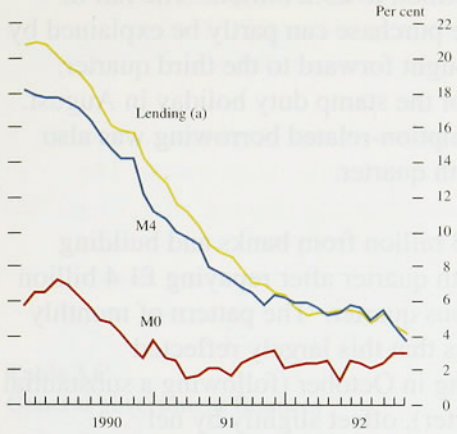
Date	Spot	1993 Mar.	June	Sept.	Dec.	1994 Mar.
1992						
Mon. 14 Sept.	10.25	9.78	9.52	9.23	9.16	9.14
Mon. 21 Sept.	9.25	8.02	7.99	8.03	8.27	8.47
Tues. 15 Dec.	7.19	6.72	6.42	6.44	6.77	7.17
1993						
Tues. 19 Jan.	7.06	6.58	6.26	6.14	6.36	6.40
Fri. 5 Feb.	6.19	5.74	5.27	5.18	5.28	5.67

Chart 3.1
Implied forward interest rates



The structure of interest rates across the maturity spectrum offers an indication of expected changes in interest rates and inflation in the longer term. Chart 3.1 shows implied forward interest rates (derived from prices of conventional gilts) at various dates in the past five months, and demonstrates clearly the sharp change in the slope of the yield curve in September—from downward to upward sloping. This reflected both the cuts in interest rates which had already taken place, but also the anticipated effects of the loosening of monetary policy. For a given maturity, the nominal interest rate may be disaggregated into three components: the real rate, the inflation risk premium and the expected inflation rate. Assuming changes in both the real rate and the inflation rate premium to be negligible, an increase in interest rates at the long end of the maturity spectrum indicates a rise in expected inflation. It is notable that the curve relating to the period before suspension of ERM membership intersects with the later curves at an horizon of around six years (see Chart 3.1). This is consistent with a pattern in which interest rate

Chart 3.2
Twelve-month growth rates of M0, M4 and bank and building society lending



(a) Bank and building society lending to the M4 private sector.

Chart 3.3
Level of M0 and the value of retail sales

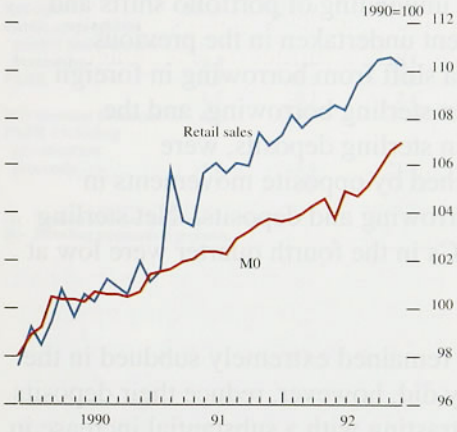
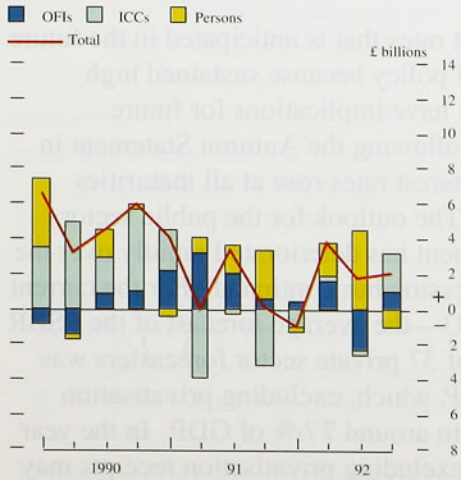


Chart 3.4
Private sector net sterling recourse to banks and building societies (a)



(a) Changes in the stock of borrowing less the change in the stock of deposits and notes and coin. Net borrowing is positive, net deposits are negative.

cuts initially lower the RPI headline inflation rate below the rate which would have been likely had the United Kingdom remained in the ERM. But policy is apparently now thought likely to be looser in the medium term than it would otherwise have been, and inflation consequently higher.

(b) Monetary aggregates and credit

Narrow and broad money growth offered conflicting signals in the fourth quarter.

Narrow money growth has remained strong for seven consecutive months. At an annualised rate, M0 grew by 6.9% in the fourth quarter compared with 5.5% in the previous quarter. By January its twelve-month growth rate, at 4.1%, was just above the 0%–4% target range. The twelve-month change in notes and coin rose to 3.4% in December and 4.0% in January (from 2.2% in September). In part this growth may be accounted for by changing expenditure patterns (see the August 1992 *Quarterly Bulletin*) and also by the falling opportunity cost of using cash (as interest rates decline). Bank estimates suggest that up to 0.5% of the current annual growth of M0 may be the result of reductions in interest rates in the latter part of last year.

The broader monetary aggregates, on the other hand, show no signs of recovery. After falling from a twelve-month growth rate of 18% at the beginning of 1990 to around 6% by the beginning of 1992, M4 growth declined further—to below the 4%–8% monitoring range—in the year to the fourth quarter. The annualised quarterly growth rate—which fell from 5.3% to 2.1% during the course of 1992—points to further decline in the twelve-month rate. The slowdown in the credit aggregate has been even more marked: from over 20% in the first quarter of 1990 to 5.2% at the beginning of 1992 and to just above 4% by the end. The fall in the growth rates of real M4 and lending has been less rapid as inflation has also fallen.

Net recourse to banks and building societies by the private sector increased by only £0.3 billion in the fourth quarter, to £2.0 billion. Industrial and commercial companies (ICCs) and other financial institutions (OFIs) increased their net borrowing by £2.5 billion and £3.3 billion respectively, while the flow of net borrowing by the personal sector fell by £5.5 billion. Excluding unincorporated businesses, personal sector net recourse fell by £4.6 billion to £-1.1 billion, the lowest recorded

level since 1980. A large proportion of this reduction was the result of lower borrowing for house purchase, which fell by £2.8 billion to £3.2 billion. The fall in borrowing for house purchase can partly be explained by purchases being brought forward to the third quarter, prior to the ending of the stamp duty holiday in August. Households' consumption-related borrowing was also very low in the fourth quarter.

ICCs borrowed £1.3 billion from banks and building societies in the fourth quarter after repaying £1.4 billion of debt in the previous quarter. The pattern of monthly credit flows suggests that this largely reflected substantial borrowing in October (following a substantial fall in the third quarter), offset slightly by net repayments in November and December. ICCs' borrowing may have been influenced by tensions in the financial markets prior to sterling's withdrawal from the ERM. The increase in borrowing in October may therefore reflect the unwinding of portfolio shifts and financial retrenchment undertaken in the previous quarter—or simply a shift from borrowing in foreign currency. The rise in sterling borrowing, and the accompanying fall in sterling deposits, were approximately matched by opposite movements in foreign currency borrowing and deposits. Net sterling capital issues by ICCs in the fourth quarter were low at £1.8 billion.

Borrowing by OFIs remained extremely subdued in the fourth quarter. They did, however, reduce their deposits by £0.7 billion, contrasting with a substantial increase in the third quarter.

Table 3.B
Sectoral analysis of sterling deposits with, and borrowing from, banks and building societies

£ billions; *seasonally adjusted (calendar year constrained)*

		1991 Year	1992 Q1	Q2	Q3	Q4
	Personal sector					
1	Deposits(a)	24.0	6.3	4.0	1.9	4.1
	of which:					
	Individuals	24.1	5.3	3.4	3.1	4.2
	Unincorporated businesses, etc	-0.2	1.0	0.5	-1.2	—
2	Borrowing	28.8	6.0	5.9	6.3	3.0
	of which:					
	House purchase	25.4	5.6	5.4	6.0	3.2
	Consumption	2.4	0.4	0.2	0.6	-0.1
	Unincorporated businesses, etc	1.0	—	0.3	-0.3	—
3	**Net recourse** (=2-1)	**4.8**	**-0.3**	**1.9**	**4.4**	**-1.1**
	ICCs					
4	Deposits(a)	6.5	0.3	1.2	-1.1	-0.9
5	Borrowing	1.4	-0.8	1.5	-1.4	1.3
6	**Net recourse** (=5-4)	**-5.2**	**-1.1**	**0.3**	**-0.3**	**2.2**
	OFIs					
7	Deposits(a)	-1.0	—	0.8	2.5	-0.7
8	Borrowing(b)	6.7	0.4	2.3	0.1	0.2
9	**Net recourse** (=8-7)	**7.7**	**0.3**	**1.5**	**-2.4**	**0.9**

(a) Includes holdings of notes and coin.
(b) Includes Issue Department take-up of commercial bills.

3.2 Fiscal policy

The level of interest rates that is anticipated in the future depends upon fiscal policy because sustained high budget deficits may have implications for future monetary policy. Following the Autumn Statement in November 1992, interest rates rose at all maturities above eight years. The outlook for the public sector borrowing requirement has deteriorated rapidly over the past year as the recession has continued. For the current fiscal year—1992/93—the average forecast of the PSBR made by a sample of 37 private sector forecasters was almost 6½% of GDP, which, excluding privatisation receipts, amounted to around 7½% of GDP. In the year 1993/94 the PSBR excluding privatisation receipts may well be higher. Deficits on this scale would imply an increasing ratio of public debt to GDP. If sustained,

there would be a choice between reducing the budget deficit or increasing monetary growth, and hence inflation, to lower the real burden of debt.

The extent to which the PSBR is, at present, 'structural' rather than 'cyclical' is very uncertain. Undoubtedly there are elements of both. There is a substantial cyclical component to the PSBR because of the sensitivity of both receipts and expenditures to changes in the level of activity. Tax receipts, in particular, vary considerably as incomes and prices change, without any discretionary changes in tax rates. And the increase in unemployment of over 300,000 since the Budget last year has added to public expenditure. These elements account for the bulk of the unanticipated increase in the PSBR over the past year.

Table 3.C
General government finances

£ billions: *figures in italics as a percentage of GDP*

	1989/90	1990/91	1991/92	1992/93 (a)
Expenditure (b)	200.8	217.4	235.9	260.8
	38.2	*39.2*	*40.6*	*43.4*
of which, new control total	175.1	192.1	211.2	232.0
	33.3	*34.6*	*36.3*	*38.6*
Receipts	207.4	217.9	221.9	223.1
Public corporations market and overseas borrowing	-1.4	—	-0.3	-0.7
PSBR	-7.9	-0.5	13.8	37.0
	-1.5	*-0.1*	*2.4*	*6.2*
Privatisation proceeds	4.2	5.3	7.9	8.0
PSBR excluding privatisation proceeds	-3.7	4.9	21.7	45.0
	-0.7	*0.9*	*3.7*	*7.5*

(a) Treasury Autumn Statement Forecast.
(b) Including privatisation proceeds.

The New Control Total (NCT) announced in the Autumn Statement was designed to distinguish more accurately between items of expenditure which are responsive to the level of activity without any discretionary change in policy—in particular, unemployment benefit and income support paid to non-pensioners—and those which are not. As Table 3.C shows, the NCT has risen significantly in recent years—both in monetary terms and as a proportion of nominal GDP—lending support to the view that the fiscal stance has eased.

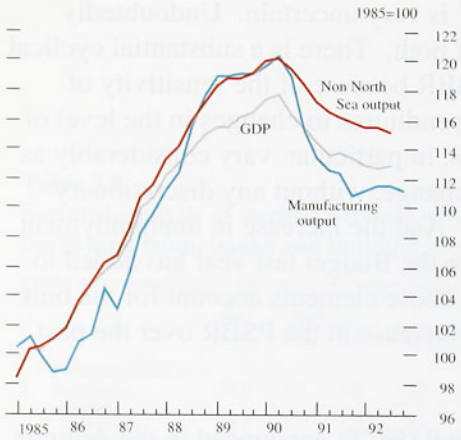
Any attempt to distinguish between 'structural' and 'cyclical' components of the budget deficit requires some estimate of the deficit that would result if the economy were growing steadily at its underlying trend growth rate of productive potential. But there is in fact no clear distinction between cyclical and trend growth rates—they are interdependent. There is, therefore, real uncertainty about the size of the current output gap (which is discussed in more detail below). A large output gap implies that the budget deficit could fall sharply as recovery takes place; a small output gap means that the current fiscal stance is inconsistent with a stable ratio of public debt to GDP even in the long run.

3.3 Demand and supply conditions

(a) Recent data

The falls in inflation during last year were a reflection of how tight monetary policy was during the period of ERM membership. This is evident in the continuing

Chart 3.5
Domestic output



recession, which has exceeded all but the gloomiest projections. Domestic demand fell by 3.9% between the second quarter of 1990 and the third quarter of 1992. Total output fell by slightly more (4.2%), even excluding North Sea production (4.0%)(see Chart 3.5).

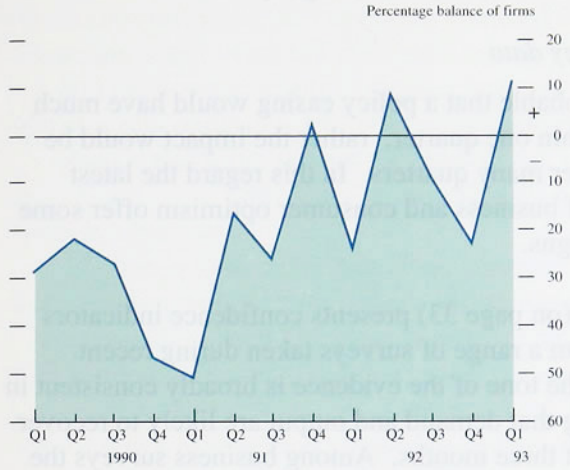
Despite the easing of policy since September, demand and output have shown few signs of recovery. The trend in retail sales is upward, with a rise of 0.3% in the fourth quarter. But the most recent figures showed a surprisingly large fall of 0.7% in December, despite a sharp recovery in sales post-Christmas among large retailers. The pattern of sales shows continuing increases in purchases of small-value items (perhaps in response to discounting) but no recovery in higher-value purchases. This pattern is consistent with both the sharp recovery in M0 and the evidence of weak consumer borrowing (from both consumer credit data and bank and building society lending more generally). The one exception appears to be car purchases, which have been buoyant—with registrations in January more than 7% higher than a year earlier, according to figures from the Society of Motor Manufacturers and Traders.

The general weakness in demand in the fourth quarter is also suggested by the sharp slowdown in the rate of growth of import volumes in the past three months. After rising by over 9% at an annual rate in the first half of the year, non-oil import volumes (excluding erratics) rose by only 1% in the third quarter, and remained broadly flat in the final quarter of the year. While this may partly be a response to initial rises in import prices, survey and anecdotal evidence suggests that domestic orders have slowed, and in particular that destocking has proceeded at a more rapid rate than before.

Output data confirm the general picture of weak activity in the fourth quarter. Although industrial output increased by over 1% in October, this reflected a boost to energy output, and was largely reversed in November. Manufacturing output fell in November, and in the three months to November averaged 0.5% less than in the previous three months. Most of the weakness came in the consumer goods sector, but output of investment goods also remained flat. The fall in manufacturing output was particularly disappointing after the recovery in the first half of the year, and given the continuing growth in export volumes. Excluding erratics, non-oil export volumes rose by over 3% in the latest three months over the previous three. Manufacturing exports rose by over 3½%, further emphasising the weakness in home demand.

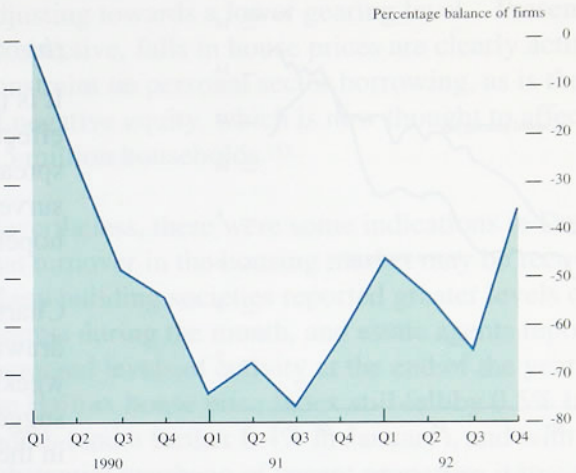
Chart 3.6
Survey data on business and consumer optimism

CBI industrial trends survey



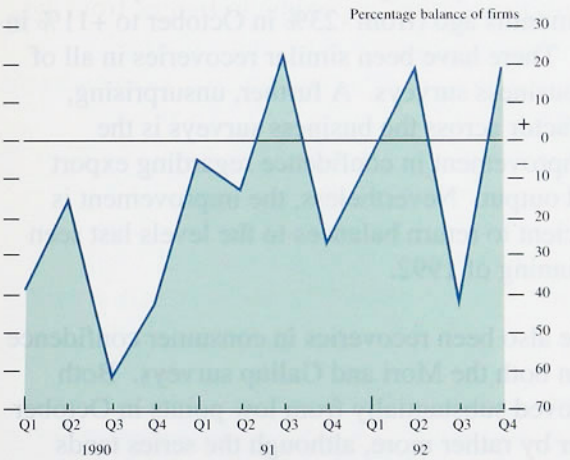
Optimism regarding the general business situation.

Building employers' confederation



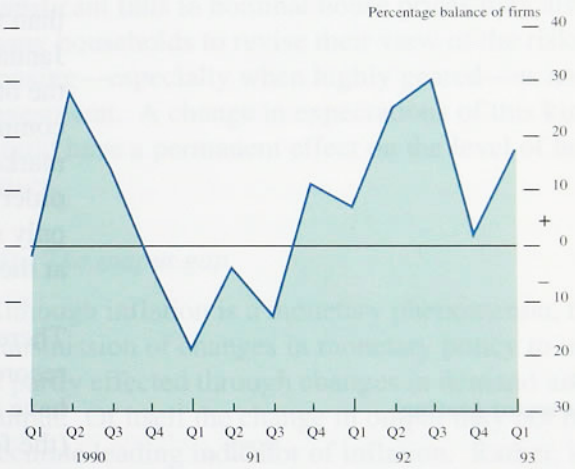
Firms expecting more work.

CBI/Coopers and Lybrand Deloitte



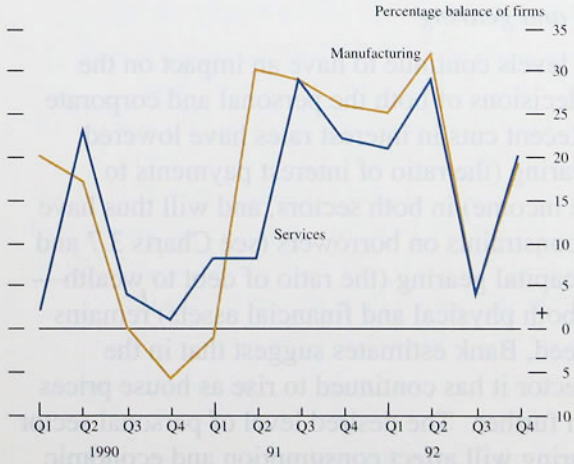
Optimism regarding the overall business situation with respect to the previous three months.

Dun and Bradstreet



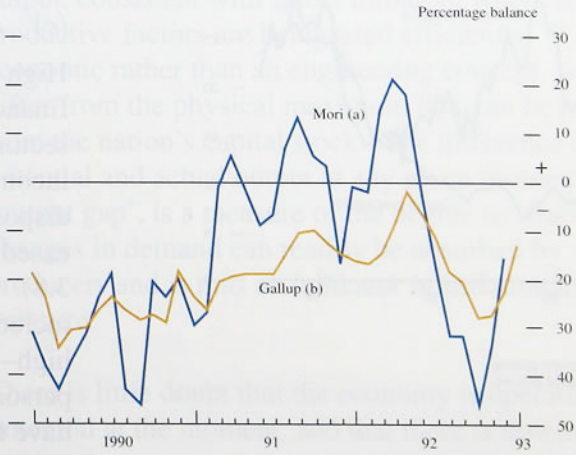
Firms expecting net sales to improve during the next three months.

British Chambers of Commerce



Firms expecting profitability to improve in the next twelve months.

Indices of consumer confidence



(a) Response to enquiry concerning the general economic situation in the country.
(b) Based upon five questions concerned with households' finances and their assessment of economic conditions.

Taken together the latest demand and output data suggest that total domestic output is unlikely to have risen by much in the fourth quarter, and may even have declined. Excluding North Sea production the likelihood is that output fell slightly.

(b) Survey data

It is improbable that a policy easing would have much effect within one quarter; rather the impact would be spread over many quarters. In this regard the latest surveys of business and consumer optimism offer some hopeful signs.

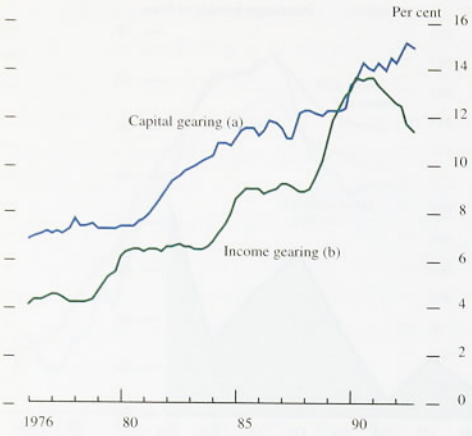
Chart 3.6 (on page 33) presents confidence indicators drawn from a range of surveys taken during recent weeks. The tone of the evidence is broadly consistent in suggesting that demand and output are likely to recover in the next three months. Among business surveys the sharpest improvement is to be seen in the January CBI survey, which showed the largest turnround ever in the balance of firms reporting themselves more optimistic than four months ago (from -23% in October to +11% in January). There have been similar recoveries in all of the other business surveys. A further, unsurprising, common factor across the business surveys is the marked improvement in confidence regarding export orders and output. Nevertheless, the improvement is only sufficient to return balances to the levels last seen at the beginning of 1992.

There have also been recoveries in consumer confidence recorded in both the Mori and Gallup surveys. Both have improved substantially from low points in October (the former by rather more, although the series tends anyway to be more volatile), but not yet to the levels seen in the second quarter of 1992.

(c) Debt and gearing

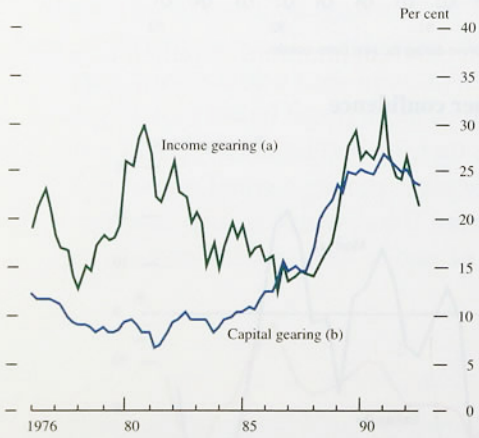
High debt levels continue to have an impact on the financial decisions of both the personal and corporate sectors. Recent cuts in interest rates have lowered income gearing (the ratio of interest payments to disposable income) in both sectors, and will thus have eased the constraints on borrowers (see Charts 3.7 and 3.8). But capital gearing (the ratio of debt to wealth—including both physical and financial assets) remains high—indeed, Bank estimates suggest that in the personal sector it has continued to rise as house prices have fallen further. The desired level of personal sector capital gearing will affect consumption and economic activity. If expectations of future growth have been

Chart 3.7
Personal sector gearing



(a) Borrowing from banks and building societies as a proportion of personal sector finance and physical assets.
(b) Gross personal sector interest payments as a proportion of disposable income.

Chart 3.8
Corporate sector gearing



(a) ICCs' net income gearing.
(b) ICCs' net capital gearing.

revised downwards, then individuals may take advantage of interest rate cuts to pay off debt and move towards their desired levels of gearing. Since, to date, new borrowing has been flat, and repayments high, it seems that the personal sector is still in the process of adjusting towards a lower gearing level. Present, and prospective, falls in house prices are clearly acting as a constraint on personal sector borrowing, as is the scale of negative equity, which is now thought to affect over 1.5 million households.(1)

Nevertheless, there were some indications in December that turnover in the housing market may be recovering. Many building societies reported greater levels of interest during the month, and estate agents reported increased levels of activity at the end of the year. But the Halifax house price index still fell by 0.5% in the month (and a further 0.4% in January), and with a substantial overhang of vacant properties it may be some time before increased turnover levels are translated into house price increases. The experience of significant falls in nominal house prices may also lead many households to revise their view of the riskiness of housing—especially when highly geared—as an investment. A change in expectations of this kind would have a permanent effect on the level of house prices.

(d) The output gap

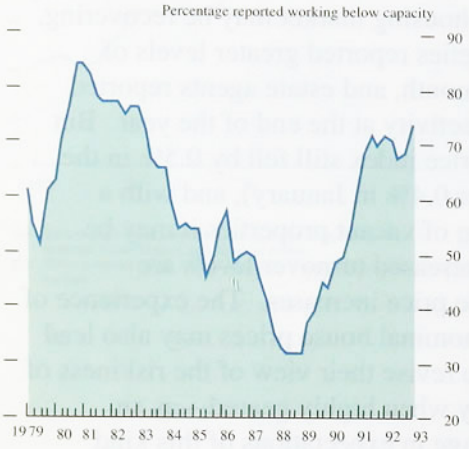
Although inflation is a monetary phenomenon, the transmission of changes in monetary policy to inflation is partly effected through changes in demand and output. Of itself the change in output may not be an accurate leading indicator of inflation. Rather, it is the gap between actual and potential output which is of interest. Potential output is defined as that level of output, consistent with stable inflation, where all productive factors are being used efficiently. It is an economic rather than an engineering concept, and can differ from the physical maximum that can be produced from the nation's capital stock. The difference between potential and actual output at any given moment, the 'output gap', is a measure of the degree to which changes in demand can readily be absorbed by producers and is thus an indicator of inflationary pressure.

There is little doubt that the economy is operating below potential at the moment, and that there is downward

(1) For a fuller discussion see Bank of England *Quarterly Bulletin* August 1992.

pressure on inflation from that source as a result. But measuring the size of the output gap is not straightforward. One measure is provided by responses to the CBI Industrial Trends survey. Chart 3.9 shows the percentage of firms reported as working below capacity. It clearly indicates that the utilisation rate is lower than at any time since the early 1980s although not as low as at the depth of the previous recession. After levelling off in 1991, the utilisation rate actually increased a little in 1992, but has since fallen back again—to its lowest level since 1983.

Chart 3.9
Capacity utilisation



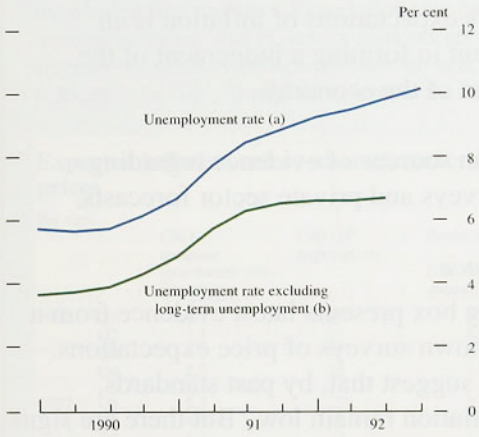
Another common method of estimating potential output is to identify similar points in the business cycle and assume that potential output grew at the average rate of output growth over the intervening periods. The points of similar activity are usually selected by examining survey evidence on utilisation levels, order books, leading indicators, expectations and the like. Peak to peak, and trough to trough, output growth measures are examples of the approach. This 'straight line' method sees potential output growth as determined largely by technical progress which continues at a more or less constant rate, independently of short-term developments in the real economy. Using this method it is estimated that trend growth between the cyclical peaks of the second quarter of 1979 and the third quarter of 1990 was 2½% per year. If output growth was on trend at the end of 1990, this would imply that the output gap was currently around 7%.

Other methods assume that potential output is not a function of exogenous technical progress alone, but that current economic conditions influence the rate of investment in more productive capital. This implies a rather different view of long-term growth prospects. In this approach demand will affect supply through capital scrapping and the deterioration of the quality of the labour force so that prolonged periods of underutilisation would adversely affect the quality of productive inputs, in turn lowering the growth of productive potential. If the growth of potential in the current recession has behaved in a way similar to that experienced in the early 1980s then the output gap on this methodology could be rather less than the estimates above—perhaps around 2½%–3½%.

3.4 Unemployment and the labour market

The output gap provides an indicator of the degree of inflationary pressure in goods and services markets. The unemployment rate provides a similar indicator for the labour market. The level of unemployment is an indicator of excess supply in the labour market. The change in unemployment may also exert an influence on earnings. The rise in unemployment over the course of the recession has undoubtedly contributed to the slowdown in nominal earnings growth, and the recent acceleration in labour shedding would also be expected to restrain earnings growth. But the long-term unemployed exert less of a downward effect per capita on wages than the numbers unemployed for less than twelve months, because those who have been out of work for a long time become generally less employable. Chart 3.10 shows that, while total unemployment has continued to rise, the level excluding the long-term unemployed has broadly flattened off, suggesting that the impact on earnings from excess supply in the labour market might not increase any further and could diminish.

Chart 3.10
Unemployment rate



(a) As a proportion of total workforce.
(b) As (a), but excluding those unemployed for more than 52 weeks.

The behaviour of wages will have an important influence on the rate at which sterling depreciation feeds through to the domestic price level. In the long term if the nominal depreciation that has occurred since late September persists, and is accommodated by monetary policy, then the domestic price level will be higher—by the same proportion as the depreciation—than it would have been in the absence of depreciation. But the path along which prices adjust to this long-run outcome depends upon the response of domestic factor incomes. The initial impact of a nominal depreciation is a deterioration in the terms of trade. This implies that in the short run either (i) real wages and/or real profits will fall, or (ii) domestic prices will rise, offsetting the depreciation and restoring the terms of trade to their previous level, or (iii) some combination of (i) and (ii). If inflation is to remain within its target range the brunt of the adjustment will have to come from the first of these alternatives. And if real wages for those in employment continue to grow as rapidly as they have since the recession began (see Chart 2.5) then the adjustment will take the form of rising unemployment. Unit labour costs have been rising very slowly, if at all, in recent months. If this continues then the pass-through of sterling depreciation to domestic prices will be slow. But in the year ahead it would be preferable for unit labour costs to remain

flat because of smaller increases in nominal earnings rather than further labour shedding.

3.5 Expectations of inflation

One indicator of the success of policy is the extent to which expectations of inflation are reduced. The more convinced the private sector is of the authorities' intention to resist inflation the more rapidly will expectations adjust, and the less costly (in terms of lost output) will be the adjustment process. Knowledge of the private sector's expectations of inflation is an essential component in forming a judgement of the likely future course of the economy.

There are two main sources of evidence regarding expectations—surveys and private sector forecasts.

(a) Survey evidence

The accompanying box presents latest evidence from a number of well-known surveys of price expectations. All of the surveys suggest that, by past standards, expectations of inflation remain low. But there are signs of an increase in most expectations since sterling's departure from the ERM. The most compelling evidence comes from the CBI Industrial Trends Survey, which has been in existence long enough to permit statistical analysis of its information content with respect to published price indices. As it surveys mainly the manufacturing sector it is also likely to highlight the impact of depreciation more rapidly than the other surveys—and in both October and January the number of respondents expecting to increase prices in the next four months has risen. The sharp increase between October and January should be qualified by the observable seasonal pattern in the survey responses (associated with the changing of list prices in January). The seasonally adjusted balance is estimated to have risen from -5 to 0, suggesting that output price inflation is likely to rise—but not very rapidly.

The Barclays/NOP and Smith New Court surveys relate to expected RPI inflation. The former has shown large implied errors at both the one and two-year horizons. By contrast the Smith New Court survey offers a clear indication of the upward revision to inflation expectations which has followed the suspension of ERM membership—approximately ½–1 percentage point. But the sample from which the survey is drawn is small, and may be unrepresentative.

Surveys of inflation expectations

There is a growing academic literature on the use and interpretation of surveys. This parallels the increasing number of business and consumer surveys now being undertaken, many of which provide information on inflation expectations. At present the surveys offer a mixed picture of expected movements of inflation over the next twelve months.

One of the oldest and best-known business surveys is the *CBI's quarterly Industrial Trends Survey*. The survey gives an evaluation of manufacturers' *current* output, orders, trade, capital spending, etc. In addition, the survey contains *expectations* of key variables such as prices and output for the coming four months . Expectations are defined in qualitative terms; that is, survey respondents indicate whether the trend in their prices over the next four months is likely to be 'up', 'down' or to remain the 'same'.

Expected inflation rates—manufacturers' domestic prices

Per cent

		CSO measure four-month rate, annualised	CBI UP expectation	Prediction four-month rate, annualised
1991	Q1	7.7	36	6.7
	Q2	7.3	21	6.4
	Q3	3.0	17	3.1
	Q4	2.7	18	3.4
1992	Q1	5.3	25	5.1
	Q2	4.5	16	4.8
	Q3	1.7	12	1.1
	Q4	2.4	16	2.5
1993	Q1	—	22	3.7

where Q1 = Jan.–April; Q2 = April–July; Q3 = July–Oct.; Q4 = Oct.–Jan.

Research in the Bank suggests that CBI survey expectations have provided additional information on producer price inflation in the past 10 years—over and above that contained in the past history of inflation. Predictions from an equation—using only the UP responses, rather than the balances which are conventionally quoted—closely follow the gradual decline in the (four-month) inflation rate over the past two years. But the anticipation in both the October and January surveys is consistent with an increase in predicted inflation in recent and coming months.

The *Dun and Bradstreet Survey* has been in existence since the fourth quarter of 1987. The question on prices asks the (business) inteviewees whether they expect their selling prices to increase, decline or remain unchanged over the next three months compared with 12 months earlier. The usual number of responses is around 2,000—about 20% of those who are sent forms.

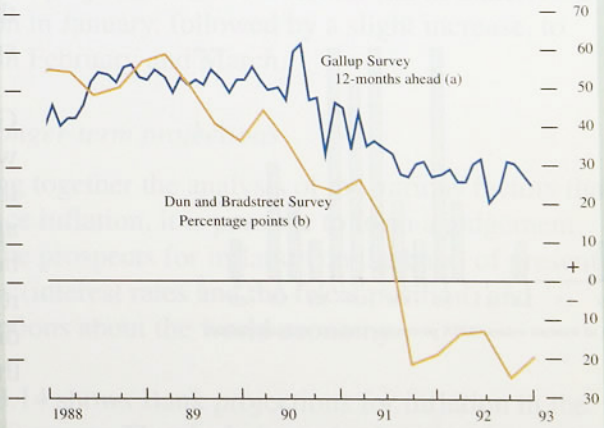
The September and December surveys (conducted since the suspension of sterling's membership of the ERM) show—perhaps surprisingly —that price expectations are lower than the six-month period up until September. While the December survey did show a small up-tick in expected prices growth, the overall message is that inflation remains subdued.

There are also surveys on expectations of retail rather than producer price inflation. *Barclays Bank/NOP* produce quarterly surveys of inflation expectations for the general public as well as a number of smaller groups (such as investment analysts, business economists and others). The survey has been running since December 1986 and provides inflation expectations one and two years ahead. On average, the general public have not predicted inflation accurately. The mean absolute error of one-year ahead expectations is close to two percentage points. The two-year ahead forecast error is slightly higher. While the rise in inflation in the late 1980s was reasonably well predicted, expectations have since followed inflation down with a considerable lag. The public's latest expectations of inflation for 1994 were made in December and remain above the official target range, at 5.2%.

The *Gallup/EC Consumer Confidence Survey* is a monthly survey of around 2,000 individuals. It provides the raw responses in terms of whether respondents expect over the next 12 months that prices will (i) increase at a faster rate (ii) increase at the same rate (iii) increase at a slower rate (iv) remain stable (v) fall slightly. Weighting these responses together (with weights of 1, 0.5, 0, -0.5, -1) produces the summary index shown in the chart below. This suggests that expectations of inflation one year ahead have been on a downward, albeit erratic, trend during this recession along with actual inflation, reaching a low point last August. Following increases in September and October the most recent surveys show further slight declines.

Smith New Court/Gallup produce a monthly survey of around 100 fund managers. Since August 1991 it has included a question on expectations of RPI inflation for end-1992 and since June 1992 a question has also been included on inflation expectations for end-1993. Until sterling's suspension from the ERM, expectations for inflation for end-1992 and end-1993 were revised almost continually downwards in line with the current inflation rate. Since September expectations have been revised upwards, the decline in sterling apparently adding ½–1 percentage point to inflation expectations for end-1993.

Dun and Bradstreet Survey on expectations of selling prices and Gallup consumer price expectations

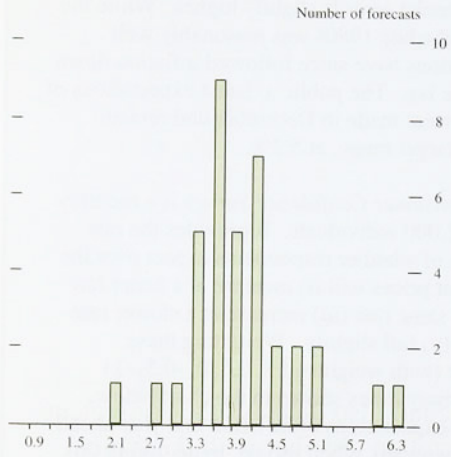


(a) Weighted average of responses to Gallup question.
(b) Balance of those expecting an increase (+) or a decrease (-) in selling prices.

(b) Outside forecasts

Further evidence on inflation expectations is available from forecasts undertaken by private sector institutions. The charts below present projections for underlying inflation in the year to the fourth quarter of 1993 and the fourth quarter of 1994. These were made by 37 different organisations—including City firms and academic forecasts such as those of the London Business School and the National Institute.

Chart 3.11
Distribution of private sector forecasts for inflation in 1993 Q4



Range of forecast values (RPIX percentage changes on a year earlier).

The progress on costs and the relatively long lags from policy to demand, output and inflation mean that around half of the forecasters currently envisage underlying inflation remaining at or below 4% for the remainder of this year. But it is noteworthy that only 11 out of 37 expect to see further downward progress from December's level (see Chart 3.11). And only 12 out of 37 expect underlying inflation to be at or below 4% at the end of next year (Chart 3.12).

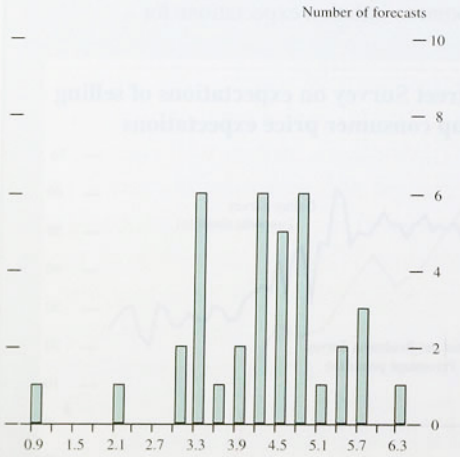
The anticipated increase in inflation in these forecasts partly reflects underlying assumptions that interest rates are likely to fall further, and that sterling will depreciate. These forecasts suggest that sufficient credibility does not yet attach to the inflation objective announced in October for many forecasters to be confident that the objective will be achieved within two years.

3.6 Prospects for inflation

The lags between changes in interest rates and their effect on inflation are sufficiently long that it is necessary to form a judgement on the trend in inflation over the next two years or so, conditional on existing rates and other policies. Forecasts of inflation over such time horizons are notoriously inaccurate. It would, therefore, be unwise to base policy on the wholly spurious precision of a point forecast.

Given the random shocks that hit the economy, forecasts will never be precisely accurate. Their value lies not in their powers of prediction. Rather they are guideposts against which future developments in the economy may be evaluated. When the outturn differs from the forecast it is important to ask what 'news' is conveyed by this difference. The charts shown below should be seen in this light.[1]

Chart 3.12
Distribution of private sector forecasts for inflation in 1994 Q4



Range of forecast values (RPIX percentage changes on a year earlier).

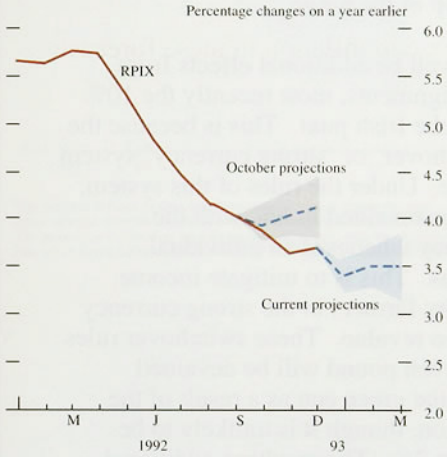
(1) The interested reader may care to keep the charts to hand so that the eventual outturn for inflation can be compared with the *ex-ante* expectation. This will provide information on the 'news' contained in the published inflation rate.

(a) Short-run projections

Month-to-month changes in RPIX can be predicted with some confidence over a very short-term horizon by extrapolating its past behaviour. Combining the projected monthly change with eleven months of known outcomes produces a forecast for the annual RPIX inflation rate which is usually fairly reliable for a month or two ahead. Inflation forecasts beyond this very short horizon become increasingly uncertain, as the monthly change is more likely to be affected by behavioural factors (not accounted for in simple extrapolation) and as the known history in the forecast twelve-month measure declines.

Short-term projections based on this approach, augmenting extrapolation of past trends with specific adjustments incorporated for known prospective changes in administered prices and for the estimated pass-through of the depreciation of sterling, are shown in Chart 3.13.[1] The chart also displays the equivalent projection made in October, together with the typical margin of error on both forecasts, determined by the average errors made on such projections in the past. The chart illustrates the extent to which the slowdown in the rate of growth of RPIX was underestimated towards the end of last year. Given the relatively mechanical nature of the projections this indicates that RPIX growth slowed in relation to its past trend—although it is not clear whether this was the result of temporary shocks, or a more fundamental change in economic conditions. The weakness of demand and output in the fourth quarter points to the conclusion that underlying inflationary pressures were continuing to weaken as a result of the tight monetary stance prior to departure from the ERM.

Chart 3.13
RPIX inflation projections and outturns



The range is defined as the central projections plus or minus the average error on such forecasts in the past.

The latest projections show a further fall in underlying inflation in January, followed by a slight increase, to 3.5%, in February and March.

(b) Longer-term projections

Drawing together the analysis of the various factors that influence inflation, it is possible to form a judgement about the prospects for inflation on the basis of present policies (interest rates and the fiscal position) and assumptions about the world economy.

Chart 3.14 shows Bank projections for inflation in the next two years. The shaded area is given by the error on

(1) Past trends are extrapolated using Kalman filter methods.

The green pound and inflation

The green pound is the rate at which Europe-wide agricultural support prices are converted from ecus to sterling. Until recently, the rate was set administratively once a year, when it was brought into line with market rates if necessary. During the period that sterling was in the ERM, the discrepancy with market rates was never great. However, sterling's devaluation initially opened up a 14½% gap between the green pound rate and the official ecu rate.

This gap would normally represent a windfall gain for UK farmers, since Ecu farm prices expressed in sterling will have risen. However, the common agricultural policy is intended to ensure a uniform set of agricultural prices across all agricultural products for all member nations. Until recently, a complicated system of 'monetary compensation amounts' (MCAs) existed to eliminate relative price changes resulting from exchange rate movements. In the event of a devaluation, the increase in domestic prices was offset by imposing equivalent taxes on exports and subsidies on imports, the proceeds of which were passed on as compensation to foreign importers of domestic agricultural produce and domestic importers of foreign produce. These taxes and subsidies remained in place until the green pound was restored to market rates.

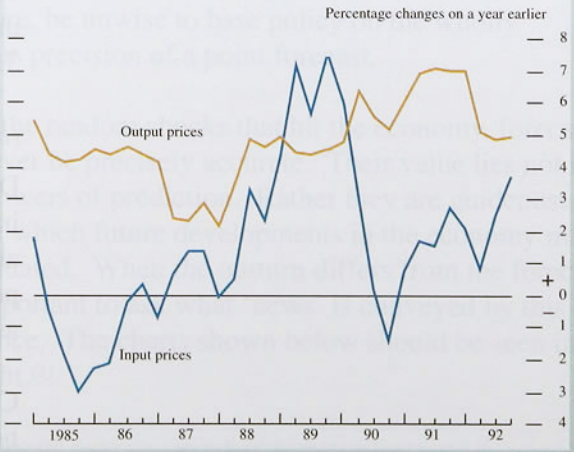
However, this system disappeared in January with the advent of the single market and the abolition of all border levies. The green pound will in future be adjusted at least once a month, while MCAs disappear altogether. Because these prospective arrangements were well known, this meant that during November and December 1992, the change in administrative arrangements appeared to offer scope for speculation, since exporters could import food stuffs from elsewhere in the EC in November (and receive a subsidy for doing so) and subsequently re-export at a profit in January once export levies were removed. To discourage this the green pound was devalued by 3% in September and by an additional 7% on 19 November, pushing up the sterling price of CAP goods by the same amount. A further 4½% devaluation at the end of December took the total decline since September 1992 to 14%, bringing the green pound rate back into line with the £/Ecu rate.

The likely impact of this on the RPI is difficult to estimate with any precision since little is known about how food retailers will react to the rise in support prices in the short run. But since food accounts for 15% of the RPI, and around one fifth of this is accounted for by spending on CAP foods, the maximum initial impact of a 13% rise in prices would be 0.4 percentage points.

The total effect might be reduced if importers, manufacturers and retailers absorbed some of the increase in their own margins. Food, drink and tobacco prices have grown slowly in the past few months—just 0.9% in the fourth quarter despite a 2.8% increase in input prices—suggesting that some squeeze in margins may be under way. And given that output prices in this sector have largely outstripped input prices since 1985 (see chart) there may be scope for still further declines. On this basis the net impact of 0.4 percentage points may be at the top of the range.

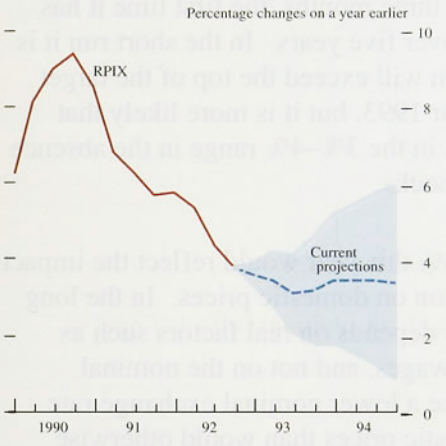
But there may well be additional effects from other ERM realignments, most recently the 10% depreciation of the Irish punt. This is because the so-called 'switchover' or 'strong currency' system remains in place. Under the rules of this system, the 'green ecu' is revalued in line with the strongest currency whenever an individual currency realigns. This is to mitigate income losses suffered by farmers in the strong currency country forced to revalue. These switchover rules mean that the green pound will be devalued slightly against the green ecu as a result of the punt's devaluation, though it is unlikely to be much larger than 2%. The resulting additional impact on food prices is unlikely to be very large.

Inflation in the food, drink and tobacco manufacturing industries



inflation projections made since 1985: at the one-year horizon it is approximately 1½ percentage points (broadly in line with the errors reported by the Treasury in the Financial Statement and Budget Report); at the two-year horizon it is around 2½ percentage points. While these errors may appear very large, they reflect the impact of a wide range of unexpected events which can have a significant and rapid effect on inflation. Most important of these are changes in world prices (especially oil prices), and the effect of large and sudden movements in exchange rates.

Chart 3.14
RPIX inflation projections and outturn



The range is defined as the central projections plus or minus the root mean squared error on consumer price inflation projections since 1985. The projection is based on broadly unchanged policy, with the exchange rate in the first quarter of 1993 set at 77.2 (£ERI), DM 2.38 and $1.44.

Over the next two years, in the absence of major shocks, and given a broadly unchanged policy stance, inflation may fall a little from the rate at the end of 1992. The easing of policy which has already occurred is consistent with this prospect although it will undoubtedly slow the progress on inflation which was in train. Demand conditions remain relatively depressed—notwithstanding the indications from M0—and the recovery which may occur this year is unlikely to be rapid in its initial phase, not least because of the continuing weakness of world demand. There has already been some pass-through of the depreciation to input and import prices, but the scale of the output gap and the level of unemployment—both of which are likely to increase this year—suggest that nominal wage increases should decline further, and profit margins remain subdued.

The central projection for inflation is in the 3%–4% range. But it is clearly well within the margin of past errors that the inflation target could be breached in either direction, more probably on the up-side. The forces which have contributed to the unexpected weakness of demand over the past two years—in particular levels of debt and gearing, and the problems of financial fragility—will continue to exert some downward pressure on inflation. But a more rapid pass-through of sterling depreciation than expected, or a sustained further sterling depreciation, could lead to a rate of inflation above the top of the target range.

4 Conclusions

When the Chancellor commissioned the Inflation Report in his Mansion House speech on 29 October 1992, he said that its aim was to 'provide a regular report on the progress being made towards the Government's inflation objective'. The inflation target is a range of 1%–4% for the rate of increase of RPIX. Inflation has now been within this range for three months, the first time it has been below 4% for over five years. In the short run it is possible that inflation will exceed the top of the target range during calendar 1993, but it is more likely that inflation will remain in the 3%–4% range in the absence of any unexpected shocks.

An outcome above 4% this year would reflect the impact of sterling depreciation on domestic prices. In the long run, competitiveness depends on real factors such as profit rates and real wages, and not on the nominal exchange rate. Hence a lower nominal exchange rate implies higher domestic prices than would otherwise have been the case. The qualification is important. Depreciation does not necessarily imply that inflation will rise, merely that it will be higher than would have been the case had monetary policy validated the higher exchange rate. The response of wage settlements and earnings to the impact of higher import prices matters because it affects the timing of the pass-through from depreciation to domestic prices. If labour costs and profit margins rise to offset the effect of depreciation then retail prices will rise more rapidly than now looks likely. This would mean that underlying inflation might temporarily lie outside the target range.

The principal policy instrument for keeping inflation within its target range is monetary policy. Because there are significant lags between changes in interest rates and their impact on inflation—of the order of one to two years or even longer—it is important to focus on trends in inflation over the same period. The inflation outlook for 1994 and beyond depends on the balance between the continuing downward pressure on inflation resulting from the difference between actual and potential output—reflected in rising unemployment—and the stimulus to inflation from past sterling depreciation and fears that part of the continuing fiscal deficit will eventually be monetised. The balance of probabilities is

that inflation will be slightly lower in 1994 than it was at the end of 1992. The main risks to this prospect come from the possibility of a sustained further depreciation of sterling and a faster pass-through of the depreciation that has already taken place. There is also a risk that large fiscal deficits might create expectations of higher inflation in the future.

It is important to stress that expectations of inflation have not yet adjusted to levels compatible with a target range for inflation of 1%–4%. Such a target range would mean that at this stage of the cycle inflation would be expected to be nearer 1% than 4%. The reverse is the case. This demonstrates that there is still some way to go before the underlying inflation rate is consistent with the objective of price stability. Ultimate success will depend upon a medium-term monetary policy which is, and is expected to be, firmly counter-inflationary. Expectations in financial markets, and of wage earners and firms, have some way to adjust, and a change of expectations is required. The consistent pursuit of a counter-inflationary monetary policy will ensure that expectations do adjust, and that price stability is attained. Steady progress has been made towards achievement of the Government's inflation objective. But further progress is required.

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